



FALL 2020

The Bent

Of Tau Beta Pi

THE ENGINEERING HONOR SOCIETY



Pandemic Engineering Innovation
Awards • Leadership Profile • Scholars

ALUMNI CHAPTERS

78 ALUMNI CHAPTERS
46 ACTIVE

Inactive chapters shown in **BLUE**

DISTRICT 1

Central CT, Hartford
Greater Boston Area, MA

DISTRICT 2

Buffalo, NY
Central Jersey, NJ
LI Suburban, NY
Newark, NJ
New York City, NY
New York Capital District, NY
Rochester, NY
Southern Tier, Binghamton, NY

DISTRICT 3

Lehigh Valley, Bethlehem, PA
Philadelphia, PA
Pittsburgh, PA
Wilmington, DE

DISTRICT 4

Baltimore, MD
Hampton Roads, Newport News, VA
Kanawha Valley, Charleston, WV
Research Triangle, Durham-Chapel Hill-Raleigh, NC
Richmond, VA
Washington, DC

DISTRICT 5

Atlanta, GA
Central FL, Orlando
Daytona Beach, FL
Gainesville, FL
Miami, FL
Midlands, Columbia, SC
Palm Beach/Broward, FL
Piedmont, Clemson, SC
Puerto Rico
Tampa Bay, FL

DISTRICT 6

Bluegrass, Lexington-Frankfort, KY
Central Alabama, Birmingham
Great Smoky Mountains, Knoxville-Oak Ridge, TN
Greater Gulf Coast, Mobile, AL
Louisville, KY
Mid-South, Memphis, TN
Rocket City, Huntsville, AL

DISTRICT 7

Ann Arbor Area, MI
Central MI, Lansing
Cincinnati, OH
Columbus, OH
Dayton, OH
Flint, MI
Ohio's North Coast, Cleveland
SE Michigan, Detroit
West Michigan, Grand Rapids

DISTRICT 8

Chicago Area, IL
Central Illinois, Urbana-Champaign
Indianapolis, IN
Milwaukee Area, WI

DISTRICT 9

Pioneer, OK
Rolla, MO
St. Louis, MO

DISTRICT 10

Central Texas, Austin/San Antonio
North Texas, Dallas-Fort Worth
Greater New Orleans, LA
Texas Gulf Coast, Houston

DISTRICT 11

Ames, IA
Minnesota, Twin Cities, MN

DISTRICT 12

Pikes Peak, CO
Front Range, CO/WY
Salt Lake City, UT
Treasure Valley, Boise, ID

DISTRICT 13

Albuquerque, NM
El Paso, TX
Phoenix, AZ
Sun City, AZ
Tucson, AZ

DISTRICT 14

Columbia River Basin, Richland, WA
Portland, OR
Puget Sound, Seattle, WA

DISTRICT 15

Sacramento Vly, CA
SF Bay Area, CA
SF Peninsula, Palo Alto, CA

DISTRICT 16

Los Angeles, CA
Orange County, CA
Greater San Diego, California
Southern California

COLLEGIATE CHAPTERS

256 COLLEGIATE CHAPTERS
609,286 MEMBERS

Inactive chapters shown in **BLUE**

A = ALPHA
B = BETA
Γ = GAMMA

Δ = DELTA
E = EPSILON
Z = ZETA

H = ETA
Θ = THETA
I = IOTA

K = KAPPA
Λ = LAMBDA
M = MU

N = NU
Ξ = XI
O = OMICRON

Π = PI
P = RHO
Σ = SIGMA

T = TAU
Υ = UPSILON
Φ = PHI

X = CHI
Ψ = PSI
Ω = OMEGA

AL ALPHA Auburn University
BETA University of Alabama
GAMMA Univ. of Ala. at Birmingham
DELTA Univ. of Ala. in Huntsville
EPSILON Univ. of South Alabama
AK ALPHA Univ. of Alaska Fairbanks
AZ ALPHA University of Arizona
BETA Arizona State University
GAMMA Northern Arizona University
DELTA Embry-Riddle Univ., Prescott
AR ALPHA University of Arkansas
BETA Univ. of Ark. at Little Rock
CA ALPHA UC Berkeley
BETA Calif. Institute of Technology
GAMMA Stanford University
DELTA University of Southern Calif.
EPSILON UC Los Angeles
ZETA Santa Clara University
ETA San Jose State University
THETA Calif. State Univ., Long Beach
IOTA Calif. State Univ., Los Angeles
KAPPA Calif. State Univ., Northridge
LAMBDA UC Davis
MU Calif. Poly St. Univ., San Luis Obispo
NU Calif. Poly St. Univ., Pomona
XI San Diego State University
OMICRON Loyola Marymount Univ.
PI Northrop University (inactive)
RHO California State Univ., Fresno
SIGMA UC Santa Barbara
TAU University of California, Irvine
UPSILON Calif. St. Univ., Sacramento
PHI University of the Pacific
CHI California State Univ., Fullerton
PSI UC San Diego
OMEGA Harvey Mudd College
ALPHA ALPHA Calif. St. Univ., Chico
ALPHA BETA UC Riverside
ALPHA GAMMA San Francisco St. Univ.
ALPHA DELTA UC Santa Cruz
ALPHA EPSILON Univ. of San Diego
CO ALPHA Colorado School of Mines
BETA Univ. of Colorado at Boulder
GAMMA University of Denver
DELTA Colorado State University
EPSILON Univ. of Colorado at Denver
ZETA U.S. Air Force Academy
CT ALPHA Yale University
BETA University of Connecticut
GAMMA University of Hartford
DE ALPHA University of Delaware
DC ALPHA Howard University
BETA Catholic Univ. of America
GAMMA George Washington Univ.
FL ALPHA University of Florida
BETA University of Miami
GAMMA University of South Florida
DELTA University of Central Florida
EPSILON Florida Atlantic University
ZETA Florida Institute of Technology
ETA FL A&M Univ.-FL State Univ.
THETA Florida International Univ.
IOTA Embry-Riddle Aero. Univ.
GA ALPHA Georgia Institute of Technology
BETA Mercer University
ID ALPHA University of Idaho
BETA Idaho State University
GAMMA Boise State University
DELTA Brigham Young Univ.-Idaho
IL ALPHA Univ. of IL at Urbana-Champaign
BETA Illinois Institute of Technology
GAMMA Northwestern University
DELTA Bradley University
EPSILON S. Illinois Univ. at Carbondale
ZETA University of Illinois at Chicago
IN ALPHA Purdue University
BETA Rose-Hulman Inst. of Technology
GAMMA University of Notre Dame
DELTA Valparaiso University
EPSILON Trine University
ZETA Indiana Univ.-Purdue Univ. Indpls.
IA ALPHA Iowa State University
BETA University of Iowa
KS ALPHA University of Kansas
BETA Wichita State University
GAMMA Kansas State University

KY ALPHA University of Kentucky
BETA University of Louisville
GAMMA Western Kentucky University
LA ALPHA Louisiana State University
BETA Tulane University
GAMMA Louisiana Tech University
DELTA Univ. of Louisiana at Lafayette
EPSILON University of New Orleans
ME ALPHA University of Maine
MD ALPHA Johns Hopkins Univ.
BETA University of Maryland
GAMMA U.S. Naval Academy
DELTA Univ. of Maryland Baltimore Co.
EPSILON Morgan State University
MA ALPHA Worcester Polytechnic Inst.
BETA Massachusetts Inst. of Tech.
GAMMA Harvard University (inactive)
DELTA Tufts University
EPSILON Northeastern University
ZETA University of Mass. at Amherst
ETA Boston University
THETA Univ. of Massachusetts Lowell
IOTA Western New England Univ.
MI ALPHA Michigan State University
BETA Michigan Technological Univ.
GAMMA University of Michigan
DELTA University of Detroit Mercy
EPSILON Wayne State University
ZETA Kettering University
ETA Lawrence Technological Univ.
THETA Oakland University
IOTA Univ. of Michigan-Dearborn
KAPPA Western Michigan Univ.
LAMBDA Grand Valley State Univ.
MN ALPHA Univ. of Minnesota-Twin Cities
BETA Univ. of Minnesota, Duluth
MS ALPHA Mississippi State University
BETA University of Mississippi
MO ALPHA Univ. of Missouri-Columbia
BETA Missouri Univ. of Science & Tech.
GAMMA Washington University
DELTA Univ. of Missouri-Kansas City
EPSILON Saint Louis University
MT ALPHA Montana State University
BETA Montana Tech of the Univ. of MT
NB ALPHA Univ. of Nebraska-Lincoln
NV ALPHA University of Nevada, Reno
BETA Univ. of Nevada, Las Vegas
NH ALPHA Univ. of New Hampshire
BETA Dartmouth College
NJ ALPHA Stevens Institute of Technology
BETA Rutgers University
GAMMA New Jersey Inst. of Tech.
DELTA Princeton University
EPSILON Rowan University
ZETA The College of New Jersey
NM ALPHA New Mexico State University
BETA University of New Mexico
GAMMA NM Inst. of Mining & Tech.
NY ALPHA Columbia University
BETA Syracuse University
GAMMA Rensselaer Polytechnic Inst.
DELTA Cornell University
EPSILON New York Univ. (inactive)
ZETA Polytechnic Inst. of Brooklyn
ETA City College of CUNY
THETA Clarkson University
IOTA Cooper Union School of Eng'g.
KAPPA University of Rochester
LAMBDA Pratt Institute (inactive)
MU Union College
NU SUNY at Buffalo
XI Manhattan College
OMICRON SUNY at Stony Brook
PI Rochester Institute of Tech.
RHO NYU Tandon School of Eng'g.
SIGMA Alfred University
TAU Binghamton University
UPSILON U.S. Military Academy
NC ALPHA North Carolina State Univ.
BETA Univ. of North Carolina (inactive)
GAMMA Duke University
DELTA Univ. of NC at Charlotte
EPSILON NC A&T State University
ZETA East Carolina University

ND ALPHA North Dakota State University
BETA University of North Dakota
OH ALPHA Case Western Reserve Univ.
BETA University of Cincinnati
GAMMA Ohio State University
DELTA Ohio University
EPSILON Cleveland State Univ.
ZETA University of Toledo
ETA Air Force Institute of Tech.
THETA University of Dayton
IOTA Ohio Northern University
KAPPA University of Akron
LAMBDA Youngstown State Univ.
MU Wright State University
NU Cedarville University
XI Miami University
OK ALPHA University of Oklahoma
BETA University of Tulsa
GAMMA Oklahoma State University
OR ALPHA Oregon State University
BETA Portland State University
GAMMA University of Portland
DELTA Oregon Institute of Tech.
PA ALPHA Lehigh University
BETA Pennsylvania State University
GAMMA Carnegie Mellon University
DELTA University of Pennsylvania
EPSILON Lafayette College
ZETA Drexel University
ETA Bucknell University
THETA Villanova University
IOTA Widener University
KAPPA Swarthmore College
LAMBDA University of Pittsburgh
MU Penn State Erie, Behrend College
PR ALPHA University of Puerto Rico
RI ALPHA Brown University
BETA University of Rhode Island
SC ALPHA Clemson University
BETA University of South Carolina
GAMMA The Citadel
SD ALPHA S. Dakota Sch. of Mines & Tech.
BETA South Dakota State University
TN ALPHA University of Tennessee
BETA Vanderbilt University
GAMMA Tennessee Tech. University
DELTA Christian Brothers Univ.
EPSILON University of Memphis
ZETA Univ. of Tenn. at Chattanooga
TX ALPHA University of Texas at Austin
BETA Texas Tech University
GAMMA Rice University
DELTA Texas A&M University
EPSILON University of Houston
ZETA Lamar University
ETA Univ. of Texas at Arlington
THETA Univ. of Texas at El Paso
IOTA Southern Methodist University
KAPPA Prairie View A&M University
LAMBDA Texas A&M Univ.-Kingsville
MU Univ. of Texas at San Antonio
NU Univ. of Texas Rio Grande Valley
XI University of Texas at Dallas
UT ALPHA University of Utah
BETA Brigham Young University
GAMMA Utah State University
VT ALPHA University of Vermont
BETA Norwich University
VA ALPHA University of Virginia
BETA Virginia Poly Inst. & State Univ.
GAMMA Old Dominion University
DELTA Virginia Military Institute
EPSILON Virginia Commonwealth Univ.
WA ALPHA University of Washington
BETA Washington State University
GAMMA Seattle University
DELTA Gonzaga University
WV ALPHA West Virginia University
BETA West Virginia Univ. Inst. of Tech.
WI ALPHA Univ. of Wisconsin-Madison
BETA Marquette University
GAMMA Univ. of Wisconsin-Milwaukee
DELTA Milwaukee School of Eng'g.
EPSILON Univ. of Wisconsin-Platteville
WY ALPHA University of Wyoming



The Bent

FALL 2020

FALL 2020 | VOLUME CXI | No.4

AWARDS:

- 10 Outstanding Advisor
- 11 Laureates
- 12 Distinguished Alumni
- 14 McDonald Mentor
- 22 TBII Names 282 Scholars

FEATURES:

- 6 Leadership: John Bravman, Ph.D.
- 16 A Pandemic Cannot Stop Engineering Innovation

REPORTS:

- 4 Executive Council Candidates
- 42 Executive Director's Report

DEPARTMENTS:

- 2 Council's Corner
- 3 Letters
- 5 Who's Who
- 15 Story Behind the Photo
- 28 Brain Ticklers
- 30 In the Colleges
- 32 Alumni Giving
- 48 Chapter Eternal
- 56 Association Briefs
- 62 Alumni Notes



COVER: Engineers working from home collaborate via video conferencing software.

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Tau Beta Pi was founded at Lehigh University, South Bethlehem, PA, June 15, 1885, by Edward H. Williams Jr., A.B., A.C., E.M., Sc.D., LL.D. (1849-1933). Key and name registered in U.S. Patent and Trademark Office.

Member, *American Society for Engineering Education*; co-founder *Association of College Honor Societies*; and Affiliate, *American Association for the Advancement of Science*.



06 Profiles in Leadership: John Bravman, Ph.D., Alan Brown continues the series.



10 Congratulations to the Association award winners for 2020!



16 Alan Brown interviews engineers thriving from home during the pandemic.

VISIT www.tbp.org

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COUNCIL'S CORNER

Russ W. Pierce, *Washington Alpha '70*, TBI Councillor

NECESSITY IS THE MOTHER OF INVENTION

The raging COVID-19 pandemic, the resultant economic down turn, and the social unrest gripping the nation have made it necessary for the Association to invent new and innovative ways to continue operations until things return to some semblance of normal.

As we start a new school year, the Tau Beta Pi Association finds itself facing unprecedented challenges.

When the virulence and lethality of COVID-19 became obvious in March, the Executive Council moved expeditiously to mitigate the existential risk to members and Headquarters staff. The necessary infrastructure changes to allow the staff to work from home were successfully put in place in record time. All District Conferences not yet conducted, all scheduled Engineering Futures Sessions, and all initiations were immediately canceled even though many universities were still open for business as usual.

Canceling initiations meant that many candidates for membership might miss the opportunity to become members. To prevent this eventuality, Executive Director Curt Gomulinski and Director of Rituals Ed D'Avignon, set about creating a virtual initiation ritual format which the Council approved for use during the remainder of the 2019-20 school year. In the spring 2020 semester, about 170 virtual initiations were successfully conducted.

PLANS FOR A NEW FUTURE

As spring turned to summer, it became clear that an in-person Convention would be out of the question. After researching the legal and Association Constitution compliance ramifications, the Council canceled the 2020 Atlanta in-person Convention and chartered a task force of members representing the various TBI stakeholder constituencies to devise ways to conduct a scaled down virtual Convention.

With respect to the economic downturn, our adherence to Tau Beta Pi's sound fiscal policies brought no immediate threat to the Association's finances. Nevertheless, the Council and the Trust Advisory Committee are examining ways to further mitigate the risk.

WHAT WE BELIEVE

With all the social unrest that is occurring across the United States, perhaps we should think about what action, if any, Tau Beta Pi, which stands for ethical behavior and exemplary character, should take to influence thinking about social issues. When TBI sent a statement in June to members condemning the recent spate of murders of Black Americans by law enforcement officers, the response from members was very polarized, but the majority of responses supported the effort. (Statement: www.tbp.org/?response)

Tau Beta Pi's mission is clear-cut. "As the only academic honor society that confers recognition on eligible individuals from all engineering disciplines, Tau Beta Pi:

- *Recognizes those who have conferred honor upon their Alma Maters by distinguished scholarship & exemplary character as students in engineering, or by their attainments as alumni in the field of engineering;*
- *Provides leadership development and soft skills training for engineering students and alumni members;*
- *Promotes lifelong alumnus member involvement.*

There is nothing in this mission statement that states or implies that TBI should take a stance on social issues. Tau Beta Pi is not a political organization, but is that sufficient reason to stay silent when protests have erupted, not only throughout this country, but around the world, over law enforcement excesses? Does TBI have, or does it not have, a moral obligation to speak out?

The events of this summer have formed a perfect storm that has brought renewed attention to racism and police brutality. Should we stay silent?

MOVING FORWARD, TOGETHER

Some may say that words without action will ring insincere, and that concrete action needs to be taken; that simply acknowledging our condemnation of racial injustice is insufficient. My belief is that TBI would have been seen by many of our members, especially those of color, as being indifferent to racial injustice and police brutality if we had not spoken out against it. But, I also believe that learning from one another in the spirit of friendship is one of the most effective tools we have to achieve the moral imperative of true equality. We must continue to have challenging conversations, strive to understand other perspectives, and stand up for the rights of all people.

.....
RUSS PIERCE began his term as an Executive Councillor in 2019. He is a graduate of the University of Washington with B.S. and M.S. degrees in electrical engineering and has served TBI as a volunteer official since he was appointed as an Engineering Futures Facilitator in 1992.

Patricia McDaniel and Dylan Lane

MOVING FORWARD

135 years of Tau Beta Pi — time to uplift the look and feel of the magazine with a more visually appealing design while making the text easier to read!

The membership of Tau Beta Pi is diverse and ever-changing. We appreciate you, our loyal subscribers, while also looking to expand our readership and appeal to all Tau Bates.

In this issue are some new features to look for: an updated cover design, improved contents page, consistent headers and color scheme throughout the magazine, larger text fonts, newly formatted lists, and more!

The immediate goal was *not* to change the content of the magazine—we continue our focus on important topics related to engineering, highlighting outstanding member accomplishments, and providing Association news and updates. However, the design needed to be updated and accessible for electronic consumption and easier comprehension. (You also might consider a digital version at no extra cost - contact accounting@tbp.org)

We hope you continue to enjoy *your* magazine and will take the time to share your feedback to help make it even better. Kindly complete our survey at www.tbp.org/?BentDesign.

Special thanks to Thomjon Borges and Newport ONE for their creative leadership on this project.

**We're having an
"UNVENTION" this year!
See page 59.**

Send letters to dylan@tbp.org. Letters may be edited for length and clarity. Not all letters can be published.

Reminiscing about the Story Behind the Photo

It brought back old memories, and a smile, to see the results of the Caption Contest published in the summer issue. The contest was for a caption on photos from the 1980 Convention in Tulsa, OK. As the OK Beta Chapter president for 1980-81, it was a great honor to host the meeting. Fortunately for me, most of the work was done by the Convention organizing chair. That way you got much of the glory, but not too much of the work.

Andrew W. Sloley, OK B '81

Editorial "Abrupt Left Turn"

Thank you for the editorial from the summer issue noting recent changes made since March 2020. Of interest were mentions of Google Apps for non-profits, examples such as Hangouts, Meet, VPN software, IP-based phone system, and direct payments to TBPI HQ. I continue to gain experience in attending virtual meetings using Zoom for two groups and for family events. Your text provided info about system changes that might be considered.

Harold F. Hartman Jr., PA E '56

Grad Images

I think it's really special to be able to share our (grad) photos, especially considering the circumstances with COVID-19, so I want to say "Thank You."

Madison Gast, CO E '20

A New Carbon Architecture

I read Mr. King's article in the summer issue. It gave me a subliminal impression. It seemed to touch on the prevalent phobia against Carbon. It also gave me a feeling that this phobia originated with French Revolution philosopher Jean Jacques Rousseau. Rousseau wrote glowingly about the "Noble Savage" who dwelt in nature, heated and energized only by the sun, instead of by man-made fire. Rousseau saw to it that chemist Antoine- Laurent de Lavoisier, who discovered combustion, was executed on the Guillotine for his new-fangled and then apparently unneeded ideas. That was in the French Revolution of 1789.

Today we are in the "World Revolution" of 2020, a continuum of the one in 1789. Mr. King seems to be going along in his way with today's World Revolution using his architectural magic to gain favorable treatment. Although I graduated with a B.S. in electrical engineering from Ohio State University and a master's degree in control systems theory from the University of Illinois, I have broadened my viewpoint into history, sociology, and psychology, while practicing engineering in the aerospace industry for about 40 years, now having been retired for about 20 years.

Frank M. Pelteson, OH E '49

Alternate Building Material Danger

Due to the risk of fire, untreated, exposed wood and straw are unsuitable or illegal for building exteriors in high-density cities and in areas prone to wildfires. Flame-retardant chemical treatments can be toxic. Even if there are carbon-capture benefits, the overall environmental impact needs to be considered.

Stephen A. Weinstein, NY E '96

The Carbon Problem

Mr. King wrote an interesting and informative article on use of natural carbon in building. I would like to add two points. First, the real problem in climate change is related to use of fossil carbon. Use of carbon that has been taken out of the atmosphere, as in wood and food, is part of a natural recycling system. Second, the reason we have a problem is simply because we do not pay for pollution. It is easy to understand that we use more of anything we can get at a bargain price, and we currently pay nothing for fossil carbon pollution. We can fix that at no cost with a fee and dividend system that puts a fee on extraction of fossil carbon and returns the fee to people equally as a dividend. H.R. 763 is the best example of this plan, and we should all push our representatives to pass it quickly.

James A. Martin, Ph.D., WV A '66

Executive Council CANDIDATES

The Executive Council is our board of directors consisting of nine members who are alumni and serve a 3-year term. The Executive Council names its own officers: *Chair*, who is also President of the Association; *Vice Chair*, who is also Vice President; *Secretary*, *Treasurer*, and four *Councillors*.

The 2015 Convention approved amendments, later ratified by the chapters, which restructured the Executive Council. In this new structure, three members of the Council will be elected by the Convention each year. The terms of President C. Craig Smith and Councillors Scott E. Fable and Stephan King-Monroe expire on December 31, with Scott Fable seeking another term. In response to the call for candidates, four individuals were nominated and nominations are closed. **THE NOMINEES FOR THE 2021-23 TERM INCLUDE:**



SCOTT E. FABLE

CALIFORNIA TAU '96

Nominated by San Francisco Bay Alumni Chapter. Scott earned a B.S. in mechanical engineering from University of CA, Irvine, and an M.S.M.E. at UC Berkeley.

As a manager at Pacific Gas and Electric Company, Scott leads quality control and stakeholder communica-

tions for PG&E's energy efficiency incentive programs.

Scott has volunteered continuously with TBII for over 20 years, as a District 15 Director, a Chapter Advisor, and a member of the Executive Council.

In these roles, Scott consistently applied best practices from program management, team development, group training, and operational strategy to improve District 15 chapters and transfer successes to the national District Program. As a member of the EC, Scott aims to work with HQ to build an Annual Giving Plan that doubles donations by 2030, significantly increase alumni involvement in the planning and running of TBII-wide programs/initiatives by 2022, and revamp the TBII website and online resources to support collegiate and alumni chapters' virtual/live activities, recruitment, events, and meetings.



MINGDE LIN Ph.D.

NEW YORK GAMMA '01

Nominated by Connecticut Alpha and CT Alumni Chapters. MingDe earned his B.S. from Rensselaer Polytechnic Institute and Ph.D. from Duke University, both in biomedical engineering.

The Director of Clinical Research North America for Visage Imaging, Inc., he is stationed at Yale-New Haven Hospital

(adjunct assistant professor, Department of Radiology and Biomedical Imaging). Here he oversees, coordinates, drives and directs research collaborations (especially around Artificial Intelligence) with high profile academic hospitals in North America to develop new solutions for diagnostic image analysis and guidance that improve clinical and operational outcomes while reducing the cost of care.

Dr. Lin has been a CT Alpha Advisor since 2016. In 2017, he reactivated the Central Connecticut TBII Alumni Chapter and has been serving, first as president (2017-19) and then as director (2020-present), in order to shepherd the transition of new leadership and to work with the officers in longer term strategic goals to bring a closer connection with the collegiate chapters.

As an Executive Councillor, he plans to instill a greater connection between alumni and collegiate Tau Bates, to explore the role TBII can play in equality and inclusiveness and to encourage aspiring engineers to join.



THOMAS A. PINKHAM

MASSACHUSETTS EPSILON '88

Nominated by New York Pi and New York Sigma Chapters. Tom earned a B.S. in electrical engineering from Northeastern University and attended IMD Business School, Switzerland, as part of an Executive Development program.

He has worked for Eastman Kodak and a successor business, Kodak Moments, for

over 30 years. Tom has held roles in product engineering, program management, and commercialization management of products and services with a global reach in supply chain and customers. His current role is managing strategic customer programs in support of the European business.

Tom has served TBII as a District 2 Director (NY & NJ) since 1990 and loves to find, motivate, and develop chapter leaders. As an Association Official, he has advised nearly every Convention committee as well as selection committees for Laureate, Distinguished Alumni, and Director of Alumni Affairs. Tom currently serves as member/chair of the Convention ICE Committee.

He is interested in serving on the EC to help the organization navigate through current challenges, to reposition ourselves to be of enhanced value and benefit to today's students, and to further develop fulfilling interactions between students and alumni members.



JOAN M. SCIACCA

CALIFORNIA MU '87

Nominated by California Upsilon Chapter. Joan is a graduate of California Polytechnic State University, with a B.S. in aeronautical engineering.

Joan retired after a diverse career — over 30 years with Honeywell International where she held leadership positions in engineering projects, field

support and aircraft engine test, business management, program and product management, a joint venture with General Electric, a \$1B divestiture transition, operational and process excellence, six sigma and lean problem solving, business continuity management, global strategic sourcing, customer/product support, global internal consulting, and human resources talent management.

During her senior collegiate year, she served as the California Mu president. She participated in design meetings for the Engineering Futures Program in the late 1980s and facilitated sessions from 1987 through 1998.

She is the founder of Finestra Consulting, LLC, where she continues her passion for process excellence and coaching/mentoring early career professionals in leadership. She has been a volunteer mentor with Mentium since 2008, and as a member of the EC, looks forward to bringing to TBII her experience and enthusiasm for shaping future engineering leaders.

WHO'S WHO IN TAU BETA PI

Recognizing Tau Bate accomplishments

Laura K. Bistrek P.E.

Ohio Theta '97

has been awarded the Women in Engineering ProActive Network (WEPAN) President's Award, "in recognition of her exemplary accomplishments that serve as a model for others." She is Executive Director of the Diversity in Engineering Center at University of Dayton, where she earned her bachelor's in civil engineering. She was a WEPAN board member from 2016-20.



Andrea J. Goldsmith Ph.D.

California Alpha '86

has been awarded the 2020 Marconi Prize "for her pioneering contributions to the theory and practice of adaptive wireless communications" and is the first woman to win the award. She was also recently named Princeton University's Dean of Engineering, previously taught as an electrical engineering professor at Stanford Univ., and co-founded two wireless communication startups.



Enrique Iglesia Ph.D.

New Jersey Delta '77

is the recipient of the 2021 NACS Award for Distinguished Service in the Advancement of Catalysis. The award recognizes "an individual who advanced catalytic chemistry or engineering by significant service to the catalysis community in addition to technical accomplishments." He is a professor at the University of California, Berkeley, and a Laboratory Fellow at the Pacific Northwest National Laboratory.



Jonathan Klamkin Ph.D.

New York Delta '02

received the Director's Fellowship from the U.S. Defense Advanced Research Projects Agency (DARPA). The prize is awarded to the top performers among recipients of the DARPA Young Faculty Award. His work focuses on increasing efficiency of lasers in photonic integrated circuits, developing a technology for energy efficient data centers & optical communication networks.



Frank G. Splitt Ph.D.

Illinois Alpha '52

was awarded a Life Achievement Award by SPIE, the International Society for Optics and Photonics, in recognition of his distinguished career covering R&D, administration, teaching, and public service. He retired from Nortel Networks as VP Emeritus of educational & environmental initiatives in 1993, and then served as a faculty fellow at Northwestern Univ. School of Eng'g.



Karan L. Watson Ph.D., P.E.

Texas Beta '77

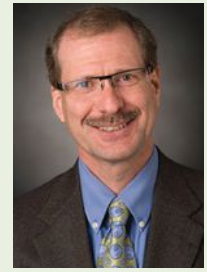
has been awarded the Women in Engineering ProActive Network (WEPAN) Bevellee A. Watford Inclusive Excellence Award, "for actively and creatively supporting the success of women of color in engineering." She is a senior professor in the department of electrical and computer engineering and Provost Emeritus at Texas A&M University.



Douglas H. Werner Ph.D.

Pennsylvania Beta '90

has been named a fellow of the Electromagnetics Academy of the Photonics and Electromagnetics Research Symposium, also known as the Progress in Electromagnetics Research Society. He is chair of electrical engineering and faculty member at Penn State University. He holds 20 patents and has published more than 870 technical papers.



Herbert G. Winful Ph.D.

Massachusetts Beta '74

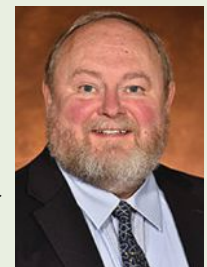
received the IEEE Photonics Society Quantum Electronics Award "for pioneering the field of nonlinear optical periodic structures & for foundational contributions to nonlinear dynamics of semiconductor laser arrays." He is professor of electrical engineering & physics at the University of Michigan. The award is given for outstanding technical contributions to quantum electronics.



Richard T. Wood Ph.D.

Tennessee Alpha '80

was honored with the Don Miller Award from the Human Factors, Instrumentation, and Controls Division of the American Nuclear Society. This award recognizes his life-long commitment and contributions to nuclear digital system design, licensing, and standards. He is a professor in the department of nuclear engineering at the University of Tennessee, Knoxville.





JOHN BRAVMAN: LIFE IS WHAT HAPPENS WHEN YOU PLAN

by Alan S. Brown

This series explores what it means to be a leader through the lives of member engineers who attained leadership positions in their fields.

JOHN C. BRAVMAN, Ph.D.
CALIFORNIA GAMMA '79
**PRESIDENT, BUCKNELL
UNIVERSITY**

Six months ago, John Bravman, president of Bucknell University, was contemplating how to invest the \$513 million his school had raised. It was a mind-boggling sum for a college with only 3,600 undergraduates and no graduate programs.

Despite its size and rural Pennsylvania location, Bucknell is one of the nation's top liberal arts schools and an engineering powerhouse. Among engineering schools without Ph.D. programs, *U.S. News & Review* ranks it sixth overall and first in biomedical, second in civil, third

in computer and electrical, and fourth in mechanical engineering.

Bravman's team had ambitious plans: new buildings, added faculty to reduce faculty teaching load, investments in sustainable systems, a new college of business management, and more scholarships and loans to make the school's hefty \$70,000 price tag affordable to a wider range of students.

COVID-19 CHANGED EVERYTHING

Bucknell, like many schools, was on spring break when cases started mounting. "It was clear that there was no way this was blowing over in a week," Bravman said. He decided to close the school and pivot to online learning.

"It was not a popular decision with anybody, especially the students and their parents," he recalled. "They said, 'other schools are just sending students home for an extra week and you just canceled our term.' It was tough to tell the board we needed to do this, but we all knew this was the right thing to do."

Within days, Bucknell's IT department had trained the school's professors to put their courses online. Yet, the new pandemic reality forced Bravman to grapple with how to deliver on what he calls "the Bucknell promise."

"At Bucknell," he explains, "we have a 9:1 student-to-faculty ratio and small classes. This allows us to do what we want to do best, which is educate our students in a highly personalized way."

“Online courses are okay if you’re sitting in a class of 300 students because there’s little advantage to being there physically, right? But if you’re in a small class, you lose a lot of its advantages, and that’s what we had to give up.”

To keep Bucknell’s promise, Bravman wants to reopen campus. Yet, his team is struggling with how to do it safely. After all, he notes, only the armed service academies can truly dictate student behavior once they return to residence halls. His students may feel they are invincible, while faculty and staff—some older or immunocompromised—worry about contracting the virus.

It is a difficult balancing act. In just 10 weeks, Bravman said his hair turned white and he lost 23 pounds. The pandemic’s sudden onslaught seemed to justify one of Bravman’s favorite phrases: “Life is what happens when you plan.”

THE ROAD TO STANFORD

Bravman arrived at Bucknell in 2010, after 35 years at Stanford University as a student, professor, and administrator. Not a bad run for someone who almost flunked out of his sophomore year.

Bravman was born in Queens Village, a middle-class enclave on the outer edge of New York City. His father was a

quick enough study to teach radio field repair during World War II, learning each lesson at night and demonstrating it to soldiers the next day. After the war, he earned an accounting certificate at night.

Bravman, one of three children, walked to the local school and came home for lunch. He and his friends biked all over the city and in the summers they piled in the family sedan and headed to the beach. His father sparked an interest in science, which Bravman sated by checking out 10 library books at a time on topics ranging from astronomy and science to engineering.

At home, he had a big chemistry set and liked to blow things up. One time, he and his friends dug a hole, dropped in a container of gasoline, covered it up, and lit a fuse. “We blew a hole three feet down and three feet wide,” he recalled. “Let’s just say my parents were not pleased.”

When he was 11, the family moved to a suburban town, Smithtown (NY). There, he discovered sports, especially softball and frisbee, while continuing to tinker with old TVs and anything with a motor.

He was hooked on engineering and planned to apply to MIT. “I was a New



THE PROFILE

NAME: John C. Bravman

CURRENT POSITION: President, Bucknell University, 2010-present.

BIRTHPLACE: NYC, New York, 1957.

HIGHEST DEGREE: Ph.D., Materials Science and Engineering, Stanford University, 1984.

MAJOR CAREER HIGHLIGHTS: Stanford University, rising from assistant to Bing Centennial Professor of Materials Science & Engineering, 1985-2010; Senior Associate Dean, School of Engineering, 1993-2001; Chair, Materials Science & Engineering Dept., 1996-99; Dean, Freshman/Sophomore College, 1999-2010; Freeman-Thornton Vice Provost for Undergraduate Education, 1999-2010; President, Bucknell University, 2010-present.

BOARD MEMBERSHIPS: President, Materials Research Society, 1994; Director, Geisinger Health System, 2012-present; Chair, Geisinger Health System, 2016-present.

HONORS: Eight Stanford University teaching awards, including the Walter J. Gores Award for Excellence in Teaching, Stanford’s highest teaching honor, and the Bing Centennial Professorship. He also received the Kenneth M. Cuthbertson Award for Exceptional Contributions to Stanford University.

GREATEST ACCOMPLISHMENT: Rising from a first-generation college student to university president.

FAMILY: Wendy Wright, wife, 2005. He has four children (including two from a previous marriage) Christopher, Matthew, Cole, and Cooper.

LEADER MOST ADMIRER: Winston Churchill, who never gave up, was indefatigable, principled, and saved his nation against all odds.

HOBBIES: Reading widely in history, current events, and classic literature; cooking; wine; music ranging from classical to jazz to rock; and, when he gets time, golf.



Bravman stands with former U.S. Secretary of State Madeleine K. Albright (left), Bucknell’s 2019 Commencement keynote speaker; and his wife Wendelin Wright, Ph.D., P.E., CA G ’98, a professor of mechanical and chemical engineering at Bucknell.

York nerd, and that's what you did," he said. "But one of my best friends had vacationed in California and came with tales of what could only be described as a religious experience of walking among redwoods in the fog and this heaven on earth called Stanford."

The two friends applied to MIT and Stanford. Then life happened—MIT chose his friend and Stanford picked Bravman.

"It was a land of milk and honey and sun 365 days per year," he said. "It was also a land where freshman drove Porsches. I was receiving financial aid and couldn't go to McDonald's to buy a hamburger. It was just in your face, the type of wealth you see in movies."

Bravman fit in socially and had a strong work ethic, but he was not prepared for Stanford's academic demands. By the end of his freshman year, he was hanging on by a thread.

"Then I did something really smart and joined a fraternity," he said. "I was struggling. It was hard. I never had to study in high school. That doesn't work in college, especially in the Stanfords of the

world, and especially in engineering."

In his sophomore year, Bravman received the type of letter he would later send to students when he was vice provost of student affairs, the one that starts, "Your academic performance has come to our attention."

He realized he did not want to leave. Fortunately, Stanford was more encouraging than harsh, and his advisor really cared about him. This gave him the confidence to build the study skills he needed to succeed.

Still, he continued to struggle in electrical engineering, a competitive and growing department as nearby Silicon Valley began to take off. Then, in the spring of his sophomore year, he took an introduction to materials science class to fulfill an engineering breadth requirement. Again, life changed his plans.

"Materials science was more like physics," he said. "It seemed more conceptual, which I liked. Plus, my professor, Robert Sinclair, was very approachable as a human being. I fell in love with the subject and switched my major before the term was over. The next semester,

I aced a really, really tough class on crystallography and atomic structure. If he had been a different man or I had not stumbled into that class, I would not be here today."

Bravman came away from his undergraduate days with a new set of values, including compassion for students with academic difficulties, the importance of hard work, the make-or-break power of financial aid, and the value of strong mentor relationships. These values set his course as a professor and, very quickly, an administrator.

ADMINISTRATION

As he neared graduation, Bravman planned to spend a year getting a master's degree and then go to work. Sinclair, however, noted that he would have to pay for his master's degree but that doctoral students were subsidized. Bravman changed course. He flunked his qualifying exam, but he retook it and passed. He emerged five years later with a Ph.D. in materials science and engineering, focusing on thin film integrated circuits.

During those years, Bravman had to teach classes. At first, he was shy, but learned to become a better public speaker. He went on to win several Stanford teaching awards, including Stanford's coveted Walter J. Gores Award for Excellence in Teaching, as well as a national award for teaching. Part of his success came from letting the boy who blew a hole in his parents' backyard show through. Bravman did a live demonstration for almost every class. Some were prosaic, like turning two slabs of silicon into a transistor. Others failed, sometimes spectacularly. Some, like etching silicon dioxide with hydrofluoric acid, were dangerous.

"I must have been crazy to think I could do that in a classroom," he said. "I probably would be fired for doing that today. But, I loved the tinkering and the students loved it too. Even as I became more involved in administration, I insisted on teaching to stay connected with the students."

Bravman believes his innate desire for order made him an administrator. When he was four, he wandered away from his parents in a store. When



Bravman speaks at Stanford University Convocation.



Cole, Wendy, Cooper, and John — 2017 Christmas card.

his parents finally found him, he had crawled into the bottom shelf, rearranging bars of soap by manufacturer.

“I just like things being stacked up,” he said. “It seemed like a better way to run the world. Since then, I have learned this works well in some places and terribly in others.”

Within eight years, Bravman, now an associate professor, had become associate chair of the materials department and senior associate dean of the school of engineering. In between, he was named associate dean for undergraduate affairs. He was named a full professor in 1995 after five years and was soon appointed chair of the materials department. On the same day in 1999, Stanford named him dean of the freshman/sophomore college and vice provost for undergraduate education.

He started the freshman/sophomore college by talking the administration into letting him turn a house across from some of Stanford’s dorms into his residence. His home soon became the center of a vibrant community.

The vice provost job grew out of a year-long study on how to address Stanford’s shortcomings in undergraduate education. The position involved fundraising. As long as Bravman was talking about

something he really loved—Stanford—it proved easy. “Just wind me up, put me in front of a crowd, and let me talk,” he quipped.

In 2010, Bravman turned 53. He had served 10 years as vice provost and been at Stanford for 35 years.

“So, I asked myself, ‘What’s the thing I haven’t done?’” he said. “I haven’t stepped out of my comfort zone. Of course, no one would have expected me to join a fraternity when I was 18 or lecture when I was so stage shy. But that was nothing compared to leaving the mothership.”

Bravman combined a fine record of research, administration, and fundraising and had founded an undergraduate college. This combination of factors drew Bucknell to him. A half-hour meeting with Ken Freeman, chair of Bucknell’s board of trustees and CEO of Quest Diagnostics, turned into a three-hour conversation.

Afterwards, Bravman drove home and told his wife, “Maybe our lives just changed.” A few months later, Bucknell’s trustees selected him as the school’s 17th president.

Bravman felt prepared. Others have described a university president’s job as running a company and being a mayor

at the same time. This is because shared governance—building consensus among students, parents, alumni, faculty, trustees, and townspeople—is an academic tradition that often works better in theory than in practice.

“None of these groups are aligned within themselves and sometimes there is open hostility between them, such as the classic case of faculty who don’t like sports and townies who do, but hate students,” he said.

At the same time, university presidents are under increasing pressure as the number of college-aged students declines and schools face a problematic financial future. When Bravman joined Bucknell in 2010, the average tenure of a university president was 10 years—now, it is just over five years.

The COVID-19 pandemic is sure to intensify those pressures going forward. While schools have discovered many ways to cut costs, Bravman will not embrace them if it means renegeing on the Bucknell promise.

Bravman’s plan—despite the pandemic—is to find a way to continue to provide small, intimate gatherings of faculty and students, a great residential experience, deep provision of services, rich recreational opportunities—one in five students is an NCAA Division I athlete—and financial aid to students who need it. Even if life happens while he is planning it.



ALAN S. BROWN has written broadly about engineering, technology, and science for more than 30 years. He is a board member of Science Writers in New York, a writer for The Kavli

Foundation, and a former senior editor of ASME’s *Mechanical Engineering* magazine, and contributes to a wide range of publications. He graduated New College at Hofstra University *magna cum laude* in 1974 and can be reached at insight01@verizon.net

Association Awards



★ Outstanding Advisor

The Tau Beta Pi Outstanding Advisor has been named since 1994 and recognizes outstanding performance among the Chapter Advisors of the Association. Selection is made by a committee of deans at engineering colleges and past award winners.

AMY L. KALEITA Ph.D., P.E.

PENNSYLVANIA BETA '97
NOMINATED BY IOWA ALPHA

Dr. Kaleita, a professor and associate chair for teaching agricultural and biosystems engineering at Iowa State University (ISU), has been named the 2020 TBPI Outstanding Advisor.

She will receive \$1,000 and a commemorative plaque. Another \$1,000 grant will be presented to the Iowa State University College of Engineering's discretionary fund.

The Outstanding Advisor Award recognizes chapter advisors, lauds excellence in engineering education, and in the ethical practice of engineering.

Dr. Kaleita's devotion to guiding and assisting the chapter leadership as a faculty advisor has been essential to the success of the chapter.

She earned a B.S. in agricultural engineering from Penn State University and M.S. and Ph.D. degrees from the University of Illinois at Urbana-Champaign. Dr. Kaleita joined ISU in 2003 as an assistant professor and became a professor of agricultural & biosystems engineering in 2018.

Upon arrival at ISU, Dr. Kaleita offered her services to the chapter and was elected in 2003 as an IA Alpha Chapter Advisor, spent nearly four years as Chief Advisor (2004-07), and has been the principal faculty advisor since 2011. She has served IA A for 16+ years and has done much to



ensure the smooth operation and success of the chapter. In addition, she is an active member of the IA A Chapter Advisory Board and the main liaison between the chapter and the College of Engineering (COE) and university administration.

Dr. Kaleita serves as program leader for several of the annual outreach activities hosted by the chapter, including the Roller Coaster Competition and the Rube Goldberg Challenge, which includes several important tasks such as regulating attendance to provide supervision and oversight on behalf of the university. She is also responsible for identifying eligible students to join TBPI at ISU.

The IA A Chapter generally has over 100 financial transactions and spends in excess of \$24,000 each year. Dr. Kaleita reviews each transaction and is excellent at approving those that are valid in a timely manner.

Her leadership has greatly contrib-

uted to many of IA Alpha chapter and alumni achievements, including hosting the 2013 TBPI Convention, and receiving 4 Distinguished Alumni Awards, 2 McDonald Mentor Awards, 5 Laureate Awards, 2 Outstanding Advisor Awards, 11 Chapter Excellence Awards, and 3 R.C. Matthews Outstanding Chapter honorable mentions.

It is worth noting that she worked with TBPI HQ in the early 2000s to develop *AlumNet*, a mentoring program that matched students with alumni. Based upon a local database she designed for Illinois Alpha Chapter alumni, it included contact information, topics of interest to share with the chapter, and willingness to help other Tau Bates network at their company. Dr. Kaleita served as the TBPI *AlumNet* coordinator from 2003-11 and received a TBP Resolution of Appreciation from the Executive Council.

Professionally, Dr. Kaleita has risen quickly through the ranks at ISU and has served as the department's associate chair for teaching since 2017. Due to her productivity, she has more than 100 publications and presentations and has been frequently honored. These include the COE superior teaching award (2010), Fellow of the American Society of Agricultural and Biological Engineers (2020), and the Gilbreth Award from the National Academy of Engineering.

For her "invaluable leadership, service," and support of the Association and its ideals, **Dr. Kaleita is the 2020 Tau Beta Pi Outstanding Advisor.**



★ Laureates

Two Laureates have been selected in the 38th year of Tau Beta Pi's annual program to recognize gifted engineering students who have excelled in areas beyond their technical majors. Award categories include arts, athletics, diverse achievements, and service. This year's Laureates join 111 other outstanding Tau Bates to be cited since the program began in 1982.



KEVIN PTAK

SOUTH DAKOTA ALPHA '19

Kevin has been named a 2020 TBPI Laureate for his athletic achievements. He recently graduated with a master's degree in electrical engineering, having earned his bachelor's degree in the same field from South Dakota School of

Mines and Technology (SDSM&T).

At SDSM&T, Ptak was a dual-sport standout for all four years of his undergraduate education—as a wide receiver for the SD Mines football team and competing in relays and the 400m for the track & field team.

Ptak is a four-time RMAC Summit Award winner, which is given to the athlete with the highest cumulative GPA (he's maintained a perfect 4.0) among those competing at the RMAC conference championship meet. He was a member of three relay teams that currently hold school records and has been named RMAC Football Academic Honor Roll three times.

In addition, Kevin's passion for helping others is an important part of his life. This is demonstrated through a variety of community service projects (200 hours of volunteer assistance at food pantries and cleanup activities) and in being a role model coaching youth who aspire to excel in academics and athletics.

He joined the SD Alpha Chapter in 2018 and actively participates in events, socials, and service projects such as volunteering in an elementary school for two years and for the M-Hill Hike to raise money for a cure for Parkinson's Disease.

Kevin has demonstrated a passion for excellence in all facets of his collegiate experiences and has held himself accountable for balancing the demands of athletics, academics, and service. It is apparent that the engineering profession and communities where Kevin chooses to live will benefit from his many contributions.



NATALIE J. TURCO

NEW YORK SIGMA '20

Natalie has been named a 2020 TBPI Laureate for her diverse achievements. She is a recent graduate with a B.S. in mechanical engineering and a B.A. in chemistry from Alfred University (AU).

Throughout her time as an engineering student, Natalie has dedicated every spare moment to becoming involved and fostering a sense of liberal culture at AU. She has served on AU's Peer Review and University Conduct Boards since 2016, eventually leading to her being selected as the undergraduate program reviewer of the Council for the Advancement of Standards in Higher Education Student Conduct Review Committee.

Her participation in campus honor societies includes president of the NY Sigma Chapter, vice president of Phi Kappa Phi, and president of Omicron Delta Kappa. Her TBPI involvement includes parliamentarian & vice president, attending 2018 & 2019 Conventions, helping to plan and co-host the 2019 District 2 Conference, and recent election to the TBPI Student Advisory Board (2020-23).

Natalie has spent a great deal of time investing in the future of, and advocating for women in STEM. She has participated in the annual campus Women In STEM Week activities and has organized a number of outreach programs. After becoming a member of Women in Defense, she prepared and moderated a Women in STEM panel which was presented to the engineering school and livestreamed.

Natalie also has a love for the arts. She will finish the final setup of her studio and launch a small business making and selling pottery. This summer, she began working at GD - Electric Boat as a structural engineer. As a dedicated student, she has strived for high academic goals but has found her extracurricular involvement to be the most rewarding part of her education.

Association Awards

★ Distinguished Alumni

Distinguished Alumni are recognized for their demonstration of outstanding adherence to the ideals of Tau Beta Pi (integrity, breadth of interest, adaptability, and unselfish activity) and for fostering a spirit of liberal culture in society.



MAJ. GEN. **JERRY D. HOLMES**

OKLAHOMA ALPHA '58

In recognition of *his dedication to service and promotion of leadership education*, Retired Major General Jerry D. Holmes **has been named a 2020 TBPI Distinguished Alumnus.**

General Holmes earned a B.S. in geological engineering and an M.S. in aerospace engineering, both from the University of Oklahoma (OU). He also completed Squadron Officer School, National War College, and the Harvard University program for senior executives in national and international security.

General Holmes' accomplished military career includes serving as a project officer on the Titan III space launch vehicle and the Manned Orbiting Laboratory program, flying RF-101 and PF-4 missions as a combat pilot during the Vietnam War, commanding the 366th Tactical Fighter Wing, and serving as the deputy chief of staff for logistics at Langley Air Force Base (VA). He was promoted to Major General in 1984, subsequently was assigned as chief of staff, 4th Allied Tactical Air Force (West Germany) and then commander of the NATO Airborne Early Warning Force.

After retiring from corporate work in 1996, General Holmes focused on leadership education, aiming to give back to the engineering community. He developed the Jerry Holmes Leadership Program for Engineers and Scientists to provide leadership training to students at OU. General Holmes retired again in 2016, after 19 years as an adjunct professor. He continues to support students by evaluating capstone projects and speaking to classes and student groups.

His many decorations and awards include the Defense Distinguished Service Medal, Legion of Merit, Distinguished Flying Cross, and Bronze Star Medal. General Holmes is an inductee of the Oklahoma Aviation & Space HOF and the Oklahoma Military HOF. He received one of 25 teaching awards given in the U.S. by the Acton Foundation for Entrepreneurial Excellence (2008) and is a seven-time recipient of the OU "Alumni Teaching Award."



PAUL D. PLOTKOWSKI Ph.D.

MICHIGAN THETA '80

In recognition of *his commitment to the education of future engineers and his dedication to the development of K-12 outreach programs*, Paul D. Plotkowski, Ph.D., **has been named a 2020 TBPI Distinguished Alumnus.**

His education includes B.S. and M.S.

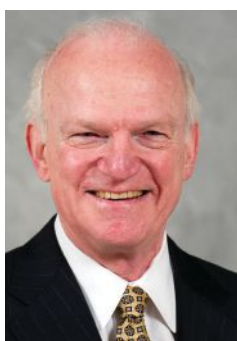
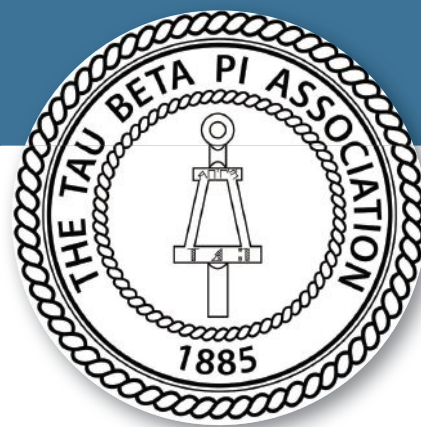
degrees in mechanical engineering and a Ph.D. in systems engineering, all from Oakland University (MI).

Dr. Plotkowski's academic career began as an assistant professor at the GMI Engineering & Management Institute (now Kettering Univ.) in 1983. His field of expertise was optical methods of stress analysis and inspection. He later took on the role of director of the newly introduced Manufacturing Systems Engineering program, leading the development efforts of that program which became ABET accredited in 2.5 years. Dr. Plotkowski continued to be actively involved in ABET accreditation in his role as an ABET visitor for mechanical and manufacturing engineering programs. In 1991, he accepted the Grand Valley State University (GVSU) position of Director of the School of Engineering. During this time, the engineering curriculum expanded from one general program to include five accredited undergraduate programs, a testament to his leadership and vision.

Throughout his career, Dr. Plotkowski has been active in various professional societies, serves as MI Lambda Chapter Advisor, and is a founding officer of the TBPI West Michigan Alumni Chapter. In 2003, he earned the ASME Dedicated Service Award for effective leadership and devotion, awarded in part for being founding chair/executive committee member of the ASME West Michigan Chapter.

In 2004, he became the GVSU Dean of Engineering & Computing and has led the college to significant growth. Additionally, he is known by colleagues for developing mature K-12 outreach programs on campus such as STEPS, FIRST Robotics, and Math Counts. These programs have been praised for encouraging the next generation to pursue education in the STEM fields. In 2015, he received the ASEE Alvah Borman Award.

★ Distinguished Alumni



RONALD W. ROUSSEAU Ph.D.

LOUISIANA ALPHA '66

In recognition of *his commitment to educating future engineers and to the development and growth of the chemical engineering field*, Ronald W. Rousseau, Ph.D., **has been named a 2020 TBPI Distinguished Alumnus.**

He received his B.S., M.S., and Ph.D., degrees in chemical engineering from Louisiana State University, and also holds a *Docteur Honoris Causa* from L'Institut National Polytechnique de Toulouse (France).

Dr. Rousseau began his academic career at North Carolina State University, and by 1980, he received the title of professor of chemical engineering. From 1987 to 2013, he was the chair of the school of chemical & biomolecular engineering at the Georgia Institute of Technology, and is currently the C.J. Silas Endowed Chair Emeritus. Dr. Rousseau is co-author of *Elementary Principles of Chemical Processes*, originally published in 1978 and now in its 4th edition, and is former editor of the *Handbook of Separation Process Technology*.

His research is related to separation processes, particularly emphasizing phenomena influencing characteristics of products from crystallization operations, and has resulted in more than 220 journal articles and over 315 presentations at technical meetings and seminars for industry and universities. He has been influential in the manufacturing of commodity and specialty chemicals, pharmaceuticals, and biologically synthesized products.

Dr. Rousseau is known internationally as a visionary leader and spokesperson for the chemical industry and academic community. The American Institute of Chemical Engineers (AIChE) and the Council for Chemical Research (CCR) Board have greatly benefited from his participation and leadership roles. Dr. Rousseau has been recognized with numerous awards, most notably the AIChE's Warren Lewis and Founders Awards, the Malcom Pruitt Award by the CCR, and the ASEE Chemical Engineering Division Lifetime Achievement Award.



DALE W. ZIMMERMAN P.E.

FLORIDA ALPHA '65

In recognition of *his outstanding career and history of service to professional societies*, Dale W. Zimmerman, P.E., **has been named a 2020 TBPI Distinguished Alumnus.**

He earned a bachelor of agricultural engineering degree from the University of Florida and was recognized for his academic efforts through numerous honor societies, including TBPI. Mr. Zimmerman joined several professional societies in which he would remain active, such as the Palm Beach Chapter of Florida Engineering Society and the American Society of Agricultural & Biological Engineers (ASABE).

Before finishing his degree, Zimmerman expanded his engineering knowledge through employment at Pratt & Whitney Aircraft, the U.S. Department of Agriculture, and South Florida Water Management District. His job responsibilities included plant layout, equipment R&D, and water quality & drainage projects. His first position after college was as a design & sales engineer for M & W Pump Works, Inc. In 1969, Mr. Zimmerman went to work for Mock, Roos & Associates, Inc. as a design specialist for the firm's pump station, drainage, and irrigation projects. Through his time at Mock Roos he has gained comprehensive knowledge in the design of irrigation systems, wastewater reuse, and storm water facilities. In 1979, Zimmerman became the principal owner of Mock Roos and later, its president.

In 1988, he became the first agricultural engineer member of the FL Board of Professional Engineers. He has also been considerably involved with the ASABE, where he was instrumental in restructuring the organization, and as a trustee of the Foundation, established a fund to support engineers taking the professional engineering exam. Mr. Zimmerman has received multiple awards from the ASABE FL Section, including a Distinguished Achievement Service Award and a P.E. Award.

Community service includes supporting engineering education, service on UF advisory boards, and instructing a 12-week course on heavy constructions for the NAWIC.

Association Awards

★ McDonald Mentor

Established in 2005, the Tau Beta Pi-McDonald Mentor Award celebrates **excellence in mentoring and advising among educators and engineers who have consistently supported the personal and professional development of their students and colleagues.** It recognizes those who have shown true concern for individuals, supported an environment for developing talents, and earned respect and recognition in their field and the greater community.



DEAN S. PAPAJOHN Ph.D., P.E.

ILLINOIS ALPHA '85
NOMINATED BY ARIZONA ALPHA

Dean S. Papajohn has been named the 2020 TBP-McDonald Mentor. He is an associate professor of practice in the department of civil and architectural engineering and mechanics at the University of Arizona (UArizona).

Dr. Papajohn will receive \$1,000, an engraved medallion, and a lapel pin that is a replica of the medallion. Another \$1,000 grant will be presented to the Arizona Alpha Chapter for nominating him.

Established by Marion and Capers W. McDonald, NC G '74, and the Association, the McDonald Mentor Award recognizes engineering educators or professionals in industry, government, or service organizations.

Dr. Papajohn received B.S. and M.S. degrees in civil engineering from the University of Illinois at Urbana-Champaign (UIUC) and a Ph.D. in civil engineering from Arizona State University. His career began at Daniel Creaney Company (IL) in 1986 as a project engineer. He later joined UIUC as a teaching associate and then served as a civil engineering manager at Pima County Department of Transportation (AZ). Dr. Papajohn joined the faculty at UArizona in 2009 and became a full-time associate professor of practice in 2015.

He established and leads the construction engineering management



emphasis in civil engineering (CE) at UArizona. As an associate professor of practice, he bridges industry and academia to continually find ways to “connect industry with students and students with industry.”

In the last five years, this program has grown to include about 20 percent of the CE students, with Dr. Papajohn serving as the primary advisor for juniors and seniors. He is also an unofficial advisor for many other students, due to his practical knowledge and his ability to help identify potential internships and job opportunities.

Dr. Papajohn's work has been recognized by both students and peers. He has received the Professor of the Year Award four times at UArizona, most recently in 2019, and is a repeat recipient of the Senior's Choice Professor Award. The nomination contained many personal accounts of how Dr. Papajohn's mentoring has been

invaluable to students, including the following:

“Dr. Papajohn gave me indispensable connections in the industry as well as [helped to] solidify my passion for civil engineering. He is one of the best professors and mentors I've had the privilege to work with. He cares for his students and gives each of us a strong foundation for our future.”

In addition, he advises multiple student organizations designed to boost opportunities for successful careers, including two that he initiated at UArizona: the student chapter of the Design-Build Institute of America and the chapter of the Associated Schools of Construction. Both organizations host annual build competitions. He has been instrumental in launching these programs: Topics in Engineering Leadership course that provides contact with practicing engineers and the 'Take5' initiative with career discussions over lunch that further student connections to industry and professional mentors. Dr. Papajohn started the 'Rise Together' program, focused on increasing diversity in engineering by linking interested female CE students with a corresponding female industry mentor. This program was recognized in 2018 with a Diversity Award from the Southern Arizona Women in Transportation Seminar organization.

For his remarkable commitment to mentoring and his creation of new mentoring programs, **we honor Dr. Dean S. Papajohn as the 2020 TBP-McDonald Mentor.**

The STORY BEHIND The PHOTO

ANNOUNCING THE FALL 2020 "CAPTION THIS PHOTO" CONTEST!

This photo, taken at the 1980 Tulsa Convention, shows **John Mardirosian, MA Z '81**, grabbing some coffee during a well-earned break.

How to Enter: Send us a clever caption(s) for this photo from *The Bent* archives. If the judges vote yours as one of the top three (and you have not been a previous winner) **we'll send you a TBP t-shirt of your choice!** Email your entry to pat@tbp.org or mail to *The Bent* of Tau Beta Pi, Caption Contest, P.O. Box 2697, Knoxville, TN 37901-2697.

DEADLINE: Monday, November 2, 2020.

THE WINNERS of the SUMMER 2020 "CAPTION THIS PHOTO" CONTEST:

This contest brought in 58 entertaining entries from 31 members. Many thanks to all of you who have participated in the contest. Don't give up—first place winner Gregory Gatlin will be receiving his t-shirt after six years of submitting captions. All 58 entries, including captions and results from recent contests, can be viewed at tbp.org/pubs/captionContest.cfm.

- 1 There was a tie for first place between first time winner Gregory M. Gatlin, *MD B '83*, and previous winner James C. Hedtke, *MN A '69*. Their respective entries are: ***"After an hour of blow drying my hair this morning, you four are crazy if you think I'm putting on a baseball cap."*** and ***"When National requested that all registrants' names be submitted in CAPS, the District Four registrants apparently misinterpreted this request."***
- 2 Here's the second place caption, submitted by Jason M. Horvath, *WV A '18*: ***"Here we see what social gatherings looked like pre-COVID-19?"***
- 3 Anthony J. Priest, *GA A '88*, placed third with his take on the photo: ***"Sorry, I was looking for the Tau Beta Pi Convention, and it seems I've wandered into the John Deere one instead."***



▲ The Summer 2020 caption contest image, above, was taken at the 1980 Convention in Tulsa, OK. Wanting to stand out in a crowd, the District 4 delegates, led by Director Russ L. Werneth, *MD B '64*, center, "capped off" the Convention in a distinctive way.



A Pandemic Did Not Stop Engineering Innovation:

BY ALAN S. BROWN

DESPITE WORK-AT-HOME ORDERS, SOFTWARE SNAFUS, NEW WAYS OF COMMUNICATING AND COLLABORATING, AND PROBLEMS DOING HANDS-ON DESIGN, ENGINEERS FOUND WAYS TO THRIVE DURING THE PANDEMIC.

COVID-19 first showed up on **Bob Roth's** radar at a company board meeting in late February. Two board members said it would be worse than anyone imagined, and that he should prepare for disruptions in customer programs and supply chains.

Roth, a second-generation owner and president/CEO of RoMan Manufacturing, a Grand Rapids, Michigan, industrial transformer and power supply maker, took note. Still, he was optimistic. Two years ago, his \$35 million company had re-engineered some transformers to lower customer costs and sales were booming.

Then the pandemic hit, and Roth's world changed. On March 23, Michigan issued a stay-at-home order. That day, he told his 150 workers they should not come to work the next day. His management team spent 24 hours online and found that industrial transformers and

power supplies were critical infrastructure. After one day at home, he recalled his factory workforce back.

This proved easy since technicians already worked apart from one another at their own workstations. RoMan installed sanitizer stations and gave everyone gloves. "Some workers complained about wearing masks, but they were the same ones who complained about wearing safety glasses," Roth said. They fell in line. Eventually, RoMan relaxed its mask policy, letting socially distanced technicians work alone without them as long as they put them on when they came by.



BOB ROTH

In the office, where employees worked near one another, most employees worked remotely, though at least two senior managers came in every day. "If we're asking most of our techs to come in daily, then top management ought to show we're willing to do it, too," Roth said.

Meanwhile, the engineers took their powerful desktops home. Once there, they linked to RoMan's virtual private network (VPN), which let them access applications and share data securely. RoMan was fortunate to have an up-to-date VPN, and after the initial confusion and testing, everything worked seamlessly.

That was not the case for RoMan's enterprise resource planning (ERP) software, which manages inventory, production, and scheduling. Modern ERP systems automatically input data from engineering and sales software. RoMan's old ERP system did not. The company had developed workarounds in the office, but they proved torturous when done remotely. New ERP software is now a RoMan priority.

Roth has been forced to adapt to communicating and managing via email, Zoom, and Microsoft Teams. He is still getting used to it, but he has noticed that video conferences move faster. "We might talk in a conference room for

30 minutes about something we could have handled in 10 or 15 minutes,” he said. “Now we’re finished in 10 or 15 minutes.”

Despite the churn, RoMan kept production up. When demand crashed in June, Roth put his factory techs on half-schedules.

Under Michigan’s Workshare program, RoMan paid for healthcare and half salaries and Michigan provided half unemployment benefits. With the \$600 federal supplementary unemployment benefit, most workers received the equivalent of full pay and RoMan kept its workforce intact.

Roth says he is ready when demand bounces back. “We have learned we can navigate through our weaknesses in systems and communications,” he said.

He is not alone. Engineers are problem solvers, and during the pandemic, most have found ways to work and collaborate remotely, build prototypes, and keep production up. What they have learned may change the profession for years to come.

REMOTE

Remote work is nothing new. In the tech industry, many software teams have been virtual or partially virtual for years. Firms like Google, Apple, Microsoft, and Facebook have all made

a smooth transition to working at home, and some, like Google and Facebook, say that will continue until mid-2021. Engineers are more tied to the physical products they produce, especially when they combine hardware, electrical circuitry, and software and require lots of interdisciplinary collaboration.

Typically, engineers work in teams in offices where they can bounce ideas off one another, test and modify prototypes, or step onto the factory floor to resolve a problem. Engineering managers rarely let anyone work from home on a regular basis.

Still, studies show that working from home can boost job satisfaction and productivity. In an eye-opening experiment in 2014, Stanford University economist Nicholas Bloom had 500 volunteers at a Chinese travel booking company work remotely. Their productivity rose 13 percent and their retention rate doubled, though they were promoted less often.

Today, we are seeing a similar experiment replicated in real time, though no one got to volunteer. The pandemic has made remote work the rule rather than the exception, said *Alison Olechowski*, a professor of mechanical engineering at University of Toronto who was studying remote collaboration before the

pandemic hit.

“If you had asked engineering managers in February if they thought it was possible for their team to work remotely, most would have answered, ‘No,’” she said. “Now, they are open to it, at least part time.”



ALISON
OLECHOWSKI

Olechowski has been on the phone (or on Zoom) talking with remote engineers and managers since the pandemic began. She found larger companies and teams working on complex projects transitioned easily to remote work because they were already sharing models and using software that provided version management and security.

Engineers on smaller teams without such integrated software figured things out, she said. Their jobs have grown increasingly collaborative and most had software and processes that let them share files, models, and drawings between groups. When the pandemic hit, many upgraded their VPNs so they could remotely access applications and

Angela Heinze, P.E., NYX '04, (left), and Jake Andrew, P.E., (right) are both structural engineers at architectural engineering giant Thornton Tomasetti. The company squeezed months of IT work into weeks to roll out improved remote capabilities. Still, many miss the random interactions that spark creativity and team cohesion when people work together.



share files and data on computers left running in their offices.

That was the case at Pittsburgh-based HEBI Robotics, said chief operating officer **Bob Raida**. The 13-person company makes control systems for robots. To demonstrate the system, HEBI decided to build a robot to inspect infrastructure around it. In March, Raida was getting ready to fly to Chevron and demonstrate it when the refinery called to say it could not accept visitors.

When the shutdown hit, HEBI moved quickly. The engineers packed up their workstations and took them home. The company was already using Google for data storage, email, documents, and spreadsheets. Once HEBI upgraded its VPN to handle the additional traffic, the engineers were able to share information as needed.

The company had enough new products in the pipeline to keep its engineers busy building models and they continued to look for ways to slash bill-of-materials costs. When work slowed, some HEBI engineers pitched in on marketing.

A faster VPN is not always the answer. Two RoMan employees lived in rural areas with poor Internet and had to work in the office. Meanwhile, Steve Chillszycn, CEO of Evolve Additive Solutions, Minnetonka, Minn., which is building a 3D printer to compete with injection molding on speed and quality, got bogged down by other family members.

“My daughters were online for classes and my wife normally works at home, so there were bandwidth issues,” he said. “My voice would cut out of a Zoom meeting, so I’d have to shut off my video during the discussion. I don’t think I was the only one having these



**BOB
RAIDA**

types of problems.”

It took a big IT push to get everyone online at Thornton Tomasetti, a major architectural and infrastructure engineering firm with 1500 employees in more than 50 offices worldwide. “The way the firm is organized, our people move

and work from around the world,” said **Scott Schneider**, co-leader of the firm’s structural engineering practice.

His group’s 30 global offices often collaborate on projects. “We have a tool set that facilitates this, but we needed to fine-tune the technology and make it more available.”

As the pandemic struck, Thornton Tomasetti deployed more laptops and accelerated its online communications platforms, including Ring Central (based on Zoom) and Microsoft Teams.

During the first six weeks of the pandemic, the firm’s IT group did six to nine months of accelerated work, Schneider said. “We’re using an increased level of communications technology and we’re constantly thinking about best practices,” he said. He talks with close aides daily, sees everyone

in his 90-person New York staff weekly through online group project reviews and social events, such as happy hours.

Thornton Tomasetti engineers also connect through existing special interest groups, such as a group that discusses drones for inspection. The company has embraced biweekly town halls to update everyone on where things stand—the type of information they might have picked up through the office grapevine six months ago.

When it comes to communications,



**JIM
DOWNS**

however, Thornton Tomasetti continues to adjust on the fly, Schneider said. His firm is not the only one. Communication makes collaboration and innovation possible and everyone is grappling with how to get it right online.

COLLABORATION

Today’s open offices encourage collaboration and innovation because everyone can see what everyone else is doing. “If you’re a mechanical engineer and you have a question about the best route for electrical wiring, you can peak over

your cubicle and see if Cathy the electrical engineer is busy,”

Olechowski said. “If not, you can go over and ask a question. You can’t just do that on Zoom.”

HEBI’s Raida agrees. In his small office, everyone is within earshot. Raida could look up and see how someone’s day was going. Now he must schedule calls to find out.

The same is true for **Jim Downs**, who leads a team of 18 engineers as executive director of innovation at American Axle & Manufacturing in Detroit. “I had to make a point to reach out to people in place of walking around,” he said. “It took me a few days to get into the role.”

Now that he does it regularly, he has discovered that Skype, a digital phone system, uses a red-yellow-green light to show when people are busy, away, or free. He monitors the lights and then calls “somewhat randomly” to check in on people.

Managing online meetings, on the other hand, takes a whole new skill set, said **Vivian Chu**, chief technology officer of Austin-based Diligent Robots, a startup developing hospital service robots.

“We are used to being in a room and brainstorming and whiteboarding,” she said. “We started a project the second week we were remote and the online

“FOR PEOPLE TO LISTEN,” OLECHOWSKI SAID, “YOU FIRST MUST BUILD UP GOOD WILL AND BE RECOGNIZED AS A PROBLEM-SOLVER. MANY MANAGERS ARE SUCCEEDING BECAUSE THEY ARE BANKING ON THE REPUTATION THEY BUILT BEFORE COVID-19.”



Vivian Chu, chief technology officer of Diligent Robotics, with Moxie, a robot designed to help hospital workers. Linking Moxie to Diligent's VPN enabled her team to reprogram and test the robot remotely.

meetings caused more friction than I could have ever imagined. People kept interrupting and others got frustrated because they couldn't say what they wanted to say."

At the time, Diligent was using Google Meet, which did not have a grid view to show all meeting participants. Once Diligent resolved that problem, Chu and the company's other managers had to learn new ways to run a meeting.

When someone on the grid would push "unmute," Chu knew he or she wanted to say something. She would then prompt them to speak. Eventually, everyone began to pick up on the visual cues from the meeting display. One of the reasons that worked so well is that Chu and her managers had already built rapport by helping their teams solve problems and meet deadlines. This is true for many successful managers.

"For people to listen," Olechowski said, "you first must build up good will and be recognized as a problem-solver. Many managers are succeeding because they are banking on the reputation they built before COVID-19."

For online meetings to work well, team members must also have a sense of "psychological safety," the willingness to take interpersonal risks—admit a problem, ask for help, contradict a senior

team member—that is necessary for teams to brainstorm productively, she continued. Teams build it when people get to know each other through those water cooler conversations, side discussions during meetings, or lunch with colleagues. None of that is possible on Zoom or other meeting apps, Olechowski said.

Another thing communications apps cannot replace is the random interactions that spark innovation. That is the reason business incubators and labs have cool open spaces, Olechowski said. It encourages engineers to talk to each other and apply the tools of one discipline to the problems of another. Studies have proven that this leads to greater innovation. "The struggle with remote work is that there is no water cooler, no overheard conversation, no display showing something you recognize," she said.

Peter Adamczyk, a mechanical engineering professor at University of Wisconsin, misses that collegiality. Online, he communicates directly with students and faculty collaborators regularly. "It's not great, but it's direct communications and we have a chance to talk about stuff," he said. "Everyone else that I would see at department

meetings, in the hallway, on the parking deck—none of that happens anymore. This is especially hard on people who are completing their first year here and never fully integrated. I don't exactly know how to fix that."

REOPENING

Eventually, though, these remote engineers needed to get their hands on the things they are building. This has happened, but not without growing pains.

To start off, engineers needed to make their labs, test spaces, and factories safe. OSHA has published advisory safety standards and most employers are checking employee temperatures, installing sanitizer stations, social distancing, having employees wear masks, and going to two half-shifts to reduce the number of workers in the plant. Some added automated light switches, faucets, and flushers, and switched to push-pull bathroom doors.

At Diligent Robotics' Austin office, Chu originally let two engineers at a time sign up for two-hour time slots to go in



PETER ADAMCZYK

and work on hardware and prototypes. Unfortunately, the engineers' can-do attitude led to chaos. Engineers would sign up, but unexpected complications would drag their project out for many more hours or even days. That backed up everyone else waiting to get in.

Chu's team solved the problem in two ways. First, they only allowed engineers to sign up for a full day. Second, they put their robots on the company VPN. This let them install software remotely and monitor the results via video cameras.

Big Metal, a Denver-based startup, remained open because it was working on an unpowered cargo ship for the U.S. Marines. The company has developed a 3D printer that combines metal wire arc deposition with five-axis CNC machining. It can print and machine complex structures directly on metal slabs.

They were using it to build a prototype 50-foot-long aluminum craft—large enough to hold two ISO shipping containers—that the Marines could tow ashore.

Big Metal was halfway through the project when COVID-19 struck. "The world went into chaos and we were on

Slade Gardner, CEO of Big Metal Additive, was halfway through a project to build a 50-foot-long lander for the Marines when the virus struck. He used his hybrid metal 3D printer to make and mill parts when his supply chain broke down.

a tight schedule," CEO Slade Gardner said. "Our suppliers were telling us that things were going to be late. Our electrical vendor couldn't install hardware and machinery in the shop on schedule. We tried to coordinate shipments and it was chaos."

So, Gardner's team decided to control the only thing they could control. Their six techs began running two shifts per day to get ahead on parts they could print in-house. They also printed parts they could not source. When nearby job shops closed, Big Metal used its printer's CNC machine to cut flat stock, mill chamfers and slots, and make mating holes and join plates. "It worked just fine in a crisis and we finished the boat," Gardner said.

Meanwhile, at Evolve, Chills-cyzn was running into problems with his highspeed 3D printer, which is based on a commercial Kodak color laser printer. After 10 years of development, Evolve promised to deliver its first Scaled Volume Production (SVP) printers to customers at the end of 2020. In mid-March, his shop closed.

"If you're building an electromechanical machine, you have to be in front of the machine," he said. "How do you take that work and try to do it at home?" Yet, that is exactly what Evolve did. The company's materials lab in Rochester,

NY, tests and formulates plastic "toner" used to deposit a full layer of material at a time. A few of those engineers took some equipment home with them so they could continue to run tests in their basements.

Evolve subcontracted the machine's modules to local firms and most of them remained on schedule. Since this was the company's sixth SVP generation, it already had a model that could simulate minor changes accurately. One new part, however, involved a major change. The engineers bought a sensor and tested it at home to simulate some of its behavior, but had to wait until they returned to their offices in June to validate the part's model.



TUCKER MARION

CHANGES

Somehow, the engineers made it work. They brought their work home, found ways to access the design and simulation tools they needed, developed new ways to communicate, and returned to their workshops if not always their offices.

"Our online tools have saved us," **Tucker Marion**, associate professor of entrepreneurship at Northeastern University, said. Marion pioneered the use of many of these tools and procedures as an entrepreneur 15 years ago, when he put together virtual teams of engineers from around the world. Since then, he



“THE PAST FEW MONTHS HAVE BEEN A VERY FAST LEARNING CURVE,” HE SAID. “NOW, ALMOST EVERYONE IS ON THE SAME PLAYING FIELD. FORTUNATELY, WE’VE HAD 13 YEARS OF THE APPLE IPHONE, FACETIME, AND SKYPE, SO WE’VE ALL BEEN EXPOSED TO THESE SORTS OF THINGS.”

has been preaching for companies to embrace greater digital collaboration.

“The past few months have been a very fast learning curve,” he said. “Now, almost everyone is on the same playing field. If this had happened 10 years ago, we would have been in a worse position. Most early adaptors were not comfortable with collaboration tools. Fortunately, we’ve had 13 years of the Apple iPhone, FaceTime, and Skype, so we’ve all been exposed to these sorts of things.”

Many engineers are still discovering the power of their digital tools. Chu, for example, knew she could link her robots to a VPN, but never saw the value in it. AAM’s Downs learned to create Skype subgroups to get an entire team on a call with one click. He and Thornton Tomasetti’s Schneider now use Teams to share and co-edit files. Wisconsin’s Adamczyk will continue to use digital tools rather than whiteboards so he can document design and software changes more easily.

Forced to embrace digital life, managers have grown more comfortable with remote work. RoMan’s Roth is one of them. “Engineers used to ask if they could work at home, and I’d always say, ‘No, we’re a manufacturing company, we do our work on site,’” he said. “Now I’m kind of a convert. Our people have demonstrated they can do it, that they’re accountable and productive.” AAM’s Downs agrees. In fact, he was surprised to see productivity rise 25 percent once his engineers got on a task.

AAM’s leadership had worried that employees would abuse time at home.

Instead, many of Downs’ engineers are so grateful to eliminate their two-hour commute, they are instead using some of that time to work on projects.

“It’s a step forward for industry, people, the environment, everything,” Downs said. “It’s a wake-up call for industry. Imagine you’re GM and you only need half as much office space as you used to

have. You could save millions.”

Of course, remote work also has its negatives.

“Women, for example, often found working at home a good option,” Olechowski said. Now that the pandemic closed schools and daycare, remote work puts additional burdens on many women, who are often the ones who also care for children and elderly adults.

Not everyone has made an easy adjustment to remote work. Some members of Diligent’s engineering team, especially younger engineers and new hires with less social connections to the team, appear more disconnected. “It can be demotivating,” Chu said.

Schneider, meanwhile, is looking to balance office and remote when people return to work. His team has proven it can execute projects remotely, but online meetings cannot replicate the creative sparks that happen when everyone is together.

Prior to the pandemic, he noted, engineers who called into conferences often seemed “a step behind,” perhaps because they could not read the expressions of the people in the room.

Schneider personally hopes Zoom and other new tools will change that. He has two young children, but his job keeps him away until late. Working a day or two at home would allow him—and many others—to be present for his family.

Communications remain problematic as well. Most engineering teams have mastered the technical aspects of using such tools as Meet, Skype, Slack, Teams, and Zoom. Managers have generally learned to use them for small and large meetings and to communicate transparently so their dispersed workforce knows where things stand.

Still, Marion worries about Zoom fatigue. Managers often schedule too many online meetings and they go on

for too long. He thinks shorter meetings, 15 to 30 minutes with a focused agenda, are more effective.

He also worries about what he calls “fidelity of communications.” In an office, he explained, if someone wants to add a feature to a design, he or she could point to where it goes. That’s not possible in text. Instead, engineers should augment their instructions and suggestions with models or screen shots to ensure others will understand exactly what they are talking about. His research shows that the more specific the comments are up front, the less ambiguity and confusion down the line.

Online tools also make it easy for engineers to not give issues their full attention. “You may think your comment resolves that issue,” Marion said. “But maybe it didn’t. We all get lazy and maybe we reply with a thumbs up. But did you really pay enough attention to the problem when you replied? What sounds good may not be the appropriate response.”

Communications and collaboration are, as every engineer we spoke with said, works in progress. In a few short months, COVID-19 has gone from a potential supply chain issue in China into a pandemic that has changed the engineering world. It will probably take years before everyone has truly mastered the best practices these changes have created.

ALAN S. BROWN has written broadly about engineering, technology, and science for more than 30 years. He is a board member of Science Writers in New York, a writer for The Kavli Foundation, and a former senior editor of ASME’s *Mechanical Engineering* magazine and contributes to a wide range of publications. He graduated New College at Hofstra University *magna cum laude* in 1974 and can be reached at insight01@verizon.net.

TBP SCHOLARS

282 undergraduate engineering scholarships have been awarded for the 2020-21 year.

The Fellowship Board announced the selection of 282 engineering students from 510 applicants. Most recipients will receive a cash award of \$2,000 for one year and a few will receive \$1,000 for one semester. This year, a total of \$550,000 was awarded. All TBI Scholarships are awarded on the competitive criteria of high scholarship, campus leadership and service, and promise of future contributions to the engineering profession. These awards bring the total to 3,368 scholarships granted since 1998.

Ronit Agarwala FL Δ '21
Record No. 1560 | Photonics eng'g

Jack A. Agtural CA Ξ '22
Forge No. 93 | Mechanical eng'g

Sanya A. Ahmed MD Δ '21
Dodson No. 76 | Chemical eng'g

Mary S. Allen MI Z '22
Sickafoose No. 8 | Chemical eng'g

Mohammad A. Alwahdane OK A '21
Nagel No. 54 | Electrical eng'g

Christine E. Apostolico NJ A '21
Dodson No. 77 | Chemical eng'g

Savannah R. Armstrong AZ A '21
Record No. 1561 | Mechanical eng'g

Amanda E. Ashmen NY M '21
Record No. 1562 | Computer eng'g

Jillian M. Baggett LA B '21
Record No. 1563 | Biomedical eng'g

Luke Baird AZ Δ '21
Nagel No. 57 | Electrical eng'g

James R. Baker Jr. TN A '22
Record No. 1564 | Chemical eng'g

Anjolaoluwa S. Bamtefa DC A '21
Dodson No. 78 | Chemical eng'g

Jonathan W. Bayert IN Δ '21
Record No. 1566 | Computer eng'g

Matthew G. Beauchamp MD Γ '21
Skaggs No. 4 | Electrical eng'g

Jacob N. Behnke IL B '20
Record No. 1567 | Civil eng'g

Rachel E. Beller OH A '21
Dodson No. 79 | Chemical eng'g

Kimberly R. Bennett CA AB '21
Forge No. 94 | Bioengineering

Neha S. Bhatt CT A '21
Record No. 1568 | Biomedical eng'g

Brody J. Bissonette ND B '21
Soden No. 15 | Geological eng'g

Emily G. Black OK A '21
Record No. 1569 | Industrial & Sys eng'g

Jordan E. Blackmon AL E '21
Zimmerman No. 1 | Civil eng'g

Demetri Blackwood MI Z '21
Record No. 1570 | Industrial eng'g

Hanna V. Bobinger AL E '21
Dodson No. 80 | Chemical eng'g

Tyler Bodily UT A '21
Dechman No. 6 | Chemical eng'g

The following scholarships are named for members:

The **Nagel Scholarships** are given in honor of Robert H. Nagel, P.E., NY Δ '39, for his service as Editor & Secretary-Treasurer from 1942-82 and as Secretary-Treasurer Emeritus in 1982-97.

The **Record Scholarships** commemorate Leroy E. Record, KS A '29, whose generous bequest will provide earnings to support awards in perpetuity.

The **Stabile Scholarships** are named for Vincent A. Stabile, NY Λ '40, whose gifts to the Association have permanently endowed scholarships.

Henry M. Alford, MS A '27, left a bequest sufficient to permanently endow the **Alford Scholarships**.

The **Althouse Scholarship** honors Ernest E. Althouse, PA A '26, who left a bequest in 2006.

The **Bloomberg Scholarship** is named for Michael R. Bloomberg, MD A '64, whose gifts have funded one award for 14 years.

Marian K. and John H. Brems Jr., MI Γ '46, left a bequest to fund the **Brems Scholarships** in 2016.

Ruth M. and Cleveland L. Campbell, P.E., IA A '47, made gifts to permanently endow the **Campbell Scholarships**.

The **Dechman Scholarship** was established by David, VA B '82, Ken, and Jim Dechman, TX A '89, to honor their father, Don A. Dechman, TX A '57, on his 80th birthday.

The **Dodson Scholarships** are sponsored by the late Charles R. Dodson, MD B '30, who made gifts to the Association in 1998 and 1999.

The **Ford Scholarship**, named for David L. Ford Jr., Ph.D., IA A '67, a TBI Distinguished Alumnus recipient in 2019, is supported by LeVern W. Faidley, Ph.D., IA A '67, and awarded to a member from the Texas Xi Chapter.

Charles O. Forge, CA Γ '56, left a bequest in 2010 to support the **Forge Scholarships**.

The **Holmes Scholarship** is in recognition of Retired Major Gen. Jerry D. Holmes, OK A '58, a 2020 recipient of the TBI Distinguished Alumnus Award.

The **Plotkowski Scholarship** is in recognition of Paul D. Plotkowski, Ph.D., MI Θ '80, a 2020 recipient of the TBI Distinguished Alumnus Award.

The **Rousseau Scholarship** is in recognition of Ronald W. Rousseau, Ph.D., LA A '66, a 2020 recipient of the TBI Distinguished Alumnus Award.

Brian A. Bogert VA B '21
Record No. 1571 |Industrial & Sys eng'g

Jacob W. Brady CA AB '21
Forge No. 95 |Chemical eng'g

Spencer S. Bravo CA E '21
Forge No. 96 |Mechanical eng'g

Jack C. Breton CT I '21
Record No. 1572 |Mechanical eng'g

Abigail M. Brown OH N '21
Campbell No. 48 |Mechanical eng'g

Alyssa P.G. Brown PA I '21
Record No. 1573 |Mech & Biomed eng

Michael J. Brown Jr. CA B '21
Forge No. 97 |Mech & Aero eng'g

Elizabeth A. Brungardt KS A '21
Soden No. 16 |Chemical eng'g

Erick J. Burgess Jr. LA B '20
Record No. 1574 |Chem & Biomol eng

Olivia R. Bussone MI Z '21
Plotkowski No. 1 |Mechanical eng'g

Jillian E. Butler VA A '21
Record No. 1575 |Biomedical eng'g

Matthew L. Catalano LA B '21
Record No. 1576 |Engineering Physics

Katelyn E. Caviness MO E '21
Record No. 1577 |Biomedical eng'g

Isabelle A. Chan MA A '21
Record No. 1578 |Robotics & Mech eng

Christina T. Chang CO A '21
Record No. 1579 |Mechanical eng'g

Rachel M. Chayer CO A '21
Record No. 1580 |Chem & Biolog eng'g

Jaime Chen IL A '22
Record No. 1581 |Bioengineering

Bridget A. Childs NY A '21
Scribner No. 54 |Environmental eng'g

Haley J. Chiles SC A '21
Soden No. 17 |Chemical eng'g

Antonia S. Chin MI Z '20
Record No. 1582 |Chemical eng'g

Amanda O. Christensen WY A '21
Record No. 1583 |Chemical eng'g

Alan S. Clemenson CA E '20
Forge No. 98 |Electrical eng'g

Eli G. Cordova NY S '21
Record No. 1584 |Mechanical eng'g

Quinn Cottone AL E '21
Record No. 1585 |Mechanical eng'g

Teagan L. Cronin LA B '21
Record No. 1586 |Engineering Physics

Matthew A. Culver IA B '21
Record No. 1587 |Biomedical eng'g

Kira N. Cunniff CO A '22
Scribner No. 55 |Environmental eng'g

Joseph E. Cunningham VA B '21
Spirit of Apollo No. 7 |Aerospace eng'g

Spencer J. Curtis UT B '21
Record No. 1588 |Mechanical eng'g

Eduardo Custodio Leal CT A '21
Record No. 1666 |Chemical eng'g

The **Schwaller Scholarship** commemorates Shawn R. Schwaller, *SD A '95*, whose friends and family established a fund in 2007.

A bequest from A. Clayton Scribner, *NY I '29*, permanently endows the **Scribner Scholarships**.

The **Sickafoose Scholarship** is named for Kathleen A. and Robert D. Sickafoose, *IL B '50*, who left a bequest in 2012.

Glenn A. Skaggs, *MD B '57*, left a bequest in 2017 to permanently endow the **Skaggs Scholarship**.

The three **Soden Scholarships** are named for Archie D. Soden, *CA A '51*, who made gifts to TBI to fund scholarships in perpetuity.

The **Spirit of Apollo Scholarship** is supported by an anonymous donor to honor the legacy of the U.S. NASA Apollo program.

The **Zimmerman Scholarship** is in recognition of Dale W. Zimmerman, *FL A '65*, a 2020 recipient of the TBI Distinguished Alumnus Award.

Corporations sponsor the remaining scholarships.

The Alabama Power Foundation, Inc., made a gift in 1995 to endow an **Alabama Power Scholarship**, awarded for the 17th time.

Awarded for the 12th year, the **GEICO Scholarship** is sponsored through a partnership with GEICO insurance.

This year's recipients have chosen the following engineering curricula:

71 MECHANICAL
52 CHEMICAL
43 BIOMEDICAL
25 ELECTRICAL
18 CIVIL
9 COMPUTER
7 BIOENGINEERING
6 AEROSPACE
6 MATERIALS SCIENCE
5 ENVIRONMENTAL
5 INDUSTRIAL & SYSTEMS
3 CHEMICAL & BIOMOLECULAR
3 COMPUTER SCIENCE
2 BIOLOGICAL, ELECTRICAL & COMPUTER, ENGINEERING SCIENCE, MECHANICAL & AEROSPACE, PETROLEUM & SOFTWARE

The other engineering fields of study include: Acoustical, Architectural, Civil & Environmental, Engineering, Engineering Education, Engineering Mechanics, Geological, Industrial, Industrial & Management, Photonics, Renewable Energy, Robotics, and Systems.

TBP SCHOLARS

Continued

- Emily F. Dahkle** ND B '21
[Record No. 1589](#) |Mechanical eng'g
- Emmanuel J. Daniel-Aguebor** DC A '21
[Skaggs No. 6](#) |Electrical eng'g
- Anthony P. Danna** CO B '22
[Stabile No. 913](#) |Aerospace eng'g
- Hope A.M. de Avila** ID A '21
[Record No. 1590](#) |Biological eng'g
- Santiago Diaz-Arauzo** TX A '21
[Record No. 1591](#) |Chemical eng'g
- Beth N. DiBiase** MA E '21
[Record No. 1592](#) |Chemical eng'g
- Carolina Dos Santos Barbosa** OH Z '21
[Record No. 1565](#) |Chemical eng'g
- Josilyn L. Dostal** NE A '21
[Record No. 1593](#) |Chemical eng'g
- Charles S. Dranoff** LA B '21
[Record No. 1594](#) |Biomedical eng'g
- Mason J. Dunn** ND B '22
[Record No. 1595](#) |Mechanical eng'g
- Abigail L. Dykema** IN Δ '21
[Record No. 1596](#) |Biomedical eng'g
- Meredith B. Eaheart** VA E '21
[Record No. 1597](#) |Mechanical eng'g
- Joshua D. Eckels** IN B '21
[Record No. 1598](#) |Mechanical eng'g
- Martin R. Eichers** ND A '20
[Record No. 1599](#) |Mechanical eng'g
- Joseph T. Eickman** SD B '21
[Record No. 1600](#) |Mechanical eng'g
- Kyle B. Evans** UT B '21
[Record No. 1601](#) |Electrical eng'g
- Matthew M. Ewert** MN B '21
[Record No. 1602](#) |Chemical eng'g
- Abigail R. Fabiano** NJ B '21
[Record No. 1604](#) |Chemical eng'g
- Emily D. Fabiano** NJ B '21
[Record No. 1603](#) |Chemical eng'g
- Mitchell J. Faris** MT A '21
[Record No. 1605](#) |Electrical eng'g
- John T. Fowler Jr.** GA A '21
[Record No. 1606](#) |Biomedical eng'g
- Andrew T. Fry** OK Γ '21
[Record No. 1607](#) |Electrical eng'g
- Alejandro Gallegos Tovar** AL E '21
[Stabile No. 877](#) |Chemical eng'g
- David N. Gardner** DC A '21
[Record No. 1608](#) |Chemical eng'g
- Rutuj Gavankar** IN Z '21
[Record No. 1609](#) |Electrical eng'g
- Sarah E. Gibson** VA E '20
[Record No. 1610](#) |Biomedical eng'g
- Megan E. Ginn** OH B '21
[Scribner No. 56](#) |Environmental eng'g
- Benjamin M. Glaser** PA Γ '21
[Record No. 1611](#) |Materials Sci & eng'g
- Katherine E. Glass** TN A '21
[Record No. 1612](#) |Chemical eng'g
- Victoria J. Glessner** AZ Δ '21
[Stabile No. 914](#) |Aerospace eng'g
- Justin S. Glickman** NY T '21
[Record No. 1613](#) |Electrical eng'g
- Nathan G. Godbout** ME A '21
[Record No. 1614](#) |Mechanical eng'g
- Katherine I. Goldrick** DC Γ '21
[Record No. 1615](#) |Biomedical eng'g
- Rebecca Golm** NJ B '21
[Record No. 1616](#) |Electrical eng'g
- Evan E. Gonzalez** FL Δ '21
[Record No. 1617](#) |Mechanical eng'g
- Margaret L. Goodin** OK Γ '21
[Record No. 1618](#) |Industrial eng & Mgmt
- Matthew R. Gordon** OK A '21
[Record No. 1619](#) |Chemical eng'g
- Mukul Govande** OH Γ '21
[Record No. 1620](#) |Biomedical eng'g
- Zev N. Granowitz** PA E '21
[Record No. 1621](#) |Mechanical eng'g
- Madison P. Grant** CA M '21
[Forge No. 99](#) |Aerospace eng'g
- Rebecca M. Grey** PA M '21
[Record No. 1622](#) |Mechanical eng'g
- Alexandra R. Guardo** NY T '21
[Record No. 1623](#) |Bioengineering
- Charlotte B. Guyer** OK Γ '22
[Record No. 1624](#) |Architectural eng'g
- Adam J. Hall** NY M '21
[Record No. 1625](#) |Mechanical eng'g
- Joshua D. Hamilton** ME A '21
[Record No. 1626](#) |Biomedical eng'g
- Jessica L. Hammersla** WV A '21
[Record No. 1627](#) |Computer eng'g
- Zachary D. Hampton** OK Γ '21
[Record No. 1628](#) |Mech & Aero eng'g
- Ammar Hanna** CA P '20
[Nagel No. 55](#) |Civil eng'g
- Elizabeth G. Hanna** TX I '21
[Campbell No. 49](#) |Computer Science
- Quinn M. Happold** WY A '20
[Record No. 1629](#) |Mechanical eng'g
- Courtney G. Harbert** OH Θ '21
[Record No. 1630](#) |Mechanical eng'g
- Abigail E. Haworth** NE A '21
[Record No. 1631](#) |Biological Sys eng'g
- Emma S. Heaton** NY T '21
[Record No. 1632](#) |Biomedical eng'g
- Daniella R. Hebert** NY O '21
[Record No. 1633](#) |Mechanical eng'g
- Andrea T. Hildan** CA AΓ '21
[Forge No. 100](#) |Mechanical eng'g
- Ryan C. Hrusch** OH Θ '21
[Record No. 1634](#) |Mechanical eng'g
- Andrea H. Hwang** PA Γ '21
[Record No. 1635](#) |Materials Sci & eng'g

Abdullah S. Hyder NJ A '22
Record No. 1636 |Computer eng'g

Matthew P. Ingram ME A '21
Record No. 1637 |Mechanical eng'g

Karthik Irakam CT A '21
Record No. 1638 |Biomedical eng'g

Matthew J. Irving CT Γ '21
Campbell No. 50 |Accoustical eng'g

Nadia Itani NY Ξ '21
Record No. 1639 |Civil eng'g

Kaitlyn M. Jankowski WI Γ '21
Record No. 1640 |Civil eng'g

Virginia Jiang NY A '21
Record No. 1641 |Chemical eng'g

Nicholas Jin DC Γ '21
Record No. 1642 |Electrical eng'g

Lynnae A. Johnson CO B '21
Record No. 1645 |Civil eng'g

Sage A. Johnson OK B '20
Record No. 1643 |Mechanical eng'g

Tyson A. Johnson TN A '21
Record No. 1644 |Chemical eng'g

Ryan Jose NY H '22
Record No. 1646 |Mechanical eng'g

Mamta Kanda CA H '21
Forge No. 101 |Industrial & Sys eng'g

Madison A. Kane CA Θ '20
Record No. 1647 |Biomedical eng'g

MyoungJu K. Kang NY K '21
Record No. 1648 |Biomedical eng'g

Jeffrey D. Kangas MN B '21
Record No. 1649 |Mechanical eng'g

Anna Kasperovich MA E '21
Record No. 1650 |Chemical eng'g

Jonathan P. Kelley TN G '21
Record No. 1651 |Mechanical eng'g

Kaitlyn B. King VT B '21
Record No. 1652 |Mechanical eng'g

Joshua K. Kirby OK A '22
Record No. 1653 |Industrial & Sys eng'g

Steven P. Klepac AL E '21
Record No. 1654 |Civil eng'g

Ryan W. Klimek OH N '21
Record No. 1655 |Mechanical eng'g

Mia H. Klopfenstein ID Γ '21
Record No. 1656 |Materials Sci & eng

Nicholas F. Knapp ND B '21
Stabile No. 850 |Petroleum eng'g

Abigail E. Koons AL E '21
Record No. 1657 |Mechanical eng'g

Elizabeth D. Korte VA A '21
Brems No. 11 |Systems eng'g

Joshua M. Kortje OH N '21
Record No. 1658 |Computer eng'g

Sarah E. Kuchcinski OH K '21
Record No. 1659 |Elect & Comp eng'g

Derek A. Kuldinow CT A '21
Record No. 1660 |Mechanical eng'g

Emma C. Kuttler OK A '21
Record No. 1661 |Industrial & Sys eng'g

Corrina R. Laird SC A '21
Record No. 1662 |Bioengineering

Claire Lamarre CT A '21
Record No. 1663 |Chemical eng'g

Sonji Lamichhane NM B '21
Record No. 1664 |Chemical eng'g

Kyle R. Lang MA A '21
Record No. 1665 |Mechanical eng'g

Aaron B. Leavitt ID Δ '21
Record No. 1667 |Civil eng'g

Karthik Ledalla NY O '21
Record No. 1668 |Biomedical eng'g

Brandon F. Lee MO A '22
Stabile No. 797 |Chemical eng'g

Jacob L. Lewellen OK Γ '22
Stabile No. 798 |Chemical eng'g

Zikang Ling PA Z '21
Stabile No. 799 |Mechanical eng'g

Ryan W. Ludemann NJ A '21
Stabile No. 800 |Mechanical eng'g

Stephanie C. Lux NY Δ '21
Stabile No. 801 |Biomedical eng'g

Nicole A. Marco MA E '21
Stabile No. 802 |Chemical eng'g

Daniel M. Markiewitz NY Δ '21
Stabile No. 803 |Chemical eng'g

Lucia Martinez NY Γ '21
Stabile No. 804 |Biomedical eng'g

Jeffrey A. Mayolo NY Y '21
Stabile No. 805 |Mechanical eng'g

Aaron M. McCrary IA A '21
Stabile No. 806 |Mechanical eng'g

Noah N. Meisner WI B '21
Stabile No. 807 |Civil eng'g

Rita E. Meraz VA Γ '21
Skaggs No. 5 |Electrical eng'g

Austen P. Metsack MA I '20
Stabile No. 808 |Mechanical eng'g

Evan M. Mettebrink OK A '21
Stabile No. 809 |Biomedical eng'g

Kaylee M. Meyers MI B '21
Stabile No. 810 |Biomedical eng'g

Shea T. Middleton NC Z '21
Stabile No. 901 |Engineering

Hannah M. Miller NH A '21
Stabile No. 811 |Civil eng'g

Max B. Milone NJ A '21
Alford No. 18 |Electrical eng'g

Navid Mir CA Σ '21
Forge No. 102 |Electrical eng'g

Pranjal Mittal NY Δ '21
Stabile No. 812 |Computer Science

Natalie L. Monzavifar SC B '22
Stabile No. 813 |Computer Science

TBP SCHOLARS

Continued

Abigail F. Morgan LA Γ '21
Stabile No. 814 |Mechanical eng'g

Cooper A. Morris TN E '21
Stabile No. 815 |Civil eng'g

Matthew L. Morse KY A '21
Stabile No. 816 |Chemical eng'g

Basheer Mosallam MI Γ '21
Stabile No. 817 |Biomedical eng'g

Morgan L. Muir TX I '21
Stabile No. 818 |Mechanical eng'g

Obinna D. Muoh MS A '21
Stabile No. 819 |Chemical eng'g

Alexander J. Myers PA B '21
Stabile No. 820 |Mechanical eng'g

Allison J. Myers AL E '21
Stabile No. 821 |Mechanical eng'g

Haley M. Myers OH Δ '21
Stabile No. 902 |Mechanical eng'g

Paige K. Myroth WI B '21
Stabile No. 903 |Biomedical eng'g

Jenna M. Nielson CO B '22
Stabile No. 822 |Chemical & Biolog eng

Miranda R. Nolan MS B '21
Stabile No. 823 |Chemical eng'g

Jared T. Nysetvold UT B '21
Stabile No. 824 |Mechanical eng'g

Chaz J. Okada CT A '21
Alford No. 19 |Electrical eng'g

Jerry A. Ostrem MN B '21
Stabile No. 825 |Chemical eng'g

Daniel G. Pascal MA Δ '21
Stabile No. 826 |Biomedical eng'g

Sudesh Pathak MS B '21
Stabile No. 827 |Mechanical eng'g

Pryce E. Paulson MT A '21
Stabile No. 828 |Mechanical eng'g

Heather E. Pecho IL B '21
Stabile No. 829 |Chemical eng'g

Madeleine J. Pelchat PA Z '22
Rousseau No. 1 |Chemical eng'g

Parker Petroff-Rims NJ A '21
Stabile No. 830 |Chemical eng'g

Mark Petrovic PA Z '21
Stabile No. 831 |Materials Sci & eng'g

Lilia T. Pettit NY Θ '21
Stabile No. 832 |Civil & Environ eng'g

Donato L. Piroscrafo NM B '21
Stabile No. 833 |Mechanical eng'g

Alexa S. Podolsky NY D '21
Stabile No. 834 |Biomedical eng'g

Sharisse A. Poff UT B '21
Althouse No. 12 |Electrical eng'g

Purnima A. Prasad NY P '21
Stabile No. 835 |Civil eng'g

Tyler C. Price OK B '21
Stabile No. 836 |Engineering Physics

Malak N. Rafik CO Δ '21
Stabile No. 907 |Mechanical eng'g

Katelyn E. Ragan VA B '22
Brems No. 12 |Aerospace eng'g

Alonzo Ramon TX M '21
Stabile No. 837 |Computer eng'g

Lindsey D. Randall OK A '21
Stabile No. 838 |Biomedical eng'g

Carli B. Raupp LA Γ '21
Stabile No. 839 |Mechanical eng'g

Sydney A. Rehr MI A '21
Stabile No. 840 |Mechanical eng'g

Eric R. Rhodes PA Λ '21
Stabile No. 841 |Materials Sci & eng'g

Nicholas A. Rober IA B '20
Stabile No. 842 |Mechanical eng'g

Simon A. Rojas Avila TX B '21
Nagel No. 56 |Mechanical eng'g

Mikayla M. Rosenthal NE A '20
Stabile No. 843 |Mechanical eng'g

James T. Rowland AL E '21
Stabile No. 904 |Electrical eng'g

Melissa Rowland MA Δ '21
Stabile No. 844 |Electrical eng'g

Ryan C. Russell IL Δ '21
Stabile No. 845 |Electrical eng'g

Ziad Saade NY A '21
Bloomberg No. 14 |Biomedical eng'g

Mohammed S. Saleem IL B '21
Stabile No. 846 |Biomedical eng'g

Yash Samantaray CT A '21
Stabile No. 847 |Chemical eng'g

Elena M. Sanchez NY Θ '21
Stabile No. 848 |Mechanical eng'g

Erican J.S. Santiago MI B '21
Stabile No. 849 |Biomedical eng'g

Taleen C. Sarkissian CA T '21
Forge No. 103 |Elect & Comp eng'g

Jacob B. Scanlan TX Ξ '21
Ford No. 2 |Software eng'g

Nicholas J. Schiefelbein IA A '21
Stabile No. 851 |Mechanical eng'g

Natalie A. Schieuer MD Γ '21
Stabile No. 852 |Mechanical eng'g

Emma K. Schmidt AL Γ '21
AL Power No. 17 |Biomedical eng'g

Jacob J. Schmidt UT B '21
Stabile No. 853 |Chemical eng'g

James G. Schultz CO B '21
Stabile No. 854 |Mechanical eng'g

Hannah K. Schulz MA A '21
Stabile No. 855 |Civil eng'g

Anna M. Schwartz MO A '20
Stabile No. 856 |Civil eng'g

William E. Schwartzman OH A '21
Stabile No. 857 |Biomedical eng'g

Charles J. Sears CO Γ '21
Stabile No. 858 |Computer eng'g

Bryan Shaddy CA AB '21
Stabile No. 908 |Mechanical eng'g

Sanjana B. Shah PA Γ '21
Stabile No. 859 |Chemical eng'g

Audrey A. Sheppard TX Δ '21
Stabile No. 860 |Biomedical eng'g

William O. Sierzputowski OH I '21
Stabile No. 861 |Engineering Education

Lillia R. Smith OR Γ '21
Stabile No. 905 |Mechanical eng'g

Greylan E. Smoak SC B '21
Stabile No. 862 |Electrical eng'g

Brandon T. Smurthwaite ID Δ '21
Stabile No. 863 |Civil eng'g

Louis F. Somma NY T '21
Stabile No. 864 |Biomedical eng'g

Kristen M. Soucheck OK A '21
Holmes No. 1 |Environmental eng'g

Siva P. Sreedhar IL Z '21
Stabile No. 865 |Chemical eng'g

Evan R. Steers SD B '21
Stabile No. 866 |Mechanical eng'g

Jennifer L. Stewart TX E '21
Stabile No. 912 |Petroleum eng'g

Wesley R. Stirk UT B '21
Stabile No. 867 |Electrical eng'g

Matthew L. Stoel SD B '21
Stabile No. 868 |Electrical eng'g

Seth S. Street TN A '21
Stabile No. 869 |Chemical eng'g

Eric R. Stultz MA A '21
Stabile No. 870 |Mechanical eng'g

Eliza M. Sweet NJ Z '21
Stabile No. 871 |Mechanical eng'g

Julia N. Syme OH K '22
Stabile No. 872 |Chemical eng'g

Calli J. Taitz LA B '21
Stabile No. 873 |Engineering Physics

Andrew C. Tamis PA B '21
Stabile No. 874 |Engineering Science

Arden Tanner MA A '21
Stabile No. 875 |Biomedical eng'g

Daniel R. Thomson ID Δ '21
Stabile No. 909 |Computer eng'g

Sarah Tickner PA B '21
Stabile No. 876 |Engineering Science

Shelby J. Tillema CO B '21
Scribner No. 57 |Environmental eng'g

Britney L. Tran CA I '21
Forge No. 104 |Mechanical eng'g

Jared A. Tucker MN B '21
Stabile No. 878 |Chemical eng'g

Grant A. Turner KY Γ '20
GEICO No. 66 |Electrical eng'g

Nicolas Valencia Diaz FL ⊕ '21
Stabile No. 911 |Biomedical eng'g

Fausto Vega NV B '21
Stabile No. 879 |Mechanical eng'g

Matthew J. Vigil NM B '21
Stabile No. 880 |Chemical eng'g

Trenten J. Wahlen TX M '21
Stabile No. 881 |Mechanical eng'g

Christina J. Waldron TX A '21
Stabile No. 882 |Biomedical eng'g

Mitchell P.J. Wall WI A '21
Stabile No. 883 |Eng'g Mechanics

James Wang CA E '21
Forge No. 105 |Chemical eng'g

Joshua T. Ward UT Γ '21
Stabile No. 884 |Civil eng

Christian M. Weaver SD A '21
Schwaller No. 10 |Computer eng'g

Matthew J. Weintraub LA B '21
Stabile No. 906 |Biomedical eng'g

Trisha L. Whaley NY Σ '21
Stabile No. 885 |Materials Sci & eng

Zachary J. Wiens KS A '21
Brems No. 13 |Aerospace eng'g

Natasha J. Wilson UT B '21
Stabile No. 886 |Mechanical eng'g

Allison E. Winans WI B '21
Stabile No. 887 |Biomedical eng'g

Sophia X. Windemuth NY Δ '21
Stabile No. 888 |Biomedical eng'g

Genevieve S. Wisby MI Λ '21
Stabile No. 910 |Mechanical eng'g

Andrew C. Witte IN Δ '21
Stabile No. 889 |Civil eng'g

Hanna P. Wolf OR Δ '21
Scribner No. 58 |Renewable Energy eng

Sydney J. Womack SC B '21
Stabile No. 890 |Biomedical eng'g

Kaylie E. Wong CT T '21
Forge No. 106 |Biomedical eng'g

Jonathan Wu CT A '21
Stabile No. 891 |Biomedical eng'g

Ruidi Xu IL Z '21
Stabile No. 892 |Bioengineering

Zhian Yan CA A '21
Stabile No. 893 |Bioengineering

Angelina C. Zaccaria NJ A '21
Stabile No. 894 |Software eng'g

Ahmad Z. Zakka TX A '21
Stabile No. 895 |Mechanical eng'g

Alina Zdebska NY B '21
Stabile No. 896 |Bioengineering

Yiming Zhang AL Γ '21
Stabile No. 897 |Biomedical eng'g

Dell H. Zimmerman TN Z '21
Stabile No. 898 |Chemical eng'g

Jordan A. Zimmerman OK A '21
Stabile No. 899 |Chemical eng'g

William R. Zunker MN A '21
Stabile No. 900 |Civil eng'g

BRAIN TICKLERS



Results From Spring

Perfect Scores

*Bohdan, Timothy E.	IN	G '85
*Clift, D. Wayne	UT	B '91
*Couillard, J. Gregory	IL	A '89
*Gerken, Gary M.	CA	H '11
Griggs Jr., James L.	OH	A '56
*Johnson, Mark C.	IL	A '00
*Kimsey, David B.	AL	A '71
*Norris, Thomas G.	OK	A '56
Richards, John R.	NJ	B '76
*Roche, James R.	IN	G '85
Roche, Kevin M.	Son of member	
*Stegel, Timothy J.	PA	A '80
*Voellinger, Edward J.	Non-member	

Other

Alexander, Jay A.	IL	G '86
Allen, Stephen L.	MO	B '78
Aron, Gert	IA	B '58
Ausburn, Chad	OK	A '00
*Bannister, Kenneth	PA	B '82
Barr, Robert A.	IL	E '85
Benedict, Daniel H.	PA	H '09
Bernacki, Stephen E.	MA	A '70
Bertrand, Richard M.	WI	B '73
Catanich, Steven P.	CA	R '83
*Celani, Paul E.	MD	G '97
Chatcavage, Edward	PA	B '80
*Dechman, Don A.	TX	A '57
*DeFillipo, Lawrence E.	NY	O '79
*Gaston, Chuck A.	PA	B '61
*Gulian, Franklin J.	DE	A '83
Gulian, Joseph D.	Son of member	
Handley, Vernon K.	GA	A '86
*Harvey, Arthur J.	OH	A '83
Johnson, Roger W.	MN	A '79
Jordan, R. Jeffrey	OK	G '00
Kneip, Paul M.	IA	A '89
Kovalick, Albert W.	CA	H '72
Lalinsky, Mark A.	MI	G '77
*McHenry, S. Dale	MO	B '81
Miller, David J.	MA	E '71
Parks, Christopher J.	NY	G '82
Partanen, Thomas A.	MI	B '70
Pendleton III, Winston K.	MI	G '62
Penlesky, Richard J.	WI	B '73
Preble, Harry L.	MA	D '61
*Quan, Richard	CA	C '01
Riedesel, Jeremy M.	OH	B '96
Roggli, Victor L.	TX	G '73
Routh, Andre G.	FL	B '89
*Schmidt, V. Hugo	WA	B '51
Schweitzer, Robert W.	NY	Z '52
Sigillito, Vincent G.	MD	B '58
Sklar, Wyatt	Non-member	
Spong, Robert N.	UT	A '58
Spring, Gary S.	MA	Z '82
Spring, Mitchell G.	Son of member	
*Strong, Michael D.	PA	A '84
Summerfield, Steven L.	MO	G '85
Sutor, David C.	Son of member	
*Sylvester, Noah	Son of member	
*Thompson, Ryan L.	PA	B '20
Ulman, Dave A.	MI	H '83
Zison, Stanley W.	CA	Q '83

*Denotes correct bonus solution

Spring Review

Spring #3, the cubic cryptarithm, was the easiest Tickler, with nearly every respondent recording a correct solution.

Each of the other six problems resulted in similar numbers of correct responses, roughly 40 percent of the total entries.

Subjectively though, Tickler #2 was the most difficult. As mentioned in the last issue, the judges' intent was for readers to find a method to determine the least upper bound on the number of weighings needed to find an odd penny out of 365. Given that the trivial solution 2 was accepted as a correct response in several entries, this Tickler was particularly confounding.

Summer Answers

1: $i3\sqrt{11}$. Remember that trigonometric functions are also defined on the complex plane. Call $\alpha = \arcsin(10)$, and $\sin(\alpha) = 10$. Since $\sin^2(\alpha) + \cos^2(\alpha) = 1$, $\cos(\alpha) = \sqrt{1 - \sin^2(\alpha)} = \sqrt{1 - 100} = \sqrt{-99} = i3\sqrt{11}$.

2: The perimeter of the octagon is **10m**, and the area of the square is **45m²**. Assume that the pond is bound by the equilateral convex octagon formed by one segment from each of the eight lines drawn by Samantha. (*Numerous other concave octagons, both symmetrical and asymmetrical, may be formed using the drawn lines. Unfortunately, the wording for this Tickler did not clearly exclude those options.*) Call the area of the square A , the length of a side of the square s , so $s^2 = A$. Overlay a cartesian coordinate system on the square with the lower left corner at $(0,0)$. The line from the corner at origin to the center of

the opposite vertical side is given by $y = x/2$. The line from the lower right corner to the center of the opposite vertical side is given by $y = -x/2 + s/2$. The intersection of the two lines meet at one corner of the octagon, the point $(s/2, s/4)$. An adjacent corner of the octagon is found at the intersection of $y = x/2$, and a line from upper right corner to the opposite horizontal side, which has the equation $y = 2x - s$. The intersection is at point $(2s/3, s/3)$. The distance between the two adjacent points on the octagon is $d = \sqrt{[(2s/3 - s/2)^2 + (s/3 - s/4)^2]} = \sqrt{5}s/12$. The perimeter $p = 8d = 2\sqrt{5}s/3$. Since p must be integral, s must be an integral multiple of $3\sqrt{5}$, or $s = 3k\sqrt{5}$. Since $A = s^2 = 45k^2 < 100$, then $k = 1$, $s = 3\sqrt{5}$, and $p = 10$, $A = 45$.

3: The bicycle is traveling **left to right**, and the **red dotted line** represents the rear tire. On a traditional bicycle, the front wheel steers, and the rear wheel, which cannot turn, always travels in the direction of the front tire. That is, (1) a tangent drawn from the path of the rear tire must always intersect the path of the front tire and (2) the distance between a rear tangency point and the intersection with the front path will always be the same, precisely the length of the wheelbase of the bicycle. We can see from the diagram that there exist horizontal tangents from the green line that never intersect the red; therefore, the green must be the front tire and the red the rear. Furthermore, some rough measurements show that tangents from the red line drawn to the left vary in length to their intersections with the green line. However, tangents drawn to the right are of fixed length and we

can conclude the bicycle is traveling left to right.

4: The probability that the first digit of 2^n is a 1 is $\log_{10} 2 = 0.30103$. Observe that for every positive n , there is exactly one n -digit number that begins with the digit one that is a power of two. There can't be two (or more), for if k is the smallest n -digit number, $2k$ must begin with a two or a three. In addition, there has to be at least one, since, given the $(n-1)$ -digit power of two 2^M that starts with 1, we can show that one and only one of $(8)2^M$ or $(16)2^M$ must start with 1. This Tickler is an example of Benford's Law, which is an observation about the distribution of leading digits in sets of numerical data.

5: Initially, light both ends of the 24 minute fuse and one end of the 50 minute fuse. When the shorter fuse is extinguished, 12 minutes have passed, light the other end of the longer fuse. The longer fuse has 38 minutes left, and should finish in half that time, 19 more minutes. At that point, $12+19=31$ minutes have passed, at which time the switch can be flipped.

BONUS: Both cases require tucking to achieve the 1-8 stacking. For the first puzzle, the steps are:

1. Fold D onto A, G onto H, E onto B, F onto C.
2. Fold 6 onto 7, 5 onto 4.
3. Tuck D/E back so that E touches F, D touches C.
4. Fold 3 onto 2.

Reading from top down, the squares are in order:

1, B, 3, D, 5, F, 7, H.

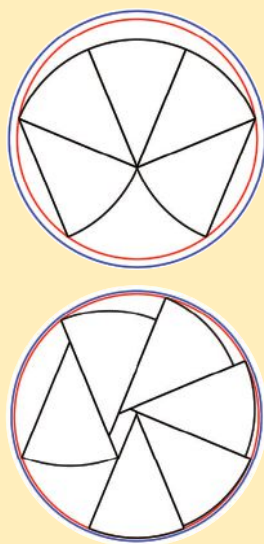
For the second puzzle, the steps are:

1. Fold D onto A, E onto H, C onto B, F onto G.
2. Fold 5 onto 4.
3. Tuck 6/7 between A/D, like a snake eating its tail, until 7 touches H, 6 touches E, 3 touches D, and 2 touches A.

Reading from top down, the squares are in order:

1, 2, C, D, 5, 6, G, H.

DOUBLE BONUS: The maximum number of slices that can fit on the marginally smaller plate is $S = 6$. The smallest plate we found that can hold 6 slices is approximately **29.30 cm** in diameter. Our best 5 slice configuration is exactly $D_8 \times \sqrt{(6-3\sqrt{2})/2}$ in diameter, or approximately **28.12 cm**. This Tickler, motivated by a mealtime discussion of the family of **Timothy J. Stegel, PA A '80**, has no methodical solution for determining the layout of the slices, at least none was found by any of the efforts of the submitter or judges. The best configurations, as shown below, were found by trial and error with computer approximation used to initially calculate each diameter.



New Fall Problems

1: Order of Merit Alf, Bert, Charlie, Duggie, and Ernie are arranged in an order of merit (no ties) for Honesty, Charm, and Intelligence. In the remarks which they make about the places of themselves and others, those who are 1st (highest), 2nd or 3rd for Honesty invariably tell the truth, but all the remarks made by the other two are false.

ALF: (i) Duggie was 1st for Honesty.
(ii) I was not higher for Charm

than I was for Intelligence.

BERT: (i) I was higher for Intelligence than I was for Honesty
(ii) I was higher for Charm than I was for Intelligence.

CHARLIE: (i) I was 4th for Honesty.
(ii) I was not higher for Intelligence than I was for Charm.

DUGGIE: (i) Alf was 4th for Honesty.
(ii) In at least one test Ernie was lower than Charlie.

ERNIE: (i) I was 3rd for Charm.
(ii) The sum of the numbers of Duggie's places is one less than the sum of the numbers of Bert's.

Find the order of merit (1st to 5th) in each of the three tests. Present your answer as a matrix with the five rankings across the top as 1, 2, ... 5.

—Brain Puzzler's Delight
by E. R. Emmet

2: Diameter of Lily Pad

One calm day on Peaceful Pond, Ninny the Newt, weighing in at 20 g, was relaxing at the center of a floating circular lily pad weighing 300 g. Nearby, Sneaky the Snake, weighing in at 7 kg, was curled up at the far end of a floating straight log one meter long, weighing 25 kg, pointed directly at Ninny, and separated from the lily pad by only 75 cm. Spying Ninny, Sneaky began to slither along the log. Ninny scurried away to the far edge of the pad, but then, in confusion, turned around and ran back the other way, stopping at the edge closest to the log. By that time, Sneaky was at the near end of the log, poised to strike. However, Ninny was saved because the pad and log were then separated by 100 cm, just out of striking range. Assuming Sneaky and Ninny to be points, the weights of log and pad to be uniformly distributed and water resistance to be zero, what was the diameter of the lily pad?

—Adapted from Allan Gottlieb's Puzzle Corner in *Technology Review*

BTs continue on page 59.

IN THE COLLEGES

Tau Bates making a difference at institutions of higher learning.

Gilda A. Barabino Ph.D.

New York Eta '86

Gilda has been named the next president of Olin College of Engineering, (MA). She previously served as dean of The Grove School of Engineering and as a professor at The City College of New York. She was elected to the NAE (2019) and received the Presidential Award for Excellence in Science, Mathematics & Engineering Mentoring (2018).



Timothy A. Barbari Ph.D.

Colorado Alpha '79

Timothy has been named the new dean of graduate studies at Colorado School of Mines, his alma mater, and will also hold a faculty appointment in the department of chemical and biological engineering. He previously held the position of engineering professor at Boston University, where he also served as associate provost for graduate affairs.



Jennifer K. Barton Ph.D.

Texas Alpha '97

Jennifer has been appointed to the National Advisory Council for Biomedical Imaging and Bioengineering (BIB), part of the National Institutes of Health. The council advises the BIB Nat. Inst. leadership on policies related to research, training & health information dissemination. She is director of the BIO5 Institute and a BME professor at the Univ. of Arizona.



SPOTLIGHT: Responsive space systems military space program—L3Harris Technologies has launched the first satellite of a remote sensing constellation it is developing for the U.S. Air Force. The program is classified, but some details have been shared about the constellation of small satellites that will provide imagery to military operators on the ground. The idea of responsive space is a shift from large expensive satellites that take a decade or longer to develop to more nimble systems. An example of the shift happening in the DoD space business is the Air Force Research Laboratory's Navigation Technology Satellite-3 program. Harris Corp. was selected as the prime contractor for the NTS-3 experiment to be launched in 2022.

DOE invests \$65 million to advance nuclear technology—Pitt's Swanson School of Engineering received more than \$1.8 million in faculty and student awards from the DOE's Nuclear Energy University Program (NEUP). According to the DOE, "NEUP seeks to maintain U.S. leadership in nuclear research across the country by providing top science and engineering faculty and their students with opportunities to develop innovative technologies and solutions for civil nuclear capabilities."

Oscar Barton Jr. Ph.D., P.E.

District of Columbia Alpha '84

Oscar has been named dean of engineering at Morgan State University, effective August 17, 2020. He previously served as professor and founding chair of the department of mechanical engineering at George Mason University and for 22 years as a faculty member and department chair at the U.S. Naval Academy.



Rose Faghieh Ph.D.

Maryland Beta '08

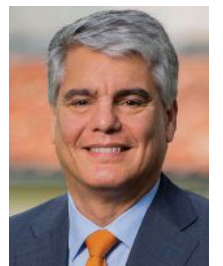
Rose received an NSF CAREER Award for launching a closed-loop brain-aware wearable architecture called MIND-WATCH, which aims to make it possible for wearables to feature information about brain states or to modulate brain function for optimizing human health & performance. She is an assistant professor of electrical & computer eng'g at the Univ. of Houston.



Gregory L. Fenves Ph.D.

New York Delta '79

Gregory has been elected president of Emory University (GA) and took office on August 1, 2020. He previously served as president of the University of Texas at Austin, after roles as dean of the engineering school and provost. His bachelor's degree was earned from Cornell University in civil engineering and his research focuses on earthquake engineering.



Meghan C. Ferrall-Fairbanks

Ph.D. *Florida Alpha '12*

Meghan will join the University of Florida as a BME assistant professor for spring 2021. Previously, she was a postdoctoral fellow in the department of integrated mathematical oncology at Moffitt Cancer Center and Research Institute, where her research focused on using mathematical modeling to study single-cell heterogeneity and clonal hematopoiesis in cancer.



Jeffrey W. Holmes M.D., Ph.D.

Maryland Alpha '89

Jeffrey has been named dean of the University of Alabama at Birmingham's School of Engineering. Previously, he was a professor of biomedical engineering and medicine and the inaugural director of the Center for Engineering in Medicine at the University of Virginia. He earned both his Ph.D. in eng'g and his medical degree from the Univ. of California, San Diego.



Sitaraman Krishnan Ph.D.

New York Theta '03

Sitaraman received the TBIT Faculty Award for the 2nd time at Clarkson University. The award is presented annually to a faculty member who has embodied & instilled the ideals of integrity and excellence in engineering. He is an eng'g professor, serves as NY Theta Chapter Chief Advisor, with research interests in materials prepared using polymers.



FACILITIES: University of Arkansas—was awarded \$194.7 million by The Walton Family Charitable Support Foundation to expand research and create a new institute. The grant is one of the largest single private gifts ever given to a university for research and economic development and will establish the University of Arkansas Institute for Integrative and Innovative Research, which will house “research clusters.” The clusters are to focus on data science, food and technology, materials science and engineering, bioscience and bioengineering research in metabolism, and integrative systems neuroscience.

Five universities in Louisiana Share \$20 Million Grant—each university received a half-million dollars in federal grant money to design complex alloys and polymers for 3D printing and to build a sustainable research and education program in Louisiana. The new Louisiana Material Design Alliance includes Louisiana State University, Louisiana Tech, Tulane University, Southern University, and the University of Louisiana-Lafayette. The work focuses on new materials needed to produce metal and plastic products with fewer defects and longer life.

Rich A. Reid Ph.D., P.E.

South Dakota Beta '81

Rich, the associate dean of academics and engineering extension in the college of engineering, retired in June, after 25 years at South Dakota State University. Previously, he spent 28 years in the U.S. Air Force, 13 years in active duty, and 15 years with the Air National Guard. He also served for eight years as an advisor to the SD Beta Chapter and was selected five times as the college's Teacher of the Year.



Steven Schreiner Ph.D., P.E.

Massachusetts Iota '81

Steven has joined Manhattan College as provost and VP of academic affairs. Previously, he was dean of engineering at The College of New Jersey, where he also served as a NJ Zeta Chapter advisor. He is an accreditation expert, serving as a commissioner/member of the executive committee of the ABET Commission of the Accreditation Board for Engineering & Technology.



Gerald J. Wang P.E.

Connecticut Alpha '13

Gerald has joined Carnegie Mellon University as an assistant professor of civil & environmental eng'g. His research involves using high-performance computing to understand nanoscale structural & transport phenomena. Previously, he was a postdoctoral researcher at MIT ChE. His B.S. was earned at Yale Univ. and he is a TBIT Fellow (2014).



Alumni Giving



Heikes Club
William F.H. Sinclair
 MS A '63

Looking back, I did not realize the significance of joining this august organization!

THANK YOU! The names of **1,973 TAU BETA PI ALUMNI** and others who made donations to the Association in the 2020 Alumni Giving Program appear in two separate sections on the following pages. Their gifts totaling \$372,332 arrived between May 1 and July 31, 2020. **Gifts received after July 31 do not appear here but will be published in the Winter 2021 issue.**

The generous support of each member is deeply appreciated by the Executive Council and other Association Officials. The financial resources have permitted strengthening programs in several areas that emphasize the importance of Tau Beta Pi's basic objectives and that help all collegiate chapters and student members.

Recognition Club Donors are listed alphabetically within their chapters and appear in the first section.

Names preceded by SPEC denote gifts from non-members.

Those names marked with a † symbol are of deceased members in whose memory donations were made either by relatives and friends or through bequests.

Pre-Club Members/Contributors appear in the subsequent section.

In addition to gifts acknowledged here, several were made anonymously and are also deeply appreciated.

Donor Recognition Clubs

In this first section, the names of 1,570 Tau Bates and others appear. They made donations to the Alumni Giving Program between May 1 and July 31, 2020, AND they have also made CUMULATIVE contributions (in some cases including matching gifts) and bequests to Tau Beta Pi through the years, totaling from \$250 to more than \$1,000,000.

The Donor Recognition Clubs are part of our effort to recognize a donor's total lifetime cumulative giving to Tau Beta Pi. Such continuous support significantly contributes to the overall strength of the Association and allows us, with confidence in our financial resources, to plan for growth in our services to the engineering profession.

These clubs were chartered by the Executive Council in 1986 and have been set at the following levels:

The WILLIAMS Club

\$100,000

- IA A Anonymous '69
- NY E Anonymous '58
- TX H Taylor, Lee Deatherage '68

The HEIKES Club

\$50,000

- IA A Kilzer, David Darrell '96
- MS A Sinclair, William F.H. '63
- NJ Δ Lim, Yung '87

The ALPHA Club

\$25,000

- IL A Ditman, Jason Blair '91
- NY B Anonymous '80
- OH Γ Beans, Bill '53
- OH Δ Robe, Richard '55
- PA Δ Goldstein, Steven Saul '65
- SD A Gomulinski, Tricia E. '98

The BETA Club

\$10,000

- AR A Vratsinas, Gus M. '67
- CA Γ Johnson Jr., Pitch '50
- CA Δ Duckworth, Jack E. '66
- CA ≡ Boyd, Robert Alan '74
- CA T Fable, Scott Edward '96
- CO B Kayse, Kevin Stewart '78
- CT B Hunziker, Robert Neal '83

- IN A Millstein, Leo '70
- IN Γ Drnevich, Ronald James '63
- LA E Champagne Jr., Pierre '76
- MD B Sabio, Vincent Joseph '86
- MA B Venturini, Eugene Leo '67
- MI A Colbry, Dirk Joel '06
- MI E Colbry, Katy Luchini '99
- MI E Gomulinski, Curt Dennis '01
- NY Δ Angle, Fritz F. '82
- PA Δ de Leon Jr., Manuel '51
- PA Δ Anonymous '90
- TN A Cook, James Michael '72
- TN B Parrish Jr., Thomas F. '75
- TX A Adamo, Paul Magness '85
- TX A Mickelson, Kent Burdell '77
- TX Δ Fox, Craig Alan '77
- TX Δ Sisney, Steven Lynn '83
- TX Z Hambrick, Joanna Ruth '86
- VA A Benneche, Paul Eric '74
- VA B Tolson, Robert Heath '58
- WA B Moors, Donald Edward '55
- WV B Payne, Michael E. '81
- WV B Teti Jr., John J. '71

The DELTA Club

\$5,000

- CA Γ Kwok, Munson Arthur '62
- CA ⊕ McClay, Michael Dennis '73
- CA Δ Crews, Brian '70
- CA Δ Hall, Victoria Lee '86
- CA Δ Holl, Sue '76
- CA Y Idenmill, Ethan Matthew '04
- CO B Clair, David Richard '58
- DC Γ Ashie, Ibrahim Aborsey '70
- FL A Anonymous '99
- FL A Lewis, Becky Ann '04
- GA A Jenkins, William Craig '68



Beta Club
Joan R. Hambrick
 TX Z '86

Even after learning her unit was closing (retirement), she did not hesitate to support TX Zeta students.



Delta Club
Carlos E. Garcia
 PR A '77

Our country needs more engineering leaders and innovators.

Delta Club continued

- IL A Tracy, Mark Alfred '86
Wait, Jay Jenner '71
- IL Γ Johnson, R. Douglas '62
- IN A Katzman, James Allen '68
- KS B Wilson, Bryan Keith '85
- LA Γ Mohr, James Donald '55
- ME A Johnson, Christine E. '82
- MA B Poduska Sr., John William '59
- MA Δ Peterson, John William '53
- MA Z Grzeslak, Kazimierz T. '88
- MI Γ Holderness, James Henry '67
- MI Δ Klimaszewski, Richard A. '65
- MI ⊖ Pivitt, Barry Robert '88
- NJ A Post, Edwin Lewis '62
Skowronski, Victor J. '71
- NJ Γ Kenney, Thomas Edward '70
- NY Δ Hart, Marjorie Leigh '51
- NY E Grosso, John Joseph '69
- NY N Weber, Thomas William '53
- OH A Rasbold, James Charles '83
- PA B Hertneky, John A. '79
- PA ⊖ Caramanico, Thomas A. '71
- PR A Garcia, Carlos E. '77
- TN A Whitten, James Raymond '59
- TN Δ Chauvin, Wendy M. '89
Stewart, John Dale '78
- TX A Anonymous '63
Smith, Matthew Thomas '93
- TX B Tye III, John M. '67
- TX Z Wint, Stephen Peter '83
- TX H Nooyi, Raj K. '78
- VA B Anderson, Mark Evan '76
- WA A Asplin, Lyle Irving '59
Pierce, Russ W. '70
- WV B Ashman, Michael D. '84

The ZETA Club

\$2,500

- AL A Wilhelm, William Jean '58
- AL Δ Koelbl, Terry Gene '84
Styles, Ellen S. '85
Styles, Robert Charles '76
- AZ B Barnett, J. Matthew '90
- AR A Newtown Jr., Glenford A. '69
- CA B Drowley, Clifford Ian '75
- CA Γ Jedenoff, George A. '40
Trane, Frank Hood '53
- CA E Bramblett, George Clinton '59
Testa, Lori Ann '01
Wenck, James Carl '77
- CA H Akers, Joe Lee '69
- CA K Scanlan, Lawrence Allen '68
- CA Λ Yung-Rubke, Belinda '80
- CA M Brownell, Michael Philip '84
- CA P Kraft, Lyle David '87
- CA Y Alexander, Joseph William '06
Alexander, Rachel Kristin '15
- CO Γ Pearson, Larry '64
- CT B Klopfenstein, Rex Carter '59
Leib, David Bernard '61
- DE A Swope, Richard Dale '60

- DC A Engram, Robert Louis '69
Karydas, Apostolos E. '62
- DC B King, David Alan '68
Walsh, Bryan Patrick '97
- DC Γ Keene, Warren Elmer '57
- FL A O'Steen, John Andrew '67
Passman, Alan Joseph '06
- FL Γ Jones, William David '74
- GA A DeLoach Jr., Thomas C. '69
Henderson, Richard Dean '53
- IL A Beernink, Kurt Patrick '82
McGinnis, Gerald Edward '58
- IL B Forish Jr., George Edward '75
Lewis, Ted Howard '68
- IL Γ Carlson, Norman Wesley '81
- IN A Novy, Robert Alan '85
Palas, Richard Francis '65
Papanicolas, Mitchel '65
Schlosser, Samuel C. '71
- IN Γ Jones, Walter Thomas '64
McDonald, Patrick John '60
Poore, Michael Francis '71
Harms, Richard Paul '65
- IA A Lammers, Leon '59
Schmidt, Charles Chris '73
Schwartz, Eugene R. '63
- KS A Moore, Richard Arthur '51
- KS Γ Bucher, William Alexander '76
Gemaehlich, Donald Joel '83
- KY A Upshaw, Buddy Smith '65
- KY B Arbaugh, Andrew Carey '95
Lasky, William T. '86
- LA B Paul Jr., Howard Cochran '80
- ME A Bragdon, Reginald G. '93
Jefts, Alan Robert '73
- MD B Powers, Kenneth Ryan '01
- MA A Bujaucius, Jerry Alan '79
Lescoe, James Terrence '05
- MA B Grossweiler III, Philip J. '72
Nobel, Sanford Millard '58
- MA E Brunetto, Thomas P. '74
Pinkham IV, Tom A. '88
- MA Z Goodwin, Robert Lewis '58
Kelly, Thomas William '80
- MA H Duda, James A. '84
Maneval, Daniel C. '82
Penafiel, Jay Buhay '90
- MI A Kuzma, Dennis Charles '58
- MI Γ Holmes, John William '65
Liepa, Mark Albert '81
Sarns, Richard Norman '76
Stewart, Steve Russell '66
- MI Δ Culver, Walter '60
Eberl, Edward George '74
Kogut, Kenneth Joseph '71
Husak, Philip William '72
- MI E Czapinski, Glenn Walter '83
- MI H Goodwin, Robert Wayne '62
- MN A Tucker, Randolph Lewis '83
- MS A Sims, Joseph Hilton '63
- MO B Davis, Jon Timothy '85

- MO Γ Saufnauer III, John '61
- NE A Doerr, Eric Arthur '88
- NV A Lovekin, James Warren '80
- NJ Γ Mauermeyer, Henry A. '72
Terry, Frederic Theodore '67
- NJ Δ Kline, Donald R. '55
- NM A Peace, Jeffrey Howard '76
- NY B Leader, Jeffrey James '85
- NY Γ Brand, Terrance Alan '90
Gray, Robin Bryant '46
- NY Δ Altschuler, Stan Jon '63
Desloge, Joseph Gilles '92
Jones, Paul Skeen '51
- NY H Stoll, Eric Duane '61
Varon, Michael '73
- NY I Neuschaefer, Howard E. '65
- NY K Mastro, Noreen Louise '79
- NY ⊖ Mancuso, Richard G. '92
O'Keefe, Luke Francis '80
Runowich, Carl Joseph '84
Vadnais, Paul A. '73
- NC Γ Herbold, Frederick Jon '69
- ND A Hamilton, Joshua J. '09
- OH A Ockunzzi, Kelly Anne '94
- OH B Pollock, Flavil Martin '77
- OH Γ Clum, James Avery '60
Orkins, James E. '66
Ouellette, Andrew Louis '86
Schauwecker, Harry Erich '52
Sing, Edward Yuke '43
- OH H Leifeste, Sam Ernest '63
- OR A Jones, Reilly '75
Milton, Stuart W. '84
Thresher, Robert Wallace '62
- PA A Weber Jr., John Herbert '63
- PA B Beecher, Gregory A. '78
Hummel, John Richard '73
- PA Γ Mcllvried III, Howard G. '53
- PA Z Forbes, Blair Carleton '58
- PA H Reiner, Robert Elmer '64
- PA I Drill, Philip Solomon '51
- PA K De Burlo Jr., Comegys R. '47
- RI A Healy, Henry Stephen '71
Vascellaro, Jerome C. '74
- RI B Luz, James J. '80
- SC A Davis, Joseph Howard '91
Di Lapi, Christine Marie '87
Rushton, Floyd Robert '63
- TN A Prados, John William '54
- TN B Hampton, David Rolston '85
Kepper III, James Henry '71
Skoglund, Paul Albert '89
- TN Δ Knight, Joseph Brent '93
- TN E Wilcox, Leslie M. '77
- TX A Clark, Glynn A. '48
Haley, Dennis Clyde '70
Herring, David M. '55
Smith, Daniel Robert '75
- TX B Berthold, Kristopher David '04
Carey, Martha Derden '80
Eakens, Robert William '72



Alumni Giving

Zeta Club continued

Ellisen, Arthur Raymond '62
 Gilmer, Tracy F. '80
TX Γ Capshaw, David M. '80
 Pieper, Wylie Bernard '53
TX Δ Ash Jr., Henry G. '59
 Cloud, Eugene Harrington '67
 Strait, William Lewis '49
 Swink II, Marvin Neel '80
TX Z Storey Jr., Arthur L. '65
TX H Brown, Ian William '73
TX Θ Havo, Karen Patricia '86
 Stokes, F. Xavier '78
TX Λ Alsop, Albert Walter '80
 Rosenwald Jr., John A. '88
VT A Sheldon-Dean, James P. '79
VT B Salazar, Marcos Edward '82
VA A Harris, Wesley Leroy '64
VA B Creslein III, William E. '52
VA Δ Gehr, David R. '68
WA A Walker, James Rodney '55
WA B Ray, Edworth Lillard '48
 Schmidt, V. Hugo '51
 †Spencer, Paul Newman '51
WV A Lengyel, Nicholas Martin '70
WI A Forkner, Stacey L. '96
 Klanderaman, Kent Arlen '58
 Tellier, Ronald Robert '73
WY A Cavalli, Matthew N. '98

The CHI Club

\$1,000

SPEC McDaniel, Patricia B.
AL A Bell Jr., Harry Homer '49
 Carey, George Walter '69
 Goodwin, James Joseph '58
 Hawkins, Lawrence Allen '81
 Miller III, Edwin H. '84
 Rayborn, Timothy Johnson '87
AK A Keiser, Jan Ann '76
 LaBelle-Hamer, B. Tully '83
AZ A Brock, Steven Bartmus '66
 Frondorf, U. George '69
 Krisa, Kenneth Charles '82
 Liu, Elson Yee-Hsin '01
 Lundquist, Thomas G. '72
 Park, Trevor Howard '97
AZ B Kersten, Robert Donavon '49
AR A Weaver, Mark Edwin '77
CA A Magyary, Andrew '65
 Ong, Allen '70
 Reynolds, Barry Duane '84
 Robson, Clayton William '58
CA Γ Roodhouse, James G. '59
CA Δ Haririan, Vida '94
CA E Bremmer, David Franklin '71
 Shaw, Neil Allan '76
 Suyematsu, Herbert T. '58
 Welstand, Joseph Stephen '64
CA Z Viano, David Charles '68
 Vlahutin, Paul Andrew '65

CA H Rawson, Rollin Fred '61
 Zanini, David Victor '90
CA Θ Hoekstra, Gerben N. '66
 Kolderup, Nils Petter '60
 Lawson, Wayne Alan '69
 Schuck, Charles Michael '65
CA Λ Okpiz, Alexander Edward '91
CA M Lee, Steven Yang-Sien '86
CA N Michelson, Gregory James '88
 Newberry, Conrad Floyd '57
 Vandegriff, Don G. '67
CA Ξ Greco, Anna Maria Elvira '81
CA Y Dawson, Carole Jeanne '85
CA Φ Oviatt, Heather June '97
CO A Peterson, Steven Douglas '72
 Schneider, Randolph Paul '71
CO B Farmer, Brian Keith '78
 Frey, Bryce Alfred '56
 McBride, Michael James '73
 Strange, Lynn M. '81
 Walker, John Sherwood '53
CO Γ Lee, Don Evard '59
CO Δ Middlekauff, Stephen Allen '09
CT A Cleland, Alan Stuart '60
 Terry, Elene Sharon '01
CT B Zajac, Gerald Edward '68
CT Γ Boccia, Chris-Michael '97
DE A Keyser, Kevin Justin '88
DC A Wimberly, Mark Oliver '77
DC B Maggio, John Joseph '81
 Murphy, Joseph A. '60
 Orzech, Joseph Miller '71
DC Γ Adams, Ann Halstead '83
 Hill, Howard Thiebaut '62
 Keltie, Robert Joseph '69
FL A Bowles Jr., Carl Houston '54
 Burkart, Scott Lawrence '78
 Frazier, Lori Marie '77
 Gunson, William Edgar '50
 Schnitzler, Bruce Gordon '69
 Traverse, Richard Stephen '71
 Vande Vusse Jr., Gerald '65
 Vargas, Clark '71
FL Γ Preslar, Daniel Alton '91
FL Z Delaurentis, Daniel A. '92
GA A Burgess, John Milton '61
 Coley, William Alfred '66
IL A Cunningham, Lawrence K. '76
 Daughters, Timothy E. '81
 Ephgrave, James Thomas '52
 Graham, Joseph Gund '51
 Rybalko, Michael '11
 Saltzman, Jay Adam '90
 Smith, Leslie Garrett '48
 Splitt, Frank George '52
 Wilkins, Gregory Martiné '92
IL B Kusner, William John '59
 Underys, Algirdas Antanas '78
IL Γ Asbury, Michael George '83
 Gajda, Gregory Joseph '80
 Keables, Erin A. '84

IL Δ Zapinski, Susan Marie '83
IL E Bowie, Marvin Anthony '76
 Garfield, William Michael '83
IN A Hale, David Charles '59
 Hohn, Richard Edward '62
 Kettering Jr., Floyd Firman '63
 Livingston, Julian Richard '60
 Roby, Dennis Edgar '60
 Sheets, Dennis Neal '67
 Sommers, Steven R. '87
 Tirio, Mark Charles '73
 Tucker, James Anthony '66
 White, Stanley Archibald '57
 Willis Jr., Charles Pressley '48
 Woosnam, Thomas Jay '65
IN Δ Ilten, Mark Owen '72
IA A Vocke, Merlyn Clarence '55
 Ellingrod, William Wayne '54
 Rustwick, John Douglas '71
 Sutherland, Keith Allan '69
 Wallace, Jean Ellen '81
IA B Corrao, Debbie G. '93
 Gozali, Paul '85
 McSwiggin, Thomas G. '61
 Roach, John Urban '78
 Snyder, Max Duane '63
 Warner, Diana Hix '73
KS A Benso, William Eldon '59
 Hinton, Robert Allan '61
 Neff, Cassandra J. '82
 Remsberg, James C. '57
KS B Brown, Cheryl Ann C '82
KY B Thornton, Patrick Joseph '82
LA A Correa, Domingo Mateo '59
 Schexnayder Jr., Isby L. '63
 Smith, Stewart Van '73
LA B Bourgeois, Brian Steven '82
 Bourgeois, Edit Jorgelina '91
 Marin, Justo Enrique '79
 Rickman, Philip Mark '83
LA Γ Ibuado, Rachel Anne '07
 Jones Jr., G. Clifton '64
 Wyche III, James Egbert '59
LA Δ Barbay, Norman John '74
 Halkiades, George '63
ME A Havey, Mark Douglas '73
 Welch, Peter James '72
MD A Capecci, Dennis W. '79
 Chan, Louis A. '84
 Hart, Edwin Flessner '68
 Lang, John Charles '72
 Zehner, James Warren '80
MD B Brownstein, Barry Jay '68
 Chase, Ronald John '71
 Mentzer Jr., William R. '61
 Roberts, Carla '82
 Wamsley, Brian Woodrow '77
 Zalesch, Steven Elliot '73
MD Δ Iannuzzi, Jo '96
MA A Achilles, Heather Dale '83
 Downs, Allen Gybbon '75



Zeta Club
Wayne "Buddy" S. Upshaw
 KY A '65
Whether for a prospective employer or client, the value of TBP in a resume cannot be overstated.



Chi Club
Donald L. Kuehne, Ph.D.
 NY Δ '73
TBP needs our support more than ever during these uncertain times.

Chi Club continued

- Fenner, Peter Richards '64
- Griffith, Rebecca Anne '91
- Oakes, Michael Willard '77
- MA B** Balazs, Phillip Terry '69
- Dodson, John Orville '68
- Osterberg, Peter Maynard '78
- Patterson, John Bryan '68
- Piness Jr., George '49
- Smith, Alan Jay '71
- Spradlin, Louis Woodson '57
- MA Δ** Savage, Paul David '77
- Simon, Henry John '60
- White, Edward A. '47
- MA E** La Lone, James Caryle '70
- Linscott, Anne Wiklord '80
- MA Z** Meurer Jr., Glenn William '86
- MA ⊕** Chapman, David Mason '83
- MI A** Beimers, Charles John '69
- Hudson, Dean '58
- Kupfer, Michael David '83
- Santoro Jr., Thomas V. '66
- MI B** Edquist, Carl F. '77
- Lindgren, Douglas LeRoy '69
- Newman, Frederick Alan '83
- Pearson, Walter Claydon '62
- Sonsalla, Tim Carl '95
- MI Γ** Bull, Joseph Saples '52
- Insprucker III, John Louis '78
- Nobunaga, Brian N. '83
- Pendleton III, Winston K. '62
- Weber, Michael Frederick '78
- Williamson III, Warren P. '53
- MI Δ** Di Cicco, Dominic Armand '61
- Dolan, William John '62
- Rutkowski, Paul John '69
- MI E** Kellar, James Stephen '60
- King-Monroe, Stephan Lee '08
- Mahanes Jr., Harold P. '65
- MI Z** Tarricone, Louis Guy '82
- MI H** Grupp, Jeffry Bernard '74
- Lundstrom, Richard Raye '64
- MI ⊕** Spall, James Charles '79
- MI I** Curry, Crystal Rae '83
- MN A** Benjamin, Harrison R. '57
- MS A** Backus, Alan Orin '78
- Backus, Patricia Michel '78
- Carman Jr., Jack Baker '62
- Gelman, Stephen '73
- Hotard, Daniel Gerard '76
- Miller, Elton Ray '70
- MO A** Fitzgibbons, Thomas J. '87
- Hamblin, Steven Hugh '71
- Hibner, Dale Vern '74
- MO B** Benson, William Alan '77
- Bodenhamer, Steven D. '75
- Feurer, John Alphanse '70
- Friedman, Marc Andrew '00
- Leitterman, Dennis W. '76
- Myers, Kenneth Raymond '72
- Patterson, Michael A. '77
- Schmidt, Thomas Edward '70

- MT A** Courville, George Eugene '59
- Erickson, Peter Benjamin '56
- Pearce, Mary Ann '76
- MT B** Erickson, Elizabeth Jeffery '93
- NE A** Cowling, Edgar Charles '75
- Gilbreath, Donald Robert '85
- Patterson, Roger Kent '73
- NH A** Bailey, Joseph Gregory '86
- NH B** Price, Alexander Daniel '05
- NJ A** Brechka, Thomas Michael '73
- Kimmich, Herbert Ludwig '57
- Meyer, Alfred P. '60
- Waricka, Peter Thomas '71
- NJ B** Herrmann, Eric Peter '69
- Rabin, Dan E. '73
- Shalayda, Robert George '73
- Starr, James W. '73
- Thompson, Peter Daniel '78
- NJ Γ** Angyal, Stephen '63
- Castaldi, Frank James '69
- DiDomenico, Michael John '65
- Gittes, Marvin Steven '63
- Otterbein, Richard Charles '71
- Tucker, John Harold '67
- NJ Δ** Brown, Geoffrey Scott '83
- Meyer, John Edward '81
- NM A** Bradt, David Jay '81
- NM B** Donnelly, Carolyn Elaine '01
- NM Γ** Bakkom, Erik Iver '97
- NY A** Epling Jr., William Young '83
- NY B** Holt, Ralph Ephraim '50
- Leader, Margaret Ellen '85
- Roberts, S. William '58
- Tobin, Michael R. '87
- NY Γ** Buck, Frederick Alan '76
- Goldschmidt, David Joel '91
- Joyce, Michael Edward '82
- Weader II, Richard Jerome '64
- Zadoks, Abraham Louis '57
- NY Δ** Frederick, Thomas Robert '87
- Kuehne, Donald L. '73
- Matyas, Robert M. '52
- Van Arsdale, George Davis '62
- Winkle, Roger Allan '67
- NY E** Bernstein, Joseph Herman '50
- Boyarsky, David '59
- Hendrickson, John L. '71
- McCaffrey, Ronald Walter '52
- Siegel, Murray Harvey '63
- Simmons Jr., Edward J. '66
- NY Z** Chu, Lawrence Joseph '71
- Tuchband, Stuart Martin '63
- Young, Raymond Joseph '74
- Zieve, Robert M. '55
- NY H** Kaplan, Howard Ronald '55
- Kern, Frank John '70
- Lum, Jean Ping '85
- Shakun, Melvin F. '50
- NY ⊕** Baldwin, Alan Richard '70
- NY I** Schwartz, Richard '57
- Ulrich, James William '70

- NY K** Peters, Kenneth Jerome '87
- NY Λ** Cilento, Eugene Vito '73
- Rigert, John Anthony '70
- NY M** Grant, Donald '91
- Hansen, Jean Marshall '77
- Willis, Michael James '82
- NY N** Kocher, Lawrence Harold '67
- Stearns, Richard Earl '67
- Tabaczynski, Rodney John '66
- NY O** Doynow, Donald '75
- Spitz, Glenn Steven '87
- NY II** Grosch, David A. '85
- Hoelscher, James Roy '71
- NY P** Cortina, Thomas J. '87
- Lubrano, Michael '80
- NC A** Alexander, Ralph Bell '76
- Caudle, Daryl Lane '85
- Freeman, Theresa Mooney '85
- Minday, Richard Michael '66
- Quillian, Ann Massey '85
- Shelton, Monty Lee '84
- NC Δ** Gaither, Allen Wayne '96
- ND A** Dahlin, Earl Charles '58
- Lopez, Angel '65
- OH A** Ammar, Gregory Steven '81
- Bacevice Jr., Anthony E. '70
- Oravec, Joan Marie '71
- Zurilla, Ronald William '61
- OH B** Capriotti, Larry Allan '64
- McCarthy, Martin David '70
- OH Γ** Bouman, Robert William '60
- Case, William Frederick '64
- Del Tosto Jr., Joseph J. '87
- Del Tosto, Judith Mary '87
- Edwards, Dale C. '61
- Edwards, William Randall '71
- Feltz, John Francis '61
- Kerstetter Jr., John H. '49
- Shelley, Bill Raymond '74
- Taylor, Ashley Scott '84
- Zupancic, Michael Alan '87
- OH Δ** Kurzen, Mark R. '71
- Miller, Truesdell Charles '64
- OH E** Kubinec, William Richard '67
- OH Z** Novak, Eugene Clark '59
- Proctor, Margaret Pearl '82
- OH H** Fraass, Ronald Guy '78
- Gressang, Randall Vernon '72
- Miller, William Gilbert '83
- Schmoll, Joseph Herman '81
- Schneider, Greg Richard '80
- Van Veldhuizen, David A. '99
- OH ⊕** Doyle, James Thomas '65
- Kamowski, Dennis Daniel '73
- OH K** Duffy, Stephen Francis '78
- OH Λ** Eckhardt, Andrew James '79
- Rohr, Timothy Paul '80
- OK A** Dunn Jr., Robert Ovington '82
- Vondersmith Jr., William '68
- OK B** Sossamon, Dana Ray '76
- Weston, Kenneth Clayton '55

Alumni Giving

Chi Club continued

- OK** Γ Dean, Philip Maxwell '74
Diggs, Robert Allen '74
- OR** A Sias, James Frederick '57
- PA** A Arrowsmith, Donald L. '65
Bradley, Gordon Hoover '62
Edwards, Gilbert Spencer '67
Garella, Nancy Marie '85
Jones, Donald Paul '65
Kankelborg, Carol C. '86
- PA** B Bradt, Andrea '76
Carretti, Katherine Grace '84
Krolick, Ronald David '83
Kutz, Scott Allen '71
- PA** Γ Chang, Yue Cathy '00
Kornuta, Nick Joseph '81
- PA** Δ Besarab, Anatole '65
Hoffer, Norman K A '81
Silvasi, Gabriel John '93
- PA** E Hermann, Frank Valentine '59
Krein, Philip T. '78
Matsumoto, Tadashi C. '60
Richards, Gerald Thomas '57
Wetzel, Edward Donald '74
- PA** Z Eisenberg, Eric Jay '88
Hudak, Joseph David '79
Struckman, Russell W. '64
Susavidge, Mary Ann '89
Talecki, Stephen A. '76
Thomas, Jeffrey R. '65
- PA** H Ellis Jr., Ira Thomas '56
Hills, Frederick James '61
McDonnell, Robert William '48
- PA** ⊕ Coyle, Todd Frederick '77
Gallen, Robert Michael '64
Lombardi, Charles G. '65
McLaughlin Jr., Philip V D '61
Woods Jr., Howard James '77
- PA** I Eveler, Nathan Troy '07
- PA** K Beseler, Jan W. '88
- PA** Δ Kvitkovich, James Francis '81
- PR** A Fermaintt, Carlos Juan '84
Hilerio Sanchez, Josuan '07
Sanchez, Hector Luis '76
- RI** B Binns, George '59
Withrow, Gregory Lucian '80
- SC** A Johnson III, Wilson U. '82
Peters, William J. '70
Prothro, Joseph E. '63
- SC** B Pappas, Alexandros A. '71
- SC** Γ Adkins Jr., Henry Grady '66
Cochrane, Jerry Wilson '55
Fletcher, Robert Hough '64
Julich, Thomas Frank '76
- SD** A Jenkins, Creties David '83
Massie, Larry Wayne '82
McCourtie, Bonnie Rae '80
- TN** A Armentrout, Daryl Ralph '65
Ayers, William Ralph '80
Burnett, William Allen '71
Cates, Phillip Stephen '59
Hickman, Charles Edward '57
- Rogers, Marvin Dale '70
Tarrant, Charles H. '57
Tomlinson, Edward T. '72
- TN** B Bass, Jay Kevin '87
Brown, Kevin George '85
Macchio, Gregory John '84
Pentecost, Gene Edgar '50
- TN** Γ Harvey, James Bruce '63
- TN** E Climer, Charles Edward '82
- TN** Z Rethwilm, Craig Richard '92
- TX** A Anderson, John Eldon '57
Fuller, William Burke '82
Hurst, Terry Lee '76
Rusch, Stephen E. '84
Sweet, Paul Alan '70
- TX** B Easterday, Mark Louis '84
MacCallum, Gregory J. '81
Marasco, David Foster '87
Uher, Edward L. '65
- TX** Γ Altman, Thomas Clark '70
David, Anne Marie '87
Larkins, Robert Pruett '56
- TX** Δ Barksdale, Donald Lee '55
Boertz, Marielle Jean '77
Coman, Paul Daniel '03
Garner, Scott Jahrand '77
Hall, Robert Arlin '63
Hudson, Steven Mark '77
Pickett, Dennis G. '72
Pulley, Paul Winfred '87
Woram, Brian James A. '81
- TX** Z Mars Jr., James Floyd '72
- TX** H Bishop, Neil Erasmus '66
Cawoski, Victor George '74
Godwin, Albert Eugene '84
Sanampudi, Padmavathi V. '95
Southall, Hugh Landon '68
- TX** ⊕ Quesada, Paul '72
- TX** Δ Odom, Randall A. '57
- UT** A Lamph, Jane Ann '80
- UT** B Bingham, Kevin Duane '84
- UT** Γ Cleave, Mary Louise '79
- VT** A Goddard, Eric Hapenny '86
- VT** B Dekalb, Shawn Wayne '85
- VA** A Donoho, Thomas English '59
Dye, Michael Loren '87
Reeside Jr., William Oliver '77
Ring, Jesse Bane '69
- VA** B Hydeke, Robert Alan '74
Michelson, Darlene Sue '86
Parker Jr., Mclvor L. '56
Ray II, Robert E.L. '74
Reading, Christopher R. '00
Snidow III, Lyle Christian '74
- VA** Γ Austin, Andrew Stone '89
Mahaney, Jack Morris '82
- WA** A Fosberg, Theodore M. '59
Perrault, William Richard '59
Sahakian, Zareh M. '81
Saxberg, Bror Valdemar H. '80
Schwam, Susan Elaine '88
- Stiegler, Joseph Edward '58
Welsh, Bryan Douglas '87
- WA** Δ Campion, Paula JoAnne '80
- WV** A Boggs, Mark Steven '80
King, Staci Renee '96
- WV** B Lorkowski, Timothy Walter '93
- WI** A Berman, Neil Sheldon '55
Buehring, William Arthur '67
Goehring, Henry G. '57
Nesbitt, John David '82
- WI** B Derra, Kenneth William '90
Jaye, Deborah Ann '03
Pelt, Thomas Eugene '70
Pickett, Mark Allan '72
Raasch, William Glenn '81
Simon, James Bernard '65
- WI** Δ Gerloff, James Robert '00
- WI** E Hubmann, Martin Thomas '13

The SECOND CENTURY Club \$500

- AL** B Ramsey, James David '64
- AL** Γ Banasiewicz, Kenneth A. '79
- AL** Δ Fortune, Julie Lynn '01
- AZ** A Leonardi, Suryanto Felix '86
Young, James Roy '80
- AZ** B Beemer, Jeffrey Brian '80
- AR** A Cofer, Larry Wilson '61
Moody, Charles Roger '58
- CA** A Gourdin, William H. '72
Humphreys, George B. '51
Pocha, Michael Donald '68
- CA** B Whitehead, John Charles '82
- CA** Γ Bankovitch, Walter John '87
Ma, Conlan Liang '99
Sharp, Eugene Darrell '54
Weaver, James A. '71
- CA** Δ Klein, Shelley Marie '82
Lawson, William Edward '62
Roum, James Henry '80
- CA** E Madni, Asad Mohamed '69
Ray, Harold B. '63
Tamanaha, Howard S. '77
Vehrencamp, John Edward '50
- CA** Z Overbey, John Kirkwood '77
- CA** H Asgari, Ramak '99
Bautista, Anthony H. '94
Holstead, Raymond H. '71
Ramirez, Victor George '70
Wang, Hui-Zhi Angela '88
- CA** ⊕ Hill, Jo Ann Lucy '87
Lowe, William Warren '79
Ward, Michael Lynn '67
Young, Allen Paul '73
- CA** Δ Wells, Russell Patrick '77
- CA** M Empey, Daniel Martin '82
Thomas, Arthur Louis '51
- CA** N Jimenez, Ramon '95
Rheinhardt, Brian J. '83
Robertson, Alix Ann '03
Shatila, Mak H. '02



Second Century Club
Charles S. McNeil, P.E.
 CO A '71
Always amazed at the engineering feats of the Tau Beta Pi members.



Second Century Club
David L. Tebo
 MA Z '88
I look forward to receiving The Bent and hearing about accomplishments of rising engineers.

Second Century Club continued

- CA** ☒ Oneil, Patrick M. '82
Steckel, David Edward '89
- CA** O Alvarez, Desi '75
- CA** Π Nakauchi, Edward M. '69
- CA** P Hall, Mark Corwin '88
Markarian, Thomas F. '95
- CA** Σ Chambers, Guy Wayne '78
Tabar, Denise Shaw '87
- CA** T Tabar, Anton '81
- CO** A McNeil, Charles S. '71
Pinkham, Joe Neal '62
- CO** B Graham, Leroy Cullen '50
Primeaux, Paul Rodney '67
- CO** Δ Ferentchak, James Allen '77
- CO** Z Bridges Jr., Roy Dubard '65
- CT** A Gerson, Gordon '58
- CT** B Hill, Dorian Evan '69
White, William Richard '65
- DE** A †Bower, G. Ronald '62
Gulian, Franklin Joseph '83
Neimeyer, Terry Francis '77
Remondi, Benjamin W. '67
Witt, Jeffrey Lawrence '81
- DC** B Raley, Charles Christopher '83
- DC** Γ Kriemelmeyer Jr., Harry '53
- FL** A Charlton, John Dunaway '72
Garmizo, David W. '89
Glass, John Dorrance '73
Ireland, Ronald Joe '61
Milburn, David M. '91
Rauth, Terry Jean B. '77
- FL** B Nunez, Ramon Luis '75
Stambolian, Damon Burns '98
- FL** Γ Glenn, Frederick '92
- GA** A Bodner, Douglas Anthony '87
Gulley, John Quentin '67
Ham, John Michael '80
Olive, Charles Michael '70
- GA** B Jones, David Neal '92
- ID** A Beaudoin, Brian Francis '81
- IL** A Angus, Richard Myers '57
Bassler III, Robert Edward '74
Fenves, Steven Joseph '57
Kenny, Kevin Bernard '90
Wenzel, Kevin Wayne '84
- IL** B McBlaine, Michael Richard '75
- IL** Γ Cohler, Edmund Usher '49
Dorn, James David '54
Herman, Richard Neal '55
Rivera, Angel Luis '80
Wong, Thomas T. Y. '80
- IL** E Finocchio, Samuel D. '73
Leviton, David Mark '80
- IN** A Anders, James Larry '72
Becker, Kenneth Alan '81
Bertsch, Patricia Babette '76
Davies, Lewis Allen '26
Hammond, Joel Charles '83
Jebsen, Eric Richard '80
Levine, Jerrold Louis '61
Lodal, Peter Nelson '76

- Minniti Jr., Robert Joseph '70
Morgan, Rachel Diane '90
Murphy, Thomas Frank '70
Russell, James Long '93
Ward, John B. '58
- IN** B Marum, Steven Edward '73
- IN** Γ Grunert, William Edward '60
Harvey, Francis Joseph '65
Henry, Eugene Walter '54
Silio Jr., Charles B. '65
Springer, Denis Eugene '67
- IA** A Alter, Eric Michael '88
Brackett, Robert Chase '48
Burnet, George '48
Hoover, Gary Dean '61
Hoper, John Honett '62
Huber, Robin '93
Johnson, David Charles '64
Nichols, Donald Orville '61
Olson, Scott E. '69
- IA** B Croissant, Welton '50
Weber, Steven Wheeler '71
- KS** A Bradley, Richard Leland '59
Vijgen, Paul '87
Woelk, Darrell Wayne '71
- KS** B Shields, Suzanne L. '83
Stuever, Robert Allan '87
- KS** Γ Hightower, Ray E. '64
Peterson, Jon Howard '68
Walker Jr., Hugh Sanders '87
- KY** A Gaffin, William O. '51
Mullins, Chuck '87
- KY** B Black, Leslie Edward '50
Cooper, Brian Edward '88
Hughes, Earl Christopher '76
Leep, Herman R. '63
- LA** A Arman, Ara '55
Stansbury, Merlin Conrad '71
- LA** B Garrido, Louis A. '57
- LA** Γ Blanche, Brian James '87
Hammons, Robert William '78
Owen, Mark Enos '92
Whittek, William Delbert '63
- ME** A McCarthy Jr., Robert H. '68
- MD** A Howard, John Edward '65
- MD** B Denny, Samuel A. '90
Horner, Matthew Lewis '01
Roberts, Victor David '64
Tracy, Anita Lynne '89
- MA** A Ahern, Michael Francis '78
Cucchi, Thomas '85
Petersen Jr., Donald W. '66
- MA** B Akant, Adnan '72
Honigsberg, Charles Alan '52
Manganaro, James L. '61
Miller, Paul George '49
Morin, Gene Douglas '58
Robinson, Thomas Charles '58
Shepperd, Stan Wayne '70
- MA** Δ Anderson, Thomas T. '57
Raister, Richard Allen '72

- Serencha, Mark John '93
- MA** E Harris, Kent Eugene '71
Levesque Jr., George E. '70
Nordstrom Jr., Carl H. '73
Sciartelli, Anthony Paul '86
- MA** Z Tebo, David L. '88
Tomas, Carl A. '68
- MA** Θ Jones, Rebecca Leigh '82
- MI** A Arnold, Charles Jay '59
Gidner, Richard V. '53
Patterson, Garvin Wesley '69
- MI** B Durfee, George Lee '51
Hammar, Richard Harry '65
Kranz, Paul Richard '63
Oliver, Bruce Leroy '63
Phillips, Gerald Raymond '70
Sauer, Daniel Michael '05
- MI** Γ Chick, Kenneth Martin '91
Davis, Robert Allan '81
Hannig, William A. '47
Lang, Brent Dennis '90
Lasher, William Charles '76
Myers, John William '87
Simmons, Richard William '61
Wilkes, James Ocroft '54
Youse, Rex Jacob '57
- MI** Δ Nolan, James Henry '73
Olex, Michael Bernard '74
- MI** E Cleary, Gary Kenneth '71
Lapchak, Markian '73
Yee, Kingman Ethan '77
- MI** Z Erickson, Adam Alexander '88
Grubbs, Ronald Dean '73
Sitko, James Robert '70
Tidrow, Raymond Alvin '65
- MI** Θ Stade, Phyllis Ruth '83
- MI** I Kantrow, Maryann '88
- MN** A Adrian, Ronald John '68
Betterman, Lanny Ray '92
Grill, Susan Marie '82
Johnson, Lowell Gale '69
Loomis, Howard Burton '51
Olson, Gary Elden '64
Waletzko, Nancy Ann '86
- MS** A Johnson, Rodger Lee '71
Warren, James T. '60
- MO** A Hutchinson, Darrell Byrd '74
Malin, Robert Clayton '83
Manes Jr., Ezra Earl '69
- MO** B Bondurant, David William '71
Brockhaus, Douglas A. '68
Clemence, Samuel P. '62
Elfrink, Lindell Herman '62
Greco, Mary J. '84
McDaniels, John Louis '60
Stevens, Robert E. '85
Vandergriff, Leland E. '71
Wussler, Alfred Julius '71
- MT** A Brin, Beth Leann '79
Peck Jr., Delbert Emery '77

Alumni Giving

Second Century Club continued

- NE A** Claar, Stephen Beryl '73
Fortik, Jason LaVern '98
Matthews, Deborah Jo '82
Moore, Thomas Paul '78
Nelson, Stuart Owen '50
- NV B** Vodrazka Sr., Walter C. '55
- NH A** Bickford, Maurice Dudley '59
Lof, Richard J A '71
Stephens, Jay Edward '73
Zecchini, Charles Robert '50
- NJ A** Carow, Walter Marvin '50
Dudis, Joseph '64
Ricco, Robert Philip '70
- NJ B** Capasso, Michael Anthony '82
Dola, Steven '55
Keller, Lara Alice '93
Nixon, Allen Mackenzie '62
Palko, John Raymond '69
- NJ G** Gupta, Punit Kumar '96
Kasuba, Peter Francis '65
Morgan, Dennis Ross '68
Tehve, Toomas '64
- NJ Δ** Gross, Gary Robert '80
- NY A** Chaudhry, Sohail S. '74
- NY B** Rice, Ann Rooks '78
Thomas, Henry Howard '62
- NY G** Bushell, Michael '60
Buttz, Charles William '56
Gordon, Benjamin Bruce '97
Levy, Michael David '89
McKersie, Alan David '52
Opsahl, Richard Bernhard '53
Schoen, Edward Alan '69
Segal, Joshua L. '68
Smith, Charles Alan '81
Svendsen, Harold Oliver '58
- NY Δ** Brown, Matthew Alan '85
Reth, Thomas Bernard '64
Surovy, Randall J. '78
Thomson Jr., James Bruce '68
- NY E** Reber, Raymond Andrew '63
Ueber, Russell Charles '61
- NY Z** Hamm Jr., William L. '67
- NY H** Boland, Peter Lewis '69
- NY ⊙** Gorski, Gerald Ervin '82
Hamm, Jeffrey H. '74
Lawrence, Thomas F. '66
- NY I** Brand, Alfred H. '67
Kuzma, Peter D. '88
Lerner, Steven Larry '75
Liberatore, Federico '85
- NY K** Singer, Bart Alan '82
- NY Λ** Davies, Michael '77
Madia, Michael '81
- NY N** Bender, David James '64
Deckro, Richard Floyd '72
MacLagger, Robert C. '73
- NY ∑** Ball, Michael John '72
Bruzzone, Anthony F. '12
Rodriguez, Ernesto '85
- NY O** Jahelka, Joseph Robert '76
- NY Π** Howles, Douglas '76
Knudsen, Walter Kristian '85
- NC A** Helms, Chester Ethane '74
Poindexter, Richard C. '64
Stone, Ellen Kay '94
- ND A** Rieder, William G. '56
- OH A** Hazen, Ramon B. '60
Meissner, Robert Paul '53
- OH B** Curless, Richard Anderson '68
Triplett, William James '76
- OH Γ** Elder, Kelly '95
Engen, Todd Christian '81
Murray, Terry David '64
Powell, David Allen '71
Weber, Robert Fredrick '61
- OH Δ** Ankrom, Linda Steele '79
- OH E** Hrabak, Marguerite J. '74
- OH H** Crowder Jr., George E. '77
Jumper Jr., George Yount '66
Menna, Richard Joseph '62
Merkle, Larry Douglas '92
Palazotto, Anthony N. '55
Regulinski, Thaddeus L. '50
Rice Jr., John Warren '75
Wolfe, Stephen A. '85
- OH ⊙** Berger, Norman Rudolf '68
Burkardt, Leo Arthur '67
Walsh, Michael Anthony '75
- OH I** Hurtig, Michael Lee '91
Marone, Victor D. '59
Muskoff, Terry Edward '67
Walker, David W. '72
- OH Λ** Folk, Joseph William '98
Oakley, Robert Ray '77
- OH M** Michalak, Travis Edward '03
- OK A** Bray, Fred Martin '68
Hoffman, Keith Ward '75
Swihart Jr., John Donald '59
- OR A** Loughmiller, Bert Edward '64
- PA A** Clegg Jr., Lee Milton '59
Haas, Joseph William '90
Ruth, Richard Lloyd '68
Shah, Minesh Ashok '90
Swartwout, John Baxter '73
- PA B** Cashdollar, Barron H. '57
Cook, William Joseph '54
Irwin, Thomas John '70
Kalasheh, Amir Samuel '09
Pasko, Thomas Joseph '59
Pickenheim, Timothy Ronald '90
Reifsnyder, Jeffrey Wayne '80
Ripson, George Anthony '60
Szkudlapski, Edward H. '79
- PA Γ** Bolser, William Charles '69
Chong, Jake '01
Kaplan, David Seth '03
Miley II, George Hunter '55
Polefka, Allen Jack '71
Sack, John Stuart '75
- PA Δ** Baxley, John Hirst '88
Berger, Bruce Sutton '54
- PA E** Flynn, Susan Mary '79
Santo, William John '53
Schenck, Arthur Jacob '73
- PA Z** Angilletta, Gerald Vincent '79
Browne, Joseph Dominic '60
Diener Jr., Henry Christian '51
Duda, George Elias '77
Georges, George C. '63
Grove, Eric Gene '70
Magee, Michael Patrick '97
- PA H** Fruci, Natale Andrew '55
- PA I** Lorenz, Bryen E. '76
- PA K** Potthoff, Robert Edward '56
- PA Λ** Francisco, Amy Denise '99
- PR A** Lebron, Jose Antonio '77
Velez-Reyes, Miguel '84
- RI A** Biddle, Justin Miller '56
- RI B** Chalsen, Michael Joseph '81
Fletcher, Gilbert Alan '68
Knickle, Harold Norman '62
Pavia Jr., Robert J. '92
- SC A** Barnwell Jr., Thomas Osborn '69
Calcutt, Walter Wade '91
Cox Jr., Jacob H. '03
Dowdle III, H. '85
Wilson, Rick Lane '81
- SC B** Hendricks, Irvine H. '62
- SC Γ** Kelly, Robert Thomas '86
- SD A** Eidsness, Karen Rose '83
Mosier, Donald Earl '78
- TN A** Brewington Jr., Percy '54
Conway, Tammy Kay '82
Dye, Giles S. '61
Exum, Joe Hardman '52
Garber, Joel Wade '61
Icove, David Jay '71
Jenkins, Alvin Leigh '61
Kee, Bennie F. '71
Long, William Polk '69
Lowe, Robert Alexander '70
Osborne, Bernie Bond '86
Rochat, Vernon Everett '58
Warren, Donald Earl '71
- TN B** Gilbert, George Roland '68
Keaton, Kathryn M. '76
Keaton, Lawrence Thomas '71
- TN Γ** Atchison Jr., Paul Carman '66
Pedigo, Donald Bruce '83
Trimble, Darrell Taylor '77
- TN Δ** Reves, Benjamin Taylor '05
- TN E** Thompson, David Andrew '00
- TN Z** Brumley, Paul Edward '02
- TX A** Hodges, Bobby Wayne '53
Kumpf, David Kenneth '70
Moss, Edward R. '64
Seaman, George Cook '66
Sener, Ilhan '67
Wilkes, Chester Peyton '50
Wong, Lucas '84
- TX B** Baker Jr., Marvin Elroy '86



Founders Club
Chris C. McComb, Ph.D.
 CA P '12

It is an honor to help grow the impact that TBP has on the world.



Founders Club
Kenneth B. Reese
 UT Γ '04

Tau Beta Pi changed my life as a student.

Second Century Club continued

- Jain, Ravinder K. '71
- Talati, Deepak A. '84
- Valusek, John Robert '70
- TX Γ** Flatt, Robert Neal '69
- Sick Jr., William Norman '58
- Stetter, Walter James '50
- TX Δ** Crews, James Alvin '58
- Johnson, Vance Clay '78
- Massett, Donald Allen '70
- McCord, Jimmy Delwyn '70
- Nolen, Kenneth Bernard '57
- Stratton Jr., Jerald Jay '86
- Whitney, Herbert Ward '57
- TX E** Damoff, Howard Anthony '84
- Weaver, Drew S. '69
- TX H** Benson, Marvin Dale '79
- Potvin, Alfred Raoul '64
- Suley, Eniola Oluwasola '14
- Tepper, John C. '82
- UT A** Ferguson, Brian D. '80
- UT B** Dickson, Lloyd Brent '63
- Hardy, Mark Douglas '84
- Hinman, Paul Victor '71
- VT A** Cook, Barbara Karen '84
- VT B** Clark, David Thomas '81
- Guerreri, Carl N. '62
- VA A** Jacobs, Susan Broaddus '85
- Jokl, James Anthony '80
- Lanford Jr., Stanard F. '55
- Shirley, David Eugene '65
- VA B** Barnes, Edgar Eugene '68
- Beard Jr., Frank H. '64
- Cassell II, Ray Vaughn '88
- Collie, Joseph Haslett '50
- Fortune Jr., Horace James '63
- Haight, Roger Quentin '82
- Meith, Robert M. '57
- Tacey, Charles Frederick '75
- VA Γ** Hartelius, John Taft '80
- WA A** Haase, Richard H. '50
- Mace, Leslie Eugene '75
- Miller, Steven Claude '72
- Tanemura, Steve Ken '84
- WA B** Anderson, Kyle Joseph '03
- Brower, Michael Rex '70
- Elliot, Robert Charles '88
- Finnila, James E. '63
- Groat, J. Everett '94
- Myers, Richard Manu '80
- Owens, William Leo '53
- Williams, Harvey Ray '59
- WA Γ** Lock, Raymond Tan '83
- WV A** Fisher, Ervin Charles '68
- Hargett, Donald Roy '65
- Mongold Jr., Guy Earl '50
- WV B** Harding, Thomas Wayne '86
- WI A** Berndt, Martin M. '56
- Severson, Roger Eugene '76
- WI B** Bell Jr., Robert Bernhard '61
- Bergs, Mary Agnes '76
- Fons, Richard John '79

- Garnier, John Edward '70
- Schieder Mayer, Ruth Hines '81
- WI Γ** Hanson, David L. '86
- WI E** Eichman, Donald Gerald '06

The FOUNDERS Club
\$250

- AL A** Cobb Jr., Raymond Oliver '65
- Jacks, Thomas E. '93
- Murray, Scott Blansit '69
- Packard, James Donald '88
- Reilly, Patrick Francis '93
- AL B** Butler, Frank Middleton '50
- Franks, Larry Daniel '71
- Grider, Kelly Vernon '58
- Lamar, John Everett '62
- Pilleteri, Joseph '74
- AL Γ** Holladay, Phillip Linn '92
- Purcell, George Kenneth '74
- Sharp, Gary Allen '93
- AL Δ** Burnsed Jr., Bill Brannon '72
- AL E** McFadden Jr., Jerome Joseph '82
- AK A** Fellner, Kenneth Mark '84
- AZ A** McLennan, Mac Jack '66
- Quintenz, Jeffrey Paul '71
- AR A** Chastain, J. Dee '59
- Johnson, Cody '15
- Patel, Manish G. '87
- CA A** Divine, James Robert '61
- CA B** Almassy, William Thomas '71
- Broido, Michael David '70
- Villani, Daniel Dexter '69
- CA Γ** Snook, Peter F. '63
- Tedrow, James A. '70
- CA Δ** Dussia, Brent Alan '73
- Fujihara, Glenn Yoshihiro '74
- Grabowski, Eric Michael '91
- Scottoline, Charles A. '61
- CA Z** Battle, Thomas Michael '73
- Tapay, Martin H. '78
- CA H** Walsh, James Edward '59
- CA Θ** Fuentes, Jorge Salomón '84
- Koerber, Matt James '95
- CA I** Kwan, Peter P. '70
- CA K** Smoots, Neil Randall '78
- CA Λ** Cousins, Michael D. '66
- CA M** Hermanson, Glenn E. '87
- Lightcap, William Lawrence '86
- CA P** McComb, Chris Carson '12
- CA T** Kiskamp, David John '85
- CA Y** Bassett, James Drew '91
- CA Ω** Ward, John Lee '00
- CA ΔΔ** Nagengast, Todd Martin '06
- CO A** Gardner, G. Curtis '76
- Golden Jr., Robert Joseph '91
- Pratt, Ronald Maynard '80
- CO B** Bradley, James Oliver '56
- Chmelka, Floyd Ardell '59
- Dobby, Samuel Donald '62
- Grasmick, Allen D. '74
- CO E** Hildebrand, Diane Marie '12

- CT A** Peters, Merz Kenton '55
- CT B** Berson, Bernard Raymond '57
- CT Γ** Allen, Elizabeth Anne '01
- DE A** Gardiner Jr., Francis Espey '62
- Gorman, Harry H. '59
- DC B** Bonuccelli, Hugo Anthony '73
- DC Γ** Young, Cliff Mark '93
- FL A** Anonymous '00
- Eadens, Matthew James '99
- Kiersz, Donna Cecilia '80
- Kleinman, Steven L. '80
- FL B** Armenteros, Lourdes Maria '82
- FL Δ** Gladwell, John Patterson '81
- Palmer, Carla N. '87
- Smith, Shaina Maryann '99
- FL E** Morales, George Jason '06
- FL H** Nance, Craig E. '91
- FL Θ** Prieto, Eduardo '04
- GA A** Gurley, Thomas Brook '59
- LeCroy, Robert Thomas '83
- McGhee, Bryan Wade '67
- IL A** Resman, John Boris '80
- Ritt, Jack Arthur '52
- Rudolph, James Gregory '55
- Uhalt Jr., Alfred Hunt '58
- Weller, Arthur Randall '71
- IL B** Nelson, John D. '60
- Pasowicz, Ronald Joseph '77
- Todd, Daniel R. '86
- IL Γ** Hill, Deborah Kay '80
- Puette, Robert Lee '64
- IL Δ** Kulkarni, Susan Lorane '82
- McLachlan, Christopher R. '96
- IN A** Baas, James Edward '68
- Berman, Mitchell Leonard '74
- Brennan Jr., Paul John '46
- † Ross, Elton C. '50
- Tarjan, Peter Paul '59
- Wagner, Steven John '88
- IN B** † Whitesell, Stephen Reed '70
- IN Γ** Svarovsky, Michael James '00
- IN Δ** Walton, Richard Albert '65
- IA A** Buffington, Gregory D. '67
- Fehr, Gerald Keith '59
- Gallagher, Richard Ray '64
- Kirby, Herb '61
- Kurr, Amy Catherine '18
- Philipp, Bruce Edward '63
- Tennant, Jerry Ronald '61
- Wheelock, Thomas David '49
- IA B** Schaefer, Dean Allen '66
- KS A** Smith, Douglas Bruce '55
- Wildin, Maurice Wilbert '58
- KS B** Cochran, John William '65
- Schneidewind, Deanna Carol '99
- KS Γ** Glaze, James B. '75
- KY A** Calasanz, Leandro E. '77
- Slade, Susan R. '82
- Williams, Matthew Ryan '08
- KY B** Dey Jr., Harold L. '56
- Tockstein, Carl DeWayne '74

Alumni Giving

Founders Club continued

- LA A** Fowler, James Bradley '82
Gautreaux, Paul Joseph '91
Hines, Cynthia Marie '81
Kile, Winston Eddie '66
- ME A** Theriault, Lucien Joseph '51
Winslow, Arthur Clifford '79
- MD A** Hanlein, Stuart Lamar '60
Schrodel Jr., Charles S. '57
- MD B** Rader, Richard Andrew '62
- MD Γ** Mitalas, Peter C. '01
- MD Δ** Pierson, Jeffrey Scott '05
- MA A** Levesque, Allen Henry '59
- MA B** Adams, Robert William '64
Donald, David Kneeland '57
Fichtenbaum, Matthew L. '66
Hagerman Jr., Oliver S. '49
Plotnick, Stanley K. '64
Pynn, Craig Timothy '68
Sedor, Gerald '70
Stallard, David Varner '49
Thompson, Hugh A. '62
- MA Δ** Walsh, James Ralph '90
- MA Z** Freeman, Jacob Ross '04
Hathaway, Wayne Herbert '70
Hawrylcw Jr., Michael '65
- MA I** Masi, James V. '60
Villamaino, Mark John '75
- MI A** Beal, Timothy Allen '84
Berg, Dale Evan '67
Thelen, Stanley Paul '83
Wang, Peggy P C '77
- MI B** Schoof, Louis Walter '65
Simpson, Stuart P. '59
Vredeveld, Donald Richard '53
- MI Γ** Bittman, Thomas Warren '70
Hiltunen, Dennis Richard '83
Hubbell, Thomas W. '71
Lazaroff, Joseph Louis '62
Lorts, Daniel Joseph '77
Rice, Philip Alfred '59
Stoughton, Herbert Warren '73
- MI E** Baker, Kathy Lynn '73
Loporto, John Joseph '92
Walton, Gregory Francis '71
Whitehead, Tonya J. '17
- MI Z** Bandurski, Vincent Chester '65
Kanaby, Kenneth Dale '73
- MI H** Weichselbaum, Helga M. '80
- MN A** Barrows, Kenneth Campbell '56
Lefebvre, Molly Ann '11
Mortenson, Robert Lee '64
- MS A** McKay, Walter Jasper '65
Prewitt, Nathan Coleman '86
- MS B** Sims, Thomas Randall '79
- MO B** Baer, Ted Allen '64
Coonce, Homer Eugene '52
Rowley, Blair Arlie '62
Shofner, Terrence David '73
Talbot, Nicole L M '77
Ward, Terrence Ray '70
- MO Γ** Dreyfus, Edward Donald '60
- Moerner, William Esco '75
Schroeder, Nathan Edward '82
- MT A** Fischer, Douglas Arthur '74
Monaghan, Kathleen Lynn '90
- NE A** Bishop, Kenneth LeRoy '50
- NJ A** Gertz, Alan Seymour '45
- NJ B** Hagerman, Janet Susan '82
- NJ Γ** De Cosimo, Lawrence Peter '69
De Rossi, Vincent John '90
Garcia, Liz '66
Notte, Angelo Joseph '63
Thompson, Peter A. '66
Tosto, Leonard Christopher '70
- NY A** Spring, Peter Gordon '68
- NY Γ** Harris, Robert Philip '74
Smith Jr., Martin Gilbert '59
Lux, Jeffrey P. '86
Sawchuk, John Andrew '71
- NY Δ** Brolin, Stephen Joseph '57
- NY E** Sarcona, Roy Douglas '68
- NY Z** Suhocki, Vincent Paul '67
- NY H** Badalamenti, Salvatore '75
Rossolimo, Alexander '62
Rubin, David Kenneth '59
- NY ⊕** Quay, Jeffrey Robert '85
Watson, Richard Paul '78
Zurta, Colleen Ann '83
- NY I** Drogin, Barry J. '83
Leung, Yiu Por '90
Schulman, Richard Jerome '67
Shevchuk, George John '71
- NY Δ** Binn, Joel Samuel '75
- NY N** Hammer, Mark Richard '81
Michalek, Kenneth P. '83
Rosenthal, Jordan Charles '95
- NY ⊖** Mercandetti Jr., Anthony John '99
- NY O** Leu, Derek Huc-Keng '06
- NY Π** Newman, David A. '76
- NY P** Antes, Vincent Peter '76
Marcovici, Janik '85
- NC A** Fales Jr., Carl Lynwood '61
Ingram, William Prentiss '70
Shuford Jr., G.E. '65
Starkey, Robert L. '80
- NC Δ** Austin Jr., Billy Willis '86
Holshouser, Thomas Edward '86
- ND A** Koch, Robert Eugene '95
Meyer, Lawrence Lester '56
Schmidt, Wayne Joseph '50
- OH A** Andersen, Kayla Brooke '17
Schaefer, Steven William '57
- OH B** Brunk, John Cortland '80
Seifert, David Albert '63
- OH Γ** Gruber, Keith Gordon '80
Hall, Susan Elizabeth '84
Knically, David Roger '61
- OH Δ** Pflaumer, Robert Glen '67
- OH E** Shaniuk, Thomas Joseph '85
- OH H** Cole, Kenneth Nelson '86
Morrow Jr., Robert Bronaugh '63
Sterns, Alan R. '88
- OH ⊕** De Jaco, Norbert Francis '62
Hartings, James Wilfred '71
Trogus, Frank Joseph '69
Wong, Dominic '75
- OH I** Drouhard, Todd Anthony '98
Hurtig, Juliet '91
Rowland, Benjamin Charles '06
Rowland, Sarah Lanay '06
Snyder, Sharon E. '09
Speer, Jon Harry '67
Ward, Robert Lee '88
- OH Δ** Mayoras Jr., Richard C. '89
- OH M** Kojola, Gregory Kenneth '89
- OH ⊖** Graessle, Robert James '08
- OK A** Kahler, Jon Paul '70
- OK B** McKinley, Gordon Stuart '90
- OR A** Lindahl Jr., Ernest Raymond '73
Seid, Robert '52
Voit, David Edward '66
- PA A** Abbot, James Latimer '50
Buskirk, William Charles '71
Corbett III, Stanley Wells '55
Matukonis, Edward Stanley '73
Stein, Fred Paul '56
Weiss, David Steven '65
- PA B** Anderson, David William '56
Frick, T. Scott '93
Harper, Kenneth Lee '74
Okrent, Scott '00
Thomas, Kathleen Denise '80
- PA Δ** Clelland, Peter John '63
Kaskin, Jonathan David '71
Lehner, John Roland '66
Marsh, Elbert Lynn '59
- PA E** Gatt Jr., Charles J. '85
Johnson, Daniel Edward '65
Johnson, Floyd Charles '49
Quin, James Robert '66
Spencer, David Bruce '67
- PA Z** Borig, Walter Alexander '49
Craighead, J. Jeffrey '78
Markau, David B. '84
Michel, Joseph Stephen '03
Stevenson, Stanley John '80
- PA ⊕** Ballay, Stephen Joseph '64
- PA I** Martelli, Phil Joseph '85
- PA Δ** Hirko, Nancy M. '88
- PR A** Rodriguez-Fernandes, Norman '72
Santana, Juan Carlos '97
- RI B** Bradley, Ken Alan '81
Castro, Mark Y. '83
- SC A** Jeter Jr., David Gillam '60
- SC B** Boozer III, John Franklin '76
Brizes, Cindy '93
Litton, John Thomas '84
- SC Γ** Hess, Douglas Raymond '76
Hoel, Jeffrey Scott '83
Tyner, Hugh L. '59
- TN A** Allgood, Glenn O. '79
Cofer Jr., Joseph Arnold '63
Graves, Ronald Lee '73



Founders Club
Tonya J. Whitehead, Ph.D.
 MI E '17
*I really appreciate what TBP
 does to ensure excellence in
 engineering.*

Founders Club continued

- | | | | | | |
|-------------|----------------------------------|--|---|--|--|
| | Kennedy, Earl Powell '60 | | O'Rear III, Edgar Allen '75 | | Weaver, Frank Rene '78 |
| | Lambert, William Mark '91 | | Pittman, Wesley Edwin '58 | | VA Γ Kook, Mary Elizabeth '83 |
| | McConnell Jr., Oaklie Kermit '51 | | Bair, Sally Weisenfelder '81 | | Peters, Mary Edwards '81 |
| | Peterson, Randolph Stuart '72 | | Brunkan, Bruce James '78 | | Pronko, Mark Steven '81 |
| | Vannatta, Troy Watkins '89 | | Esparza, Edward Duran '66 | | WA A Laakso, Melvin T. '70 |
| | Wunderlich, Walter O. '56 | | Gibson, Gayle June '83 | | Nichols, Rebel Robert '81 |
| TN B | Carson, Peter Seaton '69 | | Kelling, Ronald Daniel '80 | | WA B Green, Charles Robert '69 |
| | Jones, John Thomas '73 | | Muhlstein Jr., Lado '59 | | Nelson, Bruce Edwin '54 |
| | Pitney, Alan Roger '88 | | Oliver, Howard Ross '49 | | Schmieman, Eric A. '97 |
| TN Γ | Ventrice Jr., Carl Alfred '85 | | Szymczak, Edward J. '61 | | WA Δ Dacquisto, John Fred '65 |
| TX A | Bratt, Gary M. '74 | | Parmely, Marjorie Anne '75 | | WV A Shuck, Lowell Zane '58 |
| | Dougherty, Patrick Clyde '56 | | Schroeder, Steven Randall '70 | | WI A Anderson Jr., George James '48 |
| | Ehlers, Clarence James '66 | | Webster, Cecil Ray '75 | | Simka, Harsono '91 |
| | McWilliams, Hobart Francis '59 | | Larsen, Bradford Wayne '88 | | Wilcox, Ross Phillips '67 |
| | Persyn, Steve Gus '71 | | Serrano, L. Alberto '02 | | WI B Morris, Leslie Raymond '78 |
| | Tseng, Shiwai Chung '86 | | Reese, Kenneth Bryce '04 | | Wielebski, Rachel Ann '98 |
| TX B | Anderson, Roger Kent '60 | | VT A Cooke, Theodore Carter '77 | | WI Γ Beisner, Richard Charles '74 |
| | Hansen, Gracie Arlene '04 | | Mazzini, Carl Andrew '68 | | Kestner, Wayne A. '74 |
| | Letcher, Brice Adrian '10 | | VT B Kmet, Peter Nicholas '75 | | WI Δ Ogden, Deborah Kay '92 |
| | Reeser, Denis Kempe '69 | | VA A Coyne, Kevin Anthony '88 | | WY A Killian, Jessica McGahan '03 |
| TX Γ | Lange, Elaine Austin '76 | | Ginn, F. Lester '72 | | Obenland, Rebecca Rogness '83 |
| | Marshall, Tom Stanely '76 | | VA B Hippert Jr., Richard Owen '61 | | Nackoney, Ogden G. '63 |

Pre-Club Members/Contributors Continues on page 60.

- | | | | | | |
|-------------|--------------------------------|-------------|---|--|--|
| AL A | Bottcher, Charles Ervin '55 | CA I | DeVan, Glenn Charles '71 | | Wilson, Anitra C. '91 |
| | Mikell, Don Joe Winton '58 | | Gong, Howard '82 | | Wilson, Roderick D'Wayne '82 |
| AL B | Amos, Robert Francis '56 | | Martinez, Marcelo '00 | | FL B Prada, Jaime Octavio '70 |
| | Bessaleli, David '67 | | Baffa, Mustapha '15 | | FL Δ Fishkin, Jeffrey '98 |
| | Hughey, Richard Thomas '77 | | Longenecker, Eric Benton '89 | | FL E Schwartz, Michael Allen '96 |
| | Sumner, William Earl '71 | | CA Λ Murchison, Gary Scott '77 | | GA A Baskin, Stewart Ross '13 |
| | Underwood, C. Wilbur '57 | | Nelson, Thomas Arthur '67 | | Foster, Raymond W. '82 |
| AL Γ | Hays, Charles Raymond '72 | | Wang, Jonathan '02 | | Hartjen, Charles Alfred '72 |
| AL Δ | Green, David G. '75 | | CA N Evans, John David '00 | | Kohlhase, Charles E. '57 |
| | Smith, Christopher Joseph '83 | | Shultz, Timothy Allen '88 | | Purdy, Kenneth Rodman '56 |
| AL E | Maher, John Thomas '10 | | CA E Edmonds, Gregory '70 | | Rawlings, Kenneth '69 |
| AK A | Leet, David R. '89 | | Matthew-John, Stephen '87 | | ID Γ Khanal, Mandar '76 |
| AZ A | Van Veghel, Stephen John '72 | | CA O Montagna, John Nicholas '64 | | IL A Carroll, Matthew Charles '86 |
| | Welty, Kenneth Harry '61 | | CA P Jofuku, Mitchel S. '81 | | Feinberg, Arthur Richard '68 |
| AZ B | Lee, William H. '04 | | CA T Zaleski, Mark Anthony '83 | | Hutson, Robert William '76 |
| | Stewart, Richard James '92 | | CA Y Aine, Craig Randal '90 | | Maguire, John Anthony '79 |
| | Wong, Walter Ong '71 | | Radimsky, Anne-Louise G. '63 | | Primus, Carolyn M. '73 |
| AR A | Holt, James Noble '58 | | CA Ψ Gianas, Matthew A. '07 | | Skala, Stephen L. '87 |
| | Primm, Charles Eugene '63 | | CA AA George, Ron Lee '17 | | Zeman, Kenneth Paul '55 |
| CA A | Lundberg, Anders William '59 | | CO B Beerer, Joseph Gable '64 | | Butz, James Robert '73 |
| | Rossopoulos, Thanos George '09 | | Marlowe, William Riley '63 | | Cardwell, Richard Kenneth '74 |
| | Spinazze, Laurel '55 | | Schlak, Gerard Alan '62 | | Mugler, Larry George '68 |
| CA B | Dixon, David Adams '71 | | CO E Capuano, Jon Anthony '19 | | IL E Messel, Rob R. '96 |
| CA Γ | Groundwater, Don Mathew '75 | | CT Γ Riley, Kristopher Michael '98 | | Roth, Christopher Alan '86 |
| CA Δ | Duncan, Garth MacDougal '72 | | Worrich, Colin G. '17 | | IL Z Lai, Katarzyna Agnieszka '91 |
| | Roberts, Harry '73 | | DE A Anderson, John Leonard '67 | | Steinkoenig, Glen Lee '95 |
| CA E | Garnhart, Gordon Deane '53 | | Fahs, James Edward '83 | | IN A Almasi, George Raymond '61 |
| | Kaufman, Lawrence Jay '80 | | DC A Hanable Jr., Hampton '71 | | Cappellari Jr., James Oliver '56 |
| CA Z | Liang, Thomas Gibbons '64 | | FL A Lyons, Leonard J. '62 | | Deregnacourt, Robert Albert '52 |
| CA H | Coorey, Joseph Shanith '14 | | Satterfield, Henry Coleman '68 | | Garrett, Richard Welborn '62 |
| | McVeigh, Benoit Alexander '84 | | Vento, Michael Thomas '06 | | Hall, Robert Gordon '58 |

Executive Director

CURTIS D. GOMULINSKI, MI EPSILON '01

A YEAR LIKE NO OTHER!

The COVID-19 pandemic brought in-person chapter activities to an abrupt halt. Creative solutions by alumni and students allowed chapter activities to continue virtually while strong alumni giving and generous investment returns strengthened our financial position.

As it has been for each of you, 2020 was an unusual year for Tau Beta Pi. The pandemic forced chapters to operate virtually, and thanks to the work of Director of Rituals D'Avignon and the Executive Council, a new virtual initiation ceremony was implemented this spring. To date, 166 chapters have initiated 2,308 members using the virtual ceremony which will continue to be utilized this fall. In addition to eliminated in-person chapter activities, we saw the cancellation of Association travel including District Conferences and Engineering Futures Sessions for the spring term. This fall will be the first time since World War II without a Convention. Fortunately, alumni support of the Association has remained strong with a record amount of unrestricted alumni giving and with volunteers working on creative solutions to support chapters and members virtually. While many challenges still face the Association, our dedicated members will persevere and make Tau Beta Pi stronger and more dynamic to face future challenges.

CHAPTERS

The 2019 Convention granted charters to the University of Texas at Dallas, formally installed as Texas Xi on February 15, 2020, and the University of Arkansas at Little Rock, formally installed as Arkansas Beta on March 7, 2020. Articles about their installations appeared in the Summer 2020 issue of *The Bent*.

An inspection committee visited Georgia Southern University in November and its petition will be considered this fall. Three additional petitions were received this summer; inspection teams will visit Merrimack College (MA), Western Carolina University, and Texas A&M University at Qatar when travel and in-person meeting restrictions are lifted.

Two alumni chapters were reactivated (El Paso, TX, and Mid-South, Memphis, TN)



and one went inactive (Columbus, OH); 46 of 78 alumni chapters are active.

A total of 221 collegiate chapters (233 in 2019) completed annual surveys that listed approximately 2,110 projects. A report on the contents of the survey will be published in the November 2020 issue of *The Bulletin*.

MEMBERSHIP

The chapters initiated 7,197 members in 2019-20, down 1,416 (16.4%) from last year. This included 6,823 undergraduates, 295 graduate students, 40 alumni, and 39 eminent engineers. Several chapters postponed their spring initiations of elected candidates to the fall term in hopes of conducting the initiations in-person. Tau Beta Pi's initiated membership on July 31, 2020, was 609,286, and an estimated 69,000 are deceased.

During the year, about 63,000 engineering students in the 250 TBPI chapter schools were scholastically eligible for membership in the top fifth of their senior or the top eighth of their junior classes. About 25% of these were members of TBPI at the close of the year—down from 30% last year. About 3% were not initiated, chiefly because of

New Members - A group of recently initiated Tau Bates from California State University, Chico, pose for a picture next to the California Alpha Alpha Chapter Bent monument.

their chapters' failure to hold spring ceremonies. The remaining 72% indicated a lack of interest in membership, up from 66% last year.

Data regarding the number of graduates from schools with Tau Beta Pi chapters was not available at the time of publication and will be reported in a future issue.

Eighty chapters held only one election and initiation of new members, eight schools did not conduct an initiation, and all others held two or more. Two chapters held an initiation without approval. Five members resigned during the year and one was expelled.

CONVENTION

The 114th Convention was held October 10-12, 2019, in Columbus, OH, with Ohio Gamma, Delta, and Iota as hosts. The meeting was fully reported in the Winter 2020 issue of *The Bent* and the December 2019

issue of *The Bulletin*. The 2020 Convention was canceled due to the pandemic. Georgia Alpha and the Atlanta Alumni Chapter hope to host fellow Tau Bates in the future.

The Convention approved Constitutional amendments to update the Association's seal, adjust the Trustee requirements, expand allowable trust investments, and allow Convention sites to be selected more than three years in advance. All four amendments were reported in the Winter 2020 issue of *The Bent* and were ratified by the chapters and Executive Council this spring.

The Convention left reimbursement rates for the 2020 Convention at levels set for the 2019 event except for increases to en route and on-site meal expenses; made recommendations to the Executive Council regarding the Association's finances; accepted Rapid City, SD, to host the 2022 Convention; recommended a provisional alumni chapter policy; affirmed the new logo design and implemented a new insignia use policy; granted five program appeals; provided feedback on the new recruiting website along with a list of recommended changes; elected one new member and re-elected two members of the Executive Council; made several recommendations to the

Executive Council for further study; and celebrated the 50th anniversary of women being admitted to Tau Beta Pi membership.

OFFICIALS

The TBPI Executive Council, with term expirations by year, includes Councillor S.E. Fable, Councillor S.L. King-Monroe, and President C.C. Smith (2020); Secretary R.K. Alexander, Vice President G.J. Morales, and Councillor R.W. Pierce (2021); and Councillors M.L. Peterson, G. Youssef, and M.M. Youssef (2022). Council meetings were held on Aug. 14, Sep. 11, Oct. 9, 10 & 12, Nov. 13, and Dec. 11, 2019, and Jan. 18-19, Feb. 17, Mar. 18 & 19, Apr. 4 & 20, May 18, June 7, 22, and 23, and July 25, 2020. Tau Beta Pi has five appointed directors with responsibilities in major areas of its interest: K.L. Colbry as Director of Engineering Futures, E.J. D'Avignon as Director of Rituals, T.E. Gomulinski as Director of Alumni Affairs, S.L. Forkner as Director of the District Program, and S.J. Steadman as Director of Fellowships. Members of the Fellowship Board include R.E. Efimba, L.W. Faidley, S.C. Fantozzi, and A.M. Richards. The Trust Advisory Committee, which directs investment activities of the corporate trustee, includes J.W. Johnson Jr. (chair),

B.S. Beardsley, H.W. Lange, Y.B. Lim, and D.A. Liu.

District Directors and Engineering Futures Facilitators as of July 31 are listed below.

The International Headquarters staff, located on the Knoxville campus of the University of Tennessee, includes members Executive Director C.D. Gomulinski, Director of Development S.D. Jennings-King, Member & Chapter Services Representative A.P. Karnauch, and sixteen additional employees (see tbp.org/?HQ).

AWARDS

Tau Beta Pi's top chapter prize, the R.C. Matthews Outstanding Chapter Award, was bestowed on Alabama Epsilon for the excellence of its total program in 2018-19. Honorable mentions went to Iowa Alpha and Tennessee Alpha. The R.H. Nagel Most Improved Chapter Award was given to Texas Theta; honorable mentions went to Michigan Iota and Ohio Xi. J.D. Froula Most Improved Membership honors were extended to Indiana Delta; honorable mentions were presented to California Kappa and New York Sigma.

The Headquarters staff gave 28 Chapter Excellence Awards to chapters for high quality reporting, excellent chapter operations, and a commitment to improving

DISTRICT DIRECTORS:

District 1

Kaleia Kramer
Lauren J. Swett

District 2

Anthony M. Olenik
Thomas A. Pinkham IV
Jason Rogan
Lara L. Spinelli

District 3

Chris C. McComb
Jon M. Sonstebly
Mary Ann Susavidge

District 4

Joseph P. Blackford
Steven R. Harper
Suzette Morales
Russell L. Werneth

District 5

David J. Cowan Jr.
Meghan C.
Ferrall-Fairbanks
Josuan Hilerio-Sanchez

District 6

Andrew I. Doyka
Ellen S. Styles

District 7

Michael J. Hand III
Lauren H. Logan
Warren C. Roos
Tonya J. Whitehead

District 8

Bruce J. DeVantier
Teresa Hutton
Thomas F. Schaub Jr.

District 9

Cody Johnson
Raymond P. LeBeau

District 10

Madison R. Herman
Dusty L. O'Day Jr.
Jose E. Suarez

District 11

Christina M. Harrison
James C. Hill

District 12

George K. Miyata
Gregory M. Newcomb
Matthew T. Pittard
Dakota Roberson

District 13

Maddie Sciuolo Esposito
C. Christopher Stemple

District 14

Jan A. Keiser
Jeff S. Zola

District 15

Aaron R. Alpert
Daniel T. Kruusmagi
Christopher W. Potts

District 16

Neal T. Bussett
Melissa L. Morris
Sam Rokni

ENGINEERING FUTURES FACILITATORS:

District 1

Mike D. Czebatul
Stephen K. Kramer

District 2

Annette M. Brenner

District 3

Christie R. Hasbrouck
Chris C. McComb

District 4

Joseph P. Blackford
Richard Della Rovere

District 5

None

District 6

R. Tracy Choat
Wendy A. Harper
Ellen S. Styles

District 7

Y. Andy Boucher
Dirk J. Colbry
Kathleen L. Colbry

District 8

Matthew W. Ohland

District 9

Timothy J.F. Luchini

District 10

Stewart R. Baskin
Nancy F. Gray
Kirstie T. Weimer

District 11

Amy C. Kurr
Angadbir Sabherwal

District 12

Wayne B. Paugh

District 13

William P. Cleveland
Dennis J. Tyner

District 14

Cheryl Cheng
Jan A. Keiser
Felipe A. Leon
Dennis A. Negron Rivera
Russ W. Pierce

District 15

Yue C. Chang
Stephan L. King-Monroe

District 16

Scott V. Eckersall

initiation rates. Chapter Project Awards were presented to 29 chapters for ingenuity and creativity in activities.

MEMBER AWARDS

The 2020 Outstanding Advisor was selected by a committee of past winners: B.L. Walcott, Ph.D. (chair); A.M Richards, Ph.D.; and R.L. Ward, Ph.D., P.E. The recipient of a \$1,000 cash award and an equal sum to be presented to her dean's discretionary fund is Amy L. Kaleita, Ph.D., P.E., *PA B '97*, Iowa Alpha's Advisor. [See page 10.]

The alumnus recognition selection committee consists of three District Directors: R.P. LeBeau, Ph.D., P.E. (chair); D.T. Kruusmagi; and S. Morales. They were charged with selecting the recipients of the TBP-McDonald Mentor Award and the Distinguished Alumnus Award. The 2020 TBP-McDonald Mentor will be presented to Dean S. Papajohn, Ph.D., P.E., *IL A '85*. The 2020 Distinguished Alumnus Awards will be presented to Maj. Gen. Jerry D. Holmes, USAF (ret.), *OK A '58*; Paul D. Plotkowski, Ph.D., *MI O '80*; Ronald W. Rousseau, Ph.D., *LA A '66*; and Dale W. Zimmerman, P.E., *FL A '65*. [See pages 12-14.]

The 2020 Laureates were selected by a committee of three District Directors: C.C. McComb, Ph.D. (chair); M.C. Ferrall-Fairbanks, Ph.D., and M.L. Morris, Ph.D. They

chose two Laureates from six nominations made by six chapters. The 2020 Laureates are Kevin Ptak, *SD A '19*; and Natalie J. Turco, *NY Σ '20*. [See page 11.]

During the year, the Executive Council gave 31 Resolutions of Appreciation and 5 Distinguished Service Awards to collegiate chapter advisors and Association Officials for service to TBPI.

PROGRAMS

Eight districts held at least one in-person conference last year while the remaining eight held virtual meetings following the COVID-19 outbreak. Districts met during the 2019 Convention and directors visited many chapters during the year. The Executive Council continued suspension of the June Meeting of Association Officials to reduce expenses.

ENGINEERING FUTURES

The Engineering Futures Program presented 104 training sessions at 47 collegiate chapters to 1,772 individuals by 31 volunteer facilitators to develop the leadership skills of student members during 2019-20. The COVID-19 pandemic suspended sessions during the spring semester. New virtual sessions are coming this fall to continue this award-winning program that helps prepare engineering students for their careers.

FELLOWSHIPS

The 87th fellowship group, comprising 30 students, all with financial support, will do graduate work in 2020-21 and was announced in the Summer 2020 *Bent*. Fellows with financial support are paid \$10,000 each.

GRANTS

The Council made no grant under either the Greater Interest in Government (GIG) and the Student Assistance Programs.

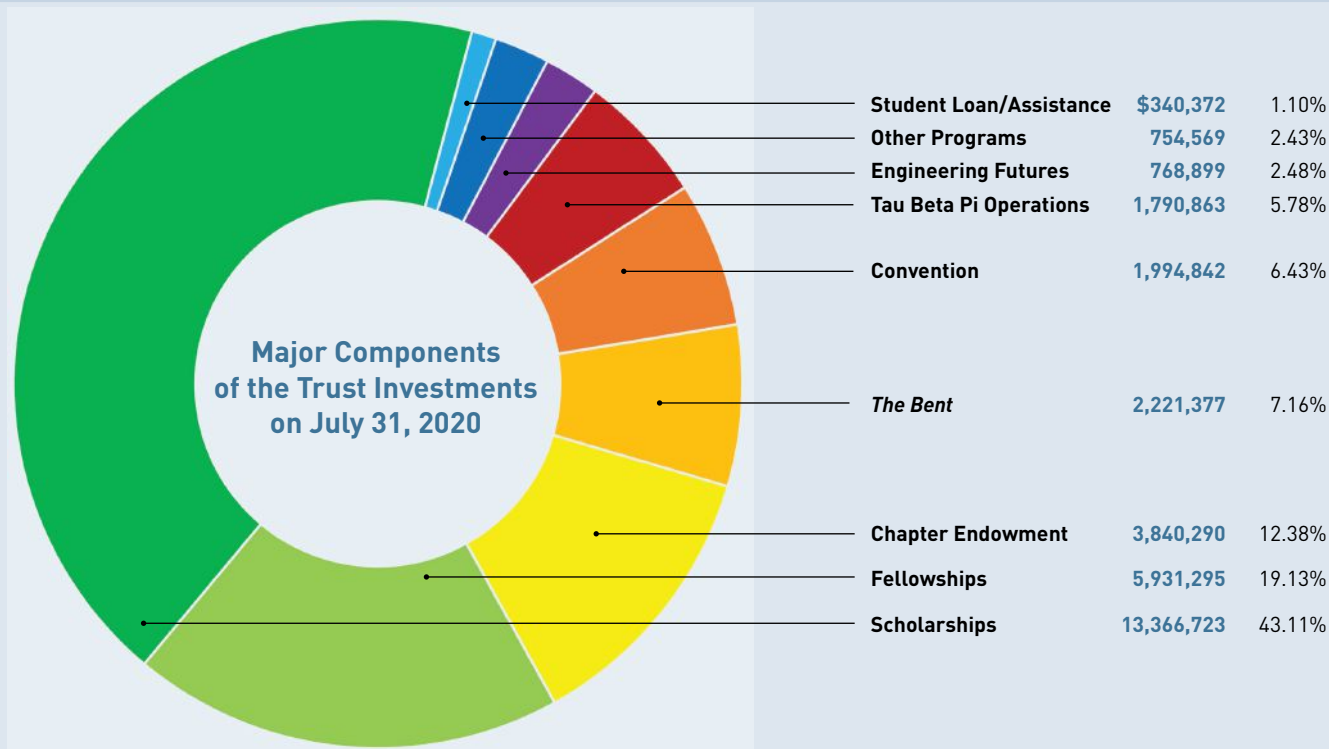
MINDSET PROGRAM

MindSET promotes the support of math and science programs that contribute to enhanced preparation of STEM students in the K-12 system. Over 20 TBPI chapters hosted hands-on activity sessions with local schools. At the close of the fiscal year, nearly 10,000 elementary, middle, and high school students had participated in MindSET sessions.

In 2019-20, three grants totaling \$834 were issued to three chapters for MindSET projects. In addition, 24% of collegiate chapters report participating in K-12 and tutoring activities last year.

SCHOLARSHIPS

The 22nd group of 282 TBPI Scholars, who will complete their undergraduate engineering studies in 2020-21, are announced in this issue. [See page 22.] All scholars



receive a cash grant of \$1,000 or \$2,000 for their senior academic year. Since the program began in 1998, Tau Beta Pi has given and committed more than \$6.57 million to 3,368 students.

In the TBPI Chapter Performance Scholarship Program, \$7,000 in scholarships were available to students selected by 14 chapters.

Seven \$1,000 scholarships were funded by the Society (for a 22-year total of 137) in 2020-21 for incoming freshman engineering students through the national program conducted by the Society of Automotive Engineers (SAE).

FINANCES

The financial condition of TBPI at the close of the fiscal year was strengthened by unrealized gains in the trust as well as strong levels of dividends and distributed capital gains. Excess revenue over expenses was \$2,339,000. Assets increased in 2019-20 by \$2,515,000 to a total of \$33,187,000.

FINANCIAL POSITION STATEMENT

The several named trust funds are commingled and invested under the jurisdiction of the TBPI Trust Advisory Committee. The trustee is the trust department of the PNC Bank in Cleveland, OH, and performed satisfactorily during the year.

Investment earnings of the funds, less trustee fees and including capital gains, are used for the purposes indicated by the fund titles: paying fellowship and scholarship stipends, paying for *Bent* magazines delivered to life subscribers, paying project grants to chapters in the MindSET and Greater Interest in Government Programs, supporting the Convention, and financing many useful activities of the collegiate chapters. A breakdown of the portion of the trust for each major program area is shown to the left. Overall, net earnings of the investments, including security sales and market gains, were 7.0%; the previous year's figure was -0.4%. Paid investment earnings were \$1,337,000; net investment market gains were \$669,000.

Securities held by the trustee on July 31, 2020, are carried at market value of \$31,009,000, an increase of 8.7% from the previous year, and comprise holdings in 14 non-overlapping, no-load mutual funds. Equity securities constituted 90% of the total trust funds.

The current liability in fellowships and

scholarships is for those stipends committed in 2019-20 for payment in 2020-21 to student recipients. The 2020 Convention liability includes the assessments paid by new initiates during the year and \$25,000 in gifts from corporate and university sponsors. The deferred *Bent* subscription liability is for both annual subscriptions and the four-year subscriptions for new members included in the Association's initiation fee. The liability for delivering future magazines under four-year subscriptions is entered on the books at the time of initiation.

The decrease in *Bent* life subscription liability was countered by 57 new life subscribers. Life subscription fees are recorded as a liability because of the commitment against the annual earnings of those fees to pay for copies of *The Bent* to be delivered. This liability represents the total value of all life subscriptions in force on July 31, 2020, at their enrollment-fee prices, less an actuarial proportion of \$1,335,000 recognized as revenue since 2004. Upon the death of a life subscriber, their paid fees are transferred on the books to the Fellowship Fund and are reported as revenue.

The net assets of the Association increased by \$2,339,000 mainly due to the increase of value of investments of \$2,479,000 which was partially offset by an increase in current liabilities of \$120,000. A subsidiary report details the changes during the year in individual funds, which posted favorable results due to market increases.

STATEMENT OF ACTIVITIES

Chapter and initiation fees (shown less *The Bent* subscription and Convention support) decreased by \$44,000 primarily due to a lower number of initiates.

Convention revenue consists of assessments for the 2019 Convention, \$78,000 in gifts, and \$92,000 from alternate delegates and visitors.

Bent publication revenue decreased by \$64,000 due to reduced recruitment advertising and premature realization of 4-year subscription revenue in 2018-19; expenses rose by \$3,000 due to increased printing and mailing costs. Total investment earnings and market gain on the Life

Subscription Fund increased by \$171,000. In 2019-20, the invested fund gained \$0.68 per life copy delivered, compared with the previous year's loss of \$0.04. Expenses per life copy exceeded revenue by \$0.28, versus last year's loss of \$0.96 per copy.

The total of interest and dividends in 2019-20 decreased by \$1,512,000. The net gain on investments was \$670,000 reflecting reported changes in market value.

The 11 major chapter programs (denoted with a (C) in front of their name under Expense) usually reflect an operating loss. Convention expenses dropped by \$100,000 and include the cost of attendance by one student delegate from each collegiate chapter, alternate delegates, alumnus delegates, chapter advisors, and visitors—but not by Association Officials. Part of the decrease reflects a less expensive Convention location.

Expenses for fellowships and scholarships decreased by \$63,000 because less scholarships and fellowships were given. Revenue for these awards includes matching gifts from corporations, alumni contributions specifically earmarked by donors, and trust earnings. Fellowships and scholarships comprise the major philanthropic program of the Society—made possible by gifts from alumni, friends, and participating corporate firms.

CONTRIBUTIONS FROM ALUMNI

Total contributions and bequests increased by \$863,000 during the fiscal year. An increased number of designated gifts for scholarships and fellowships along with several sizable bequests account for most of this increase. Support by alumni amounted to gifts totaling \$2,268,000 (up 58.6%) from 9,612 donors (up 8.0%),

The Top 10 Fellowship and Scholarship Funds by Value on July 31, 2020

FUND	2020	2019
Record Scholar/ Fellow Fund..	\$6,027,000	\$5,909,000
Stabile Scholarship Fund.....	4,972,000	4,868,000
TBP Fellowship Fund	2,545,000	2,411,000
Forge Scholarship Fund.....	532,000	524,000
Anderson Fellowship Fund	422,000	414,000
Dodson Scholar/Fellow Fund.....	415,000	400,000
Stark Fellowship Fund	416,000	398,000
Best Fellowship Fund.....	395,000	370,000
Zimmerman Fellowship Fund.....	341,000	329,000
Hennis Fellowship Fund.....	298,000	197,000

The Tau Beta Pi Association Statement of Financial Position on July 31, 2019 and 2020

ASSETS

CURRENT ASSETS:	2020	2019
Cash and Cash Equivalents	\$ 629,022	\$ 594,751
Accounts Receivable		
Chapters	53,202	78,809
Student Loans	18,647	18,071
<i>The Bent</i> Life Sub. Installments	3,130	3,908
Pledges	378,642	393,171
Trust Contributions	0	2,000
Other	4,639	21,453
Total Receivables	458,260	517,412
Inventory	92,311	60,821
Split-interest Agreements, current portion	84,182	84,354
Prepaid Expenses	61,727	42,109
Total Current Assets	\$1,325,502	\$1,299,447
DEPRECIABLE:		
Furniture and Equipment	162,227	144,692
Less Accumulated Depreciation (128,088)	(128,088)	(115,027)
Total Depreciable	\$41,139	\$29,665
OTHER ASSETS:		
Investments	31,022,884	28,543,095
Split-interest Agreement, net of current portion	797,822	799,451
Total Other Assets	\$31,820,106	\$29,342,546
TOTAL ASSETS	\$33,186,747	\$30,671,658

LIABILITIES + NET ASSETS

CURRENT LIABILITIES:	2020	2019
Accounts Payable		
Chapters	\$ 29,708	\$ 19,973
Laureate Awards	11,000	14,000
Fellowships/Scholarships	882,300	937,160
Other	44,354	11,314
Accrued expenses	69,887	56,852
Deferred Convention revenue	96,970	146,430
Deferred <i>Bent</i> revenue, cur.	89,225	110,534
Annuities payable, cur. portion	33,037	26,137
Bank Loan	185,700	0
Total Current Liabilities	\$1,442,361	\$1,322,400
<i>The Bent</i> Deferred sub. revenue	110,001	78,535
<i>The Bent</i> life subscriptions	1,053,425	1,070,507
Annuities payable, net of cur. portion	160,832	118,995
Total Long-term Liabilities	\$1,324,258	\$1,268,037
TOTAL LIABILITIES	\$ 2,766,619	\$ 2,590,437
NET ASSETS:		
Unrestricted:		
Undesignated	504,022	374,492
Designated	9,143,216	8,153,771
Donor restricted	20,772,889	19,552,508
TOTAL NET ASSETS	\$30,420,127	\$28,081,221
TOTAL LIABILITIES & NET ASSETS	\$33,186,746	\$30,671,658

including 308 donations from new donors (down 16.1%). Unrestricted giving totaled \$1,179,000 from 9,521 donors versus \$1,020,000 last year from 8,816 donors. Their names were published in each issue of *The Bent*. Included in the total is \$35,000 allocated to the Fellowship and Scholarship Programs from 269 gifts received from 70 of the 309 companies that match gifts from employees.

The Society discontinued its affiliation with the CFC in 2017 due to increased expenses which will have negatively impacted the funds. Tau Beta Pi still received over \$650 in CFC support this year.

INITIATION FEES

Tau Beta Pi's low Association initiation fee covers the cost of the official badge, membership certificate, copies of the Constitution and Bylaws and Information Book, and a four-year subscription to *The Bent*. The initiation fee has been \$55 since August 1, 2016, and includes \$10 that is used for partial support of the annual Convention.

STUDENT LOANS

Two new loans were made to members in 2019-20. One loan was repaid, none were written off during the year, leaving 11 outstanding on July 31, 2020, with a principal balance of \$18,647. Since inauguration in 1932 of the program, 1,805 loans have been made to student members for a total of \$908,575.

PUBLICATIONS

During 2019-20, the four issues of *The Bent* contained a total of 208 pages and 377,000 copies were delivered to paid subscribers. This represents a decrease of 8,000 paid copies compared to the previous year's circulation total. Engineering and graduate-school recruitment advertising for the year totaled 3.5 pages, a 75% increase from the previous year. Total production cost of the magazine per paid copy was \$0.96, up from \$0.92 the preceding year.

New *Bent* life subscribers numbered 57 (down from 90), bringing total life subscriptions to 80,621. Of all the life subscribers enrolled since 1929 when the

plan was instituted, 15,494 are deceased, and their fees totaling \$441,663 have been transferred to the Fellowship Fund in accord with the Constitutional requirement.

An average of 19 copies per issue in 2019-20 was delivered to annual renewal subscribers, 34,662 copies to original four-year subscribers, and 59,467 copies to life subscribers, for a total of 94,207 paid copies per issue. The total number of paid copies for the Summer 2020 *Bent* was 93,770.

The Association is indebted to the alumni who serve as judges and writers of the Brain Ticklers column: G.M Gerken, J.C. Rasbold, J.R. Stribling, Ph.D., and F.J. Tydeman. A special thanks goes out to H.G. McIlvried III, Ph.D., who retired as a Brain Ticklers judge after 60 years of service!

THE BULLETIN

During 2019-20, the four issues contained a total of 41 pages and no copies were printed. All issues are available on the website. Published chiefly for sharing

The Tau Beta Pi Association

Statement of Activities

For The Year Ended July 31, 2020

For The Year Ended July 31, 2019

Revenue:

	DONOR UNRESTRICTED	DONOR RESTRICTED	TOTAL
Initiation and chapter fees and fines	\$ 243,471	0	\$243,471
Chapter and individual sales	122,480	0	122,480
Contributions and bequests	2,077,751	703,689	2,781,440
Convention	256,054	0	256,054
<i>Bent</i> publication	84,858	0	84,848
Net life subscription fee transfer	21,727	0	21,727
Student loan interest	776	0	776
Miscellaneous/ Net gain on equipment sales	26,495	19,000	45,495
Interest and dividends	482,403	896,832	1,349,235
Net gain (loss) on investments	242,483	427,952	670,435
Change in value of split-interest agreements	0	(1,801)	(1,801)
Net assets released from restrictions	825,292	(825,292)	0
TOTAL REVENUE	\$4,383,790	1,220,380	\$5,604,170

	DONOR UNRESTRICTED	DONOR RESTRICTED	TOTAL
Initiation and chapter fees and fines	\$287,644	0	\$287,644
Chapter and individual sales	185,876	0	185,876
Contributions and bequests	1,205,170	713,114	1,918,284
Convention	267,158	0	267,158
<i>Bent</i> publication	148,930	0	148,930
Net life subscription fee transfer	21,940	0	21,940
Student loan interest	1,490	0	1,490
Miscellaneous/ Net gain on equipment sales	35,167	1,000	36,167
Interest and dividends	1,041,511	1,819,317	2,860,868
Net gain (loss) on investments	(1,080,657)	(1,816,118)	(2,896,775)
Change in value of split-interest agreements	0	20,330	20,230
Net assets released from restrictions	795,089	(795,089)	0
TOTAL REVENUE	\$2,909,358	(\$57,546)	\$2,851,812

Expense:

	DONOR UNRESTRICTED	DONOR RESTRICTED	TOTAL
Program Services			
(C) Advisor and Award Programs	\$26,828	0	\$26,828
Alumni Program	57,443	0	57,443
Alumnus Recognition Programs	5,164	0	5,164
<i>Bent</i> publication	350,403	0	350,403
(C) <i>Bulletin</i> production	21,167	0	21,167
(C) Chapter and initiate supplies	339,068	0	339,068
(C) Convention	527,528	0	527,528
(C) Cost of chapter and individual sales	142,365	0	142,365
(C) District Program	150,067	0	150,067
(C) Engineering Futures Program	84,853	0	84,853
Fellowship & Scholarship Programs	945,617	0	945,617
(C) Greater Interest in Government Program	5,542	0	5,542
(C) K-12 MindSET Program	31,922	0	31,922
(C) Laureate Program	11,722	0	11,722
(C) Student Assistance Program	2,394	0	2,394
Student Loan Program	6,691	0	6,691
TOTAL PROGRAM SERVICES	\$2,709,364	0	\$3,709,364
General + Administrative	307,613	0	307,613
Alumni Giving Program	248,285	0	248,285
TOTAL EXPENSES	\$3,265,262	0	\$3,265,262

	DONOR UNRESTRICTED	DONOR RESTRICTED	TOTAL
Program Services			
(C) Advisor and Award Programs	\$27,805	0	\$27,805
Alumni Program	58,705	0	58,075
Alumnus Recognition Programs	6,043	0	6,043
<i>Bent</i> publication	353,471	0	353,471
(C) <i>Bulletin</i> production	21,433	0	21,433
(C) Chapter and initiate supplies	374,390	0	374,390
(C) Convention	627,329	0	627,329
(C) Cost of chapter and individual sales	168,240	0	168,240
(C) District Program	228,619	0	228,619
(C) Engineering Futures Program	122,290	0	122,290
Fellowship & Scholarship Programs	1,008,935	0	1,008,985
(C) Greater Interest in Government Program	5,403	0	5,403
(C) K-12 MindSET Program	34,586	0	34,586
(C) Laureate Program	14,657	0	14,657
(C) Student Assistance Program	2,378	0	2,378
Student Loan Program	6,538	0	6,538
TOTAL PROGRAM SERVICES	\$3,060,192	0	\$3,060,192
General + Administrative	301,564	0	301,564
Alumni Giving Program	255,612	0	255,612
TOTAL EXPENSES	\$3,617,368	0	\$3,617,368

Change in Net Asset:

	DONOR UNRESTRICTED	DONOR RESTRICTED	TOTAL
Net assets, beginning of year	\$8,528,712	\$19,552,508	\$28,081,220
Net assets, end of year	9,647,240	20,772,888	30,420,127
CHANGE IN NET ASSETS	\$1,118,528	\$1,220,380	\$2,338,908

	DONOR UNRESTRICTED	DONOR RESTRICTED	TOTAL
Net assets, beginning of year	\$9,236,723	\$19,610,054	\$28,846,777
Net assets, end of year	8,528,713	\$19,552,508	\$28,081,221
CHANGE IN NET ASSETS	(\$708,010)	(\$57,546)	(\$765,556)

information with student members, officers, and advisors of the collegiate chapters, the newsletter is a valuable means of exchanging project ideas and distributing advice and guidelines related to chapter operations.

OTHER COMMUNICATIONS

New editions of the Constitution and Bylaws and Eligibility Code and the Information Book were printed in August 2019 and November 2018, respectively. Other brochures and materials were updated and reprinted throughout the year.

Tau Beta Pi's presence on social media continued to increase. Over 30,400 members are part of our LinkedIn group, 1,206 people follow @taubetapi on Twitter, 4,730 people "like" TBI and 644 people are in the "Tau Beta Pi for Members" group on Facebook, and over 2,000 people read our blog with daily news over 3,000 times last year. The website has received over 94 million visits since its creation and contains a wealth of information about the Society. A new recruiting website was launched in 2020 which is the default landing site when you visit tbp.org to find the latest news!

CURTIS D. GOMULINSKI, *Michigan Epsilon '01*, is the Executive Director of The Tau Beta Pi Association. He is the fourth member to hold this position. Curtis has a bachelor's degree in electrical engineering from Wayne State University and a master's degree in computer science and engineering from the University of Michigan.

CHAPTER ETERNAL

Our fellow Tau Bates who are gone, but never forgotten.

The condensed style of these notices is made necessary by the Association's large membership and space limitations in *The Bent*. You may contact the Editor for additional facts (if available) concerning the following deceased members. The assistance of all is earnestly sought in reporting the deaths of Tau Bates, including date of death and full name. You may report the death of a member by sending an email to tbp.chapter.eternal@tbp.org. Thank you to all who assisted with locating Chapter Eternal records. **This larger list is a result of deceased names provided from a recent Proprietary Change of Address Report (PCOA).**

WOMEN'S BADGE

Pincha, Elizabeth Mary, Jan. 19, 2020.

ALABAMA

ALPHA AL A

Webb Jr., Broda Homer, '48, March 13, 2003.
Dixon, William Francis, '49, no details.
Burkhardt, Joseph Avery, '51, July 12, 2014.
Ferwerda, David Ramon, '56, May 8, 2011.
Ballard, Robert Scott, '63, Oct. 1, 2017.
Carson, Elmer Bruce, '63, Sept. 18, 2004.
Sjolund, David Carl, '67, Sept. 14, 2018.
Thornhill, David Delus, '69, no details.
Mayberry, Vanessa L., '83, April 13, 2015.

BETA AL B

Burnum, John Francis, '44, August 5, 2005.
Morrow, Keith Arthur, '48, Feb. 24, 2006.
Belcher, Lloyd Robert, '49, June 19, 2007.
Deep, Raymond A., '49, April 29, 2020.
Blackburn, Lowry, '50, no details.
Lynch Jr., William Winston, '58, no details.
Cardy, Robert B., '59, March 15, 2008.
Brasher, James Alan, '62, no details.
Brooks, Donald Raymon, '67, June 1, 2002.
Guillebeau, Cynthia A., '82, Nov. 16, 2011.

DELTA AL Δ

Thompson, Jimmy Lee, '81, no details.

ARIZONA

ALPHA AZ A

Rubel Jr., Frederick, '54, January 7, 2010.
Randolph, Jane O., '55, November 12, 2018.
Perkuhn, Richard Gardner, '56, no details.
Sevier, John R., '56, February 27, 2002.
Brousseau, Leo Roy, '57, no details.
Stiver Jr., Willard Carl, '58, no details.
Matlock, William Gerald, '59, May 31, 2020.
Senesac, Frank Edward, '59, July 28, 2010.
Haugen, Edward Benard, '62, no details.
Turner, David Arlen, '62, no details.
Yaziji, Habib M., '63, no details.
Naegle, John Marion, '70, June 26, 2011.
Dong, Eugene Kirk, '71, no details.
Perkins, Susan Jo, '93, October 12, 2010.
Pickrell, Chris L., '98, March 5, 2001.

BETA AZ B

Ditsworth, Richard Lee, '49, March 8, 2007.
Claspell, Ogal Burdett, '66, June 26, 2019.

GAMMA AZ Γ

Williams, Powell D., '99, March 10, 2005.

ARKANSAS

ALPHA AR A

Hicks, Henry Holbard, '43, no details.

Dyke, Martin Trester, '46, Dec. 9, 2009.

Keller, John Walter, '46, October 12, 2016.

Crenshaw, James Hugh, '47, no details.

Lueg, Russell, '51, June 19, 2009.

Finley, Roland Leon, '52, August 9, 2015.

Ferguson, James Lee, '58, April 7, 2007.

David, Larry Gene, '60, August 9, 2019.

Davison, Edward Weston, '60, Feb. 20, 2015.

Cox, C. L., '61, January 6, 2011.

Brandt, Edward Oliver, '63, January 1, 2008.

CALIFORNIA

ALPHA CA A

Platt, Ethan Allen, '51, May 22, 2020.

Laufenberg, Clemens J., '60, July 1, 2007.

Luders, Dave Henry, '60, May 3, 2015.

GAMMA CA Γ

Brewster, Jack Irvin, '38, no details.

English, Alan Taylour, '56, October 21, 2016.

Schwing, Richard Edward, '56, May 5, 2011.

Offen, George Richard, '61, no details.

Njoroge, Njuguna, '01, November 7, 2008.

DELTA CA Δ

Drummond, James Evan, '50, no details.

Braxton, Eugene Green, '58, Oct. 13, 2017.

Sidharta, Johan, '87, no details.

EPSILON CA Ε

Ambrosio, Alphonso, '49, March 20, 2016.

Adamson, Leslie Hugh, '60, Jan. 31, 2015.

Parker, Paul Warren, '62, no details.

Lowry, Robert Emerson, '74, no details.

ETA CA Η

Larson, Robert Dale, '57, no details.

Bass, Jimmie Odell, '59, January 5, 2009.

Culver, Franklin Clinton, '59, Sept. 16, 2017.

Ferris Sr., Arden Will, '59, October 11, 2008.

Aldrich, Richard Arthur, '61, Aug. 25, 2002.

Intorf, Duane Leroy, '63, July 29, 2002.

Sullivan Jr., William B., '66, Feb. 9, 2006.

Garrett, Richard James, '75, Oct. 24, 2009.

Hurst, Donald E., '86, April 15, 2000.

THETA CA Θ

Hoard, James A., '75, no details.

Bui, Thanh Tan, '82, November 4, 2009.

Geister, Peter Raymond, '87, May 20, 2018.

IOTA CA Ι

Wilkniss, Ronald Roy, '66, no details.

Youngblood, Terry Lee, '66, March 8, 2020.

Worley Jr., Ernest Floyd, '68, Oct. 18, 2007.

Hlawaty, Horst, '70, November 4, 2017.

Gregg, Robert Jeffrey, '71, May 31, 2020.

Arroyo, Manuel Angel, '75, no details.

KAPPA CA Κ

Gilbert, Clarence R., '65, Jan. 26, 2002.

Vinh, Frank Tan, '89, no details.

MU CA Μ

Schaefer, Thomas Paul, '95, July 28, 2001.

NU CA Ν

Hung, You-Tsai, '56, August 7, 2005.

Mrochek, John Gerald, '73, Nov. 11, 2010.

Sink, John Davis, '80, no details.

Hah, John Chong, '88, January 29, 2013.

XI CA Ξ

Curtis, John A., '71, no details.

OMICRON CA Ο

Montagna, Joseph Frank, '56, Aug. 6, 2019.

Gimlich, Gary William, '78, August 25, 2006.

RHO CA Ρ

Leber, Mark Douglas, '79, no details.

Piombino, Russell, '81, no details.

Woodcox, Mark A., '86, November 28, 2011.

COLORADO

ALPHA CO A

Buehler, Karl Martin, '42, no details.

Burch, William Lee, '44, May 11, 2020.

Cross, James Russell, '49, June 20, 2020.

Barger, Dwight Francis, '61, June 29, 2016.

Schuler, Marvin Dan, '63, no details.

Bloomquist, Charles W., '70, June 1, 2019.

Casady, Mark G., '78, October 10, 2018.

BETA CO B

Mallory, Warren Merrill, '41, Jan. 6, 2002.

Wilson, Paul Homer, '41, no details.

Scruby, Ralph Edwin, '45, no details.

Smith, Donald E., '46, April 21, 2002.

Potochnik, Frank S., '50, June 26, 2020.

Anderson Jr., Milton D., '56, Feb. 16, 2007.

Stanley, James Clayton, '58, July 3, 2001.

Willard, Daniel Justin, '71, no details.

GAMMA CO Γ

Malmstrom Jr., John Arvid, '72, no details.

DELTA CO Δ

McMullen, Kenneth Charles, '80, no details.

CONNECTICUT

ALPHA CT A

Schneider, Gerhart R., '43, Feb. 24, 2000.

Bronson, Gordon, '47, no details.

Taggart, Curtis David, '49, October 22, 2005.

Brady Sr., Charles, '50, June 6, 2015.

Lipman, William Frank, '50, no details.

Perry, James Hammond, '50, Aug. 29, 2004.

Fitzmaurice, Daniel J., '51, Dec. 7, 2006.



Illinois Alpha '55
Thomas O. Haig
 March 15, 2020

Retired U.S. AF Colonel has been called by some "the Father of the Air Force Weather Satellite Program."



New York Epsilon '47
Sidney S. Shamis, Ph.D.
 December 07, 2008

IEEE Education Society Meritorious Service Award (1986), wrote scholarly papers, and was a TBPI volunteer.

Baysinger, Hugh Alan, '60, February 2, 2012.
 Gould, Allen Judson, '63, no details.
 Engelbrecht, Rolf J., '74, April 21, 2008.

BETA CT B

Richard, William Edward, '54, May 6, 2020.
 Peralta, Joseph Louis, '57, October 5, 2012.
 Torrance, James Herbert, '57, no details.
 Lavoie, Julien Joseph, '59, March 11, 2011.

DELAWARE

ALPHA DE A

Weldin, Thomas Downham, '42, no details.
 Moore Jr., Ralph Leslie, '50, Oct. 9, 2011.
 Schwartz, Jules Jacob, '53, Feb. 29, 2016.
 Rizzo, Rudolph Rich, '58, no details.
 Bower, George Ronald, '62, Jan. 17, 2020.
 Law, Henry George, '63, Sept. 19, 2009.
 Murray, William Grier, '75, no details.

DISTRICT OF COLUMBIA

ALPHA DC A

Minor Jr., Joseph Albert, '52, no details.
 Britton, George L.F., '58, Sept. 28, 2006.
 Marius, Kenneth A., '60, April 10, 2001.
 Paul, Arthur Sanderson, '72, no details.
 Campbell, Knolly F.C., '73, July 28, 2001.

BETA DC B

Boehler, Gabriel D., '48, June 16, 2005.
 Castro, Dale, '73, no details.
 Hocker, Thomas Marshall, '80, no details.

GAMMA DC I

Sullivan, Gerald Joseph, '74, Feb. 6, 2005.
 Farkas, William Ross, '77, Nov. 25, 2003.

FLORIDA

ALPHA FL A

Haltiwanger Jr., Hugh J., '49, April 2, 2008.
 Baxley, Alvin R., '50, no details.
 Williams Jr., Edwin Gex, '51, May 12, 2017.
 Bagwell, Claude Ellis, '63, March 22, 2020.
 Krueger, Reginald Clark, '71, no details.
 Darlow, Mark Sandor, '80, no details.
 Dunlap, James Hugh, '81, June 9, 2008.
 Luoma, Mark Adrian, '81, July 10, 2004.
 Cordoba, Juan Carlos, '93, June 8, 2007.

BETA FL B

Blume, Michael Henry, '62, March 15, 2007.

GAMMA FL I

White, Roger John, '74, October 29, 2014.
 Hammel, Eva, '86, December 27, 2005.

DELTA FL A

Messerschmidt, Steven, '95, Sept. 21, 2013.

EPSILON FL E

Dymtrow, John Damian, '94, Oct. 15, 2007.

GEORGIA

ALPHA GA A

Scaife, William Perry, '46, Nov. 27, 2000.
 Culgan, John McDonald, '48, no details.
 Mabry Jr., George Cecil, '48, no details.
 Warlick, William Clark, '49, Sept. 23, 2004.
 Gordon, Louis, '50, August 16, 2003.
 Ramsay, Robert Speer, '50, October 7, 2006.
 Blatner, Walter Cordray, '51, Feb. 15, 2001.
 Cannon, Robert E., '51, March 14, 2007.
 Motsinger, Stanley Dale, '51, July 19, 2017.
 Perkins Jr., Frank A., '51, Sept. 15, 2017.
 Unkefer, Robert Warren, '51, Jan. 6, 2016.
 Chenoweth, Robert G., '53, Dec. 18, 2016.
 McClellan, Robert Glyn, '53, Dec. 18, 2000.
 Davis, Billy Rupert, '54, March 16, 2015.
 Love, Max Henry, '54, no details.
 Winn, Robert Edward, '55, January 17, 2004.
 Haynes Jr., James E., '56, April 4, 2007.
 Hyman, Nelson L., '58, Dec. 24, 2015.
 Maynard, Charles Nelson, '58, Oct. 15, 2014.
 Talentino, James Prescott, '59, Dec. 6, 2013.
 Ingle Jr., Rex Webster, '60, April 22, 2020.
 Wallace, James Robert, '61, May 11, 2016.
 Chavis, Lenzo Hayworth, '62, Jan. 3, 2003.
 Mickler, Brian Ellis, '63, no details.
 Smith, William Franklin, '63, no details.
 Whitehead, Mather Foy, '63, Dec. 31, 2012.
 Outlaw, Douglas Grey, '66, April 13, 2010.
 Losson, Thomas Richard, '67, no details.

ILLINOIS

ALPHA IL A

Krauklis, Julius John, '41, March 11, 2003.
 Pearl, David Raymond, '41, no details.
 Harder, John Richard, '44, October 5, 2000.
 Luza, James Joseph, '44, October 7, 2010.
 Hayes, Robert Richard, '45, no details.
 Ruesch, Earl Gordon, '48, no details.
 Sechrest, Charles Harry, '48, Oct. 27, 2007.
 Everitt, Bruce Wallace, '50, Sept. 27, 2005.
 Mottershaw, William J., '50, April 15, 2006.
 Susman, Charles, '50, no details.
 Wittmuss, Gunther Karl, '50, April 26, 2002.
 Ore, Fred Robert, '51, January 6, 2011.
 Stein, James S., '51, no details.
 Barmes, Billy Harold, '52, June 9, 2020.
 Costello, George Albert, '55, Nov. 19, 2003.
 Haig, Thomas O'Regan, '55, March 15, 2020.
 Kimball, Orville Fred, '55, no details.
 Young, James Ralph, '56, June 30, 2018.
 Kessel, David Joseph, '57, no details.
 Sentman III, Lee H., '58, March 10, 2010.
 Spokas, Francis J., '58, January 8, 2010.
 Bailey, Edward Windsor, '60, July 24, 2010.
 Herner, James Philip, '63, June 18, 2004.
 Gannaway, Michael Lynn, '69, Nov. 22, 2002.
 Hyatt, John Ernest, '87, August 3, 2003.

BETA IL B

Voorhaar Jr., Frederick R., '58, no details.
 Maddox, Collier Lee, '59, January 26, 2001.
 Zabransky, Robert Frank, '62, Aug. 13, 2010.

GAMMA IL I

Taylor Jr., Richard Edgar, '45, Feb. 17, 2012.
 Gordon, William T., '46, Jan. 18, 2000.
 Kunze, Jack Everett, '46, April 25, 2018.
 Blau, Jerome Jack, '48, May 10, 2004.
 Reeve, Thomas Boyce, '48, no details.
 Castro, Peter Salvatore, '51, Jan. 7, 2017.
 Gleason, Newton J., '51, March 12, 2005.
 Morris, Lee Roy, '53, January 16, 2005.
 Pearson Jr., James John, '53, April 25, 2014.
 Wilkins, John Warren, '59, Dec. 6, 2019.
 Reisenleiter Jr., Vernon, '60, June 30, 2006.
 Smith, Howard Wayne, '65, March 23, 2020.

EPSILON IL E

Bohn, Alfred Karl, '83, February 15, 2010.

INDIANA

ALPHA IN A

Schmidt, Louis William, '40, July 16, 2007.
 Bowling, John F., '41, no details.
 Hunter, James P., '41, March 17, 2001.
 Kettenring, Kenneth N., '41, Sept. 9, 2002.
 Lewis, Albert Dale M., '41, June 12, 2004.
 Spraker, Richard Allen, '41, May 18, 2001.
 Ochiltree Jr., Ned A., '42, May 21, 2005.
 Skallerup, Robert Martin, '42, Sept. 2, 2012.
 Orr, Robert William, '43, July 2, 2001.
 Paglee, Mario Robert, '44, no details.
 Truax, Ralph Eugene, '44, no details.
 Cavin Jr., James J., '48, September 2, 2015.
 Taber, Harold, '48, April 23, 2000.
 Bryan, Howard Bruce, '49, no details.
 Hahn, Kent Lemoyne, '49, Sept. 30, 2005.
 Keske, Frank Edward, '49, no details.
 McKeand, Robert W., '49, Dec. 22, 2006.
 Sisson, Donald Ray, '49, October 9, 2009.
 Bibbins, Lance Lackens, '50, Aug. 18, 2016.
 Osborne, John Robert, '50, Dec. 18, 2009.
 Bertsche, George Joseph, '51, no details.
 Coleman, James Martin, '51, no details.
 Evans, Daniel Gilbert, '51, October 5, 2005.
 Royce, Richard Kneeland, '51, Feb. 12, 2010.
 Vest, Robert Wilson, '52, May 20, 2003.
 Wayman, Clarence M., '52, July 29, 2007.
 Rogers, Charles C., '53, Jan. 17, 2004.
 Morgan, William Dudley, '54, Dec. 14, 2000.
 Casey Sr., John Carl, '55, Sept. 1, 2011.
 Hambrook, Harold E., '55, Jan. 17, 2019.
 Albrecht, Robert William, '57, June 6, 2020.
 Anuta, Paul Edward, '57, Sept. 17, 2010.
 Fuller, Dan C., '57, July 4, 2020.
 Lenhart, Russell Eugene, '58, no details.
 Yano, Donald Makoto, '58, April 15, 2012.

CHAPTER ETERNAL

Continued

Bishop, George William, '59, no details.
Jensen, Douglas Warner, '60, no details.
Castetter, Edward K., '61, no details.
Ferrell, John Charles, '61, April 28, 2020.
Kromer, Ronald Charles, '61, Sept. 22, 2010.
Tweedt, Roger Eugene, '62, no details.
Bertram, Lee Alfred, '63, July 28, 2002.
Tollinger, Jeffry Monroe, '65, Feb. 17, 2000.
White, Frederick Ebener, '65, May 5, 2020.
Chandik, Thomas John, '66, May 17, 2020.
Harding Jr., Russell John, '66, Aug. 5, 2007.
Bernard Jr., Albert R., '67, no details.
Somers, James Lavaughn, '67, July 12, 2001.
Henning, Martin Peter, '68, no details.
Halliday, John Carroll, '71, Feb. 13, 2009.
Devenney, James Edwin, '72, Feb. 19, 2006.

BETA IN B

Schmidt, Alfred Russell, '49, Jan. 2, 2007.
Bradley, Henry Eugene, '60, April 10, 2020.
Whitesell, Stephen Reed, '70, Sept. 16, 2018.

GAMMA IN I

Scriba, John Matthew, '57, May 15, 2004.

IOWA

ALPHA IA A

Housman, John Gilbert, '41, no details.
Walseth, Curtis Sanborn, '41, March 4, 2013.
Crawford, Robert Jenkins, '43, Oct. 7, 2007.
Peterson, Stanley A., '43, June 28, 2019.
Thomsen, Leroy M., '45, February 12, 2006.
Liu, Julian Chujen, '48, no details.
Smith, Blair Junkin, '48, no details.
Bittinger, Morton Wayne, '49, Oct. 29, 2001.
Blunck, George Clell, '49, Nov. 19, 2005.
Ver Ploeg, Stanley Carl, '49, Feb. 15, 2007.
Jongedyk, Richard Allan, '50, no details.
Knight, Darrell Eugene, '50, March 18, 2019.
Scruggs, Walter Ellis, '50, April 7, 2006.
Goewey, Richard W., '51, no details.
Stoner, Jerold Eugene, '51, January 10, 2003.
Summers, Lyle James, '53, April 6, 2020.
Blumhagen, Vern Allen, '54, Oct. 27, 2014.
Duncan, Edward Lysle, '54, June 7, 2014.
Covert, Richard Ellis, '62, February 6, 2018.
Katzner, Thomas Joseph, '66, no details.
Miller, Wayne Russel, '66, May 8, 2020.
Doorenbos, Ivan Lee, '69, January 15, 2005.

BETA IA B

Karsten, Everett Emery, '43, April 20, 2012.
Waddell, Joseph Stanton, '44, Feb. 17, 2004.
Holle, Robert Carroll, '51, December 2, 2007.
Wait, John Vary, '55, October 15, 2003.
Deasy, Richard, '58, January 2, 2016.
Herbert, Edward Eugene, '60, Oct. 31, 2007.
Riedesel, Ronald Roger, '72, March 31, 2008.

KANSAS

ALPHA KS A

Becker, Hugo George, '41, no details.

Moore, James Rowan, '41, June 19, 2002.
Rosebush, Kenneth Earl, '41, May 14, 2006.
Walker, Charles William, '42, Sept. 23, 2007.
Nagle, Bernard Matthew, '49, no details.
Oleary, Norman Shaw, '49, May 23, 2002.
Owen, Donald Eugene, '49, January 13, 2003.
Stringer, William L., '49, Oct. 16, 2001.
Roth, Arthur Henry, '50, July 19, 2001.
Arnspiger, Warren Edward, '51, no details.
Merrill, James Edward, '52, July 16, 2006.
Behrmann, William Claus, '53, April 4, 2015.
Edge, Norman Curtis, '53, April 4, 2017.
Jenkins, Lyle Morris, '53, September 2, 2016.
Wigington, Ronald Lee, '53, June 27, 2017.
Bosworth, Gary Lee, '59, no details.
Roberts, Verne Louis, '60, March 18, 2007.
Roberts Jr., James Arnold, '66, Sept. 5, 2011.
Lichty, Stephen Franklin, '74, Nov. 20, 2001.

BETA KS B

Troyer, Donald Eugene, '71, May 1, 2005.

GAMMA KS I

Fast, Jeff Christopher, '95, June 16, 2016.

KENTUCKY

ALPHA KY A

Grimm, Bobby Marshall, '49, June 27, 2020.
Moore, Vernon Lewis, '50, August 19, 2006.
Shelton, Glenn Brandon, '59, Feb. 1, 2020.
Libby Jr., Calvin Russell, '62, Oct. 26, 2008.
Eskew, Thomas Herman, '66, no details.

BETA KY B

Grayson, Calvin Gay, '49, July 4, 2020.

LOUISIANA

ALPHA LA A

Oriolo, Dominick Joseph, '39, no details.
Garner, Mervin Larry, '41, no details.
Cain, Benton Edmund, '49, October 9, 2018.
Creasy, Lawrence Elman, '49, Nov. 24, 2001.
Dykstra, Philip Rouse, '49, June 24, 2020.
Hopper, Lester Earl, '50, December 14, 2003.
Conner, Martin Carriere, '51, Nov. 7, 2018.
Otto, Kenneth Wayne, '51, February 15, 2009.
Rafidi, Jaser Nicola, '51, August 19, 2015.
Anderson, Cedric R., '52, June 25, 2002.
Westbrook, Ezra Jasper, '52, Jan. 6, 2007.
Baird, John Joseph, '53, September 3, 2019.
Ring Jr., William Charles, '67, Feb. 5, 2010.

BETA LA B

Bruce Jr., Robert Nolan, '52, March 21, 2020.
Andrews, James Connie, '60, Jan. 7, 2018.
Cobo, Lionel Michael, '71, no details.

GAMMA LA I

Tickell, Edward Bryant, '50, no details.
Maricelli, Joseph Loyd, '51, Feb. 25, 2005.
Bates, Donald Gene, '56, February 22, 2004.
Bassett, Harold Lane, '59, no details.
DeLoach, Donald H., '59, April 11, 2020.

Hebert, Joel Joseph, '61, February 11, 2008.
Lee, Billy Alford, '61, November 10, 2004.
McMath Jr., Henry Grady, '61, May 27, 2008.
Kircus, John David, '65, no details.

DELTA LA Δ

Baker, Charles Ray, '57, December 29, 2009.
Hebert, Paul S., '62, March 2, 2012.
Hebert Sr., Phillip Wayne, '87, May 16, 2020.

MAINE

ALPHA ME A

Youlden, Richard Howard, '43, no details.
Peake, William H., '46, September 19, 2011.
Dudley, Kenneth Whiting, '49, Sept. 19, 2001.
Libby Jr., Willis Edward, '49, Jan. 25, 2007.
Cole, Sherman Lorenzo, '50, March 5, 2005.
Lilienthal, Arthur George, '50, no details.
Stetson, William E., '50, no details.
Nicol, Arthur Norman, '53, no details.
Perkins, Carl Douglas, '54, no details.
Kraske, Karl Vincent, '57, Sept. 4, 2003.
Wormell, Perley Gordon, '58, July 3, 2005.
Welch, Robert Maurice, '61, no details.
Bridger, Joyce Irene, '87, August 24, 2010.

MARYLAND

ALPHA MD A

Dobler, George Dominick, '41, April 30, 1993.
Shanty, Frank, '43, June 1, 2008.
Clark, Howard Bruce, '44, January 24, 2005.
Boenning, William Raber, '48, no details.
Hoffman, George Henry, '48, July 22, 2005.
Little Jr., Clarence W., '48, Sept. 21, 2009.
Taschenberg, Ernest J., '51, Aug. 13, 2018.
Deveas Jr., Sherman H., '54, no details.
Giblin, Thomas Edward, '54, Nov. 6, 2007.
Mills Jr., Louis Rankin, '58, Sept. 16, 2011.
Clark Jr., Leo James, '60, October 20, 2015.
Dickson, LeRoy David, '60, January 11, 2015.

BETA MD B

Custer, John Douglas, '41, August 29, 2005.
Arthur, Paul D., '44, March 18, 2017.
Lutz, James Gerod, '49, no details.
Klass, Melvin Leroy, '51, April 16, 2008.
Lewis Jr., Basil Charles, '51, March 12, 2017.
Gouge Jr., James Reid, '56, Oct. 11, 2006.
Kohler, Emil Eugene, '59, April 16, 2007.
Cooley, Gerald Lionel, '61, January 14, 2017.
Miller, Gerald John, '61, June 7, 2007.
Leverett, James Frederick, '62, July 2, 2013.
Puryear, Daniel Owen, '73, Dec. 7, 2012.
Levine, Sheldon Terry, '76, Sept. 23, 2005.

MASSACHUSETTS

ALPHA MA A

Painter, Robert Arthur, '43, May 25, 2007.
Peterson, Edward H., '43, Nov. 15, 2005.
Schoen, Francis Xavier, '43, no details.
Supple, Edward Francis, '46, July 16, 2007.
Wachter, Wilfred Justus, '48, no details.



Iowa Alpha '43

Stanley A. Peterson

June 28, 2019

Spent 30 years developing and managing sonar systems in roles at the Pentagon, retiring as Director of Tactical Warfare Programs in DARPA.



Louisiana Alpha '49

Philip R. Dykstra

June 24, 2020

Retired in 1993 as VP over strategic planning for Space Shuttle activities at Thiokol, the largest manufacturer of solid rocket motors in the country.

Beckwith Jr., Walter L., '49, Jan. 17, 2005.
Carlin, Thomas Richard, '49, Jan. 14, 2007.
Smith, Richard Forest, '49, June 15, 2004.
Waruzila, Stanley Charles, '49, no details.
Friedman, Stanley, '50, March 9, 2008.
Toegemann, Joseph R., '50, Jan. 1, 2007.
Atkinson, Gerald, '51, April 9, 2010.
Althen Jr., Harold Rudolf, '52, Oct. 28, 2002.
Samolis, Edward George, '52, July 16, 2002.
Grandin Jr., Hartley T., '55, March 20, 2013.

BETA MA B

Lowell, Arthur Leon, '41, May 23, 2010.
Crowley, Thomas T., '42, Feb. 10, 2001.
Benedict, Robert Edward, '44, Nov. 28, 2005.
Corwin Jr., Harry R., '44, January 5, 2010.
Redlien Jr., William H., '44, April 13, 2013.
Schwartz, Martin Depuy, '47, Jan. 9, 2009.
Taft, John Edson, '47, May 6, 2010.
Pomper, Victor Herbert, '48, no details.
Sisson, Roger Lee, '48, no details.
Widelitz, Milton Alvin, '48, May 10, 2010.
Cox, Russell Nye, '49, October 20, 2017.
Bumpus, Frederick Joseph, '51, Feb. 9, 2004.
Curl, Rane Locke, '51, no details.
Nanavati, Rajendra P., '53, Nov. 19, 2003.
Brown, John Buchanan, '55, Dec. 31, 2003.
Coxeter, George William, '55, April 11, 2018.
Holden, William E., '55, no details.
Brooks, Richard Sterling, '57, Aug. 8, 2003.
Gal, Joseph James, '58, April 20, 2017.
Jordan III, Robert Elijah, '58, May 14, 2010.
Ludwig, David Roger, '59, no details.
Williams, Franklyn, '59, April 16, 2010.
Sarofim, Adel Fares, '60, December 4, 2011.
Willes, Richard Errol, '62, Nov. 27, 2004.
Anderson, Bruce, '63, February 16, 2020.
Culver, Calvin Orin, '63, March 21, 2020.
Miller, John Lawrence, '72, May 17, 2000.
Beckham, Mark Ernest, '77, July 25, 2000.
Bliss, Anitta Lynn, '81, January 18, 2000.

DELTA MA Δ

Newhall, Robert Moody, '41, no details.
Galopin, Frank Ernest, '42, March 2, 2011.
Astill, Kenneth Norman, '44, Dec. 27, 2007.
Krasner, Morton Harold, '44, June 24, 2001.
Cooper, Saul, '49, October 1, 2009.
Stott Jr., Charles Buckley, '49, April 24, 2001.
Carroll, Craig Turner, '50, no details.
Dubois, Gazell Macy, '51, November 9, 2007.
Dugas, Roger E., '51, December 5, 2018.
Haner, Robert Lewis, '59, October 1, 2005.
Moore, Alan Richard, '61, no details.

EPSILON MA E

Cahoon, Leroy Marston, '46, January 6, 2001.
Rabinovici, Benjamin M., '48, March 10, 2005.
Adelberg, Erwin Carl, '51, June 24, 2004.
Rich, Edward Louis, '52, no details.

Meliones, Nicolaos, '53, August 9, 2006.
Hale, Elliott Raymond, '54, July 6, 2017.
Flaherty, Martin Francis, '55, Aug. 17, 2001.
Collins, Francis Richard, '61, May 7, 2007.
Brannan, Stephen Jay, '67, March 25, 2008.
Teicher, Philip Edward, '68, no details.
Keith, Weldon Wayne, '72, April 16, 2001.
Chandler, Vernon E., '75, May 31, 2003.

ZETA MA Z

Paulson, Joseph S., '50, March 29, 2002.
Conroy, Robert Edward, '56, March 16, 2009.
Hillard Jr., John Francis, '58, Dec. 20, 2014.
Richey Jr., Albert Estore, '60, Nov. 11, 2018.
Marchetti, Charles Paul, '62, Dec. 4, 2006.
Thompson, Harold Rand, '65, May 19, 2008.
Toomey, David Patrick, '76, Sept. 28, 2011.

MICHIGAN

ALPHA MI A

Strodtman, Carl Leander, '43, May 16, 2020.
Brush, Earl F., '47, no details.
Rashleigh, Clayton, '66, October 18, 2017.
McCue, Kevin Charles, '73, April 8, 2020.
Byrnes, Robert J., '76, no details.
Brandt, Daniel William, '81, January 1, 2014.

BETA MI B

Holmgren, John Richard, '42, no details.
Foertmeyer, Charles E., '45, Aug. 25, 2018.
Powlenko, Edward John, '48, May 7, 2008.
Stopar, Albert, '49, February 3, 2005.
Knaebel, Eugene Wright, '51, April 26, 2018.
Wellman Jr., Carl Edward, '51, Jan. 11, 2018.
Eastland, Charles Edward, '52, no details.
Pirolo, Dino Henry, '53, August 19, 2018.
Watrous, John David, '53, January 1, 2020.
Yedinak, Eugene Martin, '59, Jan. 20, 2016.
Walls, Daniel Earl, '60, February 5, 2013.
Ott, Harold Theron, '61, no details.
Prince, Lyle Vernon, '61, June 23, 2001.
Carver, Richard Gleason, '72, March 5, 2008.

GAMMA MI Γ

Clifford, Arthur Winch, '42, January 30, 2004.
Wilkie, John Barclay, '42, no details.
Morrison, Richard Boyd, '43, no details.
Passman, Richard A., '44, April 1, 2020.
Gier, Thurman Eugene, '47, no details.
Rager, George Thomas, '48, no details.
Westra, Leonard F., '48, no details.
Brogren, Roy Henry, '50, January 4, 2020.
Caminer, Morris Harold, '50, June 10, 2018.
Dubois, Donald Arthur, '50, no details.
Sibley, Forbes Sanford, '50, Sept. 24, 2004.
Heemstra, Marvin Jay, '51, no details.
Stenstrom, Ray L., '51, no details.
Chang, William S-C., '52, April 25, 2015.
Ottenhoff, Edward James, '52, Dec. 4, 2004.
Sommers, William Paul, '55, Jan. 7, 2003.
Graessley, William John, '57, Jan. 15, 2007.

Mason, William Liston, '57, no details.
Mikolasek, James Val, '58, no details.
Ohrenberger, John Thomas, '58, no details.
Bos, Ronald, '59, no details.
Bradfield, Charles R., '59, April 28, 2013.
Jacques, Raymond Elmer, '59, no details.
Smith, Yancey Emerson, '59, Dec. 14, 2008.
Bartscht, Karl George, '61, May 6, 2014.
Frenkel, Alan Joel, '64, August 24, 2003.
Wisniewski, Kenneth Floyd, '66, July 5, 2004.
Klein, Alan Lloyd, '81, June 13, 2020.

DELTA MI Δ

Stark Jr., Michael F., '58, March 30, 2009.

EPSILON MI E

Dennis, Richard Lynn, '45, no details.
Schubring, Norman W., '52, Dec. 11, 2016.
Kaneski, Vincent John, '57, no details.
Kalns, Ilmars, '63, September 23, 2013.
Neeley, Wayne Michael, '68, Sept. 23, 2017.
Whalen, Michael Patrick, '86, no details.

ZETA MI Z

Allen, Raymond Clyde, '51, Dec. 9, 2015.
Dutro, Robert Glenn, '53, July 15, 2019.
Sweitzer, Jerry Wayne, '75, no details.

ETA MI H

Page, Thomas Cramer, '42, Dec. 29, 2007.
Rosiak, Frederick Joseph, '71, Jan. 17, 2001.
Jorgensen, Dean Joseph, '91, Dec. 1, 2002.
Harris, Hugh Arthur, '97, November 3, 2016.

THETA MI Θ

Fielek, Walter Joseph, '87, April 16, 2005.

MINNESOTA

ALPHA MN A

Hammel, Richard Frank, '44, no details.
Paquin, James Henry, '47, May 13, 2000.
Brown, Judson T., '49, July 20, 2020.
Johnson, John Leslie, '50, Nov. 11, 2019.
Ahlquist, John Bertil, '56, April 13, 2003.
Ackerman, Alan David, '61, July 20, 2017.
Doolen, Robert Blair, '61, June 2, 2018.
Aus, Hans M., '63, May 26, 2018.
Eshleman, Ronald J., '69, May 16, 2018.

MISSISSIPPI

ALPHA MS A

Early, George Hughes, '42, no details.
Cotton Jr., Frank Ethridge, '47, Feb. 5, 2008.
Meux Jr., William Leigh, '48, Dec. 17, 2008.
Carlson, Karl William, '49, June 20, 2004.
Harding, Willard Edward, '49, Oct. 23, 2002.
Stroud, Buford Durwood, '50, no details.
Streeter, Forrest Wayne, '51, April 29, 2006.
Ferguson, George B., '52, Nov. 27, 2017.
Waldrop, Gene Powell, '59, May 20, 2016.
Riles, John Calvin, '62, no details.
Dobbins, David Lynn, '63, April 23, 2018.

CHAPTER ETERNAL

Our fellow Tau Bates who are gone, but never forgotten.

ALPHA MS A

Garnett III, James Monroe, '65, Feb. 1, 2014.
Haynes, James Howard, '65, Dec. 18, 2008.

MISSOURI

ALPHA MO A

Schulte Jr., Frank Herman, '49, April 7, 2000.
Glass, James Arthur, '56, May 24, 2016.
Edwards, Glen Arthur, '60, May 25, 2005.
Swaney, Thomas George, '60, no details.
Werkmeister Jr., R., '74, Jan. 17, 2010.

BETA MO B

Gerig Jr., Frank Austin, '41, Oct. 19, 2003.
Doelling, Robert F., '48, Oct. 29, 2003.
Ray, Billy Bruce, '48, May 29, 2005.
Hyatt, Edmond Preston, '49, Oct. 21, 2019.
Carl, Louis Henry, '50, May 19, 2019.
Johnson, Ray Burl, '50, March 23, 2005.
Mallrich, Victor Eugene, '50, no details.
Boyd, Charles Lincoln, '51, October 25, 2005.
Rodolakis, Michael S., '52, March 24, 2012.
Berkbigler, Roger Lee, '56, Nov. 8, 2005.
Lichius, Howard Wayne, '58, March 31, 1997.
Schluemer, William E., '58, March 13, 2020.
Wehr, Allan Gordon, '58, no details.
Alyea, Jerrold Myles, '60, October 30, 2012.
Cooper, Lloyd Edwards, '60, Jan. 27, 2008.
Manley Jr., William H., '60, April 25, 2019.
Benner, Robert Lee, '61, October 30, 2010.
Green, Lawrence Dale, '62, Dec. 4, 2003.
Hyde, James Leo, '62, no details.
Andoe, William Victor, '63, April 19, 2010.
Bannister, Edwin Joseph, '64, May 4, 2008.
Kelley, Donald Ray, '64, February 16, 2009.
Pappas, James Michael, '64, Dec. 27, 2006.
Vogel Jr., Raymond Henry, '71, April 2, 2007.

GAMMA MO Γ

Davis, Frederick L., '46, no details.
Mayhew, Russell L., '48, May 18, 2004.
Reiser, Walter Henry, '48, February 9, 2002.
Schnebelen, Joel Alvin, '49, no details.
Hacker, Robert Frank, '51, Feb. 27, 2005.
Schmidt, George Robert, '51, June 21, 2000.
Burford Jr., Thomas M., '52, Aug. 23, 2000.
Hase Jr., Raymond Cecil, '53, April 13, 2018.
Pfeifer, Gordon Dodge, '56, May 10, 2020.
Hughes, Harry Arthur, '57, no details.
Reyland, James Nicholas, '57, Oct. 19, 2003.
Thomas, Thomas Patrick, '57, no details.
Blaine III, George James, '59, Aug. 15, 2017.

MONTANA

ALPHA MT A

Challender Jr., Ralph C., '44, July 5, 2015.
Dougherty, Charles Nelson, '44, no details.
Ruzicka, George Robert, '48, Sept. 17, 2001.
Dunn, Walter Lee, '49, no details.
Polich, William Frank, '49, February 5, 2005.
Pyfer, Dan Harley, '49, August 29, 2004.

Whelchel, Ralph Aubrey, '50, May 25, 2006.
Hammell, Allan Keith, '51, May 2, 2020.
Erps, Floyd Dean, '58, no details.
Humphrey, John Paul, '59, March 20, 2010.
Falk, Arthur Yngve, '62, April 16, 2000.
Watters, Lawrence James, '62, April 9, 2003.
Wentland, Eric Jon, '92, no details.
Pittendrigh, Colin S., '93, no details.

NEBRASKA

ALPHA NE A

Buckley, James H., '79, no details.

NEVADA

ALPHA NV A

Blair, Thomas Raymond, '74, no details.

NEW HAMPSHIRE

ALPHA NH A

Batchelder, Gerald Myles, '50, Oct. 29, 2009.
Graf, Donald Benjamin, '51, Jan. 28, 2001.
Miner, Donald Ross, '51, May 7, 2010.
Oberti Jr., John, '53, no details.
Page, Donald Mansfield, '56, June 7, 2017.
Pelletier, Armand Lucien, '59, no details.

NEW JERSEY

ALPHA NJ A

Astheimer, Robert William, '44, no details.
Wilson, George Jack, '45, October 26, 2008.
Black, Andrew, '50, May 18, 2005.
Duvic Jr., Manuel, '50, October 20, 2009.
Byrne, Joseph Gerald, '53, July 10, 2010.
Anderson, Carl Albert, '56, Nov. 16, 2010.
Kirk, Bruce Harvey, '56, November 2, 2016.
Iannucci, Joseph John, '69, Nov. 4, 2004.

BETA NJ B

Havens, Edward Albert, '41, May 28, 2002.
Reager, George D., '42, no details.
Mathews, Richard Albert, '48, Jan. 17, 2006.
Deitrich, Robert, '49, March 2, 2010.
Braen, Richard Charles, '50, Nov. 13, 2001.
Dixon, Marzell, '52, no details.
Reitze Jr., George Henry, '53, Oct. 9, 2010.
Peluso, David, '82, February 26, 2000.
Ciecierski, John James, '86, Aug. 26, 2008.
Irwin, Jake Paul, '21, July 7, 2020.

GAMMA NJ Γ

Schramm, Max Carl, '41, September 1, 2010.
Smith, Louis George, '41, April 10, 2007.
Crosby, Alfred Roosevelt, '42, Oct. 5, 2005.
Gall, Francis Andrew, '48, no details.
Frankel, Frederick, '49, no details.
Lull, Robert William, '49, January 26, 2004.
Van Slooten, David J., '49, March 19, 2001.
Brown, James Hugh, '50, January 31, 2000.
Gannon, William T., '50, Aug. 11, 2009.
Hendrock, Louis John, '54, October 21, 2000.
Sinnott, Daniel James, '56, July 15, 2011.
Kosonocky, Stephan, '57, June 16, 2001.

Perna, Angelo Joseph, '57, July 1, 2020.
Tomecek, Emil Frank, '58, June 11, 2006.
Beardsley, Charles William, '61, May 3, 2016.
Wolek, Stanley Joseph, '69, Oct. 29, 2001.
Gunardson, Harold Henry, '71, Nov. 17, 2008.
Reilly, Robert George, '72, no details.

DELTA NJ Δ

Snow, Walter Newell, '48, January 7, 2004.
Maynard, Donald Reid, '50, no details.
Peters III, Fredus Nelson, '54, May 22, 2020.
Boyle, Michael John, '73, March 25, 2003.

NEW MEXICO

BETA NM B

Errante, Edward Paul, '53, Nov. 8, 2003.
Williams, Richard Huston, '57, Dec. 4, 2018.

GAMMA NM Γ

Boyd, Thomas Martin, '60, October 31, 2015.
Balulis Jr., John Jude, '02, Nov 7, 2007.

NEW YORK

ALPHA NY A

Fahrenkopf, Charles Nissen, '43, no details.
Lordi, Francis Dickinson, '51, June 25, 2020.

BETA NY B

Connolly, John Richard, '41, Dec. 29, 2000.
Bogden, Edward P., '44, August 20, 2004.
Eskinazi, Salamon, '46, August 28, 2003.
Schmidt, Lothar Marbod, '47, Aug 8, 2006.
Shultis, Warren Charles, '48, August 6, 2002.
Blagbrough, William Putnam, '49, no details.
Maar, Carl Robert, '49, February 6, 2008.
Sarla, Ralph Michael, '49, July 27, 2015.
Suiter, William Alexander, '49, no details.
Beall, Paul MacEwen, '50, January 6, 2016.
Coleman, George Joseph, '51, Aug. 4, 2000.
Livingston, Clarence Oscar, '51, Feb. 9, 2007.
Maloney Jr., William T., '51, no details.
Morrison, Herbert Victor, '51, Dec. 17, 2019.
Smith, Albert Edgar, '54, October 4, 2007.
Mullin, Albert Alkins, '55, May 16, 2017.
Limburg, Robert Charles, '57, July 10, 2003.
Orimenko, Alec Peter, '58, no details.
Dennison, Scott Joseph, '76, Sept. 26, 2002.

GAMMA NY Γ

Benefiel, Robert Ernest, '42, August 8, 2005.
Ryan, Robert Edmund, '43, no details.
Wishart Jr., Ronald S., '48, July 13, 2014.
Akula, William Gregory, '49, Oct. 27, 2001.
Greco, Vito Peter, '49, no details.
Haas, Frank Edwin, '49, no details.
Cuneo, Charles Adam, '50, May 6, 2003.
Szetela, Eugene Joseph, '50, Jan. 30, 2000.
Aggen, George, '51, no details.
Anderson, Peter Gunnar, '51, July 22, 2011.
Hamilton, Gordon Wayne, '51, no details.
Margo, Harold Wilbur, '51, June 28, 2005.
Mawhinney, Robert F., '51, May 19, 2017.



Montana Alpha '51
Allan K. Hammell
 May 2, 2020

Worked at Honeywell, Inc., was awarded three patents, worked on control systems for the Apollo and Space Shuttle programs, and was a TBTI Fellow (1951).



New Jersey Gamma '57
Angelo J. Perna, Ph.D.
 July 1, 2020

Professor, researcher, and mentor for 50+ years at NJIT, recipient of 80+ teaching awards, AIChE Fellow, and served as TBTI NJ Gamma Chapter advisor for 17 years.

Nast, W. Roger, '51, June 11, 2020.
 Zabransky, Robert Joseph, '51, no details.
 Procaccino, Roderic J., '53, March 5, 2019.
 Mori, Alva Jung, '55, January 20, 2007.
 Driscoll, John David, '56, May 11, 2016.
 Myers, Glen Everett, '56, December 2, 2019.
 Garab, H. Gary, '57, January 28, 2005.
 Whelan, James Edward, '58, July 13, 2019.
 Caponecchi, August J., '59, Sept. 21, 2009.
 Haas, Karl Alan, '59, no details.
 Hampton, Thomas John, '61, Nov. 17, 2006.
 Carroll Jr., John Francis, '68, July 6, 2009.
 Yates, William Edmund, '68, no details.
 Klemm, Noah K., '94, no details.

DELTA NY Δ

Kruse, John Walter, '41, November 8, 2000.
 Graham, Richard Alton, '42, Sept. 24, 2007.
 Kennard, Paul Hesse, '53, May 27, 2020.
 Jones, Robert W., '56, May 15, 2009.
 Fein, Harvey Lester, '59, June 4, 2008.
 Gilbert, Gerald Barker, '59, Feb. 18, 2002.
 Minnerly, Leander Hewitt, '59, Dec. 26, 2010.
 Johnson, William Robert, '67, no details.
 Kolbas, Robert M., '75, June 7, 2020.
 Sterental, Paul Jack, '88, August 10, 2011.

EPSILON NY E

Cole, Victor, '44, September 21, 2002.
 Shamis, Sidney S., '47, December 7, 2008.
 Feinberg, Irving, '61, April 16, 2004.
 Gelbwasser, Herman, '61, August 11, 2011.
 Derbort, Herman J., '62, March 22, 2009.
 Muller, William Roy, '64, no details.
 Ben-Ari, Moshe Josef, '66, January 2, 2011.

ZETA NY Z

Wagner, Leonard Samuel, '51, Nov. 2, 2018.

ETA NY H

Cheng, David Hong, '42, September 14, 2002.
 Cooper, Gerald, '48, June 14, 2003.
 Seidman, Arthur H., '51, May 14, 2001.
 Oppenheimer, Henry N., '54, Oct. 30, 2005.
 Crino, Richard, '62, May 1, 2011.
 Armenis, Spyridon, '72, January 18, 2006.
 Cheung, Stanley Kin-Yan, '79, no details.

THETA NY Θ

Frailey, Henry Francis, '47, Feb. 27, 2004.
 Stiefvater, Edward W., '48, July 11, 2015.
 Dlugolecki, Thaddeus Peter, '49, no details.
 Coniber, George Arthur, '50, April 4, 2005.
 Jolls, Frederick Keith, '52, March 20, 2005.
 Smidowicz, Thomas Z., '52, Dec. 14, 2007.
 Stevens, John Alden, '52, May 15, 2020.

IOTA NY I

Klein, Albert Melvin, '50, May 14, 2020.
 Lukasik, Stephen Joseph, '51, Oct. 3, 2019.
 Trendowski, Chester R., '54, April 30, 2019.
 Kayton, Myron, '55, May 6, 2020.

Weihrauch, Martin, '58, December 15, 2004.
 Brewer Jr., Walter, '62, January 19, 2008.
 Donaghy, John Francis, '67, Jan. 15, 2013.
 Fan, Kai Kei, '94, October 15, 2005.

LAMBDA NY Λ

Holzberger, Henry Louis, '43, May 17, 2010.
 Walters, John Davis, '50, Sept. 28, 2011.
 Greenberg, Donald, '75, October 15, 2004.
 Ferguson, Leroy, '79, August 22, 2010.

NU NY N

Guildford, Harry J., '52, no details.
 Martin, Robert Frederick, '52, Dec. 26, 2004.
 Snelting, John Bernard, '62, Aug. 30, 2006.
 Osborne, Frederick J., '73, Nov. 21, 2011.
 Shukla, Bhaw Dutt, '74, November 5, 2005.
 Keller, Marc C., '98, December 26, 2005.

XI NY Ξ

Tedaldi, Robert J., '49, November 4, 2003.

OMICRON NY O

Chen, Ting S., '03, July 31, 2008.

RHO NY P

Wang, Ping-Chun, '43, September 1, 2008.
 Karlson, David C., '85, June 27, 2007.

NORTH CAROLINA

ALPHA NC A

Van Dyke, Claude H., '49, Jan. 12, 2008.
 Barrett, David Howell, '55, no details.
 Coggins, Garland Ray, '58, Feb. 22, 2015.
 Landrum, Harold Wilbur, '58, Sept. 7, 2017.
 Lyda, George Suell, '59, no details.
 Harriss Jr., Andrew J., '61, May 15, 2014.
 Bowling, James Wilson, '67, Oct. 10, 2006.
 Corder, Thomas Gilmer, '71, April 25, 2017.
 Walker, Donald Gaadwin, '78, no details.
 Greene, David Max, '81, no details.
 Muse, Peter Donald, '84, January 19, 2014.
 Morse, Charles Allan, '89, March 16, 2020.

GAMMA NC Γ

Elsevier, Ernest, '49, April 10, 2002.
 Holland, Robert Lauman, '49, no details.
 Mincey, James Haywood, '50, May 13, 2020.
 Neal, Ralph John, '52, March 3, 2015.
 Haupt, Jerry Russell, '55, November 3, 2006.
 Bradley, Walter Sleasman, '69, Jan. 17, 2020.
 Kirby, Andrew Louis, '80, July 14, 2020.

DELTA NC Δ

Feaga, Adam C., '93, April 10, 1999.

NORTH DAKOTA

ALPHA ND A

Faiman, Robert N., '47, no details.
 Hauge, Trygve Ardell, '51, February 4, 2019.
 Child, Gordon Burdick, '55, Feb. 11, 2016.
 Mack, Thomas William, '57, Sept. 20, 2013.
 Laskowski, Donald R., '60, May 30, 2020.
 Flegel, Mayo Frederick, '62, January 1, 2020.

Resheske, David Henry, '66, July 13, 2005.
 Pearson, Michael Peter, '73, Nov. 1, 2002.

BETA ND B

Ebertowski, Thomas R., '85, April 20, 2015.

OHIO

ALPHA OH A

Harkless, Earl T., '47, September 16, 2010.
 Tromblee, Gene Leon, '56, October 21, 2010.

BETA OH B

Siegel, Ernest Ferdinand, '49, May 24, 2001.
 Kiorpes, Stephen Anthony, '52, May 1, 2020.
 Boyle, William Charles, '59, April 1, 2020.
 Newton, Kirk Collins, '67, January 25, 2010.

GAMMA OH Γ

Glasser, Robert Aloysius, '31, no details.
 Rose, Ralph, '42, July 14, 2020.
 Grove, George Richard, '46, no details.
 Bauman, Joseph, '47, September 9, 2011.
 Clapper, Robert Burns, '48, no details.
 Gilmore, Jay McDill, '48, February 26, 2012.
 Wallin, John Marshall, '48, March 22, 2007.
 Martin, John Maynard, '49, January 27, 2004.
 Badertscher, Robert F., '50, no details.
 Rein Jr., Harold F., '50, March 26, 2000.
 Anderson, Carl A., '51, August 3, 2007.
 Rockwell, Thomas Hugh, '51, Dec. 25, 2015.
 Rush Jr., William Aloysius, '51, Feb. 27, 2015.
 Wallace, Alven Ernest, '51, October 6, 2005.
 Boepple Jr., Emerson A., '52, May 1, 2020.
 Craig, Trevor Philip, '52, August 2, 2012.
 Underwood, Tom Lee, '52, July 22, 2018.
 Kumler, Paul Richard, '53, no details.
 Liptak, James Andrew, '53, no details.
 Dudley, Richard Edwin, '54, Nov. 5, 2005.
 Meacham, Howard C., '56, Jan. 21, 2016.
 Moffatt Sr., David Lloyd, '58, Jan. 18, 2003.
 Roop, Donald Earl, '59, November 4, 2006.
 Brandon, Eldon Dewain, '64, Feb. 8, 2010.
 Wiegand, Frederick G., '72, April 13, 2020.
 Goddard, Ralph Edward, '79, no details.

DELTA OH Δ

Dunsmoor, Lyle Hall, '59, April 13, 2003.

EPSILON OH E

Griffin, Robert Frederick, '49, Jan. 3, 2003.
 Sommer, Richard Arthur, '49, June 23, 2019.
 Strieble, William Howard, '50, no details.
 Radcliffe, Thomas Joseph, '51, Nov. 30, 2019.
 Harroff, Don Fremont, '53, no details.
 Kaufer, Daniel Matthew, '59, Sept. 30, 2017.
 Potiker, Bernard L., '61, March 7, 2007.
 Ostberg, Daniel E., '82, no details.

ETA OH H

Brenner, Edwin Ward, '63, January 6, 2015.

THETA OH Θ

Falkenbach, George J., '48, Dec. 26, 2019.

CHAPTER ETERNAL

Continued

THETA OH Θ

Beck, Charles William, '62, Sept. 27, 2018.

KAPPA OH K

Stimler, William Edward, '83, Sept. 15, 2018.

LAMBDA OH Λ

Shook, Richard Lawrence, '78, Oct. 31, 2006.
Pelton, Paul Wayne, '93, no details.

OKLAHOMA

ALPHA OK A

West, Herbert Doster, '49, no details.
Kircher Jr., Omer, '51, May 9, 2020.
Whitten, Sherrill Dean, '56, no details.
Rockwood, Lewis Adelbert, '57, Aug. 5, 2015.
Johnson, James, '59, no details.
Horwedel, Jon Harold, '65, August 31, 2008.
Lorengo, Kathleen Jean, '96, no details.

BETA OK B

McDonald, Ross Merle, '50, no details.

OREGON

ALPHA OR A

Beam, Benjamin Howard, '48, March 3, 2013.
Pani, Leonard S., '48, February 16, 2005.
Hitsman, Arthur E., '49, March 19, 2000.
Getgen, Lawrence Earl, '50, May 1, 2001.
Hays, Donald Frank, '51, January 7, 2019.
Midkiff, James Walton, '51, no details.
Short, Robert Allen, '52, no details.
Hume, George A., '54, September 9, 2011.
Morton, Virgil Ralph, '54, October 13, 2014.
Erb, James Charles, '59, August 22, 2006.
McConnell, Lloyd Lee, '59, April 9, 2001.
Prater, Charles Richard, '59, Feb. 20, 2010.
Montgomery, Brady R., '64, June 22, 2003.
Luster, Wesley Gilbert, '70, Sept. 8, 2003.

PENNSYLVANIA

ALPHA PA A

Creitz Jr., Walter Marsby, '48, June 23, 2011.
Ahern, John Francis, '49, August 9, 2009.
Downs, Thomas Robert, '61, no details.
King Jr., Joseph M., '61, May 11, 2010.
Reinert, Joe Carlton, '67, June 30, 2001.
Farina Jr., Charles Ralph, '75, April 13, 2019.

BETA PA B

Duke, Charles Edward, '43, April 2, 1990.
Kleckner, Edward John, '43, no details.
Yocom Jr., Harry Earl, '47, February 8, 2012.
Bibbo, Domenico N., '48, April 6, 2007.
Shinaly, Francis J., '49, no details.
Artz, Robert Barry, '51, January 8, 2014.
Hrivnak, John Albert, '52, August 24, 2014.
Meco, Paul, '58, June 24, 2008.
Thrush Jr., Walter Wayne, '59, June 27, 2001.
Crecraft, Harold Edward, '60, Oct. 16, 2018.
Miller, Ralph M., '63, no details.
Schein, Lawrence Brian, '65, June 7, 2011.
Sayuk, Stephen Michael, '69, Jan. 1, 2014.

Sculac, John Francis, '81, April 11, 2015.

Stein, Charles John, '85, Sept. 18, 2011.

Starr, Randy Eugene, '92, July 24, 2000.

GAMMA PA Γ

Marcus, Robert Louis, '45, February 7, 2020.
Lessig, Donald Phillmore, '49, June 14, 2015.
Bercsi, Joseph Arpad, '54, Nov. 19, 2007.
Carter II, Woodward C., '56, Nov. 15, 2019.
Lang, George Paul, '56, October 22, 2017.
Freund Jr., Vincent John, '62, no details.
DeToro, Louis Nicholas, '70, May 1, 2017.

DELTA PA Δ

Corson, William B., '51, Dec. 27, 2018.

EPSILON PA Ε

Wright, Richard Harold, '43, Jan. 30, 2016.
Hartwell, George Warren, '44, July 26, 2001.
Carver, John Armand, '48, April 8, 2006.
Kinginger, John Henry, '49, no details.
Chubb, Donald Burke, '50, February 5, 2017.
Hulka, Harold Louis, '51, March 30, 2000.
Dreby, Conrad Anderson, '52, Feb. 9, 2004.
Stovicek, Kenneth James, '53, no details.
Tran, Mank Hai, '79, no details.

ZETA PA Ζ

Faust, Jerome, '44, no details.
Rogers Jr., Harry Carton, '47, March 2, 2011.
Spear, Edward F., '47, no details.
Gaumond, Paul Charles, '48, Jan. 4, 2005.
O'Sullivan, William Stark, '48, no details.
Schmelzer, Egmont R., '51, Feb. 23, 2000.
Shumaker, Roy Lincoln, '51, no details.
Haller, John Louis, '56, no details.
Messmer Jr., Walter John, '56, May 4, 2007.
Hoffecker, Robert Bayard, '59, April 15, 2000.
Bradley Sr., Laird Powell, '60, no details.
Alaburda, Raymond Daniel, '61, May 5, 2011.
Smith, William Richard, '62, Dec. 30, 2018.
Zimmer, Donald Joseph, '64, March 20, 2006.
Calabrese, Catherine M., '68, Nov. 24, 2014.

ETA PA Η

Young, Raymond Hykes, '43, no details.
Athey, Stuart Evans, '54, no details.
Weiss, Paul K.M., '82, March 24, 2001.

THETA PA Θ

Yeh, George Chiayou, '49, April 2, 2000.
Henry, Paul Martin, '52, April 12, 2000.
De Santis, Daniel J., '57, no details.
Toland, Christina, '81, no details.

LAMBDA PA Λ

Colbert, Cheryl Ann, '82, April 1, 2007.

RHODE ISLAND

ALPHA RI A

Linden, Elwin Eugene, '45, October 12, 2007.
Carpenter, Richard Walter, '47, no details.
Gates Jr., Percival Taylor, '50, no details.
Casey Jr., Charles J., '51, Dec. 16, 2000.

Sahulka, Richard John, '51, no details.

Yang, Chen-Ping, '52, May 1, 2018.

Henry, Francis Joseph, '56, August 17, 2007.

Peterson, David Barner, '58, April 18, 2020.

Sitnik, William Anthony, '60, no details.

BETA RI B

Salhany, Robert Joseph, '57, no details.
Daley, Thomas J., '59, August 13, 2004.
Cleinman, Ansel, '64, October 9, 2009.
St Jean, Louis William, '64, no details.
Perkins, Gary Medrick, '66, October 12, 2004.
Diraimo, Steven Albert, '73, August 8, 2002.

SOUTH CAROLINA

ALPHA SC A

Allen, Michael Nickles, '86, Oct. 15, 2010.

BETA SC B

Miller Jr., Dan Frank, '48, no details.
Tennant Sr., John Ernst, '56, no details.
Benton, Archie, '58, no details.
Campbell, Richard Stephen, '58, no details.
Cash II, Charlie Thomas, '59, Sept. 18, 2003.
Entzminger Jr., John N., '59, July 10, 2020.
Price Jr., Vivion Curtis, '60, no details.
Tucker Jr., James Warnock, '78, July 3, 2000.

GAMMA SC Γ

Croft Jr., Grover C., '49, Sept. 22, 2009.
Davis, Ruth M., '50, March 28, 2012.
Mayer, Jacques, '50, October 10, 2014.
DeLeo, Ernest Michael, '51, Oct. 17, 2004.
Harlow, Robert Palmer, '57, June 15, 2007.
Bridis, Theodore William, '67, Oct. 3, 2013.

SOUTH DAKOTA

BETA SD B

Gamble, Brice Gordon, '53, April 20, 2020.
Homola, Gary John, '01, June 24, 2006.

TENNESSEE

ALPHA TN A

Miller Jr., William Albert, '54, May 10, 2020.
Goodwin, Herbert Hoover, '59, no details.
Holt, James Kenneth, '59, March 8, 2003.
Andrews, Reece Lillard, '61, May 22, 2015.
Henley, Franklin Hoyle, '63, Feb. 27, 2009.
Harmon, Phillip Henry, '70, Sept. 23, 2013.
Cliff, Steven Burris, '74, May 14, 2020.
Seaman, Scott Jennings, '85, May 20, 2020.

BETA TN B

Harris, Ernest Allan, '47, March 7, 2006.

GAMMA TN Γ

O'Connor, Albert Augustine, '58, no details.
Rasbury, Eddie Wayne, '74, no details.

TEXAS

ALPHA TX A

Brown, Maurice Lee, '46, no details.
Belton, Carol Edward, '50, April 7, 2017.
Tuttle Jr., George A., '52, Aug. 25, 2011.



Texas Delta '57

Joe B. Foster

May 9, 2020

A petroleum engineer, served TN Oil Co. and TN Gas Transmission Co. as chairman, served as interim CEO and on the board of Baker Hughes, and on National Petroleum Council.



Texas Zeta '55

Wendell C. Bean

March 26, 2020

48-year career as an EE professor at Lamar Univ. Loved by his students and colleagues alike. Proudly served as TX Zeta Chapter faculty advisor for 16+ years and as a TBP District Director.

Davis, Richard Hugh, '55, February 22, 2013.
Tinkler, Dwight Manley, '56, no details.
Korzekwa, Sam Michael, '59, Aug. 17, 2007.
Drenner Jr., George L., '61, Dec. 6, 2013.
Hickman, Bobby Merle, '62, no details.
Rowe, Donald Richard, '65, May 21, 2009.
Dodd, Donald Allton, '70, May 4, 2005.

BETA TX B

Lindsey, Robert Lee, '41, July 9, 2011.
Visher, Frank N., '47, May 4, 2006.
McElligott, Daniel T., '48, Nov. 21, 2000.
Brown, Thurman E., '50, March 21, 2002.
Grimes, Ronald Luther, '55, Oct. 30, 2004.
Hunter, John Franklin, '63, no details.
Smith, Alan Tranbridge, '87, April 10, 2004.

GAMMA TX I

Klindworth, Ken George, '43, no details.

DELTA TX A

Brooks, Jack Edward, '47, April 28, 2004.
Davis, Kenneth W., '48, March 16, 2017.
Wheeler, Frank Warren, '48, April 30, 2005.
Blair, Philip Michael, '49, June 25, 2020.
Cleland, Franklin Andrew, '50, Dec. 20, 2009.
Ford, George Hilton, '50, no details.
Hay, James David, '50, no details.
Zumwalt, Joe P., '50, no details.
Elkins, Robert Wallace, '51, April 17, 2005.
Fulbright Sr., Joseph L., '51, Sept. 19, 2009.
Lemmon Jr., James H., '51, Feb. 22, 2001.
Meek, Emory Long, '51, June 22, 2019.
Schulz Jr., Clyde Emil, '51, no details.
Fenley, James Lewis, '52, June 1, 2002.
Leatherman, John Gibbs, '53, no details.
Mattei, Joe Braden, '53, February 8, 2009.
McClure, Donald Hudgins, '53, Oct. 30, 2014.
Williams, Alfred Palmer, '53, no details.
Wingler, Robert Leon, '53, June 15, 2000.
Anderson, Byron Hubert, '54, Nov. 4, 2017.
Barnard, Herbert Marvin, '55, Feb. 15, 2020.
McAlexander, Don S., '56, Sept. 2, 2009.
Foster, Joe Bill, '57, May 9, 2020.
Ridings, Robert Lewis, '57, no details.
Cox, James Robert, '58, no details.
Bainum, Peter M., '59, April 3, 2020.
Bellomy, Jimmy Frank, '60, October 4, 2003.
Clement, Warren J., '61, March 9, 2004.
Oliver III, Gale, '61, July 10, 2020.
Ener Jr., Ernest Levi, '64, August 2, 2007.
Pearson, Tommie Howell, '64, Dec. 1, 2005.
Rubac, Richard Emil, '64, January 24, 2007.
Nichols IV, William Henry, '65, May 17, 2010.
Wright Jr., Haskell E., '68, Aug. 28, 2016.
Swetlick, Michael Louis, '74, no details.
Kreitz, Ray Gene, '78, November 22, 2001.
Sulak, Ronald Joe, '79, June 19, 2009.
Dewey, Allen Mark, '81, no details.

EPSILON TX E

Kelly Sr., Doyle Jay, '63, March 4, 2001.

Difuro Jr., Marion Joseph, '64, Sept. 5, 2015.

ZETA TX Z

DelFlache, Andre Pierre, '44, no details.
Bean, Wendell Clebern, '55, March 26, 2020.
Patrick, Ronnie Walden, '62, April 20, 2008.
White, Philip Albert, '74, July 1, 2020.

ETA TX H

Blissitte, Henry Joe, '63, March 16, 2012.
Singh, Shamsheer, '79, no details.

UTAH

ALPHA UT A

Burggraaf, Maxwell V., '49, Jan. 12, 2017.
Mori, Hideo, '50, November 22, 2000.
Kieffer, Alvin, '56, no details.
Kikushima, Lucky, '61, no details.
Casada, Jerry Joe, '62, February 23, 2016.
Passey, Dee Clinton, '63, April 18, 2008.
Bradshaw, Ralph Morris, '64, no details.
Watson, David Colquitt, '64, April 10, 2020.

BETA UT B

Nielson, Stephen Moulton, '62, Oct. 24, 2019.

VERMONT

ALPHA VT A

Stearns, Burdett Kinney, '50, no details.
Brooks, Harry Oldham, '62, May 7, 2016.
Taylor, George Arthur, '64, Dec. 17, 2015.

BETA VT B

Byington, Stanley Ross, '56, Nov. 18, 2003.

VIRGINIA

ALPHA VA A

Malbon, Wendell Endicott, '41, no details.
Kyle, William Kenneth, '51, May 23, 2020.
Feild Jr., Robert Bryan, '55, July 15, 2012.

BETA VT B

Digges Jr., John Churchill, '44, no details.
Peterson Jr., Eugene H., '44, May 25, 2006.
Cardwell, Quinn M., '48, no details.
Brown, William Bolten, '49, Oct. 21, 2015.
Cooper, Cullen McClay, '49, June 7, 2006.
Rickey, John Barnes, '49, no details.
Gedmin, Victor Gerald, '50, Feb. 19, 2012.
McCrary, James Daniel, '51, Oct. 31, 2005.
Bowman Jr., George Price, '52, July 23, 2011.
Swann, Carter Holman, '55, May 5, 2000.
Kesler, James Edwin, '56, Sept. 14, 2019.
Covington, Wilbur T., '59, June 21, 2006.
Lessley, John Alexander, '63, Aug. 25, 2000.
Hatsell, Charles P., '67, March 16, 2006.
Kerr, James Michael, '81, November 8, 2001.

WASHINGTON

ALPHA WA A

Long, Robert Irving, '41, no details.
Bassett, Georges Eugene, '51, no details.
Standerfer, Franklin Ross, '55, no details.
Strandin, Gerald Eugene, '59, no details.
Clinton, William W., '60, no details.

Clawson, James F., '61, Nov. 15, 2006.
Motter, Frederick R., '69, June 11, 2020.
Loth, Carla Maria, '84, no details.

BETA WA B

Imhoff, Donald Hay, '43, February 21, 2002.
Seidenstricker, Arthur, '50, March 15, 2017.
Ascherl, Robert Joseph, '51, May 24, 2017.
Rogers, David Arthur, '51, March 26, 2010.
Spencer, Paul Newman, '51, no details.
Bare, Gerald William, '55, May 11, 2020.
Knoshaug, Wendell E., '61, no details.
Kimball Jr., Thomas R., '64, Aug. 18, 2000.
Holman, Clifford Wayne, '66, no details.
Smith, Randon Wayne, '87, October 10, 2008.

GAMMA WA I

Strickland, Daniel G., '06, Sept. 23, 2011.

WEST VIRGINIA

ALPHA WV A

Withers, John Scott, '44, May 30, 2010.
West, Donald Eugene, '49, July 15, 2006.
Spangler, Charles William, '60, no details.

BETA WV B

Clonch, Daniel Melvin, '60, October 20, 2019.

WISCONSIN

ALPHA WI A

Bertle, Fred Albert, '42, June 16, 2002.
Zielke, Harvey Eugene, '44, no details.
Anspach, Herbert K., '47, no details.
Baumgarth, Verlin H., '48, Jan. 18, 2006.
Cech, Robert Edward, '48, Sept. 1, 2006.
Hahn Jr., John George, '49, May 1, 2009.
Sylvester, Gordon Carl, '49, April 21, 2002.
Craig, Robert G., '50, April 13, 2020.
Grochowski, Joseph E., '51, Feb. 17, 2017.
Wiberg, William Albert, '53, Sept. 8, 2003.
Brenden, John Jacob, '58, February 20, 2016.
Keenan III, John Anslow, '58, May 16, 2004.
Falstad, Robert Donald, '59, Oct. 27, 2019.
Martinelli, Mark Eugene, '65, no details.
Russell, Jeffrey Donald, '70, May 11, 2020.
Haegler, Jeffrey Todd, '90, no details.

BETA WI B

Kriva, John Anton, '43, no details.
Schubert, John Denney, '44, March 2, 2003.
Hanley, Robert J., '47, no details.
Frey, Rudolph Christof, '49, July 11, 2010.
Gottschalk, Richard, '50, November 16, 2001.
Kipp, Raymond Joseph, '51, March 10, 2000.
Nimtz, Robert Owen, '52, no details.
Jonaus, Lawrence Joseph, '54, July 16, 2018.
Burke, Robert R., '55, March 19, 2019.
Swenson, Roger Arthur, '59, March 9, 2010.
Madson, Gerald Gerhart, '63, no details.

WYOMING

ALPHA WY A

Goff, Daryl Blaine, '81, no details.

ASSOCIATION BRIEFS



ALUMNI GATHERINGS

EL PASO ALUMNI CHAPTER

On January 16, alumni met in El Paso, Texas, at Park Tavern (pictured) to discuss reactivating the El Paso Alumni Chapter.

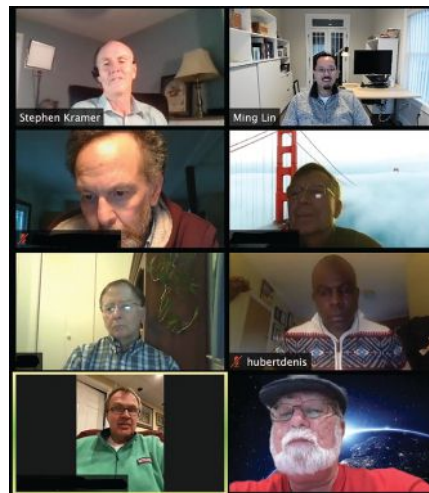
Thanks to **Deidra R. Hodges**, Ph.D., *TX Q '83*, for hosting the event in the absence of TBPI Executive Director Gomulinski and to **Benjamin C. Flores**, Ph.D., *TX Q '85*, for stepping up to organize and lead the chapter. The chapter was officially reactivated on February 6, 2020.

To join the El Paso Alumni Chapter, email: ElPasoTXAlumni@tbp.org.

MID-SOUTH ALUMNI CHAPTER

Alumni in Memphis, Tennessee, joined TBPI President **Craig Smith**, Executive Director **Curt Gomulinski**, and Director of Alumni Affairs **Tricia Gomulinski** for dinner at Ciao Bella Italian Grill on March 5. Area alumni were enthusiastic to sign the reactivation petition, and the Mid-South Alumni Chapter was officially reactivated on March 17, 2020.

To join the chapter, email **Harleigh E. Huggins**, *MS B '17*, at MidSouthAC@tbp.org.



CENTRAL CT ALUMNI CHAPTER

The Central Connecticut Alumni Chapter had planned a *TBPI* Day visit to an industrial museum in New Britain, CT, to be followed by pizza and pie, but both were canceled by COVID-19.

Two months later, on May 14th, the chapter re-booted with a meet and greet, where nine alumni met to consider future activities. This was followed on June 9 with a virtual tour of some of the industrial and technical museums in Connecticut and the Northeast.

Most recently, on June 23rd there was a virtual mentoring session held with CT Alpha in which opportunities in large and small businesses were discussed.

Image and summary thanks to **Stephen K. Kramer**, Ph.D., *UT B '81*. You can contact the CT Alumni Chapter at CTAlumni@tbp.org.

WANT TO JOIN AN ALUMNI CHAPTER?

Contact the Director of Alumni Affairs, Tricia Gomulinski, tricia@tbp.org or visit www.tbp.org/?Alumni to check on upcoming alumni events.

ALUMNI GATHERING PIONEER ALUMNI CHAPTER (OK)

Disruptions from the COVID-19 pandemic have had wide-ranging affects across government, academia, and industry with both personal and professional implications.



TBII Alumni Chapters have had to adapt to this with members impacted in all three sectors. The Pioneer Alumni Chapter has been trying to care for its members during these troubling times, while also remaining engaged with the local student chapters.

This year's *TBPi* Day landed on the Saturday at the start of spring break for Oklahoma State University (OSU), so the Pioneer AC decided to partner with the OK Gamma Chapter at OSU to distribute pies to engineering students on March 10. This allowed alumni and students to celebrate together and improve visibility on campus. In addition to distributing pies (right), students and alumni distributed Pi Day trivia and polished the campus Bent monument. (left)

OK Gamma was among the first chapters to have a virtual initiation ceremony with guidance from TBII HQ, hosting the

event on April 9. The Pioneer AC members were invited and attended the event to welcome the new members. This had a profound impact on student chapter leadership and initiates, seeing the alumni recognizing the significance of the event and showing the lifelong commitment to the ideals of the Society. It also showed that even the "seasoned" alumni members are still able to stay engaged through the latest information technology!

Special thanks to **Kurt P. Rouser**, Ph.D., *OH H '11*, for submitting these images and write-up. Contact the Pioneer AC at tbp.pioneer.alumni@gmail.com.



TRUST ADVISORY COMMITTEE: NEW MEMBERS ANNOUNCED

On July 1, the Association welcomed three new members (**Brent Beardsley**, **Yung Lim**, and **David Liu**), to the five-person Trust Advisory Committee (TAC).

To learn more about the TAC, visit our website: www.tbp.org/about/boards.cfm



Brent S. Beardsley
TX D '93
Chief Strategy
Officer, Vanguard,
Malvern, PA



Yung B. Lim
NJ D '87
Managing Partner,
RDG Funds LLC
Chicago, IL



James W. Johnson Jr.
NC A '77
Advisory Engineer
Nuclear Fuel Services,
Inc., Erwin, TN



David A. Liu
PA D '93
Founder and CEO,
Liucrative Endeavors
San Francisco, CA



Harry W. Lange
MI Z '75
Retired Manager,
Fidelity Fund
Miami Beach, FL

ASSOCIATION BRIEFS

DISTINGUISHED SERVICE PROFILE:

RODGER F. SMITH, WIA '64

Rodger F. Smith, retired managing director of Greenwich Associates, has been recognized for a remarkable 36 years of leadership, innovative ideas, and support for Tau Beta Pi; work that has impacted the lives of talented engineering students. Appointed to the Trust Advisory Committee (TAC) in 1983, Rodger became Chair in 1985 and led the TAC until December 31, 2019. Under his skillful direction, the trust grew to provide sound funding for TBPI's scholarships, fellowships, and other core programs. Among other contributions, Rodger spearheaded creation of the Vision Development Committee, a group of eight CEO's, chairmen, and leaders in academia, that formed in 2011 to help formulate a new plan or vision for TBPI. In 2012, he established the inaugural New York City Chapter of The Young Engineers Organization, a professional networking community for TBPI engineers (under age 40) to assist in building productive careers. His popular presentations on personal finance at Conventions with Harry W. Lange, *MI Z '75*, sparked the idea to offer professional development sessions each year at Convention on varied topics.



Tau Bate members for years to come will benefit from Rodger Smith's work, inspired by a clarity of vision and strong belief in the excellence of Tau Beta Pi. To Rodger, we are grateful for having had the opportunity to work with and learn from you.

SOCIAL MEDIA

On Instagram:



[instagram.com/tau_beta_pi/](https://www.instagram.com/tau_beta_pi/)

On Facebook:



[facebook.com/TauBetaPiHQ/](https://www.facebook.com/TauBetaPiHQ/)

On Twitter:



twitter.com/TauBetaPi

WordPress Blog:



taubetapiathq.wordpress.com/

Follow us on social media and tag us, so we can see your TBP images using #taubetapi.

We need YOU, to write for *The Bent*

The Editors of *The Bent* are frequently searching for well-written, general interest feature articles for the magazine. Many of you have the appropriate experience, are qualified, and capable of preparing such a feature.

Manuscripts can be between 1,000-3,000 words, and should be double-spaced and submitted as a text or MS Word document. Publishing decisions cannot be guaranteed.



Do you have a topic that would be suitable?

Email your proposal to media@tbp.org. Members working on interesting research or design projects are encouraged to submit an article.

Freshman STEM Scholarships

Every year, six incoming college freshmen are awarded a Tau Beta Pi—SAE International Engineering Scholarship of \$1,000 to pursue an engineering degree from an ABET accredited program. Below are some biographical details on the 2020-21 recipients.

Vijay Anne (Exton, PA) - biomedical engineering at Duke University

Carlo Bertolino (Tampa, FL) - aeronautics engineering at University of Southampton (UK)

Candace Do (Bellevue, WA) - mechanical & aerospace engineering at Princeton University

Gibson Hooper (Puyallup, WA) - computer engineering at California Polytechnic State University

Anna Iacocca (Kennett Square, PA) - chemical & biomedical engineering at Carnegie Mellon University

Tobe Obochi (Highland Park, IL) - computer science & engineering at Massachusetts Institute of Technology

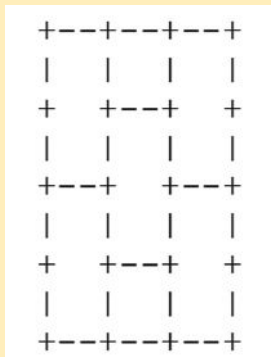
Nina Tedeschi (East Shodack, NY) - biomedical & mechanical engineering at Johns Hopkins University

New Fall Problems Cont.

3: Path to Goddess The Ratselgarten in Viena is famous for its twenty goddesses, whose statues stand at the junctions of its paths. The task of keeping them spick and span belongs to Stephan Schnitzel. Once a month, he dusts and polishes them, following a route of his own design which, without leaving the paths shown, takes him to each goddess exactly twice.

Each goddess has a different letter on the plan in his office and his order of visiting is, he tells me, P A D M O I C T F K G B J R H N L Q E S P A L Q J R H N D M O I C T S F E K G B. But, as you will no doubt spot without even being told which letter to put at which junction, he has made a small error in the telling. He has inadvertently put two consecutive letters in the wrong order somewhere. What are those two letters? Which letter is at which junction with goddess A placed as close as possible to the top left corner? In the diagram, each + is a goddess/junction; - and | are paths.

—A Tantalizer by Martin Hollis in *New Scientist*.



4: Cryptarithmic Game

Solve the following cryptic multiplication.

$$AB \times CDE = FGHIJ$$

with no zeros in the 5 digit number. Standard rules apply: no leading zeros, different letters are different digits, and base 10.

—Joseph Nabutovsky,
Father of member

5: Integers Problem

Find the smallest positive integers a, b, c such that $a^3 + b^4 = c^5$.

—Allan Gottlieb's Puzzle Corner in *Technology Review*

BONUS: The game of SETS is played with a deck of 81 cards, each card having a different combination of four properties: symbol shown (circle, triangle, or square); color of symbol (red, green, or purple); number of symbols on a card (one, two, or three of the same symbol); and type of symbol fill (outline only, solid color, or crosshatched). The deck is shuffled, and N cards are laid out, face up. The objective is to form sets of three cards from the laid out cards. When a set is made, it is removed and replaced with three new cards from the cards remaining in the deck. Three cards constitute a set, if, and only if, for the three cards, each of the four properties individually is either all the same or all different. Thus, three cards, one with one solid red triangle, a second with two outlined green triangles, and a third with two crosshatched red circles, do not make a set (two red cards, one green card; two cards with triangles, one with circles; and one card with one symbol, two cards with two symbols). But if we replace the third card with a card with three crosshatched

purple triangles, then we have a set: three different colors (red, green, purple); all the same symbol (triangles); three different numbers of symbols (1, 2, 3); and three different fills (solid, crosshatched, outlined). What is the maximum number of cards that can be initially laid out that contains no set?

—Howard G. McIlvried III, PA Γ '53

COMPUTER BONUS:

Find a 4 by 4 magic square such that the product of the numbers in each row, column, major diagonal, the four corners, and every 2 by 2 sub-square is the same constant. The numbers in the square must all be different positive integers, but they do not need to be consecutive integers. We want the square with the smallest magic product and the top left corner is the value 1.

—Howard G. McIlvried III, PA Γ '53

Email your answers (plain text only) to any or all of the Fall Brain Ticklers to TBP.BrainTicklers@tbp.org or by postal mail to **Dylan Lane, Tau Beta Pi, P.O. Box 2697, Knoxville, TN 37901-2697**.

The method of solution is not necessary. The Computer Bonus is not graded. Where possible, exact answers are preferable to approximations. The cutoff date for entries to the Fall column is the appearance of the Winter *Bent* which typically arrives in early January (the digital distribution is several days earlier). We welcome any interesting problems that might be suitable for the column. Dylan will forward your entries to the judges who are **J.C. Rasbold, OH A '83**; **J.R. Stribling, CA A '92**; **G.M. Gerken, CA H '11**; and the columnist for this issue,

— F.J. Tydeman, CA Δ '73

An UNVENTION for TBP in 2020

The COVID-19 pandemic led to cancellation of the in-person Convention in Atlanta this year. Plans have been made for a virtual "Unvention" that will include Professional Development sessions, a keynote speaker, committees, and a virtual recruiting fair. More details are available at www.tbp.org/?Unven. For recruiting fair info see www.tbp.org/?recruit.

Alumni Giving

Pre-Club Members/Contributors Continued from page 41.

- Jones, Norman Arthur '68
Kenny, Michael Douglas '63
Lehmker, Kenneth Alan '74
Olinger, Eugene Paul '75
Richey, George Earl '65
Schwenk, Thornton Duncan '63
Sorkin, Charles Edward '80
Spangler, Delbert R. '50
Thornell, Richard Earl '64
Young, Robert Charles '69
- IN B** Dekker, Don Louis '61
Spence, Andrew P. '68
- IN Γ** Malir, Matthew Jerold '20
Mercurio, James Michael '92
- IN Δ** Danker, William John '68
- IN E** Mereau, Oliver Pierre '02
Streater, Roy A. '86
- IA A** Lowe, Timothy Joe '65
Miller, Maurice Dean '58
Miller, Owen Wilton '69
Ressler, Harold K. '60
- IA B** †Karsten, Everett Emery '43
Long, Sherri Ann '79
- KS A** Gaumer, Dale J. '60
Harrison, Dwight Harwood '55
Isbell, Cletus Howard '58
Lake, Orley Leon '61
Prim, John Ernest '67
- KY A** Addison, David Glenn '78
Brackett, Jerry Lewis '71
Prell, Edward Myron '62
- LA A** †Baird, John Joseph '53
Rakigijja, Mirko '69
Rollo, Anita Hand '60
- LA B** Randolph, David C. '62
- LA Γ** Bunch, Barry Wayne '89
Ward, Dale Edgar '69
- ME A** Brown, Carleton Merle '49
Huff, Kenneth Edward '63
Mann, William Billings '49
- MD A** Mahmood, Qasim Ali '14
Williams, Cyril Labode '97
- MD B** Baer, Michael '69
Fribush, Marc Jason '94
Ksiazek, Karen Lee '85
Munach, Arnold Samuel '58
Sundlof, Rhonda Anderson '99
Uricheck, Andrew Robert '64
- MD Γ** Stevens, Christopher John '13
- MD Δ** Balieiro, Fellipe Fernandes '09
Gunther, Chris John '15
- MA A** Bjork, John Arthur '44
Crimmins, David Scott '58
- MA B** Bingel, Robert Adrian '92
Brigham, Robert Cyril '57
Kraine, Gilbert Louis '58
Ream, Allen Knute '62
Whitney, Alan Robert '66
- MA Δ** Calm, James M. '70
Filene, Robert Joseph '63
Sorgi, Aladino D. '61
- MA E** Mandeville, Gordon J. '68
Watkins, Gordon Harvey '77
- MA Z** Sullivan, Christopher Francis '81
- MA ⊕** Bing, James Michael '92
Semeter, Patricia Ann '85
- MI A** Glover-Cutter, Kira Marina '01
Pyzik, Robert Henry '53
- MI B** Anderson, Richard O. '71
Fream, Julie A. '83
Saari, Reynold Leonard '57
Averbook, Charles Jay '69
Carlson, Linda Elaine '70
Gilhool, Katherine Anne '00
Holt, Robert Karl '73
Lou, Zheng '84
Merte Jr., Herman J. '51
Milburn, Darrell Alan '67
Sproull, William Cargill '55
- MI Δ** Gutt, Donald Joseph '70
Scullen, Robert Sylvester '62
- MI E** Gutowski, Ronald Raymond '76
Henein, Naeim A. '49
Walrad, John Francis '58
- MI Z** †Dutro, Robert Glenn '53
Ivey, Ed Charles '70
- MI ⊕** Herrmann, Robert Alan '75
Quinn, Tom Ryan '18
- MI I** Hornsby, Bart Andrew '94
Smyth, Cameron Charles '12
- MN A** Berkner, Gary Roger '74
Gregorich, David Peter '62
Schmidt, Douglas A. '84
- MS A** Saxon, Daniel Isaiah '58
Seale, Ben Alan '61
- MO A** Eckert, Noel Wayne '74
Smith, Richard Vincent '72
- MO B** Martin, Robert Lee '49
Reifel, Allan James '72
†Schluemer, William Edward '58
Schmidt, Richard L. '64
- MT A** Anderson, Robert Charles '66
Wright, Stephen Dell '76
- NE A** Cecrle, Chad Adam '07
Sampson, David Allen '97
- NV A** Lee, Yiu-Chung Charles '84
- NH A** Heskestad, Gunnar '56
Hogan, James Francis '55
- NJ A** Fagel, Lawrence W. '59
Folk, Thomas John '69
Habert, William Charles '63
Jansson, Peter Allan '64
Kellenbence, Henry Charles '49
Kottke, William Curtis '73
- NJ B** Bates, Mark Allen '92
- NJ Γ** Chan, David C. '76
- Gallagher, Thomas P. '90
Shilling, Norman Z. '66
Singalewitch, Joseph Don '50
- NM A** Dintelman, Robert L. '73
McCready, Kem E. '80
- NY A** Cachules, Gary Neil '85
Tan, Yen T. '62
Yefremov, Grygorii '10
- NY B** Keiffer, Robert Lloyd '73
Kulpa, Theodore Andrew '62
- NY Γ** Barbash, William Arthur '55
Bottorff, David Elliott '61
Hopson, Norman Frank '49
King, William '57
- NY Δ** Martin, Francis Carl '51
Rathmell, John Macklin '71
Suss, Eric Burton '86
- NY E** Hathaway, Robert Newman '58
Passut, Robert Charles '67
Refowitz, Robert M. '67
- NY Z** Sandberg, Irwin Walter '55
Schweitzer, Robert William '52
†Wagner, Leonard Samuel '51
- NY H** James Jr., Alexander '61
Kahn, Robert E. '60
Kantor, Martin Ellis '48
Necula, Horia '83
Sandler, Stanley Irving '62
Stabinsky, Leon '57
Weiss, Ira M. '63
- NY ⊕** Cipollina, Joseph Domenick '09
Smith, Bakari Imaan '17
- NY I** Diskin, Glenn Stephen '84
Hayward, David Joseph '77
Printz, Gerd '63
- NY K** Tanner, Edward Clein '72
- NY Λ** Cathcart, Conrad W. '73
Dorfman, Ronald Sherman '63
Mayer, Harry Edward '89
Ruffett, Lee Stuart '56
- NY N** Agrusa, Russell Louis '76
McVay, Michael '77
Montgomery, Robert Curtiss '67
- NY Ξ** Baron, Ralph Joseph '53
LiVigni, James '82
- NY O** Lewis, Raynold '14
Noelsch, Robert Leslie '82
Taira, Noriko '18
- NY Π** Case, Gerald E. '96
Langkamp, Richard B. '83
- NY Σ** Kratz, Justin Christopher '05
- NC A** Rudisill, Jacob M. '75
- NC Γ** Dudley, John Gary '73
Rimer, Alan E. '64
- ND A** Fiala, Harvey E. '58
Gross, Eugene Lawrence '57
Sauber, James George '58
- ND B** Phillips, Monte L. '59

OH A Amos, William John '68
Laios, Cassandra T. '18
McFarland Jr., Ray Ira '71

OH B Chalk, David Lloyd '62
Dues, Jeffry '88
†Kiorpes, Stephen Anthony '52
Knapp, Gregory Warner '81
Knott, Ronald Paul '72
Proakis, John '59
Valanis, Kirk C. '55

OH Γ Conkle, Harold Nicholas '72
Crawshaw, James Robert '54
Davidson, Glen Lee '83
Helms, Jon David '57
Lowther, Roger '62
Safford, Robert R. '64
Seipel, Frank Edward '93
Swanson, Richard Marker '69
Tschanz, John Frederick '58
Wilson, Paul Richard '70

OH Δ Binsley, David '60
Buda, Steven M. '88
Logan, Lauren H. '10

OH E Handschuh, Robert Frederick '82
Rielinger, James J. '62

OH H Kelley, Gilbert Freeman '60

OH I Busch, Charles L. '63

OH K Schneider, Ronald Eugene '75

OH Λ Ries, Cynthia Ann '87

OH M Mau, Norman Lewis '85
Moore, Leah Beth '10
Perrino, Terri Ann '86

OK A Landrum, Ronald Grey '62

OK B Johnson, Stephen Graham '82

OR A Austin, Nolen Herald '18
†Hays, Donald Frank '51
Sterk, Frederick John '64

PA A Galgon, Robert Joseph '63
Granata, Dianne Marie '82

PA B Creese, Robert Claude '63
Huntzinger, Martin George '72
Patterson, David Alan '88
Polifko, John Terrance '70
Soltys, Peter William '77
Wambold Jr., James Charles '59
Williams, Russell Charles '75

PA Γ Atkins, Robert Steven '69
Fleckenstein, Joseph Edward '54
Krouskop, Andrew Carter '73
Poellot, James Howard '61
Seaverson, Erin R. '00
Silvey, Jeffrey David '96
Smith, John Richard '72
Stephenson, Robert Rhoads '58
Valarezo, Christopher J. '06

PA Δ Kramer Jr., J. David '57

PA E Baldoni Jr., Eugene '49
Platter, Lawrence '66
Purdy III, Herbert Witts '59

PA Z Raggousis, Maria '18
Rodebaugh, William Francis '92

Spitko Jr., John Edward '69
Ungerman, Fred Anton '51

PA H Buczynski, Robert John '61
Mighell, Edwin R. '52
Miller, Donald Kenworthy '59

PA Θ Mahle, W. Stephen '61

PA I Nicosia, Mark Andrew '92

PA Λ Shook, Eric Paul '89

PR A Sierra Jr., Jesus '86
Toro-Litts, Evelyn '93

RI B Berberian, Hapet Albert '67

SC A Lathrop, Jay Wallace '48

SC B Eisenstein, Howard Kent '67
Queen, William Edwin '60

SC Γ Forcier, John David '72

SD A Case, Laura Marie '15

TN A Adams, Michael Eugene '91
Dodd, Dickie Payne '70
Dunn, Robert Emmett '73
Henderson Jr., Henry LeRoy '81
Lambert, Lisa Renee '90
Marcom, Harvey Cline '63
Neville, Randall Lee '75
Thach Jr., Nathan Raymond '64
Tucker III, Ralph Alfred '69
Waller, J. Wayne '60
Waters, Terry Henry '71
Wilmoth, Kenneth Overton '63
Wyrick, Timothy William '92

TN B Harper Jr., Richard E. '64
Pettit, John Wayne '72
Thomas, Sandy Anderson '64

TN Δ Klein, Sally Anne '89
Perry, Mark Duane '90

TN E Sweigard, Rick J. '75

TX A Giuffre, Dennis Michael '64
Voigt, Richard Allen '69

TX Δ Davila Labastida, Jose Carlos '17
Ginnings, James Ira '56
Kunze, Otto Robert '50
Newsome Sr., Robert Reese '90
Smith, David Henry '68
Spurling, John Glen '79

TX H Hartman, Kenneth Wayne '97
Kadadavar, Naveen '09
Lanman, Maurice Wilder '97
Swift, LD '95

UT A Hulme, John Raymond '54

UT Γ Beal, Weston R. '92
Bodily, Travis Kim '03

VT A Curtis, Susan David '85

VT B Pratt, Lawrence W. '59

VA A Afferton, Thomas Scott '89
Furrow, James Arthur '69
Hardis, Richard Phillip '17
Owen, William Rodney '69
Shaw, Patrick Jonathan '93

VA B Bennett, James Preston '60
Bonin, Richard Allen '77
Hanson, Thomas Albert '54
†Kestler, James Edwin '56

Rapson, Robert Lee '63
Sproles, David Alton '77

VA Δ Pacine, H. Wayne '62

WA A Johnson, Brian E. '83
Love, Isaac Burton '20
Otohi, Tommy Y. '54
Yutani, Nobuo '52

WA B Hirzel, David Morrow '63
Pfeifer, Vickie Ann '83

WV A Bohrer, Lionel Curtis '55
Kopyar, Eugene Fred '56

WV B Murthy, Kris Hos '60

WI A Dorsey, Andrew David '00
Hunter, Joseph Henry '67

SPECIAL GIFTS IN MEMORY OF:

John J. Baird, LA A '53
from his family

G. Ronald Bower, DE A '62
from his wife, Elaine

Robert G. Dutro, MI Z '53
from his wife, Lynne

Donald F. Hays, OR A '51
from his wife, Alice

Everett E. Karsten, IA B '43
from his family

James E. Kesler, VA B '56
from his family

Stephen A. Kiorpes, OH B '52
from his family

Elton C. Ross, IN A '50
from his family

William E. Schluemer, MO B '58
from his family

Paul N. Spencer, WA B '51
from his family

Leonard S. Wagner, NY Z '51
from his wife, June

Stephen R. Whitesell, IN B '70
from his wife, Donna

ALUMNI NOTES

Your fellow Tau Bates are interested in news about **you**.



ALABAMA ALPHA '57

Harvey W. Parker Ph.D., P.E.

Harvey was awarded the Lifetime Achievement Award from the International Tunneling Association & Underground Space Association (ITA) at the ITA Tunneling Awards Conference. He pioneered the development of steel fiber shotcrete and spent five decades in the tunneling profession.



ILLINOIS BETA '69

Robert B. Johnson P.E.

Robert was honored by the Taft Alumni Association (IL) with induction into the high school "Hall of Fame." He spent 45 years as an engineer, performed outreach as a STEM proponent touching many young lives, and had professional assignments including the inspection of Wrigley Field.



ALABAMA EPSILON '20

Nicholas B. Naylor

Nicholas is the first Alabama Concrete Industries Association \$8,000 scholarship recipient. A Univ. of South Alabama civil engineering student, he previously joined the U.S. Marine Corps and served as an infantry team leader and also led his team in combat missions during tours of duty in Iraq.



MASSACHUSETTS BETA '82

Elizabeth Bradley Ph.D.

Elizabeth has been appointed to the Computing Research Association Board of Directors. She is a department of computer science professor at the University of Colorado at Boulder. She will chair the computing community consortium and received her B.S., M.S., and Ph.D. degrees from MIT.



CALIFORNIA ETA '99

Ramak Asgari J.D.

Ramak was granted the Lockheed Martin Extraordinary Engineering & Technology Award and selected as a 2020 Employee of the Year via *CAREERS & the disABLED Magazine*, for STEM outreach. She's a senior systems engineer at LHM Space and serves as a Chapter Advisor to CA Eta and CA Upsilon.



NEW JERSEY DELTA '20

Nicholas A.G. Johnson

Nicholas became the first black student to be named valedictorian in Princeton University's history. He interned this summer as a hybrid quantitative researcher and software developer at the D.E. Shaw Group, will begin Ph.D. studies in operations research at MIT, and is a 2020 TBI Fellow.



FLORIDA GAMMA '04

Cindy L. Bethel Ph.D.

Cindy has been appointed to the Computing Research Association Board of Directors. She is an associate professor and Director of the Social, Therapeutic, & Robotic Systems Lab at Mississippi State University and was selected as a Fulbright U.S. Senior Scholar to advance her research in Australia.



OHIO ZETA '84

John K. Estell Ph.D.

John was elected to a three-year term on the Board of Directors of the American Society for Engineering Education and will serve as chair of Professional Interest Council III. John is a professor of computer engineering & computer science at Ohio Northern Univ. and a TBI Fellow (1984).



FLORIDA GAMMA '86

Steve M. Krupa

Steve led Blackstone's acquisition of HealthEdge and is now CEO of HealthEdge, a software company focused on healthcare technology. He obtained a B.S. in mechanical engineering from the University of South Florida and spent 18 years as a healthcare venture capital partner at the Psilos Group.



TEXAS ALPHA '83

Julian F. Rosales P.E.

Julian is president of ITSA Panama. ITSA recently celebrated 20 years of providing engineering services, beginning operations in 1999 in the Republic of Panama. Company headquarters is located at Manzanillo port (Panama) and projects are carried out locally and internationally.



CALIFORNIA GAMMA '89

Michael A. Colglazier

Michael has been appointed as Virgin Galactic's new Chief Executive Officer. He spent more than 30 years at The Walt Disney Company, most recently overseeing the operations and development of Disney's parks and resorts outside of the United States.

Other highlights for Colglazier during his time at Disney include serving as president of the Disneyland Resort during the 60th Anniversary celebration and the start of construction on Star Wars: Galaxy's Edge.

Virgin Galactic is progressing through its test flight program and is preparing for commercial service. Colglazier will bring his experience in developing and growing consumer-oriented businesses strategically and commercially to the space travel efforts. In addition to being CEO, Colglazier also joins Virgin Galactic's Board of Directors. He earned his bachelor's degree in industrial engineering from Stanford University and his master's degree from Harvard Graduate School of Business Administration.

STUDENT ATHLETE PROFILES



MARYLAND DELTA '20

Miles Smith

Miles was named an MDC Association of Athletic Administrators, Post-Graduate Scholarship recipient. He ran the 800m for the indoor track & field season at the America East Championships, taking a bronze medal, a B.S. graduate from UMBC, and will attend Stanford Univ. for a master's degree.



NEW YORK MU '21

Ryan L. Puglisi

Ryan is a recipient of the Stephen Ritterbush '68 Award by the Union College Department of Athletics for best exemplifying sound mind and body, attributes of a scholar-athlete. He plays defense for the men's lacrosse team, majors in mechanical eng'g, and was All-Liberty League honorable mention.



MASSACHUSETTS ALPHA '20

Sydney R. Packard

Sydney was selected as track & field/cross country 1st team Academic All-American by CoSIDA. She was also named New England Region's Women's Indoor Track Athlete of the Year by the USTFCCA. She is a recent chemical engineering graduate from Worcester Polytechnic Institute.



NEW YORK MU '20

Katelynn M. Russ

Katelynn was selected for the Senior Scholar-Athlete of the Year Award by the Union College Department of Athletics. She completed her career as one of the top players (forward) in Union women's hockey history and earned a Smith Research Fellowship for her patent-pending tracheostomy research.



MASSACHUSETTS IOTA '20

Morgan A. Schrader

Morgan was named Female Senior Scholar-Athlete of the Year by the Western New England University Athletic Department. She was a two-year captain of the tennis team, earned All-CCC first team honors, and graduated in mechanical engineering with a concentration in mechatronics.



PENNSYLVANIA ALPHA '20

Conor E. Gaffney

Conor was selected as 2nd team Academic All-American by CoSIDA for men's lacrosse (offense). He double majored in mechanical eng'g & finance, was a two-time Patriot League Scholar-Athlete of the Year, three-time Academic All-American, and is a candidate for the prestigious Senior CLASS Award.

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Words / Art:
Krishna M. Sadasivam
krishnadraws.com



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