



SPRING 2021

# The Bent

Of Tau Beta Pi

THE ENGINEERING HONOR SOCIETY

**Young Leadership Profile**  
**Educational Focus:**  
**Integration & Interfaces**  
**NAE Fellows 2021**



# ALUMNI CHAPTERS

79 ALUMNI CHAPTERS  
47 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

Kansas City, KS  
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  
614,029 MEMBERS

6 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. State Poly 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  
**NE 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)  
**NY 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

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**COVER:** Krenar Komoni, CEO of Tive, Inc.

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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** Alan Brown takes us on Komoni's journey from war-torn Kosovo to CEO of Tive, Inc.



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VISIT [www.tbp.org](http://www.tbp.org)

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# COUNCIL'S CORNER

Mennatoallah M. Youssef, Ph.D., VA Γ '04, TBP 2021 Vice-President

## SHARE YOUR EXPERTISE—HELP BUILD A COMMUNITY

Your story and your experiences can help us grow.

Hello Fellow Tau Bates,

Here's to a new year filled with health and happiness for you and your family.

The social unrest of last summer triggered a lot of discussion among our membership about what the role of Tau Beta Pi should be with respect to diversity, equity, and inclusion. An earlier Council's Corner touched upon social injustice and our efforts to educate and listen to one another to become proactive partners in that space. During the race and equity conversations hosted by Tau Beta Pi, many of our members shared their experiences within the field of engineering. As individuals shared their personal stories, commonalities between each story were threaded together as if we were all telling the same story. I was saddened yet comforted by the fact that my experiences were not isolated.

The shared experience of marginalized individuals in the field of engineering is repeatedly marked by others doubting our abilities, whether it be unwarranted comments on our personality and skills or assumptions that we did not earn our place among our peers. Social categorizations, such as race, religion, sexual orientation, and gender, lead others to surmise we have received free passes to get ahead in the world and our skills are pushed aside and ignored. Our achievements are minimized and our failures are elevated to be the gold standard of our skill. The combination of the above as well as the internal pressure of proving ourselves, adapting to social communities that are not necessarily welcoming, and microaggressions we are taught to tolerate, makes the path to success in our careers an arduous journey.

When I was first elected to the Executive Council, I felt I was not always welcome, heard, or seen, but ultimately I learned to embrace those feelings.

Doing so filled me with a sense of empowerment and passion to carve out space where I otherwise was made to feel I did not belong. It also offered me an opportunity to engage in meaningful dialogue with fellow Councillors about my personal experiences. Sharing those personal experiences with the Council helped build empathy and raise awareness about how marginalized groups are treated. We became a stronger team that was more conscious of the experiences of our fellow members. While being in the room is the initial step for inclusion, it is merely the foundation for us to build upon. In the long-term, representation matters. It widens the window through which others can see their future potential, thereby building confidence for those to express their ideas and take ownership of our collective mission.

Why do I continue to volunteer for Tau Beta Pi? I believe in the mission of the Organization, and together we can effect positive change in our field of endeavor. The TBP Eligibility Code adopted by the 1926 Convention states, *"We consider that true integrity is the sine qua non for membership in Tau Beta Pi, that it transcends in importance scholarship, activity, and every other qualification. Without private and public integrity, we believe that no organization is worthy of existence. Under integrity, we include honor and high standards of truth and justice."*

As an Organization, we must go further to build a community that embraces what makes us different, reflects the world we see, and engages all groups of individuals. We must demonstrate leadership can be achieved by individuals who may not look like others who have come before them—the so-called idealized version of an engineer. By being mentors and leaders, we can give others the tools and training to reach their full potential. It's not enough for

an organization to be demographically diverse, it must also strive to ensure minorities feel like they belong. To foster a sense of belonging, we must create a space where those who are different feel safe speaking up and are comfortable making mistakes. Ultimately, our goal must be that every person feels like they can be their true selves.

Research shows that diverse organizations are more successful as they cultivate environments where skills are combined to offer better solutions and increase productivity. As our group evolves, we can offer unique solutions to problems facing the Association, the field of engineering, and our greater society. The strength of our Organization lies in the differences of our members.

Building on our Engineering Futures Equity, Inclusion, and Ethics module and the race and equity conversations held in December 2020, and March 2021, Tau Beta Pi is forming a Diversity, Equity, and Inclusion Committee. An initial task force has been charged to determine the mission of the committee, beneficial activities that can be initiated within the Association, and relevant partnerships with other honor societies and professional engineering organizations; additional information will be forthcoming. Consider offering your expertise on the committee, participating in activities, and listening to your fellow Tau Bates.

Please feel free to reach out at [myoussef@tbp.org](mailto:myoussef@tbp.org) to continue the conversation.

**MENNA YOUSSEF** works as a patent examiner for the USPTO. She joined the Executive Council in 2017, was re-elected in 2019, and will serve as president in 2022. Her B.S. and M.S. degrees in electrical engineering were earned at Old Dominion University and her Ph.D. is from Dayton University (OH).

Send letters to [media@tbp.org](mailto:media@tbp.org). Letters may be edited for length and clarity. Not all letters can be published.

## Alan Brown's Article

Thank you for your recent article: "Plug and Play Robots: Closer than you think." I enjoyed reading it. As an old engineer (EE UofMich) turned brain surgeon, I really appreciate the overview and has sparked more interest in this exciting area!

Keep up the excellent work, I appreciate it!

*Mark S. Adams, M.D., MI Γ '89*

## Member Recognition

(I was) Pleasantly surprised to have received this in the mail the other day from @TauBetaPi Headquarters. Thank you for following my career over the years. I appreciate everything the Organization has done for me and am a proud member of Tau Beta Pi.

*Kyle E. Zobeck, IN Δ '12*

## 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*

## The Editorial Staff apologizes for the following error:

In the Fall 2020 issue, on page 27, a scholar listing had the incorrect chapter (CT T); it should have been listed as below:

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

*Thank you to our readers for helping maintain the accuracy of the magazine. If you find an error or inconsistency, please email [dylan@tbp.org](mailto:dylan@tbp.org) or call 865/546-4578.*

Dylan Lane and Patricia McDaniel

## Diversity, Equity, and Inclusion: Joining the Conversation

In 2020, our country was impacted not only by COVID-19, but also by an increased awareness of social inequities. In the wake of ensuing massive civil unrest following the death of George Floyd, Tau Beta Pi released a *statement* ([www.tbp.org/?response](http://www.tbp.org/?response)) to members in June 2020, and also invited them to attend listening sessions that would offer a safe space for members to share their stories and experiences. Tau Beta Pi upheld that commitment by holding its first facilitated Conversations on Race and Equity. Two separate sessions were held on December 1, 2020, one with members identifying themselves as BIPOC (Black, Indigenous, People of Color (Asian, Latina), and the other attended by those who identified as White. On December 8, the group of 35 members came together to discuss ways that Tau Beta Pi can work to address any disparity that exists in the engineering profession. They also touched on a need to establish an enduring program that will serve as a vehicle to increase awareness of social and racial inequities.

Here are just a few of the recommendations from the group:

- Create diversity and inclusion action plan at the national level to support chapters.
- Work with HBCUs to establish more TBPI chapters.
- Provide diverse role models through STEM outreach to K-12 students.

- Collaborate with diversity groups such as SWE, SHPE, and NSBE.
- Suggest chapters do outreach activity in an underserved community.
- Create a committee on diversity and ask for volunteers from these sessions.

Another listening session is scheduled for late March. For more information, contact [pat@tbp.org](mailto:pat@tbp.org).

Recently, the Executive Council approved a proposal to charter a Diversity, Equity, and Inclusion (DEI) Committee with an initial two year term to focus on DEI throughout the Organization. Visit our website at [www.tbp.org/other/raceEquity.cfm](http://www.tbp.org/other/raceEquity.cfm) for resources on the topics of race, diversity, equity, and inclusion. Many of these were provided by the facilitators of the listening sessions and were used as references in the discussions.

## Bent Survey

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. Recently, we updated the design of *The Bent*. 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](http://www.tbp.org/?BentDesign)

# WHO'S WHO IN TAU BETA PI

Recognizing Tau Beta Pi accomplishments.

## Russell D. Dupuis Ph.D., *IL A '70* Nick Holonyak Jr. Ph.D., *IL A '50*

The 2021 Queen Elizabeth Prize for Engineering was awarded for the creation and development of LED lighting, which forms the basis of all solid state lighting technology. Recipients include Dr. Dupuis, chaired professor at Georgia Institute of Tech., and Dr. Holonyak, Endowed Chair Professor at the Univ. of Illinois, who invented the first (red) visible-light light emitting diode in 1962.



## Heather A. Doty

*Colorado Beta '00*

will serve as SWE President from July 2020 to July 2021. She is a project engineer at Ball Aerospace in Colorado working in the manufacturing and test operations organization on new business ventures, people integration, career development, and staffing. Previously, she worked on a variety of space hardware programs and has a B.S. in civil engineering from CU Boulder.



## Ryan G. Kobbe P.E.

*Wyoming Alpha '03*

was awarded the President's Medal by the American Society of Civil Engineering for exemplifying the essential qualities required for industry success for his generation of professionals. He is a project engineer with T-O Engineers, a practitioner advisor for ASCE, and former University of Wyoming instructor. His B.S. degree is in architectural engineering from UW.



## AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

# AAAS Announces New Fellows

The American Association for the Advancement of Science (AAAS) named 489 members who earned the lifetime distinction of AAAS Fellow. The title recognizes important contributions to STEM disciplines, including pioneering research, leadership, teaching and mentoring, fostering collaborations, and advancing public understanding of science. See the full list of 2020 AAAS Fellows at: [www.aaas.org/news/aaas-announces-leading-scientists-elected-2020-fellows](http://www.aaas.org/news/aaas-announces-leading-scientists-elected-2020-fellows)



Carbonell



Golubchik



Green



Klawe



Lambert



Sottos

**Laura A. Albert, Ph.D.**  
*IL A '00, University of Wisconsin-Madison*

**L. Catherine Brinson, Ph.D.**  
*VA B '85, Duke University*

**Ruben G. Carbonell, Ph.D.**  
*NY E '69, North Carolina State University*

**Kristen P. Constant, Ph.D.**  
*IA A '86, Iowa State University*

**Lorrie F. Cranor, D.Sc.**  
*MO I '96, Carnegie Mellon University*

**Susan Daniel, Ph.D.**  
*NY A '99, Cornell University*

**Kenneth D. Forbus, Ph.D.**  
*MA B '77, Northwestern University*

**Eric M. Furst, Ph.D.**  
*PA I '95, University of Delaware*

**Richard D. Gitlin, Sc.D.**  
*NY H '64, University of South Florida*

**Leana Golubchik, Ph.D.**  
*CA E '89, Univ. of Southern California*

**Johney B. Green Jr., Ph.D.**  
*TN E '92, National Renewable Energy Lab*

**Isaac M. Held, Ph.D.**  
*MN A '69, Princeton University*

**Michael C. Jewett, Ph.D.**  
*CA E '99, Northwestern University*

**Vistap M. Karbhari, Ph.D.**  
*CA Ψ '84, University of Texas at Arlington*

**Behrokh Khoshnevis, Ph.D.**  
*OH A '79, Univ. of Southern California*

**Maria M. Klawe, Ph.D.**  
*CA Ω '73, Harvey Mudd College*

**Gerhard Klimeck, Ph.D.**  
*IN A '90, Purdue University*

**Sanjay Kumar, Ph.D., M.D.**  
*MN A '96, University of Calif., Berkeley*

**James H. Lambert, Ph.D.**  
*VA A '93, University of Virginia*

**JoAnn S. Lighty, Ph.D.**  
*UT A '82, Boise State University*

**Uday B. Pal, Ph.D.**  
*PA B '84, Boston University*

**Jason R. Petta, Ph.D.**  
*IL A '97, Princeton University*

**Gintaras V. Reklaitis, Ph.D.**  
*IL B '65, Purdue University*

**Nancy R. Sottos, Ph.D.**  
*DE A '86, Univ. of Il at Urbana-Champaign*

**Paul J. Turinsky, Ph.D.**  
*RI B '66, North Carolina State University*

**John L. Volakis, Ph.D.**  
*OH A '78, Florida International University*



# Elects 129 New Members

The NAE has elected **106 new members** and **23 international members**, President John L. Anderson, *Ph.D., DE A '67*, announced in February. Election to the Academy is among the highest professional distinctions accorded to an engineer. It honors those who have made outstanding contributions to "engineering research, practice, or education" and to "pioneering of new and developing fields of technology and making major advancements..." **The 29 new Tau Beta Pi/NAE members are listed below.**

**John G. Aunins, Ph.D., *KS A '83***

Senior Advisor, Bioprocess and Manufacturing, Seres Therapeutics Inc. For advances in bioprocess engineering, the introduction of new vaccines, and development of microbiome-based products.

**Carlos A. Cabrera, *KYA '73***

Executive Chairman, Board of Directors, Genomatica Inc. For leadership in developing and commercializing widely adopted processes for fuels and intermediate chemicals.

**Lance R. Collins, Ph.D., *NY D '81***

Dean of Engineering, Cornell University. For contributions to understanding turbulent processes, leadership in engineering, and contributions to the diversity of the professions.

**Catherine Ford Corrigan, Ph.D., *PA D '90***

President and CEO, Exponent Inc. For elucidation of injury mechanisms and mitigation, and leadership in biomechanical engineering and scientific consulting.

**Peter J. Delfyett Jr., Ph.D., *NY H '81***

Professor of Optics, ECE, and Physics, University of Central Florida. For contributions to development and commercialization of low-noise, high-power ultrafast semiconductor lasers.

**Francis J. Doyle III, Ph.D., *NJ D '85***

Professor and Dean, Paulson School of Engineering and Applied Sciences, Harvard University. For insights into natural biological control systems and innovative engineering of diabetes control devices.

**Frederick L. Dryer, Ph.D., *NY G '66***

Distinguished Research Professor, ME, University of South Carolina. For contributions to understanding of combustion processes for propulsion and transportation applications and for fire safety.

**Andrés J. Garcia, Ph.D., *NY D '91***

Professor, ME, Georgia Institute of Tech. For contributions to molecular engineering of biomaterial surfaces and cell adhesion force technology to characterize stem and cancer cells.

**Christopher T. Jones, Ph.D., *GA A '86***

Chief of Operations, The Leadership Compass. For leadership of defense logistics, sustainment, training, and system readiness in support of U.S. national security.

**Jackie Y. Ying, Ph.D., *NY I '87***

Executive Director, Inst. of Bioengineering & Nanotechnology, Singapore. For contributions at the interface of nanostructured materials, nanomedicine & diagnostic devices to improve human health.

**David L. Kaplan, Ph.D., *MA D '75***

Professor in Engineering and Distinguished University Professor, Dept. of Biomedical Engineering, Tufts University. For contributions to silk-based materials for tissue engineering and regenerative medicine.

**Thomas F. Kelly, Ph.D., *MA E '77***

Founder and CEO, Steam Instruments. For design and commercialization of the local electrode atom probe to yield 3D atomic-scale analysis of materials.

**Anne H. Kiremidjian, Ph.D., *NY A '72***

Professor, Dept. of Civil and Environmental Engineering, Stanford University. For research and dissemination of probabilistic seismic hazard methods and mentoring.

**Roger A. Krone, *GA A '78***

Chairman and Chief Executive Officer, Leidos Inc. For technical leadership in industry engineering and advances in aerospace and information technology programs.

**Joshua Makower, M.D., *MA B '85***

General Partner, New Enterprise Associates. For inventing balloon sinuplasty, and for leading the commercialization of this and multiple other innovations.

**James O. Malley, P.E., S.E., *CA A '80***

Group Director and Senior Principal, Structural Engineering, Degenkolb Engineers. For leadership in improving seismic design.

**Louis Martin-Vega, Ph.D., P.E., *PR A '68***

Professor and Dean, COE, North Carolina State Univ. For support of engineering and engineering education through industry-academic collaboration and opportunities for underrepresented groups.

**Margaret R. Martonosi, Ph.D., *NY D '86***

Professor, Department of Computer Science, Princeton University. For contributions to power-aware and power-efficient computer architectures and mobile systems.

**David J. Perreault, Ph.D., *MA H '89***

Professor of Electrical Engineering, Massachusetts Institute of Technology. For contributions to power electronics technology and design techniques for very high frequency energy conversion.

**Joseph B. Powell, Ph.D., *VA A '78***

Retired Chief Scientist Chemicals and New Energies Technology, Shell International Exploration and Production Inc. For contributions to process developments in energy, chemicals, and biofuels technologies.

**William A. Radasky, Ph.D., *CA S '81***

President & Managing Engineer, Metatech Corp. For leadership in the development and application of electromagnetic transient disturbance and protection standards for national security and commercial systems.

**Theodore S. Rappaport, Ph.D., *IN A '82***

Chaired Professor, Tandon School of Engineering, New York University. For contributions to the characterization of radio frequency propagation in millimeter wave bands for cellular communication networks.

**Mark P. Sarkisian, P.E., S.E., *CT B '83***

Partner, Structural and Seismic Engineering, Skidmore Owings and Merrill LLP. For innovation in efficient and aesthetic design of tall buildings and structures.

**Winston O. Soboyejo, Ph.D., *MA A '85***

Senior Vice President and Provost, Worcester Polytechnic Institute. For contributions to understanding dynamic behavior of materials and for leadership in STEM outreach in Africa.

**Jefferson W. Tester, Ph.D., *NY D '67***

Professor of Sustainable Energy Systems, School of Chemical and Biomolecular Engineering, Cornell University. For leadership in development of novel renewable energy systems.

**Levi T. Thompson Jr., Ph.D., *MI G '81***

Dean, College of Engineering, and Professor, Dept. of Chemical & Biomolecular Engineering, University of Delaware. For advances in catalysis and energy storage, entrepreneurship, and academic leadership.

**Vickie A. VanZandt, P.E., *WA A '76***

President, VanZandt Electric Transmission Consulting Inc. For contributions to advanced transmission, protection, and wide area monitoring systems.

**Donald R. Wilton, Ph.D., *IL A '64***

Professor Emeritus, Dept. of Electrical and Computer Engineering, University of Houston. For contributions to computational electromagnetics of highly complex structures.

**Alejandro L. Valdivieso, Ph.D., *SD A '80* (International Member)**

Profesor Investigador, Area de Ingenieria de Minerales, Universidad Autonoma de San Luis Potosi, Mexico. For contributions to the processing of complex sulfide ores and educational leadership.



# KRENAR KOMONI: FROM BLOODY WAR TO SUCCESSFUL STARTUP

by Alan S. Brown

**KRENAR KOMONI THOUGHT HE COULD MAKE IT AS A PRO SOCCER PLAYER. INSTEAD, HE ESCAPED A WAR TO LEAD A SUCCESSFUL STARTUP.**

When Krenar Komoni, CEO of Tive, Inc., was growing up in Pristina, Kosovo, he loved playing goalie in soccer. He played on hard dirt and sometimes concrete, but never hesitated to throw himself to the ground to stop a ball. It was his passion.

Yet, what he loved most about the position was the way it let him lead his teammates. “I could see the whole game,” he said. “It was like conducting a symphony. I told my defensemen where to go, motivated them, and screamed at them.”

He never played on grass until he joined the local Pristina club. He was short for a goalie, but the club’s trainer thought his skills and passion could make Komoni a pro. Komoni thought so too.

It was heady music in a post-Cold War nation with limited opportunities.

Yet by the time he turned 14, he had decided to leave soccer. “I thought, if I’m injured, I’d have no future,” he said. “If I can use my brain, I think I can do more things in my life.”

That combination of passion and dispassionate analysis defines Komoni. It shaped his career and ultimately led him to found Tive, a company that makes sensor systems for truckers carrying perishable and environmentally sensitive products. But to get there, Komoni first had to survive a bloody war in Kosovo.

### UNDER SIEGE

Komoni was born in Pristina, the Albanian-speaking capital of Kosovo, in 1983, six years before the Berlin Wall fell. His father was a mechanical engineer, his mother a journalist who wrote poetry.

A natural in math, Komoni was onto computers by the time he was 12. PCs were rare in Yugoslavia, but his father had an IBM 386 PC and taught him DOS. Komoni learned C programming while laid up two weeks with a fractured knee.

He also taught himself animation. “I downloaded a 15-second *Toy Story* trailer over a modem,” Komoni said. “It took forever, and it was small and pixelated, but I must have watched that video close to one thousand times. I thought, ‘There’s got to be a way to learn to do this.’ So I started learning 3D Studio Max, an animation program, when I was 12.”

At 16, he got a job doing animation for a local television station. “There was an ad in a newspaper, and I got an interview,” Komoni said. “I came in and I was a kid and the guy interviewing me was much older. He sat me down and had me draw a cube and a sphere, and move them around. Then I showed him a few things that I had already done, and he was just shocked.”

He could not believe it. He worked from May to September and part-time on weekends during school. He earned more than his parents.

The income helped. The old Yugoslavia was fracturing into a jumble of ethnic states. Kosovo was part of Serbia, which wanted the Albanians out. In 1998, the



TOP: Krenar's high school in Kosovo.  
BOTTOM: Krenar (far right) with family in Istanbul in 1997.

Serb government began firing Albanians. Komoni's parents lost their jobs, though his mother brought in hard currency by running English classes for children at home. At night, Komoni dreamed of drinking a Coca-Cola or having a whole tomato to himself.

In March 1999, the Serb army advanced and the fighting in Pristina heated up. Komoni would put his school bag next to the window so its books would stop stray bullets. One day, as tanks rolled through the city a mile away, he and a friend sheltered under a first-floor balcony until the shooting stopped.

Because she was a journalist, Komoni's mother could see where events were heading. She left with Komoni, his brother, aunt, and grandmother on a bus to Turkey, bribing border guards

along the way. In Turkey, she took a job as a reporter. Komoni's father stayed behind.

"As a reporter, she went to one of the massacre scenes, but she never shared the details," Komoni recalled. "She tried to protect us."

Life went on. "You could just sit and worry, or you could go out and do something," Komoni said. "For me, I thought I might as well learn as much as I could."

## COMING TO AMERICA

Komoni eventually returned to Kosovo, but wanted the best university education he could get. He found a family in Tulsa, OK, who would host him while he spent his senior year at their local high school. Elated, he flew to Albania, which was handling U.S. visas for Kosovo exiles. But the rules had changed. He needed an appointment. When he told the host family that he would be delayed, they decided not to host him.

Fortunately, one of his friends worked for Jonathan Hoffman, an American doing humanitarian work in Kosovo who now heads Direct Aid International. Hoffman put an ad in his hometown newspaper in Northfield, VT, and Komoni soon had a sponsor.

He returned to Albania for his visa. When he walked in the house, the television was showing a jet crashing into the second World Trade Center tower. "I could not believe my eyes," he said. "I thought it was a movie, but then the reality hit."

Finally, on November 2, at 17, he flew to America and enrolled in Northfield High School. He also began taking some classes at nearby Norwich University, a military academy. It eventually offered him a scholarship. He had originally planned to major in astrophysics, but switched to computer engineering when his advisor promised a better scholarship and more career opportunities. He also majored in math and minored in computer science.

In his junior year, he interned at Bit-Wave Semiconductor, a startup developing programmable transceivers for base stations and cellphones. "I fell in love with radio frequency engineering because it was abstract and yet you could build things," Komoni said. "It



# THE PROFILE

**NAME:** Krenar Komoni

**CURRENT POSITION:** CEO, Tive, Inc. 2015-present.

**BIRTHPLACE:** Pristina, Kosovo, 1983.

**HIGHEST DEGREE:** Master of Science, Electrical Engineering, Tufts University, 2008. Ph.D., begun in 2011, all but dissertation complete.

### MAJOR CAREER HIGHLIGHTS:

Koha Vision—KTV, Technical Engineer/Special Effects designer, 2008. BitWave Semiconductor, Design Engineer, 2008-10; VP Engineering, eco SolidStateDrive Corp., 2010-11; Eta Devices, RF/Systems Engineer, 2011-12; Managing Partner, PhoenixRF Technologies, 2012-15; CEO/Founder, Tive, Inc., 2015-present.

**HONORS:** Tau Beta Pi R.C. Matthews Outstanding Chapter Award, Norwich University, 2004-05.

**GREATEST ACCOMPLISHMENT:** Having two amazing kids.

**FAMILY:** Elisa, wife, 2010.

He has two children: Fiona and Darsen.

**LEADER MOST ADMIRED:** Soichiro Honda, the founder of Honda Motor Co. He had to face extremely difficult challenges, including an earthquake that destroyed his popular motorcycles and then automobiles, but he never gave up.

**HOBBIES:** Playing video games, especially soccer games, and spending time with his children.

**FAVORITE BOOKS:** *How to Win Friends and Influence People* by Dale Carnegie and *Think and Grow Rich* by Napoleon Hill.

**PERSONAL MOTTO:** Adapt and overcome. I learned this at Norwich University.

**IF YOU COULD DO ONE THING OVER:** I listened to old men and women who had regrets. I do not want to wish there was anything I wished I could do over.



was magic how the bits were flowing.” At the urging of one of his coworkers, he stayed in school and earned a master’s in electrical engineering at Tufts University. After graduation, he joined BitWave, where he surprisingly found himself developing some serious technology management chops.

## CAREER

BitWave was designing a programmable chip, but Komoni soon realized that no one could tell him when it would be finished. So, he approached chief technology officer Geoff Dawe, a fellow Norwich alumnus, and proposed a spreadsheet with timelines for the project’s many strands.

“The design engineers were much older than me, and I didn’t think I had the power to do this,” Komoni said. “And Dawe said to me, ‘Nobody gives you power. You just go and take it.’ It was a nice way of saying, ‘Do it, but we’re not paying you more.’”

Komoni started talking with the other engineers. He was surprised to find that they liked sharing their progress and were honest about where things stood. The roadmap he put together was off by only two or three weeks over the six-month time span.

More importantly, though, it changed how Komoni viewed himself. “I realized that I had the potential to lead really smart people who were experts in their technologies,” he said.

“It’s a really challenging thing to do. I’ve seen vice-presidents of engineering fail at that left and right. But I realized



I might have the gift to manage engineers because I could empathize with what they were going through.”

It was a good start, but BitWave changed. It had a new CEO who was less transparent. Komoni could see the writing on the wall and left after two years, a few months before the business closed.

Shortly after Komoni was accepted into the Ph.D. program at Tufts, MIT engineer **Joel L. Dawson, Ph.D.** (MA B ’96), who had consulted with BitWave, recruited him to be the first employee of Eta Devices. Eta planned to create the world’s most efficient base station. Komoni said yes only after he and Dawson convinced his advisor at Tufts to let him do a part-time Ph.D.

After a couple of years, Dawe, BitWave’s former CTO, asked Komoni to start a consulting firm with him. In December 2012, they formed PhoenixRF Technologies. Its communications projects ranged from satellite chipsets to RF transmitters for digestible pill-sized cameras.

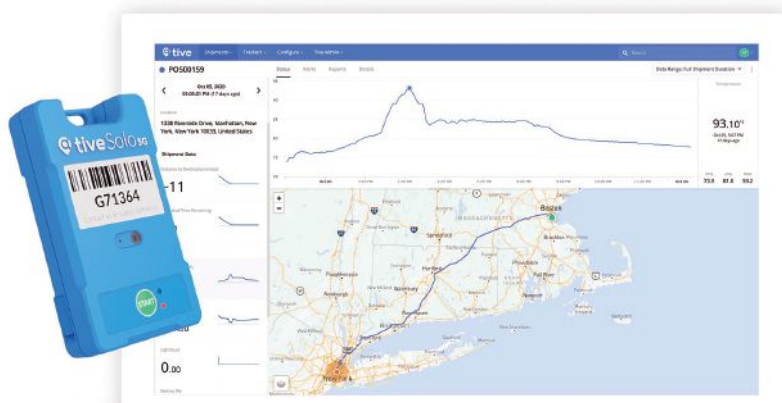
LEFT: Young Krenar at Norwich University. ABOVE: Krenar, center with tie, at graduation with his electrical engineering class at Norwich.

PhoenixRF was a big success. Komoni was now married to Elisa, a woman he had met at an Albanian Independence Day party. He seemed ready to settle down. Then, he learned something surprising about his father-in-law’s business.

## TIVE

Elisa’s father owned a small trucking company. When Komoni visited her parents’ home, her father was often on the phone late into the night trying to locate his drivers. If they did not answer, he was flying blind. So, Komoni volunteered to put some GPS trackers on his trucks.

The result was more kludge than elegant. But once he attached it to a truck’s CB radio, his father-in-law—and some of his friends—could see where their fleets were any time, 24/7.



Single-use multi-sensor tracker provides real-time visibility into the location, temperature, humidity, shock, and light of goods in transit.



Krenar (center) at the 2005 TBP Convention in Salt Lake City, Utah, where he accepted the Outstanding Chapter Award. (Left to Right) Dennis J. Tyner, Ph.D., Matt W. Ohland, Ph.D. (FL A '96), and Carol E. Stephens, Ph.D. (TN E '91).

One of those friends told Komoni about the sensors used to track fish and other perishables. They recorded a shipment's temperature, but they stored the data on a chip that could be read only after the goods arrived. Still, it could show if, say, a shipment of berries had frozen and could no longer be sold and whether the trucker or seller were to blame.

That got Komoni thinking. If he could add a temperature sensor to his GPS tracker, it could warn the trucker if there was a problem right away. He could add a humidity sensor, an accelerometer to detect forces that caused breakage, and even a light sensor (because a light and temperature spike would show that someone had opened the refrigerator truck door).

To do this, he needed low-powered sensors that retained their charge for a week or more. Fortunately, the emerging internet of things—the use of wide-area, low-power networks to monitor and communicate a product's condition and location—had created exactly what he needed.

Alone, wiring those trucks, Komoni realized this was a bigger opportunity than he had originally thought. Visualizing the business and how it could grow gave him the courage to leave PhoenixRF and devote himself full-time to Tive.

Still, he needed money to fund R&D. Komoni had no experience with venture capitalists (VC). What he knew, he laughs, came from watching *Shark Tank*, a television show about business startups. But he had a plan.

His method was to build on any positive feedback he received. In the beginning, there was not much. But after each meeting, he would try to amplify what he was doing right and address his shortcomings before sitting down with the next VC. He also took their recommendations to heart.

"They didn't know me when I walked in the door," Komoni said. "But if I actually did the things I said I would do and addressed their concerns, then I started to build trust. It's not rocket science, right?"

Eventually, he found an investor who believed in him. But Hyperplane Ventures first wanted to see a lead investor. That meant building a prototype and nailing down his first customer, which turned out to be Nokia. That earned Tive seed money. In late 2020, Tive raised another \$12 million.

## LEADERSHIP

It was not a straightforward path. As Tive's sales rose, it lacked the money to expand. Komoni had to let 8 of his 15 employees go. "It was one of the most difficult things I had to do," he said. "I hired those people and I valued them."

Those who remained went on half-pay for a month. Komoni promised to do whatever it took to get them to full pay and compensated them with more shares in the company.

Komoni credits his extreme transparency with keeping the company afloat. He wanted his employees to know where they stood even when things were tough, and to let everyone know what he was doing to fix things. That builds loyalty. "Many leaders are afraid employees will leave if they give them bad news," he said. "I think they'll leave if you don't tell them the truth."

Discipline is also a key element of his leadership style. He credits **Dennis J. Tyner, Ph.D.** (MA E '85), a former TBII Executive Councillor and his advisor when Komoni led the Vermont Beta Chapter at Norwich. "He had an amazing work ethic," Komoni said. "He was in his office late. He might feel sick, but he would show up and he never let anything bring him down. Emotionally, he was very strong." Komoni emulated those traits and VT Beta completed more than 20 projects in a single year and won the R.C. Matthews Award for the Association's outstanding chapter.

And then there is risk. When Komoni was young, he heard people talk about an opportunity they did not take. "They thought the risk was too great and they wondered what if," he said. "I never wanted that regret in my life. That's why I look at risk the way I do. I don't want to look at the past and say, 'I wish I had done that.'"

Given his life's twists and turns so far, this is not a sentiment Komoni should worry about in the future.

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**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](mailto:insight01@verizon.net)

# CHAPTER ENDOWMENT INITIATIVE

The Chapter Endowment Initiative (CEI) program, launched in Spring 2014, allows alumni, companies, and foundations to permanently endow the Association's activities that support any of our 250 student chapters. Last year we reported 33 gifts/pledges and this year we have another 21 to add to the list as we strive to endow all of our chapters.

## \$4,219,000

The value of the Chapter Endowment Initiative fund, including growth and interest, at TBP's fiscal year-end (July 31, 2020).

### MINIMUM GIFT AMOUNT:

The minimum gift being accepted for this initiative is \$5,000. All checks received that are designated for this initiative in an amount less than \$5,000 will be paid into Tau Beta Pi's annual fund which supports the same programs as the initiative.

### HOW YOU CAN HELP:

There are a number of ways to support this initiative. Checks can be made out to "Tau Beta Pi - The Engineering Honor Society" and sent to Tau Beta Pi, Attention: Curtis Gomulinski, Executive Director, P.O. Box 2697, Knoxville, TN 37901-2697. Other options include gifts of highly appreciated stock held for over one year as well as matching gifts, IRA rollover gifts, and including Tau Beta Pi in your estate plans.

### TAX-DEDUCTIBLE:

Gifts through this initiative will be reflected in an individual's total giving to TBPI. As a non-profit Organization, we are exempt from federal income taxes under Section 501(c)(3) of the Internal Revenue Code. Your gift is tax-deductible to the full extent allowed by law.



### Newly Received Gifts & Pledges

**Donald C. Forslund, NJ A '60**  
NEW JERSEY ALPHA  
Stevens Inst. of Tech.  
**\$25,000**

**Roy F. Quick Jr., MA B '70**  
MASSACHUSETTS BETA  
Massachusetts Inst. of Tech.  
**\$15,000**

**David D. Kilzer, IA A '96**  
CALIFORNIA EPSILON  
Univ. of California, Los Angeles  
**\$5,000**

INDIANA EPSILON  
Trine University

**\$5,000**  
PENNSYLVANIA THETA  
Villanova University  
**\$5,000**

**Michael & Tina Pierce, CO A '90/'89**  
COLORADO ALPHA  
Colorado School of Mines  
**\$10,000**

**Robert M. Ferencz, Ph.D., OH A '80**  
OHIO ALPHA  
Case Western Reserve University  
**\$6,704**

**Anonymous, TX A '63**  
TEXAS ALPHA  
University of Texas at Austin  
**\$6,240**

**John F. Angle, M.D., NY A '82**  
NEBRASKA ALPHA  
University of Nebraska-Lincoln  
**\$5,000**

**Alan V. Dausman, P.E., IN E '77**  
INDIANA EPSILON  
Trine University  
**\$5,000**

**William R. Goodin, Ph.D., CA E '75**  
CALIFORNIA EPSILON  
Univ. of California, Los Angeles  
**\$5,000**

**David L. Hanson, WI I '86**  
WISCONSIN GAMMA  
University of Wisconsin-Milwaukee  
**\$5,000**

**Irwin M. Jacobs, Sc.D., NY A '56**  
CALIFORNIA PSI  
University of California, San Diego  
**\$5,000**

**Howard E. Jessen, CA B '46**  
CALIFORNIA BETA  
California Institute of Technology  
**\$5,000**

**Robert E. Levin, Ph.D., CA I '53**  
CALIFORNIA GAMMA  
Stanford University  
**\$5,000**

**Leo Millstein, IN A '70**  
INDIANA ALPHA  
Purdue University  
**\$5,000**

**Bobby S. Shackouls, MS A '72**  
MISSISSIPPI ALPHA  
Mississippi State University  
**\$5,000**

**William F.H. Sinclair, MS A '63**  
MISSISSIPPI ALPHA  
Mississippi State University  
**\$5,000**

**Peter H. Soderberg, CT A '68**  
INDIANA BETA  
Rose-Hulman Institute of Tech.  
**\$5,000**

**William E. Van Wagenen Jr., NY O '78**  
NEW YORK THETA  
Clarkson University  
**\$5,000**

**Anonymous, PA A '90**  
PENNSYLVANIA LAMBDA  
University of Pittsburgh  
**\$5,000**

**Lena & Elmer Boyle, PA Z '59**  
PENNSYLVANIA ZETA  
Drexel University  
**Deferred Gift**

**Steven F. Stanley, Ph.D., MN A '84**  
MINNESOTA BETA  
University of Minnesota, Duluth  
**Deferred Gift**

### THE CHAPTER ENDOWMENT INITIATIVE:

You can learn more about the progress and developments of the CEI on our website at [www.tbp.org?CEI](http://www.tbp.org?CEI) or by contacting Director of Development Sherry Jennings-King, TN Alpha '93, by phone at (612) 226-2922 or by email at [development@tbp.org](mailto:development@tbp.org).

The goal of this initiative is to endow all collegiate chapters to provide permanent funding for the activities that benefit the students of those chapters. Chapters with support above \$80,000 are eligible to receive grants to support their activities; Headquarters will contact the chapters once funding is available. In addition to the chapters mentioned on the previous page, as of January 31, 2021, the Association has received cash and pledges totaling less than \$100,000 for each of the chapters listed below.

<b>ALABAMA ALPHA</b> \$5,000	<b>COLORADO ALPHA</b> \$20,000	<b>MARYLAND GAMMA</b> \$10,000	<b>NEW YORK KAPPA</b> \$15,071	<b>TENNESSEE ALPHA</b> \$60,000
<b>ALABAMA GAMMA</b> \$20,000	<b>COLORADO BETA</b> \$20,000	<b>MARYLAND EPSILON</b> \$5,000	<b>NEW YORK MU</b> \$15,000	<b>TENNESSEE BETA</b> \$5,000
<b>ALABAMA EPSILON</b> \$5,000	<b>DELAWARE ALPHA</b> \$5,000	<b>MASSACHUSETTS BETA</b> \$45,000	<b>NEW YORK NU</b> \$5,000	<b>TEXAS ALPHA</b> \$21,240
<b>ARIZONA ALPHA</b> \$5,000	<b>D.C. ALPHA</b> \$5,000	<b>MICHIGAN ALPHA</b> \$25,000	<b>OHIO ALPHA</b> \$50,329	<b>TEXAS GAMMA</b> \$5,000
<b>ARIZONA BETA</b> \$10,000	<b>FLORIDA ALPHA</b> \$5,000	<b>MICHIGAN ETA</b> \$5,075	<b>OHIO DELTA</b> \$35,000	<b>TEXAS DELTA</b> \$25,000
<b>ARKANSAS ALPHA</b> \$5,000	<b>FLORIDA GAMMA</b> \$5,000	<b>MICHIGAN IOTA</b> \$8,040	<b>OHIO MU</b> \$5,000	<b>TEXAS ZETA</b> \$10,000
<b>CALIFORNIA ALPHA</b> \$35,000	<b>FLORIDA EPSILON</b> \$5,171	<b>MINNESOTA ALPHA</b> \$20,000	<b>OREGON ALPHA</b> \$10,000	<b>TEXAS THETA</b> \$5,000
<b>CALIFORNIA BETA</b> \$25,084	<b>GEORGIA ALPHA</b> \$40,886	<b>MISSISSIPPI ALPHA</b> \$95,000	<b>PENNSYLVANIA BETA</b> \$40,000	<b>TEXAS IOTA</b> \$5,000
<b>CALIFORNIA GAMMA</b> \$62,000	<b>ILLINOIS GAMMA</b> \$25,857	<b>MISSOURI BETA</b> \$10,000	<b>PENNSYLVANIA GAMMA</b> \$5,000	<b>TEXAS NU</b> \$35,031
<b>CALIFORNIA EPSILON</b> \$80,000	<b>INDIANA ALPHA</b> \$40,000	<b>MONTANA ALPHA</b> \$5,000	<b>PENNSYLVANIA DELTA</b> \$5,000	<b>VIRGINIA BETA</b> \$50,069
<b>CALIFORNIA ZETA</b> \$15,000	<b>INDIANA BETA</b> \$5,000	<b>NEBRASKA ALPHA</b> \$15,000	<b>PENNSYLVANIA ZETA</b> \$10,000	<b>WASHINGTON ALPHA</b> \$20,000
<b>CALIFORNIA ETA</b> \$25,000	<b>INDIANA EPSILON</b> \$30,000	<b>NEW HAMPSHIRE BETA</b> \$10,200	<b>PENNSYLVANIA ETA</b> \$10,000	<b>WEST VIRGINIA BETA</b> \$8,000
<b>CALIFORNIA LAMBDA</b> \$5,000	<b>IOWA BETA</b> \$35,000	<b>NEW JERSEY ALPHA</b> \$25,000	<b>PENNSYLVANIA THETA</b> \$35,000	<b>WISCONSIN ALPHA</b> \$53,120
<b>CALIFORNIA NU</b> \$5,000	<b>KANSAS BETA</b> \$5,000	<b>NEW YORK BETA</b> \$73,707	<b>PENNSYLVANIA LAMBDA</b> \$15,000	<b>WISCONSIN BETA</b> \$5,000
<b>CALIFORNIA PSI</b> \$15,000	<b>LOUISIANA EPSILON</b> \$10,118	<b>NEW YORK GAMMA</b> \$65,000	<b>PUERTO RICO ALPHA</b> \$10,000	<b>WISCONSIN GAMMA</b> \$5,000
		<b>NEW YORK THETA</b> \$5,000	<b>RHODE ISLAND ALPHA</b> \$20,000	<b>ANY CHAPTER</b> \$30,000

### Current Endowed Chapters: \$100,000 or more in cash and pledges:

<b>CALIFORNIA DELTA</b> Univ. of Southern California \$100,000	<b>LOUISIANA ALPHA</b> Louisiana State University \$100,000	<b>MICHIGAN ZETA</b> Kettering University \$100,000	<b>OHIO EPSILON</b> Cleveland State University \$100,000
<b>CALIFORNIA UPSILON</b> Calif. State Univ., Sacramento \$100,000	<b>MARYLAND BETA</b> University of Maryland \$125,000	<b>NEW JERSEY DELTA</b> Princeton University \$100,000	<b>SOUTH DAKOTA ALPHA</b> South Dakota School of Mines & Technology \$200,000
<b>ILLINOIS ALPHA</b> Univ. of Illinois at Urbana-Champaign \$130,000	<b>MICHIGAN BETA</b> Michigan Tech. University \$100,000	<b>NEW YORK DELTA</b> Cornell University \$105,000	<b>TEXAS BETA</b> Texas Tech University \$100,000
<b>INDIANA GAMMA</b> University of Notre Dame \$125,000	<b>MICHIGAN GAMMA</b> University of Michigan \$104,912	<b>OHIO BETA</b> University of Cincinnati \$100,000	<b>VIRGINIA ALPHA</b> University of Virginia \$115,000
<b>IOWA ALPHA</b> Iowa State University \$110,289	<b>MICHIGAN EPSILON</b> Wayne State University \$250,000	<b>OHIO GAMMA</b> Ohio State University \$100,000	<b>WYOMING ALPHA</b> University of Wyoming \$100,000

# Executive Council MEETING MINUTES

These are the summaries from Executive Council meetings — January through April 2020.

## January 18-19, 2020

### Albuquerque, NM

*The EC approved the following items:*

The FY18-19 Audit, appointment of new chapter installation deputies, Service Recognition for **Andrea J. Pinkus, NY Δ '97**, District Conference assignments, establishment of the Pasadyn Scholarship Fund, and the Lyons Scholarship Fund.

*Several policies were approved:*

Official publications, chapter fees, chapter fines, chapter membership reports, and retiring chapter officers.

Executive Director Gomulinski provided an update on hiring an Annual Giving Officer. Treasurer Fable delivered the treasurer's report with vision for the following year to include recruitment of a new TAC member, creating reports from HQ for Council review, and spending guide.

*Mr. Gomulinski provided a list of action items from Convention:*

The Resolutions Committee's recommendations are under review and Headquarters is contacting chapters that have programs which need to appeal based on recommendations of the Program Review Committee.

The Georgia Southern Inspection Report was accepted and the 2022 Convention location was approved. The Merrimack College Preliminary petition was approved and an EC representative and backup for inspection team was approved. It was recommended that an EC representative that has not yet performed an inspection be selected.

*The Executive Council approved the following:* Establish the Moyer Endowment Fund allocations, establish a District Program Endowment Fund, and Charter the Social Media Best Practices Task Force.

## February 17, 2020

### Virtual

Executive Director Gomulinski and Councillor M. Youssef attended the Texas Xi Chapter installation.

The Finance Committee meeting was held 02/07/20 and discussed TAC Chair assignment, TAC recruitment, Annual Giving Officer appointment, and budget review plan. Treasurer Fable presented the FY20 Budget v Act – Quarter 2 as financial analysis with spending guide of information and FY20 Quarter 2 Statement of Financial Position to provide

snapshot of financial position compared to previous fiscal year.

## March 18, 2020

### Virtual

President Smith called a special meeting of the TBI Executive Council to review a digital ritual format script and PowerPoint presentation from Director of Rituals Ed D'Avignon and Executive Director Gomulinski. Director D'Avignon has updates to make prior to EC final approval and plans to take the digital format to Convention for approval to add as an option for initiation ceremonies. Per previous Convention, Director D'Avignon can make changes to the ritual without going back to Convention for approval as EC can approve ritual changes. Currently, the digital ritual would be available for only a single Report of Election, but chapters can hold multiple sessions if needed for scheduling. To approve the ritual would be a simple majority vote. A meeting will be held on 03/19/20 to vote on the final version of the ritual.

## April 4, 2020

### Virtual

*The Council approved the following policies:* Student Loans, Chapter Officer Duties, Compilation of Eligible Candidate Data, Chapter Committees, District Charter, Laureate Program, Fellowship Program, Scholarship Program, and Student Assistance Grants.

### The Council appointed Madeline G.

**Sciullo Esposito, FL Z '14**, as a District 13 Director for a term ending June 30, 2023.

President Smith reported on his attendance at the alumni function in Memphis, TN, and that attendees signed a petition to re-activate the Mid-South Alumni Chapter. Vice President Morales held several meetings with the Governance Committee and has determined that the remaining work requires 7-10 policies to be reviewed per month.

*Executive Director Gomulinski reported on several items:* Chapter Chats started March 22, Convention hotel agreement includes Impossibility Clause that covers circumstances that make it impossible to hold the Convention, HQ staff will be working from home through April 14 but expected to stay working remotely through May 1, the online initiation ceremony was tested successfully on March 21 with minor changes made following the test and pilot, HQ only received 38

percent of ratification ballots, SBA Loan was discussed with loan application being submitted, the Annual Giving Officer position has been placed on hold due to existing circumstances; however, since Major Gifts Officer Sherry Jennings-King cannot currently meet with donors, she will be taking on the annual giving program, District Conferences for 1, 4, 7, 8, 10, 13, and 15 were cancelled and District Directors are contacting chapters as much as possible.

President Smith presented the Executive Committee Meeting Minutes from March 8. Vice President Morales stated EC actions taken in response to the COVID-19 situation were handled well and quickly.

Treasurer Fable stated the Finance Committee met several times and presented the prepared report. As part of TAC member recruitment, the committee has approached several candidates and the May TAC meeting may need to be conducted virtually. Vice President Morales presented a PowerPoint prepared by the Social Media Task Force to summarize status of the Social Media Policy. The committee is still reviewing the training and policy materials collected from several companies as samples.

Vice President Morales plans to provide a policy proposal to the Governance Committee by 5/31; HQ staff needs to participate and provide input and guidelines should be complete by July 2020. Councillor M. Youssef presented the oral report stating the committee is continuing work on Convention with the intent Convention will not be cancelled by COVID. Secretary Alexander noted if Convention is delayed or cancelled, speakers could record virtual presentations that could be shared with the Association.

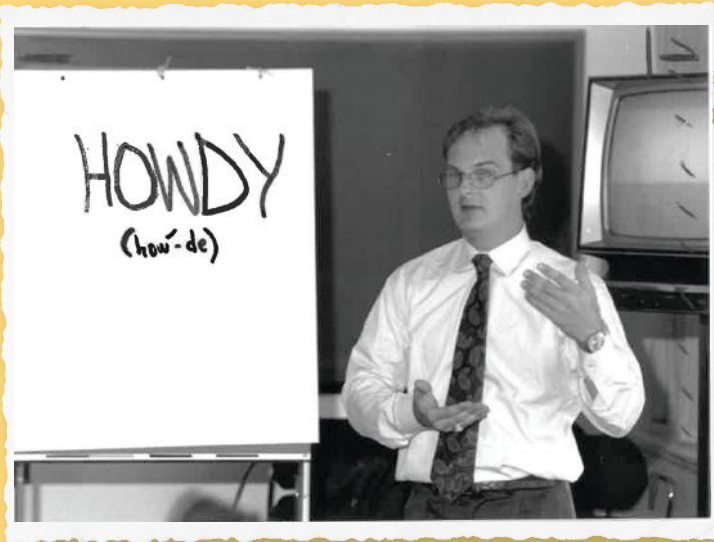
## April 20, 2020

### Virtual

Vice President Morales presented a PowerPoint from the January meeting as a reminder regarding business meeting process with agenda topics, preparation for meetings, and the requirement for backup materials.

The Finance Committee recommended **David A. Liu, PA Δ '93**, and **Yung B. Lim, NJ Δ '87**, to the Trust Advisory Committee with terms starting July 1, 2020, and expiring on June 30, 2023, and the Council approved. Treasurer Fable presented the Trust Advisory Charter and discussed various options for the TAC term limits.

# The STORY BEHIND The PHOTO



## Announcing the Spring 2021 “Caption This Photo” Contest!

This photo from the Winter 1992 issue of *The Bent* was taken at the 86th Annual Convention at College Station, TX. In one of the earlier Engineering Futures Sessions, Lloyd C. Lyons, *TX D '89*, teaches the finer points of “Texan.”

**How to Enter:** Send us your cleverest 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 TBPI t-shirt of your choice!**

Email your entry to [captions@tbp.org](mailto:captions@tbp.org) or mail to *The Bent* of Tau Beta Pi, Caption Contest, P.O. Box 2697, Knoxville, TN 37901-2697.

**DEADLINE: MONDAY, MAY 3, 2021.**

## The WINNERS of the Winter 2021 “Caption This Photo” Contest:

The Winter 2021 contest generated 71 entries from 38 authors. Thank you! View all entries, including captions and results from recent contests, at [tbp.org/pubs/captionContest.cfm](http://tbp.org/pubs/captionContest.cfm).

### 1ST PLACE:

**“After further review, the ruling on the field is confirmed.”** David W. Hughes, *GA A '75*, submitted the untested winning caption.

### 2ND PLACE:

**“I know there’s a mask mandate, but this is ridiculous.”**

Edward S. Matukonis, *PA A '73*. A previous t-shirt winner, Ed has been mailing in captions on his unique postcards for at least eight years!

### 3RD PLACE:

**“A brave man, he will long be remembered.”**  
Louis W. Spradlin, P.E., *MA B '57*

### 4TH PLACE (2-way tie):

**“Now, you guys’ll tell me if a car is coming, right?”**

Stephen M. Simmons, *MO B '21*

**“Hey, how many seconds are left on the cross-walk signal?!”**

David W. Kortebein, *IL A '85*. Previous t-shirt winner.



▲ The Winter 2021 Caption Contest image, above, depicts the incredible courage of the 1980 Convention photographer as he sets up to take the group photo.

**Congratulations to our first time t-shirt winners:  
David H., Louis, and Stephen!**



# Integration & Interfaces

BY DAVID J. NAGEL, PH.D., INDIANA GAMMA '60

**How VERTICAL and HORIZONTAL integration make the case for more focus on interfaces in current engineering curricula.**

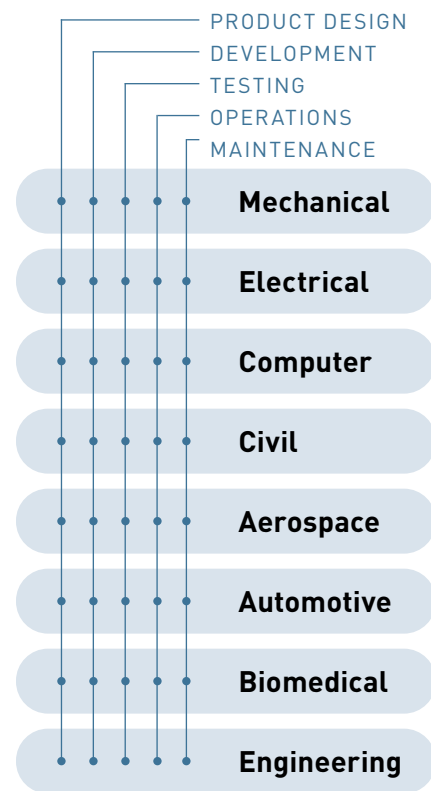
## INTRODUCTION

One of the hallmarks of modern engineering is tight integration of technologies from different disciplines. The smart phone is a good and familiar example. Integration inescapably produces interfaces of many kinds. Integration and interfaces are found in two fundamental forms, vertical and horizontal. This article surveys both types of integration and interfaces to make the case for more explicit educational attention to these characteristics of engineering practice.

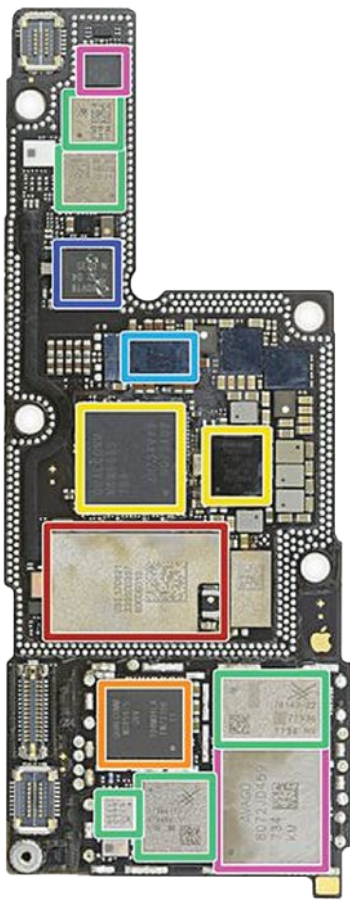
Most colleges and universities have engineering departments organized by traditional disciplines. This situation exists for both historical and practical reasons. It is very difficult to reorient existing departments, and the creation of new departments is not common.

Also, the careers of the faculty and existing professional organizations are oriented by discipline. The old and current organization by discipline does function, but it is more and more orthogonal to the modern technologies that engineering graduates will develop. The situation is illustrated in **Figure 1**. This is not news, but is a large part of the motivation for the concepts discussed in this article.

Section I examines performance driven integration. Such integration unavoidably leads to many types of interfaces, which are discussed in Section II. In Sections III and IV, we review various types of integration and interfaces in what are termed vertical and horizontal integration. Vertical integration ranges from materials to devices to systems. In horizontal integration, devices, components or systems on the same level serve as nodes that are connected by various types of links. A dozen topics for inclusion in a course on Integration and Interfaces are listed in Section V. It could be taught in different classical engineering departments.



**FIGURE 1.** The engineering of most modern products cuts across the traditional disciplines.



**FIGURE 2.** Photograph of one board from an iPhone 10, overlaid with colors to identify the components. See Step 11 of Reference 2 for the legend identifying the parts. <https://creativecommons.org/>

Our conclusion is that such a course would be straightforward to develop and teach. It should sensitize both undergraduate and graduate students to the need for learning outside of their disciplines both during their education and throughout their entire engineering careers.

### I. PERFORMANCE DRIVEN INTEGRATION

Consumers certainly want products and services that perform well and long for reasonable costs. The many “ilities” remain the goal of much of engineering. Over 80 System Quality Attributes are listed by Wikipedia, many of them “ilities.”<sup>1</sup> It is generally impossible to engineer products that do well in the marketplace without their having very good performance. The required performance can only be achieved by the integration of technologies that come from multiple engineering disciplines.

There are cases from the past where important products originated almost entirely from a single engineering discipline. Early automobiles were largely mechanical, although even they included electrical and chemical components. Some primitive lighting systems were mostly electrical, but they had mechanical supports and included rotating machinery for power generation. The point is that over most of the history of engineering, integration of technologies from different disciplines at some level has been normal. Now, it is hard to find any products that do not involve a mix of technologies from various disciplines, in their manufacture, if not in their content. The history of engineering is largely the history of technological integration.

Many examples of modern technological integration can be given. We use smart phones as something that is very well integrated and widely familiar. They have electronic, mechanical, optical, acoustic, radio-frequency, tactile, chemical, and thermal technologies closely interlaced in a small volume. Electronics is clearly the enabling technology for a smart phone. However, it is also a mechanical object with the case, buttons, and other structures. The display on the screen makes the phone an optical system. Similarly, the voice input and loudspeaker output makes it an acoustic device. Information flows from and to the phone by radio frequencies, both in the mobile phone bands from 450 MHz to 1.9GHz and the WiFi and Bluetooth band near 2.45 GHz. The touch screen and control buttons show that the phone is also tactile. The battery operates on the basis of reversible chemical reactions. And, the dissipation of thermal energy from the electronics and battery has to be properly designed to ensure safe operation of a smart phone.

The contents of modern phones can be appreciated by examining the various “tear down” postings on the internet. **Figure 2** is from one such website.<sup>2</sup> We use the iPhone 10 as an example. The components shown in that image are an Apple/Murata WiFi and Bluetooth module, a Qualcomm gigabit LTE transceiver, a Qualcomm Snapdragon LTE modem and power Management IC, Skyworks power amplifiers, a Broadcom wireless charging controller, an NXP near field communication controller module, and a Broadcom power amplifier module. All are tightly integrated. Another perspective on the integration within an iPhone can be gained by examining the major components of the phone and their costs.<sup>3</sup>

### II. INTEGRATION REQUIRES INTERFACES

Interfaces are an inevitable result of integration. Unavoidable interfaces deserve more attention than they get in most engineering curricula. Every interface raises questions of the physical, chemical, electrical, mechanical, thermal, and other characteristics and compatibilities. Their design, production, and testing generally involve a range of disciplines.

The many types of interfaces in modern electrical devices can be appreciated by reference to **Figure 3**. It shows that several kinds of interfaces are found at the materials level of devices. Of all interfaces, the pn junction between two regions of one semiconductor with different doping, or between two different kinds of semiconductors, is arguably the most important. Such junctions enable transistors, light emitting diodes, solid-state lasers, and photo diodes. Those devices make possible the computation, communication, and information storage technologies that are the basis of modern society.

	METALS	SEMICONDUCTORS	INSULATORS
METALS	Connections	MOSFETs	MOSFETs
SEMICONDUCTORS	Schottky Barrier	pn Junction	MOSFETs
INSULATORS	Wire Insulation	Gate Insulators	Packages

**FIGURE 3.** Examples of interfaces between the major classes of materials.

If a student is conditioned to think in terms of interfaces and their requirements, they are more likely to have a viewpoint that will make them more effective engineers...

The interfaces within semiconductor Very Large Scale Integrated (VLSI) circuits are numerous and complex.

Figure 4 shows a drawing of a complex VLSI chip,<sup>4</sup> and the image of an imager, such as found in cell phones.<sup>5</sup> Each of the interfaces requires physical, chemical, and thermal compatibility of the materials that make up the interface. The size of the interfaces is also noteworthy, with their vertical and lateral dimensions on the scale of micrometers and nanometers in many cases.

Semiconductor pn junctions are also the basis of solar cells, which enable a major and growing source of clean energy. The vertical interfaces between different semiconductors within solar cells are very challenging. Diverse semiconductors are needed due to their having different energy band gaps, which match the energy of the various parts of the solar spectrum. The goal is to convert as much as possible of the photon energy to electrical energy

from the blue end to the red end of the solar spectrum. But, matching energies is not the only requirement. The crystal lattices of the semiconductors on both sides of an interface have to match, so that carriers moving across those interfaces during device operation are not scattered or lost. These two requirements lead to the challenging and important field of Band Gap Engineering. Both the electronic and atomic structures of the semiconductors are tightly integrated.

The diverse characteristics of the interfaces just noted are critical to their design, fabrication, performance, and reliability. Some of the characteristics have been noted; many more occur in diverse modern products. So, it is critical to match properties of the materials on both sides of an interface. Impedance matching is also essential in electrical circuits. Chemical compatibility is another common requirement across interfaces. Matching of thermal expansion is required in most electrical and mechanical interfaces.

The interfaces discussed so far mate two solids within devices, modules, or systems. But, the outside surfaces of components are also important to their function. The field of Surface Science is old and immense. It includes interfaces between solids and both gases at various pressures and liquids of remarkably variable types and conditions. Catalysis, which is critical for the production of many chemicals and drugs, is part of Surface Science. The engineering design of systems for chemical engineering and products for the handling and dispensing of gases and liquids, have many challenges. They are different from, but no less critical than the engineering of interfaces between solid materials.

We have primarily considered fixed interfaces, in which the materials on both sides of the interface do not move relative to each other. One can broaden the perspective on interfaces to include interfaces between moving parts. That

is central to mechanical engineering, of course. In machines, the lubrication of interfaces is critical to their durability and reliability. Again that brings in the topic of solid-liquid interfaces, a topic of immense importance in the moving of liquids and processing in chemical engineering and other industries.

### III. VERTICAL INTEGRATION: STACKS OF ELEMENTS

Sections I and II were intended to make the case for the inevitability of integration and interfaces in modern engineering. Integration is required and interfaces are unavoidable. This section focuses on vertical integration—where **unlike** elements are built, one upon another to give needed functionality. Section IV on horizontal integration examines the connectivity of **like** devices to provide additional functionality.

Vertical integration is both very common and very familiar, even though it might not be discussed frequently. Figure 5 contains four examples. The first two deal with people and communications between people. The other two involve technologies, the stack from materials to systems of systems, and the many levels of computer systems.

#### A. The Open Source Interconnection (OSI) Model

Communication protocols are somewhat like languages. If the transmitter and receiver are not using the same protocol, communication is not possible. Further, within both the source and receiver of communications, there is a need for vertically integrated functionality from the highest to the lowest levels. In human voice communications, thoughts, grammar, and acoustics all play a role. The same is true for engineered communication systems. That reality led to the OSI model for technological systems. The Wikipedia article<sup>6</sup> on that model explains it nicely: “The Open Systems Interconnection model (OSI model) is a conceptual

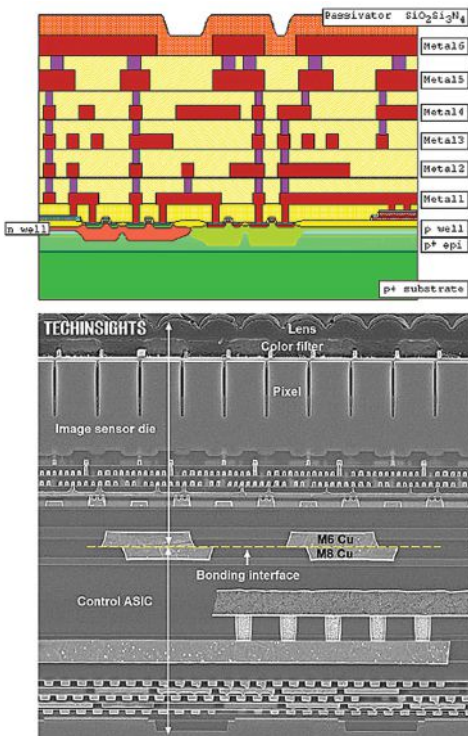


FIGURE 4. Cross sections of VLSI chips showing the diversity of interior interfaces. Top: Schematic showing various semiconductor, metal, and insulator layers. Bottom: Image of a SONY CMOS image sensor and its underlying control ASIC.

INDIVIDUALS TO GLOBAL SOCIETY	LETTERS TO GLOBAL KNOWLEDGE	MATERIALS TO SYSTEMS OF SYSTEMS	COMPUTER SYSTEMS
All Humans	All Recorded Knowledge	The Internet	Computers
Alliances	Libraries & Servers	Satellites	Cores
Nations	Books & Documents	Fiber Networks	Program
States	Chapters	Servers	Language
Cities	Paragraphs	Routers	Algorithms
Organizations	Sentences	PC Boards	Architecture
Neighborhoods	Words	Integrated Circuits	Logic
Families	Syllables	Transistors	Devices
Individuals	Letters	Materials	Electrons

**FIGURE 5.** Examples of vertical integration of both non-technical and technical elements from small at the bottom to large.

model that characterizes and standardizes the communication functions of a telecommunication or computing system without regard to its underlying internal structure and technology. Its goal is the interoperability of diverse communication systems with standard communication protocols. The model partitions a communication system into abstraction layers. The original version of the model had seven layers. A layer serves the layer above it and is served by the layer below it. For example, a layer that provides error-free communications across a network provides the path needed by applications above it, while it calls the next lower layer to send and receive packets that constitute the contents of that path.”

The OSI model is a formal way to handle the interfaces between the layers in modern vertically integrated communication systems.

### B. Bio-Integration and Robots

The types of vertical integration noted so far involve anthropomorphic objects. Such integration is also common in living systems. Consider the stack from molecules to organelles to cells to tissues to organs to organisms. Spatial integration of chemical (blood), electrical (nerves), and mechanical (bones) within animals is remarkable. The diversity of form and functions in the natural world is an endless source of wonderment. But, what do such natural examples of integration have to do with engineering? There are two responses to this question. One is the

integration of engineered objects with living organisms, especially people. Joint replacements are a mechanical example, and pacemakers an electromechanical instance of such integration. The modern abilities in genetic engineering, the ability to change the interior of cells, production of 3D printed tissues, artificial hearts, brain implants, and exo-skeletons are other examples of melding of engineered and natural living systems.

The other response to the question about bio-engineering does not involve living systems. It has to do with robots. These include stationary robots commonly used in manufacturing. Consider the large robots that are used to move containers and manufacture cars. Most modern electronic systems are made with pick-and-place machines that put components on printed circuit boards at rates as high as 10 Hz and placement precision in the range of a few micrometers. Mobile robots also include a great deal of vertical integration. Small robots, for example, rug cleaners, have components on scales from the nanometer gates in chips to a significant fraction of one meter. Humanoid systems, which can walk up or down stairs, run, and even do back-flips are also good examples of vertical integration of entirely engineered systems.

### IV. HORIZONTAL INTEGRATION: NETWORKS OF NODES AND LINKS

Vertically integrated systems can be of use by themselves. However, much more

functionality is gained if like systems can be connected to each other. We refer to that connectivity as horizontal integration. Such integration is common and will be considered with examples in this section. The entire universe is made up of three types of entities: information, energy, and matter. We will see that there are networks for the production, movement, storage, and use of each of these entities.

The networks considered in this section are various embodiments of the broader mathematical topic called Graph Theory. In that subject, what we called nodes are termed Vertices and our links are called Edges. The topic of Graph Theory is reminiscent of the topic of Control Systems. Both are very important in engineering. And, both range from relatively simple systems to remarkably complex systems, which are part of modern research, if not engineering. Their range of topics is similar to the relationships of physical Kinetic Systems to Statistical Mechanics to Thermodynamics. Graph Theory and Control Systems are related by the fact that Control Systems overlay the networks of Graph Theory with active elements, both sensors and actuators, to provide desired functionality in engineered systems.

**Figure 5** has examples of four kinds of vertical integration and the elements of each. In a similar fashion, it is possible to make graphical examples of some of the major types of horizontal integrations. This is done in **Figure 6**.

The listing of nodes and links for each of the networks is not complete. For example, a cell phone network includes hard wired circuits in addition to radio-frequency links. However, the diagram still serves to provide an overview of the characteristics of diverse types of horizontally integrated networks.

It is possible to make maps of various countries that illustrate the horizontal networks listed in **Figure 6**. We will discuss a few of them in the rest of this section.

### A. Information Networks

The internet is the prime example of a network designed and used to deliver information. Even though it can be understood in great detail from an engineering perspective, the performance of the internet strains credulity. There are a few factors that combine to make it so useful and fast. One is the fact that light pulses in optical fibers travel about half the speed of light. That equates to roughly three times around the globe in one second. Another is the high speed of optical sources and detectors. So, transmission and reception speeds of gigabits per second are possible. The high speed of transistors and computers lead to fast switching and gigahertz rates for electronic parts of the internet. Finally, the ability of modern memories to hold vast amounts of information, and both write and read it very quickly, are foundational to the internet. Maps of the internet in the U.S.<sup>7</sup> and around the globe<sup>8</sup> are on the internet, as are images of internet activity.<sup>9</sup> They show some of the immense numbers of computer nodes and fiber optic links in the internet.

### B. Energy Networks

The grid delivers electrical energy, while pipelines deliver gas and oil sources of energy. One can find many maps of these utilities. A map of the grid in the U.S. is available.<sup>10</sup> Power lines on that map are color coded by the voltages they carry, which are in the range of 116 to 500 kilovolts. The dense systems that create and deliver lower local voltages are not shown. Other maps available on the internet give finer details and also maps of the electrical grids within some other

NODES	NETWORK	LINKS
Mobile Phones	<b>CELL PHONES</b>	Microwaves
Routers	<b>INTERNET</b>	Optical Fibers
Switches	<b>THE GRID</b>	Power Lines
Junctions	<b>GAS PIPELINES</b>	Gas Pipes
Junctions	<b>OIL PIPELINES</b>	Oil Pipes
Switches	<b>RAILROADS</b>	Train Tracks
Intersections	<b>GROUND SHIPPING</b>	Roads
Airports	<b>AIRBORNE SHIPPING</b>	Atmosphere
Sea Ports	<b>SEABORNE SHIPPING</b>	Oceans

**FIGURE 6.** The types of horizontal networks (listed in the center) with the nodes on the left and the links on the right for each of the types.

countries. Some of the maps show the resources of individual power companies and regions.

A map of pipelines in the U.S. for natural gas is on the internet.<sup>11</sup> There are 2.4 million miles of pipelines for natural gas in the U.S. Maps of pipelines for liquid petroleum within the U.S. are available.<sup>12</sup> The country has 190,000 miles of such pipelines. The number of nodes in the gas and petroleum networks, including junctions, pumps, valves, and pressure sensors, is very large.

### C. Matter Networks

Some of the energy networks just noted also transport matter, notably the movement of gas and oil in pipelines. Other networks are designed to carry materials and people for many reasons, and not only for their energy content. They include the movement of matter on land, in the air, and on the oceans.

The major railroads are shown on a map of the U.S.<sup>13</sup> In them, the nodes are the railyards and other switches, with the links being the tracks that connect the nodes. The map of the major roads within the U.S. is also available.<sup>14</sup> Many of the nodes in the major highways are clover-leaf designs that permit entering or leaving the roads, or changing from one road to another, at fairly

high speeds. A map showing global air-line activity exhibits the large number of airports and routes.<sup>15</sup> A similar story is told by the map of global shipping ports and lanes.<sup>16</sup>

### D. Network Commonalities

Examination of the maps for information, energy, and matter networks reveals some similarities. Most of the networks are influenced by population density and geography, as well as construction costs. It would be interesting to perform correlations between pairs of the information, energy, and matter networks.

## V. ENGINEERING COURSE ON INTEGRATION AND INTERFACES

The historical and still common orientation of engineering curricula by discipline will not change soon, despite the commonality of integration across disciplines. New engineering disciplines do emerge occasionally, with biomedical engineering being a recent example. However, it seems certain that most engineering schools will continue to have departments of electrical, mechanical, and other classical engineering disciplines. So, how can such schools serve the needs of students who will spend their work lives in a remarkably integrated world? One possibility is to introduce majors in Integrated

Engineering, which span the usual departments. This is not a new idea. The Wikipedia article on Integrated Engineering lists 15 universities in seven countries that already offer such programs.<sup>17</sup> Most of the programs are at the undergraduate level. Searching Google with the term “integrated engineering” reveals other universities that have such programs.

Another possibility is simply to offer courses within established departments that focus on integration and interfaces. This approach is easier to implement than the institution of programs on Integrated Engineering. Topics for a course on Integration and Interfaces are listed below. Modern technologies and infrastructure could be used to illustrate the subjects of the course. Examples from all the engineering disciplines listed in **Figure 1** could be provided. As noted, the entire universe is made of three things, information, energy, and matter. So, these basic topics are part of the contemplated course. Some of the subjects could be merged for a shorter course at a university or college on the quarter system. Student projects could be added for a semester-long course. But, whatever the length of the course in weeks, it could cover the four main topics: performance driven integration in general, types and characteristics of interfaces, and both vertical and horizontal examples:

1. The Case for Integration: Performance
2. Diverse Interfaces due to Integration
3. Types and Characteristics of Interfaces
4. Vertical Integration is Pervasive
5. Materials to Devices to Systems
6. Prime Example: Mobile Phones
7. Horizontal Integration is Pervasive
8. Networks in General: Nodes and Links
9. Information Networks: The Internet

## 10. Energy Networks: The Grid and Pipelines

## 11. Matter Networks: Land, Air, and Sea Transport

## 12. Challenges of Integration and Interfaces

The content of each of these topics could be chosen to reflect the needs of students in particular engineering departments. It seems likely that interest in teaching such a course on Integration and Interfaces will lead to text books and other teaching tools for such a course. If they are properly developed, the course materials can exploit the internet and other modern technologies for some of the content and activities of the course.

There are two types of potential learning outcomes from a course on Integration and Interfaces. The first is very general. Undergraduate students are naturally taught many details, generally without providing the larger picture. They “cannot see the forest for the trees” to use an old adage. Ideally, the larger perspective would be provided to entering freshman during orientation classes, and also reinforced in capstone and other classes during the senior year. The contemplated course, whenever given, would ensure that students have an opportunity to learn and appreciate larger concepts, which are so fundamental and important to the current and future practice of engineering.

The second learning outcome of a course on Integration and Interfaces would be an enduring perspective to look for both vertical and horizontal integration when designing, fabricating, testing, and operating engineering systems. If a student is conditioned to think in terms of interfaces and their requirements, they are more likely to have a viewpoint that will make them more effective engineers, to their ben-

efit and that of their employers. They might also be more effective members of engineering teams.

## CHALLENGES OF INTEGRATION AND INTERFACES

Integration and interfaces are fundamental to most work in companies and other organizations. So, dealing with them is unavoidable. However, since most integration and the associated interfaces require different disciplines, there are challenges on all levels from academic to professional engineering to engineering management. Universities can approach this complex challenge by teaching courses, such as that recommended above. They can also institute more inter-departmental projects and centers to ensure that their students get exposed to and learn a wide range of disciplines. Practicing engineers can deal with the intrinsically interdisciplinary nature of their work by lifetime learning. The balance between learning and producing is not easy. But, neither are time and stress management, two other durable challenges in life. Managers can achieve the right mix of capabilities by the time-honored approach of hiring people with different needed skills. But, then they are faced with all the challenges of leadership, management, and administration. Effective integration and interfaces within teams are no less complex and challenging than the integration and interfaces within modern products and systems.

.....  
**DAVID J. NAGEL** received a B.S. in engineering science (*Magna Cum Laude*) from the University of Notre Dame (1960) and a Ph.D. in materials engineering from the University of Maryland (1977). He worked in the Naval Research Laboratory for 34 years, and has been a research professor in the George Washington University since 1998. His specialty is Low Energy Nuclear Reactions.

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# Alumni Giving

**THANK YOU!** The names of **3,475 TAU BETA PI ALUMNI** and others who made donations to the Association in the 2020-21 Alumni Giving Program appear in two separate sections on the following pages. Their gifts totaling \$741,953 arrived between November 1, 2020, and January 31, 2021. **Gifts received after January 31 do not appear here but will be published in the Summer 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 2,972 Tau Bates and others appear. They made donations to the Alumni Giving Program between November 1, 2020, and January 31, 2021, 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

- NY A McGrann, James Michael '84
- RI A Anonymous '72
- SD A Simonson, Larry Allen '69
- VA A White, Dudley '76
- VA B Anonymous '49

### The HEIKES Club

#### \$50,000

- SPEC Luchini, Tamara Wyckoff
- AZ B Myers, Jerry Elwyn '70
- CT A Soderberg, Peter Holton '68
- MI Γ Clark, Terry Blue '69
- OH E Pasadyn, Ronald Chester '70
- TX Δ Rothrock, Ray Alan '77

### The ALPHA Club

#### \$25,000

- CA B Jessen, Howard Ellsworth '46
- CA E Goodin, William Rex '75
- CO A Armentrout, Michael Lee '94
- CO B Anonymous '78
- IN A Ford, Steven Richard '80
- IN E Sarkisian, Nancy Louise '77
- LA Γ Dausman, Alan Vernon '77
- LA Γ Anonymous '67
- MI Z †Thebert, Alan Wilbert '57
- MS A Shackouls, Bobby Stone '72
- NY K Knox, Keith Thomas '70
- OH Γ Beans, Bill '53
- OH Δ Robe, Richard '55
- PA A Elovitz, Ken Mark '75
- SD A Gomulinski, Tricia E. '98

### The BETA Club

#### \$10,000

- SPEC Anonymous
- AR A Vratsinas, Gus M. '67
- CA A Masatani, Peter James '04
- CA Δ Davis, John Leo '60
- CA Z Grigsby, David A. '84
- CO A Pierce, Michael Craig '90
- Pierce, Tina Lara '89
- CO B Kidd, T. Wayland '44
- DE A Anonymous '70
- FL B Crews, Renard Calvin '70
- IL B †Gendron, Roger Joseph '55
- IN Γ Rice Jr., Donald Blessing '61
- IA A Peterson, Michael Laurel '89
- IA B Glasgow, Justin Mathew '05
- LA A Comeaux, Keith A. '89
- LA Γ Samuels, Katie '86
- LA E Champagne Jr., Pierre '76
- MD B Sabio, Vincent Joseph '86
- MA Δ Fenton, Harvey Albert '58
- MI A Colbry, Dirk Joel '06
- Colbry, Katy Luchini '99
- MI Γ Anonymous '78
- Crouch, Dennis Eugene '62
- MI E Simmons, Charles David '50
- Gomulinski, Curt Dennis '01
- Tillinger, Steven Jay '68
- MI I Amici, Alan J. '85
- MS A Jerome, Dennis C. '67
- MO B Jinkerson, Kenneth R. '75
- McHenry, S. Dale '81
- MO Γ Gibbs, Kenneth Paul '76
- Kilert, Albert Harold '63
- MT B Samuels, Blake Robert '84
- NH A Sherman, John Lincoln '54
- NY A Florman, Samuel C. '44
- NY ⊙ Van Wagenen Jr., William E. '78
- NC A Johnson Jr., Jim William '77
- OH Γ Ross, Elliot Bennett '69
- OK A Morris, Jay Kevin '81



Heikes Club  
**Gerald E. Myers**  
 AZ B '70

*I wish to see TBP continue into the future awarding recognition of engineering achievements.*



Alpha Club  
**Bill Goodin, Ph.D.**  
 CA E '75

*I was honored to be selected as a McDonald Mentor; and am pleased to support the CA E Chapter.*

Beta Club continued

- PA Γ Barrow, Bruce Barton '50
- TN A Cook, James Michael '72
- Hopkins, John A. '88
- Pih, Norm '82
- TX A Mickelson, Kent Burdell '77
- TX Δ Sisney, Steven Lynn '83
- UT A Morrison, Michael George '88
- VA A Benneche, Paul Eric '74
- Pitzer, William Groh '75
- WA A Okita, Richard Y. '56
- WV A Baker, David Wesley '76
- WI A Anonymous '64

The DELTA Club

**\$5,000**

- AZ A Carrillo, Danny J. '95
- Milan, John M. '67
- Seabury, David G. '82
- AZ B Story, Franklyn H. '81
- Stout, Roger Paul '77
- CA A Ikeda, Kenneth Akira '62
- †McCune Jr., Earl William '79
- CA B Lippey, Jerry '55
- Marshall III, J. Howard '57
- CA Γ Davis Jr., Joseph Stancliffe '59
- Kwok, Munson Arthur '62
- Tyson Jr., James J. '58
- CA E Tozaki, Ronald Yuji '74
- CA H Noble, Gary D. '96
- CA ⊙ Smith, Gregory W. '75
- CA I Pickett, Stephen Euan '75
- CA Λ Domning, Edward Ernest '84
- Holl, Sue '76
- CA N Joy Jr., Robert Lee '66
- CA O Turhollow, Charles Bernard '81
- CA Φ Jenkins Jr., Lester Alfred '01
- CO A Abell, Joe Markwell '56
- Knight, William James '79
- CO B Harris, James Robert '68
- Kinzie, Edward Ottis '64
- CO Δ Laughlin II, George Thomas '75
- CT B Chatfield, Larry Allen '71
- DC B Youssefmir, Paul '78
- FL A Bolton, Charles Houston '62
- Kalter, Howard Leo '66
- Lewis, Becky Ann '04
- FL E Cowan Jr., David James '14
- GA A Driggers, Herbert H. '63
- Fawcett, Clinton Douglas '92
- IL B Bernhardt, John Edward '89
- IN A Barker, Kenneth Dale '64
- Carlson, Richard Alan '70
- Hooks, Collis Charles '64
- Ricks, Stephen Wayne '63
- IN B Badger, Jerry Delon '62
- IN Δ Stechholz, Jonathan M. '72
- IA A Feisel, Lyle Dean '61
- Krambeck, Scott David '82
- KS A Kleist, Robert A. '51
- KY B Lambert, Linda Moore '88
- Lambert, Michael Todd '88
- LA B Legendre III, Emile Joseph '60
- LA Γ Baldwin Jr., George Alexander '78
- MD A Dackow, Paul Nicholas '76
- MD B Werneth, Russ Lee '64
- MA A Duris, Robert Alan '74
- MA B Evans, Lary Lewis '67
- Freeman, Reed Harlow '61

- Goldstein, Andrew Carl '69
- MA Δ Patkin, Murray Solomon '64
- MA E Sladek, John Richard '77
- MA Z Cetti, Richard Phillip '70
- MA H Wotiz, Robert Paul '78
- MI A Spindler, Jeffrey David '79
- MI B Jenekhe, Samson A. '77
- MI Γ Battel, Steven J. '79
- Fay, John Edward '56
- Padzieski, Robert Joseph '70
- Seidel, David Allen '81
- MI E Frye, James Henry '51
- Schmuhl, John Curtis '71
- MI Λ Repke, Wesley Ryan '09
- MO Γ Philipp, Patrick William '98
- Taber, Norma J. '80
- NJ B Mudie, Samuel Hunter '62
- NJ Γ Petrush, Raymond A. '84
- NJ Δ Mendelsohn, Andrew Jay '77
- Yu, Jeffrey Chih-ping '89
- NM B Slominski, Paul '78
- NY Γ Gorin, Ralph Edgar '70
- Lockett, Larry Wayne '83
- NY Δ Kemp, Thomas Ward '59
- Judd, Robert Paul '78
- OH Γ Riedel, Kimberly Sue '90
- OH ⊙ Abdo, Richard Anthony '65
- OK A Hall, Ralph Roy '64
- OR A Lynch, Stanley Clark '73
- PA A Wagner, Theodore Walter '71
- PA B Reese, J. Mark '80
- PA E Scott, Walter Alfred '59
- PA Z Walter, Donald Kenneth '53
- PA H Hettche, Ray Raymond '61
- PR A Garcia, Carlos E. '77
- SC B Gibbons, Joseph Harrison '56
- SD B Ufford, Donald A. '87
- TN A Froula, Jim DeWayne '67
- TN B Layne, Peggy Edith '80
- TN Δ Chauvin, Wendy M. '89
- TX A Dorr, Lawrence Daniel '68
- Wells, Roger Murray '71
- TX B Ingram, Wesley Warren '77
- TX H Lin, Frank Kuo-Chiang '80
- TX ⊙ Barrett, Jerry George '70
- UT A Eide, Eric Norman '89
- VA B Breeser, Jeffrey William '83
- Carpenter, Joseph Andrew '63
- Pierce, Russ W. '70
- WA A Cass, Robert Dennis '83
- WA B Ashman, Michael D. '84
- WI A Yee, Paul Yuen-Po '70
- WI Γ Hanson, David L. '86
- Wilhelm, Mark Robert '77

The ZETA Club

**\$2,500**

- AL B Acree, Elaine '76
- AL Δ Styles, Ellen S. '85
- Styles, Robert Charles '76
- AK A Braun, David Robert '74
- Dombrowski, Roger Alan '69
- Keiser, Jan Ann '76
- AZ A McIntosh, Duncan Mooers '65
- AZ B Mingo, Doug M. '83
- AR A Gunderman, Tony Raymond '89
- Newtown Jr., Glenford A. '69
- CA A Fong, Kirby William '67

- Hoe, Albert '92
- CA B Hammer, David A. '64
- Lee, Roland Robert '75
- CA Γ Bowerman, Lawrence John '69
- Dohner, John Walter '72
- Hardison, R. Logan '57
- Hess, Kenneth Lafferty '74
- Marks, Stuart Warren '84
- Parker, Henry Whipple '45
- Sansbury, James Douglas '66
- Ullman, Marc Albert '83
- CA Δ Sekimura, Gerald Takashi '73
- Zaatari, Mohammed Omar '88
- CA E Gaunt, Arnold John '86
- Simsarian, Gregory Garabed '82
- Warner Jr., John Hilliard '63
- Wenck, James Carl '77
- CA H Burrows, Stanford '63
- CA ⊕ Lawson, Wayne Alan '69
- CA Λ Hafer, Edward Henry '70
- Yamamoto, Ko '84
- CA M Keiser, Randy Jay '73
- CA N Chew, James S B '84
- Shimokawa, Reyn Yukio '95
- CA ≡ Hart, Laura Jean '82
- CA O Treinen, James Patrick '85
- CA Y Alexander, Joseph William '06
- Alexander, Rachel Kristin '15
- Gruspe, Nancy T. '88
- CO A Kranzler, Irvin '54
- Rense, John A. L. '74
- Van Dinter, Jennifer Ann '97
- CO B Aerstin, Franklyn George '64
- Bartlett, Paul Eugene '51
- CT A Fischer, Edward Michael '89
- Livingston, Robert McLean '57
- CT B Killingbeck, David R. '77
- Klopfenstein, Rex Carter '59
- Mastracchio, Robert '64
- Pitkin, Edward Thaddeus '52
- Pressman, Roger Stewart '69
- Tylaska, Theodore Thomas '85
- DE A Hyer, Frank Sidney '58
- DC A Belcher, Wade D. '70
- Ingram, Robert Louis '69
- Gathungu, Peter Maina '93
- DC B King, David Alan '68
- Walsh, Bryan Patrick '97
- DC Γ Altamore, Annette '79
- Haldeman, Paul Metz '70
- FL A Iwens, Ralph Peter '62
- Layman, Robert William '68
- Lewis, Lee Conley '91
- Newlands, David Michael '62
- Passman, Alan Joseph '06
- Zimmerman, Dale William '65
- FL B Tilles, Arno William '85
- FL Γ Copeland Jr., Edwin '73
- Jones, William David '74
- Lyons Jr., Thomas Francis '76
- Shimura, Mitsuo '74
- Paulley, Jason '93
- FL Δ Cooper Jr., Basil Pearson '65
- GA A Farr, Emory Warren '54
- Mowrey, Dan B. '65
- Negro, James Eugene '68
- Rogers, Don Edwin '63
- Snare, Daniel Marion '80

# Alumni Giving

Zeta Club continued

- IL A** McGinnis, Gerald Edward '58  
**IL B** Gurney Jr., Donald P. '59  
 Hughes, Joseph L. A. '79  
 Jaras, Anthony A. '67  
**IL Γ** Dixon, David Allen '63  
**IL Δ** Hachtel, Dale Arnold '68  
**IL Z** Glait, Scott Steven '84  
 Woyna, Mark Anthony '87  
**IN A** Houze Jr., Gerald Lucian '58  
 Reitz, Richard Alan '63  
 Shaffer, Gerald Harley '74  
 Weigand Jr., Karl Russell '66  
 †Weiss, Arthur Frank '55  
**IN Γ** Buran Jr., Joseph Edward '75  
 McDonald, Patrick John '60  
 Poore, Michael Francis '71  
 Richter, Richard Terrell '70  
 Schuster, Gregory Michael '77  
 Zupcic, Anthony Mario '70  
**IN Δ** Vocke, Merlyn Clarence '55  
**IA A** Derr, Curtis R. '85  
 Shepherd, Kevin John '83  
**IA B** Aron, Gert '58  
 Lammers, Leon '59  
**KS A** Conrad, Kenneth F. '74  
 Knapp, Roy Marvin '63  
 Leamon, Rich Gaylord '67  
**KS Γ** Bucher, William Alexander '76  
**KY A** Bauer, Arthur Robert '63  
 Dunning, William Edward '61  
 Howe, Richard Samuel '59  
**LA A** Compton, Ronnie Ray '72  
 Richardson, John Daniel '72  
 Williams, Colleen Daniel '82  
**LA B** Buesinger, Robert Ford '78  
 Paul Jr., Howard Cochran '80  
 Perrin III, Shepard Francis '83  
**LA Γ** Cornish, Merrill A. '67  
 Cox, Mickey Dale '77  
 Poole, Ronald Gene '69  
 Smoak, Albert Malcolm '84  
**LA Δ** Lejeune, James Joseph '73  
**ME A** Gilman, Cynthia Margaret '80  
**MD A** Tate, David Marshall '84  
**MD B** De Oms, James Howard '68  
 Jansen, Russell Onas '74  
 Lambrechts, James Russell '73  
 Rowland, Wilson '51  
 Schaefer Jr., William Joseph '70  
 Toense, Robert Earle '76  
 Trimble, Alan Roy '71  
 Valencia, Jaime Alfonso '74  
**MD Γ** Merritt Jr., Charles Raymond '85  
**MA A** Descoteaux, Kenneth Gerard '89  
 Hubelbank, Mark '68  
 Lescoe, James Terrence '05  
**MA B** Clauss Jr., John Seebold '54  
 Gilkes, Alan Martin '68  
 McKim, Thomas Francis '75  
 Zelazo, Ronald Elliot '66  
**MA E** Bittner, Douglas E. '83  
 Pinkham IV, Tom A. '88  
 Stevens, Janet Marie '72  
**MA Z** Boraski, Nicholas '50  
 Poulin, James Edward '66  
 Smith, Richard Gregory '78  
**MI A** Griffin, Albert Walter '80  
 Smith, Harry '64  
**MI B** Leven, Peter Johannes '93  
 Ojala, William Keith '54  
 Wacker, Don Herbert '52  
**MI Γ** Albrecht, Terry Erwin '67  
 Bell, Lawrence David '68  
 Bonfanti, Giovanni '62  
 Engelhardt, Larry Norbert '77  
 Pendleton III, Winston Kent '62  
 Reines, Jose '59  
 Smithies, Henry '49  
 Stewart, Steve Russell '66  
 Trankle, Thomas Lynn '71  
**MI Δ** Cook, Clifford Carroll '69  
**MI E** Boileau, James Maurice '87  
 Kolodziej, David Gregory '59  
**MI Z** Cookman, Jordan C. '94  
**MI H** Pettiford, Steven Douglas '72  
 Hill, Scott S. '83  
 Obudzinski, Gary Thomas '76  
 Pascany, Kenneth Michael '86  
**MI Θ** Garrity, William Edwards '70  
**MN A** Benjamin, Harrison Russell '57  
 Duscha, Lloyd Arthur '45  
 Peters, Timothy Gene '78  
**MO A** Meyer, Roland P. '64  
 Weary, Franklin Grimm '70  
**MO B** Ash Jr., Richard Lawrence '70  
 Fennewald, Gary Joseph '73  
**MO Γ** Anonymous '99  
 Rossetti, David Joseph '74  
**MT A** Collins, Douglas Macnab '71  
**NE A** Kaminski, Wayne Alan '79  
**NV B** Nietling, John J. '90  
**NJ A** Gorog, Russell Mark '70  
**NJ B** Cohen, Robert Bruce '77  
 Fletcher, Leroy Stevenson '58  
**NJ Γ** Angyal, Stephen '63  
 Krumins, Aivars Edgars '75  
 Mauermeyer, Henry A. '72  
 Mozda, Stanley J. M. '69  
 Raia, Lawrence A. '65  
 Riede, Bruce Erwin '67  
 Terry, Frederic Theodore '67  
**NJ Δ** Meyer, John Edward '81  
**NM A** Peace, Jeffrey Howard '76  
**NY Γ** Chamberlin, Donald Melsom '67  
 Hartung, Edward Clinton '63  
 Lequar, James Kay '87  
 Schultz, Stephen Parker '70  
**NY Δ** Jones, Paul Skeen '51  
**NY E** Esformes, Ira '71  
 Martin, Kent Richard '66  
 Rubin, Lowell '61  
**NY Z** Mendel, Jerry M. L. '59  
**NY Θ** Crompton, Kenneth H. '67  
 Kaylor, James M. '88  
**NY I** Dujmich, Louis Charles '78  
**NY Λ** Abrardo, Joseph M. '72  
 Kuras, John Edward '69  
**NY M** Czuba, John Stanley '78  
 Grant, Donald '91  
**NY N** Marso, Rudolf '59  
 Sisson, Albert Eugene '66  
 Froeschl, Gary George '71  
**NY O** Stalzer, Jeffrey '74  
**NY Π** Calfa Jr., Frank Salvatore '81  
**NY P** Solaski, Thomas P. '85  
 Vebeliunas, Rimas V. '74  
**NY T** Olenik, Anthony Michael '08  
**NC A** Hall, Michael L. '83  
 Shepherd, Steven Olin '94  
 Vercaemert, Carol Starnes '76  
 Walker, Gary Kenneth '70  
**NC Γ** Anapol, Edward '76  
 Franks, Marla Jane '79  
 Hovis, John Garrison '78  
 Linker, Edward Markham '47  
**NC E** Allen, James A. '88  
**ND A** Herbold, Frederick Jon '69  
**OH A** Biery, Kurt Alan '85  
 Goralski, Christian Thomas '64  
 Hamilton, Joshua J. '09  
 Ikeda, George Toshinori '54  
 Whittington, John Thomas '93  
**OH B** Dutko, Robert James '90  
 Hamilton, Edward L. '73  
 Pollock, Flavil Martin '77  
**OH Γ** Condit, Dale O. '66  
 Dietz, James Francis '69  
 Guins, Thomas Sergei '69  
 Hagenlocker, Edward E. '62  
 Orkins, James E. '66  
 Robinette Jr., William Henry '68  
 Wolff, Mark Frederick '88  
**OH Δ** Moore, Mathew Franklin '62  
**OH Z** Zelms, Charles Michael '73  
**OH H** Senyk, Joseph Michael '67  
**OH Λ** Nicalek, Richard Allan '76  
**OH M** Bowers, Keith Allen '91  
 Kelly, Gregory Joseph '88  
**OK Γ** Basore, Paul Alan '78  
**OR A** McCormick, Gary Allen '74  
 Milton, Stuart W. '84  
**PA A** Lasser, Howard Gilbert '50  
 Nisley, Elmer Edward '74  
 Sherman, William Joseph '60  
**PA B** Kolivosky Jr., John Edward '92  
 Magnus, John C. '48  
 Thompson Jr., A. '63  
**PA Γ** McIlvried III, Howard George '53  
 Robb, Frank Jay '73  
**PA E** Mansfield, Brian David '91  
**PA Z** Forbes, Blair Carleton '58  
 Kasoff, David '55  
**PA Θ** Daniels Jr., Harold E. '66  
**PA Λ** Honath, Mark F. '80  
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 Hilerio Sanchez, Josuan '07  
 Fleming, Read T. '77  
**RI A** Luz, James J. '80  
**RI B** Di Lapi, Christine Marie '87  
**SC A** Jones, Walter Fleming '78  
**SC B** Endler, Elizabeth Elaine '98  
 Thomas Jr., Cunningham P. '58  
**SC Γ** Davis III, Emmett Irwin '79  
 Lowndes III, William '51  
 Reed III, Henry McDavid '85  
**SD A** James, Karleen Kay '86  
**TN A** Baker, Jon Pankey '74  
 Jennings-King, Sherry Denise '93  
 King, Gregory Tyler '93  
 Riggs, Donna R.H. '87  
 Vandenbulck, Charles Franz '56  
**TN B** Marianelli, Walter David '75  
**TN E** Wilcox, Leslie M. '77



Beta Club  
**Bill E. Van Wagenen Jr.**  
 NY ☉ '78  
*I am proud to support TBP  
 who supported me to further  
 my education.*



Beta Club  
**Kenneth R. Jinkerson, Ph.D.**  
 MO B '75  
*Assisting future engineers is an  
 honor and privilege.*

*Zeta Club continued*

- TX A** Klump, D. Craig '77  
Lancaster, David Carrington '61  
Wilson, Randy Wayne '97
- TX B** Gilmer, Tracy F. '80  
Stinson, John Michael '66
- TX Δ** Barger, David Carl '71  
Goodson Jr., Alfred Wesley '70  
Latham, Raymond Edgar '56  
Zimmerman, Keith David '89
- TX E** Bailey, Robert Richard '70
- TX H** Nicholson, James Eric '75  
Thompson, James A. '72  
Worden, Sue Janine '78
- TX ☉** Foster, Ottis Charles '82
- TX A** Rosenwald Jr., John Andrew '88
- UT A** Davidson, Stuart Wayne '83  
Dewey, William Alonzo '67
- VT A** Cimonetti, William James '59  
Ketcham, Kenneth James '68  
Scribner, Charles Franklin '70
- VT B** Cobb, Eben Charles '77
- VA A** Garner, Patrick Lynn '72  
Harpel, Barbara McLaughlin '96  
Wadsworth, Robert Manning '82
- VA B** Adams III, George Bunch '78  
Harras, Edgar Daehn '67  
Jones, John Hamilton '73
- WA A** Confer, Peggy Jean '81
- WA B** Ray, Edworth Lillard '48
- WV A** Lengyel, Nicholas Martin '70  
McClung Jr., William Duane '88
- WV B** Raines, Linda N. '83
- WI A** Delucca, Gregory James '59
- WI B** Dschida, Linda Maria '82  
Hutton, Teresa Jean '91  
Jaye, Deborah Ann '03  
Whittington, Laura Lee '88
- WY A** Cook, Norman L. '79  
Gallensky, Neil Ellis '82

The CHI Club

**\$1,000**

- SPEC** McDaniel, Patricia B.
- AL A** Anderson, Pete Lawrence '75  
Bell Jr., Harry Homer '49  
Chancey, Carol '96  
Cowles, Gary Dreaper Edward '87  
Hill, Gregory John '74  
Miller III, Edwin H. '84  
Wear, A. Wesley '92
- AL B** Bell III, Willis Vincent '78  
Gachet, Thomas Hugh '60  
Hopper, Jeffrey Clark '78  
Kennedy, Lisa '82  
Shields, Clark Richard '71
- AL E** Mincy, John Wayne '70  
Zozulin, Alexander Joseph '91
- AK A** Pilch, Stephanie Ruth '10
- AZ A** Bailey, Harold Earl '71  
Chen, Daniel J. '83  
Da Silva, Eduardo Gabriel '58  
Krisa, Kenneth Charles '82  
Liu, Elson Yee-Hsin '01  
McLaughlin, Dennis Patrick '80  
Sacha, Robert Alan '82
- AZ B** Kersten, Robert Donavon '49
- AR A** Hunt, Gary Wayne '84

- Johnson, Mark Clayton '84  
Kooker, Stephen Lowell '63  
Peters, Brett Avery '87  
Ziegler, Norval Finn '52
- CA A** Richman, Mitch I. '77  
Secor, Kenneth Eugene '55  
Wilhoite, W. Clinton '85
- CA B** Creutz, Michael John '66  
McQuiston, James H. '51  
Sato, Kazuhiko '51  
Young, Lawrence Renwick '71
- CA Γ** Inouye, Lance Masao '68  
Likins, Peter William '57  
Love Jr., Ralph Edwin '57  
Muscha, Leslie Catherine '95  
Palmer III, Everett Arthur '65  
Reneau, Leon R. '58  
Rodriguez, David Albert '58  
Roodhouse, James Greenlee '59
- CA Δ** Agajanian, Shooshanig D. '79  
Griffith, Glen Arthur '72  
Hamilton III, Edsel Poston '72  
Hedin, Richard Allen '69  
Herzberg, Donald Edward '79  
Johnson, Wesley Walter '66  
Koppany, Charles Robert '63  
Moretti Jr., Vincent Carlos '78  
Nakatani, David Takeshi '63  
Nishimoto, Gregg Isaac '76  
Roof Sr., Dwight Ellis '57  
Shields, Linda '84
- CA E** Beguwala, Moiz '67  
Bremmer, David Franklin '71  
Hitz, Jerre Allen '58  
Hong, Phillip Robert '98  
Karagozian, Ann Renee '78  
Masumura, Robert A. '62  
Quan, Alan Chung '00  
Reichert, Ralph Jeffrey '67  
Woo, Raymond '72
- CA Z** Benson, Chris Alan '84  
Beyers, Danny Joseph Arthur '15  
Downey, James Bryant '62  
Masnada, Dante Angelo '75  
Mathews, Steven Matt '69  
Vlahutin, Paul Andrew '65
- CA H** Broadston, Robert Dean '94  
Khalili, Azita M. '83  
Kruusmagi, Daniel Thomas '13  
Pershon, James M. '79
- CA ☉** Bach, David P. '69  
Gerwien, Phillip Harvey '77  
Hill, Jo Ann Lucy '87  
Piburn, Russell J. '75  
Sedlak Jr., William Lee '81
- CA I** Oei, Paul C. '87  
Schluer, David Wesley '82
- CA K** Treinen, Donald Joseph '83
- CA Λ** Chargin, David Anthony '97  
Snyder Jr., Roland Curtis '74  
Stanley, Richard Loren '79  
Young, Jeffrey W. '69
- CA M** Clark, David James '99  
Mitsuoka, Jeffrey Minoru '79  
Rodgers, Patrick James '80
- CA N** Bohannan, Jim '70  
Harmeyer, Michael Allen '90  
Jordan, Patrick Anthony '87

- Lopez, Michael Howard '95  
Newberry, Conrad Floyd '57  
Reukauf, Paul James '70  
Ruud, John Emil '73  
Smith, Michael P. '84  
Veit, Brian Richard '98
- CA ≡** Baxley, Paul Alma '81  
Doeing, Brian James '81
- CA O** Caballero, Ross Charles '72  
Campbell, William James '65  
Elliott, Pamela Ann '88  
Fiedler, James Michael '78  
Fitzsimons, Michael Joseph '79
- CA P** Owens, Lawrence Paul '82
- CA Σ** Black, Stephen H. '85  
Burke, Robert Wayne '82  
Frankel, Craig Alan '86
- CA Y** Intagliata, John David '95
- CO A** Crisi, Peter Alfred '86  
Enger, Steven R. '81  
Peters, Richard Duane '80
- CO B** Austin, Stephen Coe '74  
Blackwelder, Ron F. '64  
Davis, Gregg Randal '77  
Eason, Ernest Day '71  
Furman, Michael Lee '80  
Knapp, Barry Goodwin '81  
McBride, Michael James '73  
Sorensen, Chris David '79  
Wood, John Everett '71
- CO Δ** Fisher, James Ebberty '78  
Mehring, James Warren '72
- CT A** Bugel, Robert Harry '45  
McLeod, Christopher Kevin '77  
Troutman, John Leo '65
- CT B** Altschuler, Stephen '54  
Devin, Maurice Roger '73  
Follette, Jean Marie '73  
Taylor, Kenneth Doyle '71  
Zajac, Gerald Edward '68
- CT Γ** Judd, Kyle Peter '91
- DE A** Folsom, Steven Allen '77  
Packard, Lawrence Bruce '88
- DC B** Delgado, Antonio J. '93  
Ford, Martha '74  
Gaffney, Joseph M. '83
- DC Γ** Kee, Orron Eugene '57  
Sonstebly, Ornlv '74
- FL A** Evans Jr., Andrew Joseph '75  
Frazier, Lori Marie '77  
Gunson, William Edgar '50  
Hayden, James George '69  
Lorberbaum, Henri Stuart '77  
Townsend, Frank Charles '62
- FL B** Ault, Richard Harold '64  
Elnaggar, Suzanne '93  
Gonzalez, Cristina Maria '79  
Jennings IV, Tipton Davis '54
- FL Γ** Chenkin, Joseph Alan '82  
Giovannelli, Ronald Frank '76  
Houmis, Nicholas James '74  
Paugh, Wayne Bruce '93  
Preslar, Daniel Alton '91
- GA A** Backhaus, George Peter '83  
Dishongh, Jefferson Lee '66  
Menges, Thomas Abel '78  
Milholen, Linda Scott '70  
Monk, Robert Franklin '63

# Alumni Giving

## Chi Club continued

Oslick, Rochelle '83  
 Ware Jr., Clyde Lee '59  
**ID A** Ahlschlager, Alan Douglas '87  
**IL A** Bein, Robert Walter '56  
 Boehm, Ronald Jack '81  
 Brown, Harold Thomas '68  
 Buboltz, Lisa Ann '01  
 Campbell, Larry Milton '64  
 Davison, Brian C. '87  
 Ellis, Paul David '66  
 Ephgrave, James Thomas '52  
 Flitman, Jeff Edward '82  
 Gromala, Edward Joseph '79  
 Hanus, Daniel Joseph '86  
 Jonas, Steven Geza '66  
 Jones, Douglas Warren '80  
 Kasper, Frank Stanley '52  
 Knox, T. '86  
 Kuske Jr., John Anthony '61  
 Le Blond, Peter Carl '75  
 Lenzini, Peter Arnold '75  
 Michlovich, Michael Samuel '81  
 Olson, Robert David '88  
 Ostrodka, David Leon '70  
 Saltzman, Jay Adam '90  
 Schoenberg, Kurt Francis '72  
 Wilhelm, Dale R. '80  
 Wilkins, Gregory Martiné '92  
 Williams, Allan Richard '71  
**IL B** Anderson, Robert Francis '62  
 Kinast, John Arthur '79  
**IL Γ** Knorovsky, Gerald Albert '70  
 Bickes Jr., Robert William '63

Cohen, Sanford Charles '58  
 Fenton, Suzanne A. '79  
 Guest, Howard Brandon '81  
 Ono, Craig Masao '81  
 Quint, James Peter '66  
**IL Δ** Zimmerman, Jerald Robert '76  
 Klasing, Wayne Gill '65  
 Kobiella, Anthony Robert '93  
 Toon, James Bertram '87  
**IL E** Hopkins, Mark Alan '82  
**IN A** Amaya, Mark Anthony '85  
 Binash, Irene Marie '79  
 Bullions III, Robert Jackson '64  
 Carter, Eric Lee '72  
 Cheesman, Mark William '81  
 Delleur, Jacques William '49  
 Egilsrud, Richard Leslie '81  
 Findley, Richard Allen '66  
 Flanigan, David Lawrence '66  
 Gilewski, Robert Leslie '73  
 Good, Larry David '67  
 Hale, David Charles '59  
 Hall, Thomas Wayne '67  
 Hendryx, Kevin Scott '81  
 Herendeen, Robert Oliver '65  
 Howard, Donovan Richard '58  
 Lambert, Ralph Edward '68  
 Lane, David Girdon '71  
 Lupfer, Thomas Harrison '79  
 Rea, David Richard '62  
 Rushworth, James Lynn '58  
 Schwiesow, Ronald Lee '62  
 Shulaker, Edward Ray '72

Thompson, Curtis Brooks '51  
 Tveter, Steven Elliot '74  
 Ward, John B. '58  
**IN B** White, Stanley Archibald '57  
 Martin, Jeffrey V. '78  
 Nichelson, Scott Michael '84  
 Osburn, Richard Kimmell '67  
 Stant, George Robert '76  
**IN Γ** Waterman, Robert Carl '70  
 Fitzgerald, Edward John '86  
 Flynn, Michael Joseph '89  
 Galezewski, Thomas Michael '78  
 Hawes, William Michael '78  
 Kast, Steven James '69  
 Kukla, James Alfred '72  
 Lane, James K. '82  
 Lombard, Michael Gerard '76  
 Murray, Francis O'Brien '68  
**IN Δ** Brems, Robert Ronald '63  
 Hartman, Richard Carl '63  
 Ilten, Mark Owen '72  
 Schmalz, Peter B. '69  
 Valenti, Paul M. '01  
**IN E** Finley, David Roland '94  
 Lund, Stephen R. '80  
 Tyler, Thomas Lee '54  
**IA A** Bartlett, Roger James '64  
 Cerwick, Joel Alan '66  
 Coffey, Leo Frederick '64  
 Cowles, Harold Andrews '49  
 Dagestino, Kathryn Ann '79  
 Drumm, Alfred Wendall '64  
 Ellingrod, William Wayne '54

## Ensuring the successful future of Tau Beta Pi is a family affair!

### Meet Heritage Society Members Katy and Dirk Colbry

Katy Colbry, Ph.D., *MI A* '99, and Dirk Colbry, Ph.D., *MI A* '06, belong to a family that includes several members of TBPI. While both Katy and Dirk work at Michigan State University as the Assistant Dean for Engineering Graduate Student Services and Director of HPC Studies in Computational Mathematics, Science & Engineering Department, respectively, they are both long-time volunteers with the Association. Katy serves as the Director of Engineering Futures while Dirk is a MI Alpha Chapter Advisor and Engineering Futures Facilitator. Katy's parents became engaged to be married in MI Gamma's office, and she has two brothers who are also Tau Bates (Tim & Mark Luchini).



Katy and Dirk, along with their four children, live in Okemos, Michigan.

**THE HERITAGE SOCIETY** was created to recognize those who include Tau Beta Pi in their estate plans. Becoming a member can help the Association achieve its mission. For information, email Sherry Jennings-King at [development@tbp.org](mailto:development@tbp.org) or visit [www.tbp.org/?Give](http://www.tbp.org/?Give)



Beta Club  
**Vince J. Sabio**

MD B '86

*Donating is a terrific way of giving back to an organization that has helped me throughout my career.*



Delta Club  
**Sue L.R. Holl, Ph.D.**

CA A '76

*Maintaining life-long association with TBP allows many wonderful opportunities to engage in making contributions to improve our world.*

*Chi Club continued*

- Henderson, James Allen '70
- King Jr., Maurice Albert '67
- Liu, Lee '57
- Mankowski, Alan Thomas '68
- Morse, David Sanford '52
- Paris, Stephen Warren '75
- Puffett, George E. '83
- Rush, David Grant '85
- Rustwick, John Douglas '71
- Sellew, Roger Franklin '59
- Van Zante, Dale Eugene '90
- Veenstra Jr., Henry Robert '71
- Wolfmeyer, Paul Albert '66
- Zwiebel, Jeffrey Lee '82
- IA B** Coe, Roger Norman '57
- Dawson, Robert Jerrold '60
- Fortney, Kathleen Elizabeth '92
- McSwiggin, Thomas G. '61
- Smith, Richard Kenneth '60
- Stevens, Stephen Arthur '77
- KS A** Black, Arthur Geiger '70
- Burkes, Robert Thomas '71
- Carvell, Lee Arthur '84
- Hinton, Robert Allan '61
- Pack, Garrett Edwin '60
- Seamans, David Alvin '50
- Smith, Ricky Dean '83
- Suelter, Leonard George '58
- KS B** Howe, Donald Craig '78
- KS Γ** Erickson, Larry Eugene '60
- Lebak, James Michael '89
- McKinnis, Steve Ray '74
- KY A** Cook, Robert Henry '74
- Gardner, Timothy Alan '75
- Wells, William Lochridge '62
- KY B** Hundley, John Smith '87
- Hundley, Theresa E. '87
- Milholen, Garland Bruce '79
- Minsterl, James R. '71
- Trafton, James O. '53
- LA A** Angelo Jr., Ernest '56
- Brack, Karen Guenther '84
- Crawford Jr., Richard H. '82
- Levert Jr., Freddie Joseph '62
- Millar, John S. '68
- Nelson Jr., George Gus '52
- LA B** Bourgeois, Brian Steven '82
- Bourgeois, Edit Jorgelina '91
- LA Γ** Ball Jr., Pete Gordon '61
- Giering III, Edmund Jacob '80
- Hogan, Harry A. '79
- LA Δ** Garber, James Daniel '66
- Young, Ronald Dale '66
- ME A** Atkinson III, Landy Guy '78
- Degon, Robert John '66
- Jones Sr., Jeffrey A. '75
- Musk, Jeffrey Hill '86
- Plesset, Robert Jordan '81
- MD A** DiGiorgio, Joseph Brun '54
- Hall, H. Thomas '56
- LaBerge, Chuck Charles '74
- Scheinin, Warren M. '74
- Wiseman Jr., William Joseph '64
- MD B** Bohse, Michael Edward '85
- Cook, Gordon Douglas '81
- Dinkle, Ralph Edward '65
- Greville, Edgar Murdock '67
- Hardesty, Donald Roy '64

- Himes, Doug Lamar '82
- Kirschbaum, Alan Ira '71
- Perkins, Michael Joseph '95
- Tregoning, Robert Lee '87
- Yourshaw, Sheryl Lynn '99
- MD Δ** Iannuzzi, Jo '96
- MA A** Auclair, Jared Robert '01
- Bernacki, Stephen Edward '70
- Fenner, Peter Richards '64
- MA B** Bennett, Kenneth Harold '89
- Ciaramaglia, Frederick J. '69
- Ditmeyer, Steven Roland '63
- Hilbing, James Henry '86
- Hladik, Karen Jean '78
- Osterberg, Peter Maynard '78
- Patterson, John Bryan '68
- Smallwood, Richard Dale '57
- Viterbi, Andrew James '57
- MA Δ** Adams, Randolph Keith '70
- Colen, Frederick Haas '69
- Curtis, Jonathan Greely '69
- DiPerna, Richard Arthur '66
- Harty Jr., Frederick Russel '61
- Hildebrant, Eric Michael '92
- Savage, Paul David '77
- Smeglin, Anthony Michael '76
- White, Edward A. '47
- MA E** Chiodo, Richard Anthony '71
- Engler, Harold Frank '75
- Lichtig, John Forrest '83
- Marini, Robert Charles '54
- Payne, Robert Joseph '86
- Vesce, Paul James '64
- MA Z** Bak, Dennis Carl '79
- Benwood, Bruce Robert '69
- Flynn, John Callahan '59
- Gusciora, Kenneth Henry '69
- Koch, Robert F. '79
- Lynch, David Peter '82
- Scott, George Lee '63
- Whitley, Norman Lyle '75
- MA H** Allen, Karen Leonard '89
- MA Θ** Gregg, John Edward '84
- MI A** Beck, Maureen E. '03
- Chaffee, Stanley Wendell '74
- Houthoofd, Janet Marie '76
- †Ryckman, Jim James '38
- Santoro Jr., Thomas Vincent '66
- Tscharner, Christopher G. '83
- MI B** Glidden Jr., Harry James '65
- Groeneveld, Gerald Anthony '63
- Maki, Steven Michael '76
- Plutchak, Raoul Edward '62
- Rom, David Bruce '56
- Sandretto Jr., Peter Patrick '64
- Saul, William Edward '55
- MI Γ** Ardis, Robert Boyd '46
- Barr, William Robert '70
- Baxter, John Edward '57
- Beatty III, Howard William '76
- Capelli, Ronald B. '73
- Connable, Tenho Sihvonen '42
- Davies, John Richard '50
- Delgass, William Nicholas '64
- Drago, Gary Alan '75
- Duncan, T. Michael '75
- Earl, George Clayton '66
- Fertel, Howard Kevin '79

- Friess, John George '57
- Hand III, Mike J. '11
- Hickcox, Timothy Earl '65
- Kasper, Alan R. '62
- Kleinau, Julie Ann '84
- Maier Jr., Edward Louis '77
- Maker, Pamela Allyn '81
- Prescott, Thomas J. '69
- Sanguinetti, John Winston '70
- Seidel, E. Michael '62
- Smith, Thomas Murray '72
- Stagner, Charles Evan '86
- Taylor, Mark Edward '74
- Toliver, Christopher Michael '74
- Washburn, John Robert '69
- Zuk, David Michael '70
- MI Δ** Elward, Bob M. '75
- Kaunelis, Pranciskus Saulius '69
- Marino, Joseph Anthony '72
- MI E** Dougherty, Robert Earl '65
- Durisin, Michael John '81
- Mahanes Jr., Harold Patrick '65
- Moses, Michael Joseph '00
- Siepierski, Michael Anthony '80
- MI Z** Foraker Jr., David Ernest '58
- Gomez, Lloyd E. '55
- Lachee, Roger Eric '75
- Reardon, Robert Warren '74
- Tarricone, Louis Guy '82
- MI H** Harder, Shawn Jay '80
- Johncox, Robert Allen '83
- Johnston, Richard '78
- MI Θ** Beck, B. Terry '71
- Messer, Bryan James '98
- MI K** Seymour Jr., Richard L. '97
- Sikkenga, Chad Douglas '98
- MN A** Bakke, Mark Alan '88
- Braaten, David Laverne '75
- Halladay, Henry Earnest '64
- Hanson, Henry Arthur '66
- Hegna, Harwood Allan '69
- McLeod, Gary Wayne '70
- Schwantz, Gary Lynn '73
- Severson, John Albert '72
- Thompson, Richard Alvin '77
- MS A** Barnett, Kerney Luther '71
- Clements, Nathan Scott '96
- Hibbard, Janet C. '86
- Hibbard, Michael Joseph '78
- Hilkert, James Michael '71
- Hotard, Daniel Gerard '76
- Mills, Marvin Leon '65
- Siler, Raymond David '83
- Wilson, Robert Reed '77
- Yates, Karen '73
- Yates, Michael Douglas '74
- MS B** Miles Jr., John Hubert '71
- MO A** Baker, Gerald Marion '63
- Burkholder, Scott Graham '79
- Crabbe, Emmanuel Francois '81
- Donaldson, Albert L. '75
- Gritzko, Ludwig Adam '58
- Haferkamp, Jeffrey John '76
- Henderson, Betsy Lynn '84
- Hutchinson, Darrell Byrd '74
- Koch, Dale Edward '72
- McCarthy, Thomas Owen '70
- Miller, Raymond Bryant '53

# Alumni Giving

Chi Club continued

- Oberlag, Gerald Allan '66  
 Oehrke, Timothy Chris '75  
 Potter, Charles Jarrett '71  
**MO B** Stieffermann, Michael Charles '86  
 Bodenhamer, Steven D. '75  
 Bondi, James Oliver '71  
 Buenemann Jr., Morris C. F. '82  
 Feurer, John Alphonse '70  
 Hahn, Gail Louise '82  
 Hardebeck, Harry Elmer '57  
 Jenkins, Glenn Willard '59  
 Kyser, Dale Anthony '83  
 Myers, Kenneth Raymond '72  
 Pannone, Gregory Michael '82  
 Sedovic, Pete Stephen '81  
 Stevens II, Oramel Dale '72  
**MO I** Dyson, Karen A. '81  
 Dyson, Peter Bernard '80  
**MT A** Courville, George Eugene '59  
 Egeland, Monte Dean '81  
 Jellison, Gabe Lee '98  
 Kolb, Robert C. '61  
 MacKin, Peter '81  
**MT B** Jackson, Darron Boyd '86  
 McDonnell, Kathleen Gayel '83  
**NE A** Criswell, Marvin Eugene '65  
 Langford, Susan Kathleen '90  
 Paxton, William Glenn '87  
 Steube, Milan Ray '74  
 Stransky, David Wayne '92  
**NH A** Scharfe, Alan Charles '78  
**NH B** Price, Alexander Daniel '05  
**NJ A** MacMillan Jr., Duncan J.S. '66  
 Murphy, Kevin Jay '78  
 Osborne, Scott Reynard '70  
 Schell, Robert Dallas '74  
 Schmidt, Arthur Joseph '68  
 Seventko, Joseph M. '60  
 Sussmann, Kenneth Philip '72  
 Tompetrini, Kenneth Frank '65  
 Waricka, Peter Thomas '71  
**NJ B** Babb, John Everett '71  
 Bubenick, David Virgil '73  
 Herrmann, Eric Peter '69  
 Kaufman, Peter Andrew '84  
 Palko, John Raymond '69  
 Shalayda, Robert George '73  
 Tanner, Bob Brand '64  
 Wolf, David '65  
 Wollmann, Norman P. '81  
 York, Brian J. '82  
**NJ I** Andrus, James '02  
 Cordes, Robert Gerhardt '48  
 DeWaal, Johannes '70  
 DiDomenico, Michael John '65  
 Pecca Jr., John Anthony '87  
 Prashak, Joseph John '73  
 Puhon, Robert '75  
 Reder, David Philip '85  
 Rij, Jerry Jerome '72  
 Vandemeulebroeke, Leon C. '89  
**NJ Δ** Lisle Jr., Thomas K. '69  
 Stern, Hal Lawrence '84  
 Wolff, Richard John '72  
**NM A** Bradt, David Jay '81  
 James, Jonathan Christopher '97  
**NM B** Busch, Robert Douglas '72  
 Salas, Thomas M. '85  
**NM I** Bakkom, Erik Iver '97  
**NY A** Blomberg, Richard David '67  
 Morgan, Thomas Arthur '78  
**NY B** Chandler, George Dennis '70  
 Roberts, S. William '58  
 Spearot, James Anthony '67  
**NY I** Blakeman II, Robert Denis '89  
 Brown Jr., Alfred Winsor '66  
 Bruch, Charles Gregory '59  
 Buck, Frederick Alan '76  
 Dowgwilllo, Robert Michael '75  
 Huie, Joseph Albert '52  
 Lewandowski, Michael '96  
 Lyden, Michael Joseph '78  
 Lynch, Karen Michelle '86  
 Lynch, Michael Francis '87  
 Miller, Rollin Ted '46  
 Natale, Michael Robert '02  
 Staudinger, James Robert '77  
 Walczak, Dennis James '76  
 Walter, Buff Arthur '60  
 Weader II, Richard Jerome '64  
 Weinberg, Richard Sheldon '81  
**NY Δ** Elko, Michael Joseph '89  
 Lampell, David Mark '73  
 McCloskey III, Charles C. '71  
 Sasso, Joseph Allen '70  
 Winkle, Roger Allan '67  
**NY E** Brodsky, Wesley G. '71  
 Dobbins, Bob Mark '73  
 Febesh, Melvin '47  
 Grinthal, E. Ted '62  
 Lee, John H-J '70  
 Lombardi, Francis Anthony '70  
 Pinnes, Edward Lawrence '71  
 Rosen, Fredric Kenneth '62  
**NY Z** Labianca, Frank M. '61  
 Lopinto, Robert Anthony '67  
 Parris, Richard F. '61  
 Sindel, Fred Hans '59  
 Young, Raymond Joseph '74  
**NY H** Beron, Michael '71  
 Kern, Frank John '70  
 Kushel, Glenn Elliot '68  
 Schlein, Robert George '72  
 Valcourt, Jean-Mary K. '85  
**NY ⊕** Beckeman, William Jerauld '79  
 Campana, Michael Albert '94  
 Cornett, Dean Leo '71  
 Lester, John Welch '52  
 McKenney, John Lee '62  
 Newman, Mitchell James '81  
 Suran, Jerome J. '49  
**NY I** Tesco, John Charles '69  
**NY K** Ablowitz, Mark Jay '67  
 Alcaro, Domenic John '87  
 Allyn, Elwyn George '61  
 Curtis, Johnson Ottawa '66  
 Dennis, William John '74  
 Hinshaw, David John '86  
 Hutchings, Donald Whitney '61  
 Isaacson, Morton Sanford '66  
**NY Δ** Fillo, John Paul '74  
 Ganetis, George Louis '78  
 Killeen, Michael James '73  
 Silverman, Joel Stuart '74  
 Taylor, Alwyn '75  
**NY M** Rest, George B. '75  
**NY N** Gluszak, Timothy John '88  
 Havas, Donald William '67  
 Mann, Michael '77  
 Morris, George Craig '63  
 Riebling, Robert William '60  
 Schaub Jr., Thomas Francis '93  
**NY ⊖** Benvenuti, Raynard D. '78  
 Byrnes, Richard Dennis '83  
 Deierlein, Charles '82  
 Haller, Marc Frederick '85  
 Mathews, Joseph Raymond '81  
 Rubano, Vincent Francis '73  
 Sanderson, Ellen Irene '81  
 Sanelli, Ronald Nicholas '84  
 Snyder, William Joseph '81  
 Steinte, Kathleen Susan '77  
**NY O** Eggleston, Peter Anthony '81  
 Hofmann, Linda '79  
 Putnims, Zigmunds Andis '78  
**NY II** Barber, R. Todd '87  
 DeVoe, Charles George '76  
 Drexel, Peter George '69  
 Fluker, Jon L. '88  
 Kaemmerlen III, John T. '76  
 Wong, Richard Yee '94  
**NY P** Abreo, Leslie Anthony '97  
 McBrien, William J. '87  
 Roldan, Mark Joseph '85  
 Wong, Wai Kin '85  
**NY T** Torres, Peter '02  
**NC A** Blair, John Ramsey '77  
 Burkart, Alex Raymond '72  
 De Haas, Cynthia '91  
 Franke, Deborah A L '85  
 Karesh, Lewis James '81  
 Maybee, Clarion Lee '77  
 Morton, Rodney Eugene '84  
 Redano, Rich '78  
 White, Samuel Ernest '69  
 Wynegar, Kathleen M. '86  
 Younts III, William Ernest '79  
**NC I** Ando, Robert Ryoichi '73  
 Bullard, John Carson '47  
 Duncan, Matthew Albert '07  
 Farst, Douglas Edson '79  
 Moulton, Paul Rush '80  
 Prevatt III, Richard M. '77  
**ND A** Dahlin, Earl Charles '58  
 Engbrecht, James Richard '59  
 Jacobsen, John W. '69  
 McLaughlin, Jenny Louise '84  
 Sauvageau, Donald Richard '70  
**ND B** Jesh, Mark Steven '86  
**OH A** Bacevice Jr., Anthony Edward '70  
 Bondor, Paul Lawrence '63  
 Brichford, Thomas Kenning '55  
 Fernbacher, John Matthew '62  
 Hecker, Siegfried Stephen '65  
 Honious, Robert Todd '89  
 May, Ronald Alan '83  
 Schuerger, Thomas Robert '50  
 Smialek, Jim L. '68  
 Weddell, James Kenneth '76  
 Zeis, John Frederick '62



Delta Club  
**Russ L. Werneth**  
 MD B '64

*It's great to pay back for all that Tau Beta Pi has meant to me—and to pay forward for future Tau Bates.*



Zeta Club  
**Tom A. Pinkham IV**  
 MA E '88

*Creating opportunities for top engineering students to develop leadership skills to make our world better.*

Chi Club continued

- OH B** Nair, Suresh Neelakantan '83  
Shields, John L. '75
- OH Γ** Smelser, Ronald Eugene '71  
Au, Ralph Daniel '71  
Balthaser, James L. '71  
Bouman, Robert William '60  
Carr, Stephen J. '70  
Feltz, John Francis '61  
Frey, Mary Ellen '89  
Hoover, Thomas Edwin '56  
Kirner-Prube, Susan M. '85  
Magee, John V. '81  
Mendelsohn, Richard H. '71  
Meredith, David B. '72  
O'Neal, Joe Edward '55  
Anonymous '86  
Shelley, Bill Raymond '74  
Shepherd, John McBride '58
- OH Δ** Beach, Theodore Lyman '87  
Brown III, Claude M. '74  
Felice, Conrad William '79  
Hild Jr., Wilbur Henry '64
- OH E** Cull, Ronald Carl '70
- OH Z** Duscha, Rudolph Albert '59  
Babula, Maria '89  
Busbey, Bruce C. '84  
Herman, Madison Rachelle '13  
Spicer, Alvin L. '67
- OH H** Eggers, James Arthur '72  
Fraass, Ronald Guy '78  
Kohlhaas, Richard L. '62  
Nelson, James Ralph '65  
Reid, Jim Henry '73  
Schmoll, Joseph Herman '81
- OH Θ** Brennan, Thomas J. '83  
Kamowski, Dennis Daniel '73  
McEldowney, Ralph A. '87  
Miller, Michael Leo '78  
Sink Jr., Robert Dean '87  
Unverferth, R. S. '74  
Walter, Kenneth Leo '63
- OH I** Schilling Jr., Walter William '97  
Strausbaugh, Patrick Dennis '86
- OH K** Billman, Randy William '82  
Duffy, Stephen Francis '78  
Maki, Luke Richard '78
- OH Λ** Krueger, Karl Hermann '73  
Murphy, Charles James '77
- OH M** Dull, Daniel D. '90
- OK A** Gimpel, Robert Jefferson '73  
Hardy, William C. '53  
Lampl, Maurice Bernard '89
- OK B** Blais, Roger N. '66
- OK Γ** Miani, Lino M. '86
- OR A** Anderson, Joseph Russell '66  
Andresen, Kenneth Wayne '53  
King, Warren Edward '69  
Marsa, Arnold Ray '49  
Miller, Mark Wade '89  
Pengelly, David Douglas '78  
Sato, Ben '57  
Wilt, Jay N. '74
- OR B** Buchanan, Marlowe James '92
- OR Γ** Tuttle, Neil James '09
- PA A** Bradley Jr., Charles William '51  
Fowler Jr., W. Beall '59  
Hernjak, James Gregory '96

- Hjorth, Beverly Ellen '79  
Koppes, Alan Wayne '53  
Kroboth, Michael Edward '72  
Labovitz, Judith Ann '86  
Labovitz, Stuart Lewis '85  
Ring, Robert Brex '55  
Talhelm, Donald Lee '59  
Wentzel, Alan Ray '75
- PA B** Bradt, Andrea '76  
Ciuca, James Allen '72  
Kardos, John Louis '61  
Matthias, Tracey Dawn '89  
Orosz, Matthew P. '02  
Overbaugh, Thomas Michael '83  
Ross, David Stanley '69  
Weston, Matthew Wayne '93
- PA Γ** Cavalier III, Forrest Joseph '89  
Cavalier, Nina Leslie '89  
Helfer Jr., Arleigh Pritchard '67  
Wierzbicki, Jeannette Marie '80
- PA Δ** Besarab, Anatole '65  
Sokal, Allen M. '68  
Turner, Michael Bryan '89
- PA E** Batdorf, Harold Ansel '70  
Flickinger, Richard Frederick '62  
Guest, Frederick Charles '59  
Hagadorn, Hubert William '59  
Kulicki, John Milton '65  
Matsumoto, Tadashi Campbell '60  
Miller, Ruth D. '84  
Richards, Gerald Thomas '57  
Stratton, Carl William '81
- PA Z** Anderson, John A. '79  
Ebner, Alan Martin '61  
Hill Jr., Albert Meredith '67  
Nadzadi, Mark Ellsworth '99  
Anonymous '84  
Thomas, Jeffrey R. '65  
Weggel, John Richard '64
- PA H** Gilman, Thomas Carter '66  
Hotchkiss, Jeffrey R. '69  
McDonnell, Robert William '48  
Stiger, David Laverne '83  
Swartz, William Ewing '54
- PA Θ** Corradino, Joseph Carmen '65  
Coyle, Todd Frederick '77  
Foza, Geza '63  
Griffin, Michael Vincent '74  
Hilditch, John Michael '83  
Jacobs, Michael Harry '87  
Kneidinger, Carl Frederick '70  
Lacz, Walter '69  
McLaughlin Jr., Philip V.D. '61  
Salvo, John P. '56  
Volkay-Hilditch, Christine M. '83  
†Warczyglowa, Clarence A. '76  
Woods Jr., Howard James '77
- PA I** Haigh, Bruce Whittemore '71  
Schoenberger, Lewis Robert '84
- PA K** Beseler, Jan W. '88
- PA Λ** Blackburn, Thomas Andrew '82  
Kulik, David Benedict '83  
Schurko, Robert John '78  
Taylor, Thomas Ray '73
- PR A** Fermaintt, Carlos Juan '84
- RI A** Campbell, Neal Stone '68  
†Kenney Jr., Joseph H. '50

- Pezzutti, David August '69  
Townsend, James Courtland '60
- RI B** Fletcher, Gilbert Alan '68  
James, Charles Franklin '58  
Silva, Ronald Ernest '74  
Verrier, Donald Charles '54
- SC A** Brown, David A. '66  
Davenport Jr., Charles F. '79  
Gray Jr., Blaine Edward '72  
Hunter, James Richard '85  
Rankin, Anne Marie '90  
Scherer, John Harry '65  
Snider, Eric H. '75  
Speed, Penelope Ann '87  
Stecker, Marc Kevin '82  
Ward, Robert Mitchell '86
- SC B** Bradey, Jeffery Ervin '85  
Feldmann, Andrew Russell '89  
Harris, Raymond E. '87  
Pendley, Howard A. '93  
Prunty Jr., Robert Wayne '71  
Skvoretz, Jonathan Maxwell '95  
Walden, Gary R. '81  
Wilson Jr., Robert Lewis '69
- SC Γ** Gooley, Thomas Joseph '55  
Gustafson, Richard A. '63  
Kelly, Robert Thomas '86  
Reed II, Henry McDavid '60
- SD A** Beacom, E. Kevin '82  
Beck, Carl William '83  
Berggren, Mark Harry '76  
Brass, Lorin Lee '75  
Kroetch, Christopher Allen '06  
McCourtie, Bonnie Rae '80  
Stark-Kasley, Lori Ann '82
- SD B** Bocklund, Lori Sue '83
- TN A** Bowers, Bob '68  
Cashion, Gregory Lee '79  
Cavender, James Milton '66  
Davis, Wayne Thomas '73  
Ellis, Jeffrey Thomas '93  
Hitch, Benjamin Franklin '67  
Hunt, Roy Joe '67  
Kaminsky, Lawrence Victor '81  
Kennedy, Michael Earl '86  
Miller, Freddy M. '79  
Mynatt Jr., Roy Leon '58  
Oliver, Edward Earl '66  
Peugeot, Richard Scott '60  
Rogers, Marvin Dale '70  
Sheffey, David Wells '66
- TN B** Convery, Thomas Patrick '02  
Macchio, Gregory John '84  
Pentecost, Gene Edgar '50  
Petersen, Eric Scott '84  
Petersen, Stephanie Anne '84
- TN Γ** Badiru, Adedeji B. '79  
Britton, Thomas Carter '88  
Buell, Phillip Ray '95  
Crawford Jr., Walter Keith '62  
McDonald, Gary Haywood '77

Continues on page 42.

# BRAIN TICKLERS



## Results From Fall

### Perfect Scores

Bachmann, David E.	MO	B	'72
*Berthold, Kristopher D.	TX	B	'04
*Chatcavage, Edward F.	PA	B	'80
*Couillard, J. Gregory	IL	A	'89
*Dechman, Don A.	TX	A	'57
Griggs Jr., James L.	OH	A	'56
*Gulian, Franklin J.	DE	A	'83
Gulian, Joseph D.	Son of member		
Janssen, James R.	CA	Γ	'81
McHenry, S. Dale	MO	B	'81
*Norris, Thomas G.	OK	A	'56
*Parks, Christopher J.	NY	Γ	'82
Rowe, Steven A.	ME	A	'81
Barr, David A.	Non-member		
Scott, Darrell J.	NC	Δ	'82
*Slegel, Timothy J.	PA	A	'80
Spong, Robert N.	UT	A	'58
*Voellinger, Edward J.	Non-member		

### Other

*Bannister, Kenneth A.	PA	B	'82
Bertrand, Richard M.	WI	B	'73
Bohdan, Timothy E.	IN	Γ	'85
Garrard, Kenneth P.	NC	A	'82
Johnson, Roger W.	MN	A	'79
Jordan, R. Jeffrey	OK	Γ	'00
Kovalick, Albert W.	CA	H	'72
Lalinsky, Mark A.	MI	Γ	'77
Marks, Lawrence B.	NY	I	'81
Marks, Benjamin	Son of member		
Mitchneck, Adam	Non-member		
Pendleton III, Winston K.	MI	Γ	'62
Richards, John R.	NJ	B	'76
Riedesel, Jeremy M.	OH	B	'96
Roggli, Victor L.	TX	Γ	'73
Routh, Andre G.	FL	B	'89
Schmidt, V. Hugo	WA	B	'51
Schwartz, Beverly I.	MA	Δ	'85
Zison, Stanley W.	CA	Θ	'83

\*Denotes correct bonus solution

## Fall Review

All the regular problems had at least 80 percent correct answers, with number 3 (Path to Goddess) being the most missed. The Bonus (game of SETS) only had 55 percent correct answers.

## Winter Answers

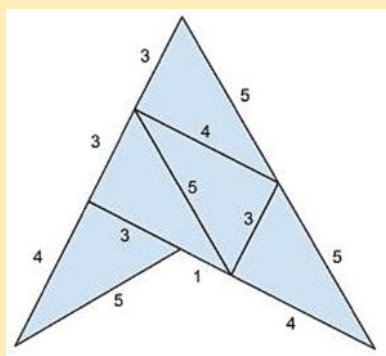
**1:** The solution to the cryptic multiplication is  $775 \times 33 = 25575$ .

For this problem, we need only consider the digits 2, 3, 5, and 7. Examining options for the ones digit for both the multiplicand and the multiplier, it can be seen that at least one must be a 5, and the ones digit for the intermediate multiplication is a 5 that adds a carry of 1, 2, or 3. A carry of 3 forces the tens digit of the multiplicand to be even (2). The two potential choices for this condition both result in no valid intermediate multiplication. A carry of 2 initially looks promising as there are 4 potential choices for the tens digit of the multiplicand, but choosing a 2, 3, or 7 creates an invalid intermediate multiplication. Choosing the remaining digit 5 creates another carry of 2, and there are now 4 potential choices for the hundreds digit of the multiplicand. We can see that a choice of 5 or 7 for this digit will result in an intermediate multiplication of 2775 (555x5) or 3775 (755x5), respectively; each is a viable candidate that should be set aside for further analysis. Continuing with our study of an initial carry of 1, only a 7 in the tens digit of the multiplicand (with the 5 in the ones digit) will work. A moment of analysis will determine that 2325 (775x3) is the only valid intermediate multiplication for this configuration. Since all viable multiplicands are different, the two intermediate multiplications must be identical (the digits of the multiplier must be equal), and we check all three possibilities to determine the final answer. Only  $775 \times 33 = 25575$  has all digits prime.

**2:** Anna is Alice, Dharma, and Darlene; Beth is Betty, Bianca, and Barbara; Cate is Carol, Claire, and Cristin; Dawn is Debra, Astrid, and Allison. Anna cannot be perfect or imperfect, because Cate's statements would be a contradiction in either case. So, one of Anna's statements is true and the other is false. If the first is false, then it would imply that Cate is perfect and, therefore, that Anna is imperfect, but we have shown this to be impossible. Thus, Beth is Betty and Cate must be imperfect, and Cate has the aliases Carol, Claire, and Cristin. It is, therefore, true that (like in real life) no one is perfect. This means Beth's first statement is false, and his second statement is clearly false as well, so Beth is imperfect and has the aliases Betty, Bianca, and Barbara. Since Carol is not Astrid, Dharma is Darlene and Dawn is not imperfect and must have the alias Debra. This matches Anna with Alice, Dharma, and Darlene, and matches Dawn with Debra, Astrid, and Allison.

**3:** The pressure seen at the bottom of the cylinder has **increased by 100 percent**. Assume the pressure inside the air bubble at the bottom is  $p$ , implying that the initial pressure on the bottom is  $P_i = p$ . Since the initial pressure seen at the top of the cylinder is zero, the air bubble pressure cancels out the pressure due to the weight of the water column ( $\rho gh$ ); that is,  $p = \rho gh$ . Because the water is incompressible and the volume is kept constant, the bubble must maintain its size as it reaches the top. No work is done on the air, so the temperature remains fixed.  $\Delta p$  is therefore also zero when the bubble reaches the top. The final pressure seen at the bottom of the cylinder is  $P_f = \rho gh + p = 2\rho gh$ . This implies the pressure has doubled.

**4:** A solution to the problem is shown in the attached figure. Live long and prosper!



**5: 9 drops are required** for a 100 story building, and for 14 drops, a **469 story building** can be covered. It helps to first consider the case of two bowling balls, as first presented in the Winter 2010 Ticklers. There, we saw the first partition breaks up the building into chunks of  $x$  stories,  $x-1$ , stories, and so on, down to one story. Then, once the first ball breaks, the second ball is used within the partition one story at a time until the appropriate floor is found. This method supports a solution of  $x$  drops in a building of up to  $x(x+1)/2$  stories (triangular in value). Now, with an additional ball, we need to create a new set of first partitions. Within each of these partitions, we can apply the optimal technique for two balls previously described. A little recursive thinking shows that we need the first partition sizes to be equal to the elements in sequence of triangular numbers until the total sum of these elements equals (or exceeds) the number of floors  $N$  minus  $k$  attempts.

$\sum_{j=1}^{k-1} \sum_{i=1}^j i = N - k$ , which can be expanded to give  $k^3/6 + 5k/6 - N = 0$ . If  $N=100$ , we can find that  $k$  must be larger than  $\sim 8.24$ , so we require 9 drops. If  $k=14$ , we can solve to find  $N=469$ .

### BONUS:

The roller coaster takes about **7.66 seconds** to complete the full loop. We wish to calculate the time elapsed for three separate sections: the lower curve, the vertical

final answer will be twice the sum of these three components. Let  $R_1$  be the radius of the lower curve, and  $R_2$  be the radius of the upper curve. For the first circular section,  $T_1 = \int_0^{\pi/2} \frac{R_1}{V(\theta)} d\theta$ .  $V(\theta)$  can be found

from conservation of energy concepts, with  $(1/2)v_1^2 = gy + (1/2)V(\theta)^2$ .

A little geometry and some rearranging gives  $V(\theta) = \sqrt{v_1^2 - 2gR_1(1 - \cos\theta)}$ . Using conservation of energy,  $v_1 = \sqrt{2gh}$  for an initial height  $h$ . With  $h=100\text{m}$ , this yields  $v_1=44.29\text{m/s}$ . Plugging these values into the integral, we see this is an elliptic form that has no closed form solution. Numerical integration gives  $T_1=1.5475\text{s}$ . In the second section, the time elapsed is equal to the change in velocity over  $g$ , or  $T_2=(v_3-v_2)/g$ . The various velocities can also be found using conservation of energy, and we find  $v_2=\sqrt{v_1^2-2gR_1}=34.31\text{m/s}$  and  $v_3=\sqrt{v_1^2-2g(R_1+10)}=31.32\text{m/s}$ . Plugging all this in gives  $T_2=0.3047\text{s}$ . In the final section, we repeat the method of the first section, this time with  $T_3 = \int_0^{\pi/2} \frac{R_2}{V(\theta)} d\theta$

$V(\theta) = \sqrt{v_1^2 - 2g(R_2 \sin\theta + R_1 + 10)}$ , and numerical integration gives  $T_3=1.9767\text{s}$ . Adding all segments up and doubling gives about  $7.66\text{s}$  for the total loop transit time. It should be noted that this is an ill-advised design, as riders experience  $6\text{ G}$  at the bottom—most mortals would black out under these conditions!

### COMPUTER BONUS:

The longest sequence is of length **11**, and the first number in such a sequence is **2520**. Note that  $SD(n)$  is an infinitely repeating sequence of the digits  $1,2,\dots,9$ . It is trivial to note that  $SD(n)=1$  always divides  $n$ , and with the fact that any  $n$  with a sum of digits divisible by 9 is itself divisible by 9, we can see that  $SD(n)=9$  will also always divide  $n$ . Because the repeat sequence is of size 9, every other value of  $n$  resulting in an even  $SD(n)$  will be odd, and  $n/SD(n)$  will not result in an integer. For  $n=3$  or  $n=7$ , it is not readily apparent if  $n$  will divide evenly by

$SD(n)$ . Regardless, these facts show that the longest sequence that can be made must start with an  $n$  that results in  $SD(n)=9$ , wraps through some magic set of  $SD(n)=1$  through 9 that works, wraps again to another  $SD(n)=1$  that will obviously divide  $n$ . The next  $SD(n)=2$  will not divide, and thus the sequence length can be at most 11. A sequence can be found by starting with an integer which is  $\text{lcm}(1,2,3,4,5,6,7,8,9) = 2520$ , having an  $SD(2520)=9$ . This ensures that the numbers a distance  $i$  away from 2520 will have an  $SD(2520+i)=i \pmod 9$  and will be divisible by  $2520+i$ . A quick computer program can verify that this is indeed the first such sequence of maximal length.

## New Spring Problems

### 1: Cryptic Addition

Solve the following cryptic addition in a base less than 10:

$$\text{ALL} + \text{ALONE} + \text{AT} = \text{NIGHT}$$

The usual rules apply: each letter represents a different digit and there are no leading zeros.

—Journal of Recreational Mathematics

### 2: Urn Probability

An urn contains 10 counters marked with the numbers 1-10. A random counter is drawn, the number on the counter is noted, and the counter is returned to the urn. This process is repeated for a total of 10 draws.

What is the exact probability that the sum of the numbers drawn is 50?

—de Moivre, c. 1717

### 3: Find the Temperature

The local radio station gives the temperature in degrees Fahrenheit and Celsius. The Fahrenheit value represents the actual temperature rounded to the nearest degree. The Celsius value is derived from the Fahrenheit value by consulting a chart which gives, for each integer

**BTs continue on page 40.**

# IN THE COLLEGES

Tau Bates having an impact at institutions of higher learning

## Mary C. Boyce Ph.D.

*Virginia Beta '81*

Mary has been named the next provost of Columbia University, beginning July 1, 2021. Previously, she was dean of the school of engineering and applied science (since 2013) at Columbia. Her degrees are in engineering science & mechanics from Virginia Tech and M.S. and Ph.D. degrees in mechanical engineering from MIT, where she was faculty for 25+ years.



## Çetin Çetinkaya Ph.D.

*New York Theta '86*

Çetin is a newly appointed endowed chair at Clarkson University. He is a renowned expert in additive manufacturing who joined Clarkson as an assistant professor in 1997. He also directs the Photo-Acoustic Research Laboratory, co-directs the Center for Metamaterials at Clarkson, and was appointed as a Fellow of the American Society of Mechanical Engineers in 2011.



## Christopher J. Cornelius Ph.D.

*Montana Alpha '94*

Chris has been named chair of the department of materials science & engineering at Iowa State University. Previously, he was a chemical engineering professor at the Univ. of Nebraska-Lincoln (UNL) and diversity coordinator for the Mid-American Transportation Center at UNL. He also has years of industry experience, including positions at Sandia National Labs, 3M, and Dow Chemical.



**SPOTLIGHT: Enhanced human-AI collaboration grant**—The Defense Advanced Research Projects Agency (DARPA) has awarded a team of researchers \$5.6 million to merge the strengths of artificial and human intelligence, with the goal of advancing the utility of relevant cyber-physical systems. The co-principal investigator of the project is **Christopher C. McComb, Ph.D., CA R '12**, assistant professor of engineering at Penn State. He will receive \$437,023 of the grant as he and his team seek to streamline and enhance the collaboration of humans and AI through a foundational approach. “This gives me a chance to help people live more dignified and interesting lives,” McComb said.

**Researchers receive grant to study hybrid rockets**—A grant from the U.S. Department of Energy enables the University at Buffalo (UB) to establish the Center for Hybrid Rocket Exascale Simulation Technology. The team, led by **Paul E. DesJardin, Ph.D., NY N '93**, professor of engineering at UB, will simulate and help design safe, low-cost motors that could propel nanosatellites and other vehicles into space. The research team has been “awarded \$8.5 million to study hybrid rockets, a technology that could provide a safer and less expensive way to explore outer space compared to conventional rockets.” Hybrid rockets are inherently safe and use nontoxic, inexpensive fuels.

## Mark K. Cox P.E.

*Tennessee Alpha '89*

Mark has been appointed to Milligan (TN) University's board of trustees. He is senior vice president and chief manufacturing, supply chain and engineering officer at Eastman Chemical Co. He holds both U.S. and international patents associated with process technology developed by Eastman and was inducted into the University of Tennessee's ChE & Biomolecular Dept. Hall of Fame (2018).



## Jia Di Ph.D.

*Arkansas Alpha '04*

Jia has been chosen to lead the department of computer science and computer engineering at the University of Arkansas. He's been a faculty member since 2004 and holds the 21<sup>st</sup> Century Research Leadership Chair. He is recognized for research in asynchronous integrated circuit design and hardware security, holds six patents, and joined TBITI as an eminent engineer.



## Kemper E. Lewis Ph.D.

*New York Nu '92*

Kemper has been appointed dean of the University at Buffalo (UB) School of Engineering and Applied Sciences. He is a leader in engineering, design, system optimization, and advanced manufacturing. He joined the UB faculty in 1996 and serves as department chair, Moog Professor of Innovation, and co-director of UB's sustainable manufacturing & advanced robotic technology.



## Chris D. Pionke Ph.D., P.E.

Tennessee Alpha '81

Chris, MABE associate professor, retired July 31 from the University of Tennessee. He was part of the team that established the *engage*<sup>TM</sup> program, the signature 1<sup>st</sup> year experience for students of the college of engineering and helped develop an engineering ethics course. He joined UT in 1982 and also served as Chief Advisor to the TN Alpha Chapter for nearly 20 years.



## Michelle B. Sabick Ph.D.

Ohio Alpha '92

Michelle has been named the new dean of engineering and computer science at the University of Denver. Most recently, she served as the dean of the college of engineering, aviation, and technology at Saint Louis University. An expert in the biomechanics of the shoulder & elbow and medical device development, she received her Ph.D. in BME from the University of Iowa.



## Mark H. Somerville Ph.D.

Texas Alpha '90

Mark has been named the Olin College of Engineering's new provost and dean of faculty. He guided the college's academic programs for almost two years as interim provost, joined Olin in 2001 as an assistant professor, and is co-author of "A Whole New Engineer: The Coming Revolution in Engineering Education." His technical background focuses on high-speed semiconductor devices.



**FACILITIES: Duke University names MEMS Department and chair for LORD CEO**—As the first department at Duke to be named in honor of a benefactor, the Thomas Lord Department of Mechanical Engineering & Materials Science recognizes the transformative contributions of the late Thomas Lord, chairman and CEO of LORD Corp. The MEMS Department was also selected for naming in part to recognize LORD's roots in mechanical engineering innovation. In addition, the MEMS Department chair position will be named in honor of Donald M. Alstadt, former president of LORD, who introduced Thomas Lord to Duke. Professor **Cate Brinson, Ph.D., VA B '85**, an internationally known soft-matter expert, will be the first Alstadt Chair.

**Gift will create a new interdisciplinary school at University of Arizona (UA)**—The Lundin family has made a \$2 million commitment to UA to help upgrade facilities, support students, and work toward an interdisciplinary school of mining engineering and mineral resources. The UA engineering and science colleges are sharing the gift and working together with the Lowell Institute to develop interdisciplinary curriculum and update research facilities, such as the San Xavier underground mining lab. UA is home to one of only 13 mining engineering programs in the country sanctioned by ABET. "Mining is more critical than ever as we look toward a more sustainable future for our planet," said Professor Emerita **Mary M. Poulton, Ph.D., AZ A '84**.

## Jonathan P. Stewart Ph.D., P.E.

California Alpha '90

Jonathan has been appointed to the University of California Seismic Advisory Board (UC SAB). The UC SAB advises the UC on the seismic design, performance ratings, and rehabilitation of its facilities. He is a professor of civil and environmental engineering at the UCLA Samueli School of Engineering with technical expertise in geotechnical earthquake engineering and seismology.



## Bridget M. Wadzuk Ph.D.

Pennsylvania Theta '00

Bridget began her tenure as the Edward A. Daylor Chair in Civil Engineering in August 2020 at Villanova University. She is a professor committed to "resolving environmental justice issues with resilient engineering solutions." She is also a faculty researcher in the Villanova Center for Resilient Water Systems and is recognized for advancing novel concepts in stormwater engineering.



## Jennifer L. Wilson Ph.D.

Virginia Alpha '10

Jennifer will join the UCLA Samueli School of Engineering as an assistant professor of bioengineering in July 2021. She specializes in refining and developing computational network models for more efficient drug design through better identification of potential druggable targets based on their protein network effects. She holds a postdoctoral appointment with SPARK, at Stanford University.





# Tau Beta Pi Families

Do you have a spouse, sibling, parent, son/daughter, or grandparent, who is a member of Tau Beta Pi? If so, we would like to recognize you in a future Tau Beta Pi Families. Send your information, and even a family photo, to [media@tbp.org](mailto:media@tbp.org).

## CENTENARIANS:

**Edward F. Egan, NJ A '40**

b. April 28, 1919

d. July 15, 2020

**James W. Faassen, IA A '36**

b. 2014

d. September 27, 2020

**Roy L. Kline, IA A '35**

b. 2014

d. May 11, 2020

**Michael M. Mauriello, NJ Γ '41**

b. January 8, 1919

d. March 26, 2020

**Vincent U. Muirhead, KS A '41**

b. February 6, 1919

d. April 30, 2019

**Ethan A. Platt, CA A '51**

b. February 4, 1918

d. May 22, 2020

**Ralph Rose, OH Γ '42**

b. December 27, 1917

d. July 14, 2020

**Alex C. Wilkie, MI Γ '42**

b. January 26, 1919

## BI-SPOUSAL:

**Brenda C. Anding, MS A '79**

**Robert C. Anding, MS A '78**

**David P. Bradway, OH Γ '05**

**Laura A. Bradway, OH Γ '05**

**Lynn K. Coalmer, OH Γ '93**

**Mark S. Coalmer, OH Γ '92**

**Bryan G. Comstock, IN A '98**

**Krista B. Comstock, IN A '95**

**Jose G. Colom-Ustariz, PR A '87**

**Sandra L. Cruz-Pol, PR A '87**

**David D. Dixon, OK Γ '83**

**Kimberly A. Dixon, MA H '86**

**Katie Martin-Dobrowolski, OH Γ '06**

**Patrick J. Dobrowolski, OH K '08**

**Efram R. Fuller, NC E '90**

**Marie V. Scantlebury, DC A '89**

**Benjamin J. Gravell, TX E '17**

**Jamie D. Gravell, TX E '17**

**Douglas G. Hurley, LA B '88**

**Karen L. Nyberg, ND B '94**

**Christopher Keys, CA Y '18**

**Elizabeth Keys, CA Y '18**

**Casey D. Kidd, LA Γ '04**

**Laura R. Kidd, LA Γ '04**

**Dima Poe, FL Θ '04**

**James M. Poe II, FL Θ '04**

**Gretchen Schimelpfenig, WY A '12**

**Mara A. Schimelpfenig, WY A '12**

**Janet L. Schexnayder, LA A '87**

**Mark A. Snyder, IL A '81**

**Elaina J. Sutley, AL B '10**

**Frank H. Sutley, AL B '11**

ABOVE: Jeff and Matthew Zola.

RIGHT: Katie A. Martin-Dobrowolski and Patrick Dobrowolski met at Ohio State University and married in 2015.



RIGHT: Klamerus Family of Tau Bates, (from left to right) Eric, James, Jamie, and Leo. Special thanks to Eric for putting this image together and sending it in and to Leo who is very proud of his three generations of Tau Beta Pi members.

## SIBLINGS:

### The Amonlirdviman Brothers

Keith Amonlirdviman, MA B '99

Kevin Amonlirdviman, MA B '97

### The Baldovin Brothers

Mark J. Baldovin, NY E '85

Thomas J. Baldovin, NY E '80

### The Beahr Brothers

Daniel P. Beahr, WV A '21

David P. Beahr, WV A '17

### The Beimers Brothers

Charles J. Beimers, MI A '69

Daniel J. Beimers, MI A '72

### The Ciero Brothers

Mark K. Ciero, PA B '91

Robert A. Ciero Jr., TX Δ '86

### The Dudas Brothers

Daniel L. Dudas, IL A '56

Donald R. Dudas, IL A '57

### The Dunleavy Brothers

J. Robert Dunleavy, WY A '79

Michael F. Dunleavy, WY A '83

### The Gramling Brothers

Frank E. Gramling, SC A '75

John S. Gramling, SC A '79

### The Guile Brothers

†Robert W. Guile, CT B '66

Roy N. Guile, CT B '65

### The Hemler Brothers

Charles L. Hemler Jr., IN Γ '64

James M. Hemler, IN Γ '69

### The Immekus Brothers

†John A. Immekus, WI B '61

†Robert J. Immekus, WI B '59

### The Jobes Brothers

Kirk S. Jobes, WV B '92

Shane W. Jobes, WV B '90

### The Krewatch Brothers

†Albert V. Krewatch, DE A '25

†Samuel Krewatch, DE A '31

### The Kyriakides Brothers

Michael A. Kyriakides, VA B '12

Steven A. Kyriakides, VA B '06

### The Lachica Brothers

Cesar P. Lachica III, CA K '21

Eros P. Lachica, CA K '21

### The Lenzi Brothers

†Ernest V. Lenzi, IL A '62

Virgil D. Lenzi, IL A '61

### The Livingston Brothers

Jason S. Livingston, PA B '00

Sean J. Livingston, PA B '96

### The Lorimor Brothers

Gary D. Lorimor, IA A '71 (twin)

Gregory L. Lorimor, IA A '70

Larry W. Lorimor, IA A '71 (twin)

### The Mowrey Siblings

Daniel B. Mowrey, GA A '65

Samuel L. Mowrey, GA A '70

Stella K. Sudderth, GA A '80

### The Nielson Siblings

Jacob Nielson, CO B '20

Jenna M. Nielson, CO B '22

### The Oelsner Sisters

Laura Oelsner, CA Λ '19

Rachel K. Oelsner, CA Ψ '21

### The Osborn Twins

Mark I. Osborn, AL A '88

Matthew I. Osborn, AL A '88

### The Peralta Twins

Gabrielle Peralta, NY Δ '20

Leilani A. Peralta, NY Δ '19

### The Peterson Brothers

Lucas M. Peterson, MI Γ '19

Zachary A. Peterson, MI Γ '19

### The Piatkowski Brothers

†Stanley L. Piatkowski, MI Γ '63

Thomas F. Piatkowski, MI Γ '60

### The Pfautsch Sisters

Julie A. Pfautsch, WI B '85

Laura A. Pfautsch, MO B '81

### The Raymont Brothers

Paul A. Raymont, PA B '67

Richard J. Raymont, PA B '64

### The Schellentrager Brothers

†Edwin Schellentrager, OH A '44

†William Schellentrager, OH A '39

### The Schilleci Siblings

Carl M. Kinchler, AL A '15

William B. Schilleci, AL A '20

### The Sireci Brothers

Alexander D. Sireci, CA M '16

Nicholas D. Sireci, CA Φ '15

Timothy D. Sireci, CA Φ '21

### The Sreedhar Siblings

Hari Sreedhar, IL Z '15

Siva P. Sreedhar, IL Z '21

### The Stepanek Brothers

Curtis E. Stepanek, MO A '79

Dennis E. Stepanek, MO A '80

### The Sutley Brothers

David E. Sutley Jr., AL B '03

Frank H. Sutley, AL B '11

Garrett H. Sutley, LA A '06

### The Tang Twins

Eric W. Tang, NY Δ '20

Lawrence W. Tang, NY Δ '20

### The Thedens Brothers

Peter J. Thedens, IA A '18

Ross C. Thedens, IA A '20

### The Widmann Brothers

Elmer R. Widmann, NJ B '71

Douglas C. Widmann, NJ B '73

Glenn R. Widmann, NJ B '79

### The Zheng Twins

Lu Ping Zheng, NY H '21

Luting Zheng, NY H '21

### The Zucker Twins

Edward A. Zucker, TN Γ '88

James T. Zucker, TN Γ '88



**MULTI-GENERATION:**

**The Anding Family**

†Robert D., LA A '48 (father)  
Robert G., LA A '75 (son)

**The Begovich Family**

John M., OH Θ '74 (father)  
Alice M. Hanson, OH Θ '10 (daughter)

**The Beitle Family**

Robert R. Sr., PA Γ '62 (father)  
Robert R. Jr., PA Λ '87 (son)

**The Beltracchi Family**

†Leo, NY Θ '52 (father)  
Todd J., NY Θ '84 (son)

**The Bonacuse Family**

Thomas, MI Δ '57 (father)  
Thomas P. Jr., PA Λ '82 (son)

**The Boothe Family**

Robert R. Jr., TX A '59 (father)  
Robert S., AL A '86 (son)

**The Brungardt Family**

Matthew, TX H '86 (uncle)  
Elizabeth A., KS A '21 (niece)

**The Butterworth Family**

†William J., OK A '51 (father)  
David A., AL E '01 (son)

**The Campbell Family**

†Orlo E., IN A '33 (father)  
Ann L. Capron, NY Δ '61 (daughter)

**The Chu Family**

David W., CA E '82 (father)  
Matthew D., CA E '19 (son)

**The Courter Family**

†John W., TX A '28 (father)  
Robert W., LA A '57 (son)

**The Crow Family**

†Charles S. Jr., NJ B '49 (father)  
Charles S. IV, MD A '03 (son)

**The Doheny Family**

†Donald A., WI B '47 (father)  
Donald A. Jr., IN Γ '77 (son)

**The Fernau Family**

Scott A., CO B '83 (father)  
Hannah C., PA Λ '16 (daughter)

**The Flowers Family**

†Henry F., TN B 1912 (grandfather)  
†Daniel F., VA Δ '40 (father)  
Daniel F. Jr., GA A '83 (grandson)  
Joseph K., TN B '88 (grandson)

**The Gasda Family**

David C., PA B '70 (father)  
Sarah E., MD A '97 (daughter)

**The Goranson Family**

†Harvey E. Sr., IL B '29 (father)  
Harvey E. Jr., IL B '74 (son)

**The Gravallese Family**

Albert J., MA Δ '54 (father)  
Julie M., VA A '80 (daughter)

**The Guelker Family**

†Marshall F., WI A '61 (father)  
Eric J., WI A '90 (son)

**The Hahnert Family**

William F. III, KY B '85 (father)  
Morgan, KY B '15 (son)  
Eric T., KY B '19 (son)

**The Halstead Family**

†John L., KS A '51 (grandfather)  
Evan J., NY T '20 (grandson)

**The Henrikson Family**

†Alan E., CO Γ '52 (grandfather)  
Erik M., AZ B '04 (grandson)

**The Herscher Family**

Marvin B., PA Z '53 (father)  
Howard T., PA Z '88 (son)

**The Hughes Family**

Michael R., PA A '87 (father)  
†Arthur H. Sweeney Jr., MA B '42 (uncle)  
Logan J., MD Γ '19 (son)

**The Irwin Family**

Richard D., MS A '80 (father)  
Thomas R., OH Δ '11 (son)

**The James Family**

Karleen K., SD A '86 (mother)  
Kyle A. Hoops, SD A '84 (brother)  
Blake A., SD A '12 (son)

**The Johnston Family**

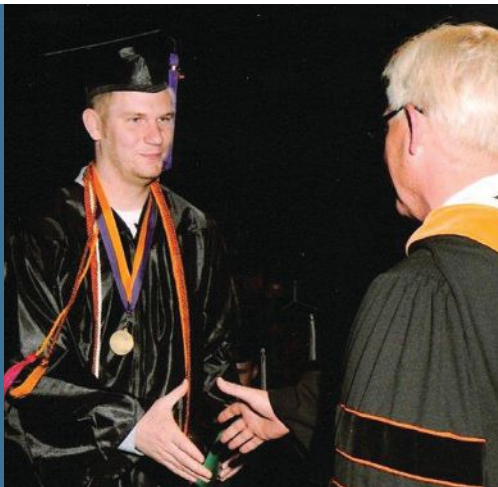
David A., OH Z '79 (father)  
Callie N., VA B '14 (daughter)

**The Jordan Family**

Kerry M., OK Γ '88 (father)  
Claire, AZ B '19 (daughter)

**The Karabinus Family**

†Raymond J., WI A '47 (grandfather)  
Shelley A. Glimcher, OH Γ '04 (granddaughter)



**LEFT:** Thomas Irwin shakes his father's hand at his graduation from Ohio University. Richard Irwin, Ph.D., P.E., was dean of the college of engineering and technology at Ohio University from 2002-19.

**MIDDLE:** David Johnston and daughter Callie at Norway's North Cape on the northern coast of the island of Magerøya.

**RIGHT:** The Schmidt Family together (left to right): Tyler, Jeffrey, and Lauren with the Bent monument on the Clemson University campus. Thanks to Lauren for sending this in.

## MULTI-GENERATION:

### The Keller Family

Alan J., CA  $\Gamma$  '58 (grandfather)  
Andrew J., TX  $\Gamma$  '18 (grandson)

### The Klamerus Family

Leo J., MO  $\Gamma$  '60 (father)  
James M., NM A '84 (son)  
Eric W., CO B '86 (son)  
Jamie E., MN A '20 (granddaughter)

### The Kurfess Family

Thomas R., MA B '86 (father)  
Rebecca A., MA B '17 (daughter)

### The LaBelle-Hamer Family

Brendan T., AK A '83 (father)  
Brendan T., VT A '11 (son)

### The Linsenbardt Family

†Aldo E., MO A '51 (grandfather)  
Adam T., FL Z '06 (grandson)  
Thomas L., MO B '73 (nephew)  
James R., MO B '79 (nephew)  
Duane J., CA  $\Gamma$  '71 (cousin)

### The Loomis Family

Jeffrey D., NY  $\Gamma$  '85 (father)  
Sarah E., VA B '22 (daughter)

### The Lorimor Family

†Oliver G., IA A '32 (father)  
†Orval G., IA A '61 (son)

### The Lux Family

Jeffrey P., NY  $\Delta$  '86 (father)  
Stephanie C., NY  $\Delta$  '21 (daughter)

### The Mays Family

†Charles W. Jr., UT A '51 (father)  
David C., PA  $\Delta$  '95 (son)

### The McInerney Family

Michael K., IA A '78 (father)  
Ian S., IA A '15 (son)

### The Merkle Family

†Douglas H., NY  $\Delta$  '57 (father)  
Larry D., OH H '92 (son)

### The Montalvo Family

Susan McConnell, UT A '83 (mother)  
Morgan K., CA M '18 (daughter)

### The O'Donnell Family

†William F. III, PA  $\Theta$  '65 (father)  
William F. IV, PA A '95 (son)

### The Peach Family

†Robert M., TN A '51 (father)  
Judith E., TN A '77 (daughter)

### The Quigg-Young Family

Nancy B., OK A '78 (mother)  
Sean A., TX A '15 (son)

### The Richter Family

†Arthur, IN A '51 (father)  
Ronald S., CA  $\Delta$  '73 (son)

### The Riffle Family

Clyde D., OH E '54 (father)  
Gary D., OH B '79 (son)  
Kevin F., OH E '85 (son)

### The Routh Family

James M., TN A '83 (father)  
Mitchel, TN A '11 (son)

### The Sarkissian Family

Maral D., CA K '90 (mother)  
Taleen C., CA T '21 (daughter)

### The Scavuzzo Family

†Rudolph Jr., PA A '55 (grandfather)  
Robert J., PA A '60 (brother)  
Richard W., OH K '84 (son)  
Caroline J., OH K '86 (daughter)  
Steven W., OH K '08 (grandson)

### The Schmidt Family

†Cleon R. Fowler, WV A '48  
(great grandfather)  
Jeffrey C., FL  $\Delta$  '89 (father)  
Tyler M., SC A '15 (son)  
Lauren M., FL  $\Delta$  '19 (daughter)

### The Schexnayder Family

Isby L. Jr., LA A '63 (father)  
Janet L., LA A '87 (daughter)

### The Slegel Family

Timothy J., PA A '80 (father)  
Dalton M., NY  $\Gamma$  '20 (son)

### The Soderberg Family

†C. Richard, MA B 1920 (father)  
†C. Richard Jr., MA B '44 (son)

### The Spradlin Family

Louis W., MA B '57 (grandfather)  
Alexandria A., FL I '16  
(granddaughter)  
Katrina N., FL I '18 (granddaughter)

### The Tinus Family

Frank J., IN  $\Gamma$  '69 (father)  
Ryan E., OH  $\Gamma$  '02 (son)

### The Wagner Family

Scott C., NY N '85 (father)  
Catherine, NC A '20 (daughter)  
Ethan S., NC A '20 (son)

### The Wilk Family

†Stanley H., WI A '43 (father)  
Lee S., PA B '77 (son)

### The Wilk Family

Edward F., MA Z '52 (father)  
Daryl F., MA Z '81 (son)

### The Zaccaria Family

John R., NJ A '76 (father)  
Angelina C., NJ A '21 (daughter)

### The Zadoks Family

Abraham L., NY  $\Gamma$  '57 (grandfather)  
Rick I., IN A '83 (son)  
Austin J., IN A '19 (grandson)



# CHAPTER ETERNAL

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



Florida Gamma '57

**Paul Schnitzler, Ph.D.**

December 22, 2020

*Served as an engineering instructor for 14 years at the University of South Florida and as an advisor to the FL G Chapter from 2008 until his retirement in 2019.*

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 full name and date of death. You may report the death of a member by sending an email to [chapter.eternal@tbp.org](mailto:chapter.eternal@tbp.org).

## ALABAMA

### ALPHA AL A

Williams Jr., John Owen, '47, no details.  
Farlow, James Clifford, '49, Sept. 13, 2017.  
Vance, David Julian, '60, March 20, 2005.  
Watson, Terry Blaine, '62, Nov. 11, 2008.  
Dickinson, John Edward, '63, May 1, 2001.  
Blackburn Jr., Charles R., '78, May 25, 2011.  
McDowell, Bert Allen, '78, Sept. 5, 2010.

### BETA AL B

Pate, William Mack, '42, February 14, 2007.  
Edwards, Bruce William, '43, Sept. 28, 2004.  
Whaley, Edward W., '52, July 18, 2020.  
Bradley, Benjamin Clyde, '55, Oct. 23, 2015.  
Eason, Charles Hubert, '57, no details.  
Hyfield, Thomas Hugh, '69, no details.  
Heard, James Michael, '71, Dec. 27, 2019.

### GAMMA AL Γ

Hanson, Gene Roger, '75, December 6, 2020.  
Schaffhausen, Robert J., '76, Jan. 9, 2008.

## ALASKA

### ALPHA AK A

Cline, John Robert, '81, no details.

## ARIZONA

### BETA AZ B

McNiff, Gerald Joseph, '65, Feb. 21, 2008.  
Daggett, Kenneth Edward, '67, Jan. 25, 2016.  
Harris, Clyde E., '69, no details.  
Pai, Devdas Mizar, '84, August 22, 2017.

## ARKANSAS

### ALPHA AR A

Worst, James Louis, '59, November 2, 2016.  
Shreeve, Kent Evans, '60, Dec. 23, 2018.  
Davis, Raguel Lee, '70, December 4, 2009.

## CALIFORNIA

### ALPHA CA A

Schilke, William E., '50, February 26, 2013.  
Perkins, Sterrett Theodore, '56, no details.  
Chan, Chung Chun, '72, November 18, 1975.

### BETA CA B

Sallee, George Thomas, '62, June 19, 2019.

### GAMMA CA Γ

Stewart, John Lawrence, '48, April 6, 2017.  
Zopf, David Oscar, '50, March 8, 2017.  
Jordan, Duane Paul, '57, no details.  
Skarpaas, Knut, '58, January 19, 2020.

### EPSILON CA E

Miyatake, Yukio, '61, December 16, 2015.  
Lee, Stewart Stanley, '80, no details.

### ZETA CA Z

Specht, Donald Francis, '55, July 7, 2019.

### THETA CA Θ

Smith III, George Welch, '65, no details.

Bockrath, Thomas Anthony, '72, no details.  
Swim, Larry Ellsworth, '79, July 12, 2007.

### IOTA CA I

Atwood, Robert W., '91, May 15, 2004.

### LAMBDA CA Λ

Lau, Benton Hingon, '85, May 28, 2010.

### MU CA Μ

Baishiki, Rod S., '67, no details.

### OMICRON CA O

Taylor, Thomas Tallott, '42, no details.  
Merrifield, Donald Paul, '50, Feb. 25, 2010.

### PI CA Π

Motamedi, Farrokh, '75, no details.

### PHI CA Φ

Nguyen, Thuan Van, '62, April 15, 2017.

## COLORADO

### ALPHA CO A

Shipman, Mark Kauffman, '49, Dec. 4, 2010.  
Venable Jr., George M., '60, Jan. 14, 2008.  
Harshbarger, Bruce Baron, '61, no details.  
Stuska, Stephen J., '83, November 8, 2000.

### BETA CO B

Leh, Marcus Calvin, '41, July 21, 2012.  
Wood, Douglas Purdue, '42, Nov. 3, 2002.  
Dawson, Dick Howard, '43, May 1, 2006.  
Sprague, Edward Gurney, '48, Oct. 1, 2018.  
Donalson, Dale Douglas, '54, Aug. 20, 2020.  
Ashley, Bruce Hamilton, '60, May 28, 2002.  
McBride, James Duane, '60, Nov. 24, 2003.  
Bunting, Leslie John, '61, October 2, 2009.  
Hicks, Gerald Dennis, '61, May 7, 2019.  
Teets, Peter Burritt, '63, Nov. 29, 2020.  
Huston, Larry Louis, '64, May 27, 2005.  
Ehrlich, Stephen Kent, '69, no details.  
Woods, Philip Gregory, '72, July 2, 2000.

### GAMMA CO Γ

Kinoshita, George Shoji, '53, June 28, 2014.  
Yamamoto, Azusa, '60, April 2, 2012.

## CONNECTICUT

### ALPHA CT A

Spooner, Robert James, '49, Sept. 18, 2009.  
Potter, Voluntine Turner, '50, no details.

### BETA CT B

Krok, Thaddeus Joseph, '58, March 15, 2005.  
Camlet, Francis Ronald, '65, no details.  
Laabs, John Edmund, '75, Feb. 15, 2006.  
McCarthy, Daniel F., '80, October 31, 2016.

## DISTRICT OF COLUMBIA

### ALPHA DC A

Allen, Frank, '69, June 26, 2005.

### GAMMA DC Γ

Potterton, Richard Lee, '60, Sept. 17, 2020.

## FLORIDA

### ALPHA FL A

Kucera, Jerome Joseph, '62, Feb. 27, 2003.  
Davis, Ronald Ray, '75, August 24, 2020.  
Messer, Jay James, '75, January 6, 2013.

### GAMMA FL Γ

Chandler, Jon Paul, '71, June 16, 2014.  
Clark, Karl Benton, '71, December 16, 2006.  
Schnitzler, Paul, '57, December 22, 2020.

## GEORGIA

### ALPHA GA A

Hungerford, Ernest Timmons, '43, no details.  
Carruthers, Joe Stutz, '44, March 11, 2003.  
Hankinson, Thomas W.E., '44, July 19, 2005.  
Garrard, Bruce, '45, no details.  
Hadlock, Eugene Clyde, '46, Sept. 17, 2003.  
Patrick, George Spicer, '47, Feb. 24, 2005.  
Hunter, Emmett Raymond, '48, Oct. 11, 2002.  
Lewis, Gordon Hamilton, '48, no details.  
McDaniel, Earl Wadsworth, '48, no details.  
Yarbrough, Jack Richard, '48, June 1, 2015.  
Hanna, Aubrey Lamar, '49, Sept. 1, 2013.  
Tucker, Hal Beall, '49, December 8, 2004.  
Vanover, Leroy Wesley, '49, July 9, 2009.  
Bramblett, Dan Manget, '51, June 18, 2019.  
Cohn Jr., Edward, '51, April 22, 2002.  
McCondichie, Hayne, '52, Sept. 22, 2013.  
Muroski, Walter Glenn, '52, no details.  
Pillert, Edward Joseph, '52, no details.  
Davis Jr., Goebel, '55, no details.  
Jensen, Alton Peter, '56, February 6, 2005.  
Wallace Jr., James M., '56, Jan. 17, 2010.  
O'Donnell, Charles F., '57, Jan. 17, 2002.  
Bomar Jr., Steve Herren, '58, Nov. 20, 2019.  
Copeland Jr., Arthur Joel, '58, no details.  
Teague, Henry Hoyt, '58, February 25, 2006.  
Hunnicut, George Hugh, '59, Feb. 26, 2010.  
Frazier, Richard Theodore, '61, no details.  
Cail, Wayne Stephen, '69, February 6, 2000.  
Balkcom, George Henry, '70, June 18, 2009.  
Zimmer, Eugene S., '72, no details.  
Cox, Gregory A., '73, June 10, 2010.  
Lance Jr., Nicholas E., '73, May 24, 2015.

## IDAHO

### ALPHA ID A

Adkins, Nadine Colette, '80, Oct. 12, 2009.

## ILLINOIS

### ALPHA IL A

Neas, Charles Cleveland, '42, Feb. 19, 2000.  
Hinchcliffe Jr., Jay Emmett, '43, no details.  
McClure, Gordon W., '44, April 23, 2005.  
Janney, Irwin William, '47, Sept. 30, 2012.  
Elliott, Norman J., '49, November 8, 2018.  
Lenich, Rudolph, '49, September 17, 2012.  
Peirson, Walter Russell, '50, March 27, 2015.  
Bemis, Richard George, '55, Nov. 30, 2015.

## BETA IL B

Sahlstrom, Roy, '45, November 12, 2020.  
Roberts, Roland W., '48, February 23, 2020.  
Gendron, Roger Joseph, '55, Aug. 25, 2020.  
Wendland, Kenneth E., '66, July 2, 2007.

## GAMMA IL Γ

Horak, Jerry Robert, '44, May 10, 2009.  
Pederson, John Jefferson, '47, July 20, 2013.  
Andeen, Richard Elmer, '48, March 28, 2017.  
Bockstahler, Alan James, '54, no details.  
Leiendecker, Harold F., '54, Nov. 28, 2020.

## INDIANA

### ALPHA IN A

Kessel, John Edwin, '39, November 25, 1980.  
McKee, Edward S., '41, no details.  
Brink, Paul Louis, '43, December 6, 2013.  
Hudson, Fred M., '43, April 2, 2011.  
Guernsey, William Hill, '44, Feb. 28, 2006.  
Young, Hewitt Hartley, '44, February 2, 2015.  
Martin, Thomas Newell, '47, Sept. 26, 2001.  
Moser, William Charles, '47, no details.  
Isaacson, Jerrold Anslam, '48, no details.  
McComb Jr., Harvey G., '48, August 21, 2019.  
Oblinger, Frank Clifton, '48, Jan. 11, 2004.  
Oliver, Henry Cecil, '48, October 16, 2007.  
Brockman, Charles T., '49, January 18, 2005.  
Flaningam, Lewis Albert, '49, no details.  
Hudson, Lincoln, '49, October 15, 2020.  
Kritsch, Kenneth Eugene, '49, Sept. 19, 2003.  
McCroory, Rollin John, '49, no details.  
Metzger, Matt Francis, '49, Dec. 13, 2005.  
Smith, Harold E., '49, March 14, 2020.  
Buese, Richard Anthony, '50, March 31, 2020.  
Crum, James Dexter, '50, January 27, 2017.  
English, William Andrew, '50, Sept. 30, 2018.  
Hamilton, Charles Wayne, '50, no details.  
McKinney, Charles D., '50, Sept. 30, 2013.  
Hollenbeck, Roger Hull, '51, Sept. 15, 2016.  
Bunker, Donald Clyde, '52, Sept. 22, 2003.  
Schaaf Jr., William E., '52, Dec. 10, 2014.  
Scott, Robert Thomas, '52, May 22, 2019.  
Karrnberg, Hans Karl, '54, April 1, 2020.  
Stohler, Robert Lee, '54, March 16, 2017.  
Barloga, Albert Mitchell, '55, Nov. 2, 2003.  
Berkley, James Edward, '55, June 22, 2019.  
Kemmerly, Jack Ellsworth, '55, no details.  
Weiss, Arthur Frank, '55, August 9, 2019.  
Brown, Ernest Alwin, '57, February 22, 2003.  
Saw, Chiao-Lian, '59, August 24, 2005.  
Hoover, Wayne, '61, no details.  
Cambridge, Charles O., '64, Sept. 17, 2007.  
Fulton, Maurice Gene, '65, June 26, 2011.  
Wiley, Robert Joe, '65, August 11, 2011.  
Sheets, Dennis Neal, '67, Sept. 16, 2020.  
Mauger, William Clark, '69, Oct. 10, 2005.  
Crutchfield, Jeffrey James, '79, no details.  
Farler, Timothy Duane, '81, July 22, 2015.

### BETA IN B

Matsuda, Fujio, '49, August 23, 2020.

### GAMMA IN Γ

Doheny Jr., Donald A., '77, Dec. 9, 2020.

## IOWA

### ALPHA IA A

Kline, Roy Lewis, '35, May 11, 2020.  
Hoyt, Clyde Warren, '41, no details.  
Chamberlin, John Maurer, '42, no details.  
Goodwin Jr., Alfred, '43, April 12, 2015.  
Knorr, Edward John, '47, January 29, 2011.  
Hammond, Clifford Walter, '48, Nov. 14, 2020.  
Gauger, Robert Harlan, '49, no details.  
Hansel, Dale Eugene, '49, no details.  
Sinner, Robert Dale, '49, October 2, 2001.

Ruisch, Dudley Eugene, '50, October 4, 2003.  
Sessler Jr., Albert Louis, '50, Oct. 23, 2020.  
Specht, Gordon Dean, '50, Dec. 4, 2012.  
Otto, Kenneth Alan, '53, February 18, 2005.  
Berkholtz, Nicholas Evald, '56, Oct. 14, 2020.  
Sewell, Benjamin Lee, '57, March 27, 2003.  
Birlingmair, David Harold, '60, Feb. 23, 2009.  
Hala, Roger, '64, November 1, 2020.  
Ryder, John Winston, '73, November 9, 2001.

### BETA IA B

Kidd Jr., Richard, '49, November 24, 2012.  
McDaniel, Francis Boyd, '52, July 28, 2015.  
McKercher, John C., '58, August 19, 2014.  
Rocca, Charles Joseph, '60, Feb. 9, 2000.  
Trecek, James Bryan, '62, Sept. 7, 2006.

## KANSAS

### ALPHA KS A

Gage, Frank Hires, '44, August 12, 2004.  
Bohl, Leland Sheaff, '45, April 9, 2017.  
Hoover, Homer Halbert, '45, Oct. 20, 2018.  
Ott, Paul Wayne, '46, no details.  
Wiedemann, Robert E., '47, April 18, 2007.  
Ferguson, Douglas E., '48, March 22, 2015.  
Knief, Chester LeRoy, '49, no details.  
Landes, Brownell Wayne, '49, Sept. 12, 2015.  
Bartz, Melford O., '50, January 7, 2016.  
Hamacher, Howard B., '50, no details.  
Saller, George Edward, '50, June 22, 2017.  
Harold, Lane Ward, '51, February 26, 2020.  
Holmberg, Joyce Duane, '51, Oct. 3, 2018.  
Long, Quenton Rene, '51, no details.  
Davis, Lloyd Wayne, '52, January 2, 2019.  
Harris, Elwyn Don, '55, October 5, 2009.  
Wellman, Thomas William, '55, no details.

## KENTUCKY

### ALPHA KY A

Coulter, Ernest Leonard, '50, Nov. 22, 2004.  
Schiller, John Jacob, '58, July 14, 2003.

### BETA KY B

Renda, Randolph Bruce, '52, no details.  
Burruss, Yvonne Carol, '86, Feb. 23, 2004.

## LOUISIANA

### ALPHA LA A

Harris, Fritz Billy, '41, November 19, 2009.  
Collins Jr., Edgar Vermont, '44, Nov. 4, 2009.  
Hall, Harvey Jay, '48, no details.  
Ingram, Ray E., '48, July 15, 2007.  
McCarthy, John Helm, '50, July 4, 2001.  
Alders, Davie Lee, '51, August 31, 2003.  
Triche, Roy Edward, '51, no details.  
Cho, Jack Ching-Chao, '54, no details.  
Albritton, Joseph Augustus, '62, no details.  
Browning Jr., Clarence L., '67, Sept. 30, 2010.  
Murzyn, Patrick Riley, '68, no details.  
Flanagan, Thomas Patrick, '69, no details.  
McNaylor, Malcom D., '70, June 29, 2012.  
Mott, Joe M., '78, September 8, 2007.  
Leumas, James Keith, '83, May 7, 2009.

### BETA LA B

Verges, Daniel Leon, '43, no details.  
Sizer, Phillip Spelman, '47, Dec. 26, 2018.  
Urquhart, Donald Wilkins, '50, Nov. 22, 2020.  
Upton III, Howard Chilton, '55, Jan. 8, 2006.

### GAMMA LA Γ

Day, Ray Locke, '50, March 19, 2002.  
Threadgill, Edgar James, '51, Feb. 25, 2017.  
Flanders Jr., Cecil Alfred, '64, April 25, 2009.

## MAINE

### ALPHA ME A

Cushing Jr., Charles S., '47, April 8, 2015.  
Carter, Theron Hill, '49, December 12, 2011.

Webber II, Roy P., '52, November 2, 2006.  
Robbins Jr., Raymond E., '53, Dec. 4, 2013.  
Cyr, Reginald John, '59, January 23, 2005.

## MARYLAND

### ALPHA MD A

Eden, Murray, '39, August 9, 2020.  
Johns, Richard James, '47, Nov. 29, 2020.  
Heck, Carroll Gustav, '49, no details.  
Knauff, Robert Eugene, '66, August 24, 2005.  
Schneider Jr., John F., '77, Dec. 25, 2011.

### BETA MD B

Spielman, John Robert, '43, July 23, 2006.  
Bird, Robert Byron, '44, November 13, 2020.  
Ryon, John Cannon, '51, March 14, 2016.

### GAMMA MD Γ

Donald, Bruce Joseph, '95, Sept. 29, 2000.

## MASSACHUSETTS

### ALPHA MA A

Bergman, Carl William, '45, Nov. 2, 2010.  
Bove, Henry Joseph, '47, November 2, 2002.

### BETA MA B

Thompson Jr., Russell Albert, '42, no details.  
Welles, Owen Welles, '42, July 11, 2004.  
MacKintosh Jr., Arnold, '44, May 10, 2007.  
Ritchie, William Ellsworth, '44, no details.  
Gruber, Alan Richard, '45, no details.  
Bastis, Thomas Emil, '54, Sept. 1, 2001.  
Brown Jr., James Walter, '54, Nov. 20, 2017.  
Raab, Martin David, '55, November 14, 2007.  
Clark, Ronald Channing, '56, May 26, 2020.  
Unruh, Richard Lee, '56, no details.  
Weisberg, David Erwin, '59, no details.  
Strauss, Richard Alan, '60, no details.  
Parker, Edwin Lyle, '61, March 25, 2011.  
Klivington, Kenneth Albert, '62, no details.  
Slosberg, Bernard, '63, December 12, 2020.  
Slusher, George Clinton, '69, Dec. 18, 2012.

### DELTA MA Δ

Leach, Kenneth F., '44, no details.  
Mavroides, John George, '44, Oct. 13, 2019.  
Dunlap, Scott Bruce, '46, April 7, 2019.  
Livas, Basil Louis, '51, March 22, 2006.  
Toney, Linda Rachael, '77, February 12, 2004.

### EPSILON MA E

Leard, Jack Ellis, '51, April 10, 2005.  
Burkard, Carl Joseph, '54, June 26, 2002.  
Pepi, Jerome S., '62, April 12, 2010  
Harding, Richard Joseph, '71, July 10, 2000.  
Berard, Paul Michael, '78, February 28, 2007.

### ZETA MA Z

Watson, Howard Lee, '56, no details.  
Lamere, Garland C., '59, April 20, 2003.  
Whitney, Paul Vary, '59, October 25, 2020.  
Eck, Calvert Franklyn, '60, Sept. 28, 2019.  
Beaupre, Paul Ernest, '61, June 9, 2014.

## MICHIGAN

### ALPHA MI A

Bender, Orris Henry, '52, Dec. 14, 2019.  
Tuttle, Elvin Eugene, '53, August 2, 2020.

### BETA MI B

Johnson, Tegner Colwell, '48, Nov. 17, 2003.  
Klungness, James Alan, '49, July 16, 2019.  
Yerebeck, Vernon Stephen, '49, May 28, 2007.  
Wanttaja, Glenn E., '50, no details.  
Severson, Donald Irvin, '51, Nov. 21, 2020.

### GAMMA MI Γ

Peterson, Kenneth Dale, '43, April 29, 2000.  
Glauz, Roy Lafayette, '44, March 7, 2011.  
Wellington, Frederick C., '44, Oct. 27, 2005.  
Furman, Gilbert J., '46, October 4, 2006.

# CHAPTER ETERNAL

Continued



Tennessee Alpha '55

**Adolphus "Pete" L. Lotts, Ph.D.**

November 19, 2020

*Directed the Oak Ridge AVLIS Program and the ORNL Nuclear Regulatory Commission Programs, and served as chairman of the Knox County Board of Education (1968-86).*

## **GAMMA MI Γ**

Folkert, Melvin Burtus, '47, Feb. 15, 2003.  
King, Marvin Maury, '48, July 9, 2002.  
Broad, Richard, '49, August 16, 2007.  
Robison Jr., Frank F., '49, August 5, 2010.  
Senior, Thomas Bryan A., '49, Nov. 24, 2017.  
Troutman Jr., Baldwin L., '51, May 29, 2009.  
Tyau, Reuben Y. F., '51, no details.  
Castelli, James V., '53, January 31, 2017.  
Schoenhals, Robert J., '56, Nov. 29, 2020.  
Atkinson, David Eugene, '60, Sept. 25, 2020.  
Davis, Bill Earl, '60, no details.  
Wright, Bernard Arden, '60, Aug. 28, 2004.  
Robinson, Alan Dean, '64, March 24, 2005.  
Fell, Robert William, '66, no details.

## **DELTA MI Δ**

McGarigle, Sean A., '71, September 21, 2005.

## **EPSILON MI Ε**

Heurich, Gerhard Hans, '62, no details.

## **ZETA MI Ζ**

Neifert, Neal Edwin, '91, May 16, 2003.

## **ETA MI Η**

Farquharson, Kenneth J., '47, no details.

## **THETA MI Θ**

Fantin, John Mario, '89, no details.

## **MINNESOTA**

### **ALPHA MN Α**

Carlson, Kenneth John, '41, April 11, 2018.  
Holdhusen, James S., '45, Sept. 19, 2000.  
Cahill Jr., Laurence J., '46, Sept. 12, 2013.  
Brown, Erwin Willis, '47, October 24, 2013.  
Toepel, James Everest, '47, no details.  
Burrell, Warren Philip, '48, February 1, 2016.  
Heath, Willard Earle, '50, no details.  
Ekberg, David Jerome, '52, October 3, 2011.  
Ernst, Thomas Edward, '55, Feb. 26, 2014.  
Harber, Ronald Gene, '57, Nov. 22, 2020.  
Kopp, Elmer James, '60, May 20, 2016.  
Palmberg, Paul W., '60, March 17, 2020.  
Van Der Ziel, Jan Peter, '60, no details.  
Hanson, David Gordon, '61, July 15, 2007.  
Laitinen, Roger Herbert, '82, no details.

## **MISSISSIPPI**

### **ALPHA MS Α**

Staton Jr., Rocker T., '41, August 14, 2001.  
Miller, Percy Hugh, '50, no details.  
Boyles Jr., Johnny Lavon, '53, Jan. 1, 2001.  
Beeson, Jerry Lee, '70, June 30, 2002.  
Tidwell, Rocky Wayne, '89, May 28, 2003.

## **MISSOURI**

### **ALPHA MO Α**

Whiteside, Robert Lindell, '49, April 19, 2013.  
Lyman, Calvin Richard, '50, Sept. 21, 2019.  
Kempf, David William, '74, Nov. 25, 2006.

### **BETA MO Β**

Enochs, John Raymond, '41, Dec. 15, 2002.  
Martin, Gene Shapley, '43, Dec. 24, 2015.  
Wolfarth, Teddy Richard, '48, April 6, 2000.  
Fitzgibbons, William T., '57, Dec. 25, 2013.  
Burrows, John Raymond, '58, Aug. 7, 2013.  
Fesler Jr., William, '59, no details.

Blalock, Charlie Loraine, '60, May 7, 2013.  
Bosnak, John Stephen, '63, Nov. 9, 2020.  
Griggs Jr., Will, '66, November 7, 2004.  
Graham, Gary Rupert, '67, April 28, 2013.  
Miller, Gerald Bruce, '67, March 30, 2010.  
Klahs, Joseph William, '71, April 6, 2003.

### **GAMMA MO Γ**

Kehm, Robert James, '50, no details.  
Schoen, Robert John, '52, July 4, 2020.  
Sain III, Charles George, '53, April 11, 2018.  
Robinson, Harvey Lee, '59, no details.  
Schott, Joanne Elizabeth, '73, no details.

## **MONTANA**

### **ALPHA MT Α**

Johnson, Theodore Thomas, '43, no details.

## **NEBRASKA**

### **ALPHA NE Α**

Tao, Luh Cheng, '46, April 25, 2018.

## **NEVADA**

### **ALPHA NV Α**

Steiner, Stanley David, '79, no details.

### **BETA NV Β**

Lau, Vernon Michael, '99, March 3, 2002.

## **NEW HAMPSHIRE**

### **ALPHA NH Α**

MacKles, Louis, '48, no details.  
Jackson, Gordon Earl, '50, Nov. 25, 2020.  
Mulvey, Thomas Aquinas, '69, no details.  
Truesdale, Edward R., '91, February 3, 2009.  
Luce, Robert Alan, '94, no details.

## **NEW JERSEY**

### **ALPHA NJ Α**

Grogan, Allen Ewart, '49, March 12, 2005.  
Weick, Walter Werner, '58, no details.  
Acker, Robert, '61, May 1, 2015.

### **BETA NJ Β**

Holloway, Horace John, '42, Sept. 29, 2006.  
Taylor, George William, '49, no details.  
Borovec, Ronald Bryan, '79, Nov. 19, 2020.  
Dao, Loc Huu, '79, November 7, 2010.

### **GAMMA NJ Γ**

Derrick, Arthur Calvin, '48, August 30, 2016.  
Idenden, Frederick William, '48, May 2, 2020.  
Peter, Kurt Ferdinand, '50, October 7, 2018.  
Sturm, William John, '53, February 11, 2017.  
McNaboe, Donald R., '58, no details.  
Casciano, Robert, '59, March 3, 2007.  
Reiser, Matthew W., '64, March 16, 2007.  
Hull Jr., Raymond John, '70, Dec. 2, 2020.

## **NEW MEXICO**

### **ALPHA NM Α**

Cauhape, John Clayte, '74, May 5, 1985.

### **BETA NM Β**

Chaney Jr., William S., '70, Feb. 24, 2004.  
Anderson, Jon Baxter, '73, no details.  
Sapayo, Jacobo Nn, '97, March 24, 2019.

### **GAMMA NM Γ**

Marshall, John E., '97, June 22, 2007.

## **NEW YORK**

### **ALPHA NY Α**

O'Neill, Eugene F.J., '41, Nov. 8, 2003.  
Zeitz, Kenneth, '48, December 9, 2015.

### **BETA NY Β**

Brisbin, Philip Howard, '48, no details.  
Hauser, Charles Frederick, '49, no details.  
Laws, Richard J., '50, February 11, 2018.  
Moore Jr., Paul Donald, '50, no details.  
Matteson, Ronald Grant, '51, April 20, 2019.  
Anderson, Harold Peter, '52, March 12, 2014.  
Rouse, William Earle, '52, October 4, 2006.  
Chernjavsky, Sergej, '53, January 5, 2020.  
Feola, Neil Joseph, '53, September 11, 2011.  
Maxon, Boyd Scott, '54, October 27, 2020.  
McHerron, James I., '71, February 15, 2001.

### **GAMMA NY Γ**

Burrill, Nelson Willis, '41, May 16, 2003.  
Scanlan, Edward Joseph, '44, no details.  
Radke, George Edward, '48, no details.  
Hart, Donald Edwin, '49, no details.  
Steane, Willard Heath, '49, January 24, 2005.  
Ward, Harris Arthur, '49, September 6, 2007.  
Lennon, John Harvey, '50, Dec. 3, 2013.  
MacKey, Richard Edgar, '50, no details.  
Seargent, Douglas G., '50, Feb. 25, 2000.  
Braggins, Robert D., '51, no details.  
Golden, Harold Wolf, '51, no details.  
Sheehan Jr., Michael J., '51, Nov. 20, 2020.  
Westbrook, Robert Lee, '51, no details.  
Leimer, John Joseph, '52, Nov. 29, 2019.  
Cushman, Townsend H., '53, May 31, 2007.  
D'Ortenzio, Remo Joseph, '56, Jan. 29, 2016.

### **DELTA NY Δ**

Allen, Roland Pearsall, '45, Oct. 24, 2018.  
Milburn, Daniel Waldo, '47, Dec. 5, 2020.  
Dorrance, John Gordon, '53, no details.

### **EPSILON NY Ε**

Jarmuz, Francis Stanley, '50, no details.  
Braun, Stanley, '51, June 27, 2019.  
Wechter, Saul H., '54, March 1, 2011.  
Tuminaro, Raymond D., '57, July 6, 2008.  
Bogen, Morton, '60, October 30, 2008.  
Odquist, Victor Ernest, '71, January 2, 2005.

### **ZETA NY Ζ**

Vaglio-Laurin, Roberto, '50, no details.

### **ETA NY Η**

Lichtenstadter, Manfred, '52, Nov. 27, 2020.  
Neeb, Arthur John, '65, no details.

### **THETA NY Θ**

Carbone Jr., Joseph, '64, Nov. 19, 2009.

### **IOTA NY Ι**

Winick, Kenneth, '49, no details.  
Spera, Joseph John, '62, December 26, 2006.

### **KAPPA NY Κ**

Hoeffel, Donald James, '52, Nov. 6, 2019.  
Doegel, Arthur Gustav, '60, January 30, 2004.

### **LAMBDA NY Λ**

Thompson, William C., '43, July 28, 2005.  
Burns, Carlisle Victor, '50, April 27, 2020.  
Gross, Joseph Francis, '53, August 3, 2018.

Jew, James Lee, '71, August 10, 2019.  
Hechtman, Alan D., '79, May 11, 2010.

#### **NU NY N**

Kamprath, Daniel G., '50, Nov. 12, 2007.  
Angelino, Samuel L., '71, July 1, 2009.  
Brooks, Steven Henry, '72, August 3, 2006.  
Cliff Jr., John Barton, '78, Nov. 25, 2008.

#### **XI NY E**

Clark, Laurence Gerard, '68, April 28, 2005.

#### **PI NY II**

Bailey, John W., '65, no details.

### **NORTH CAROLINA**

#### **ALPHA NC A**

Parker, William Edward, '51, April 30, 2020.  
Scovil, Roger Morris, '51, Sept. 7, 2020.  
Cribbins, Paul Day, '52, February 17, 2010.  
Smith Jr., George W., '52, Sept. 20, 2019.  
Mauney, Carl Herman, '53, March 29, 2017.  
Lennon, Edward Allen, '64, Nov. 26, 2019.  
Perry, Hilton Boyd, '65, January 22, 2020.  
Stampley, Robert K., '65, August 7, 2006.  
McGowan, James William, '66, July 9, 2000.  
Lund, Scott Stanley, '87, April 21, 2002.

#### **GAMMA NC I**

Bainbridge, Albert W., '48, March 20, 2020.  
McConnell, Arthur Weir, '51, Nov. 13, 2020.

#### **DELTA NC A**

Peacock, Tony Fred, '80, July 26, 2009.

#### **EPSILON NC E**

Abu-Saba, Elias G., '56, September 28, 2006.  
McCormick, Paul D., '98, Nov. 20, 2000.

### **NORTH DAKOTA**

#### **ALPHA ND A**

Sauber, James George, '58, Sept. 17, 2020.  
Stolt, Floyd Martin, '58, Sept. 21, 2013.

### **OHIO**

#### **ALPHA OH A**

Ebert, Lynn John, '41, no details.  
Stroup, John Frederick, '50, no details.  
Pollak, Victor Louis, '52, October 6, 2006.  
Moskot, Susan J., '88, March 29, 2009.

#### **GAMMA OH I**

Kinkopf, Howard Francis, '41, no details.  
Feorene, Orlando Joseph, '43, no details.  
Keating, David T., '48, no details.  
Klink, William A., '48, March 15, 2019.  
Mase, George Edwin, '48, May 11, 2007.  
Moellman, Gordon K., '48, July 17, 2020.  
Donham, Walter Edward, '50, Sept. 22, 2019.  
Yager, Gordon Arlie, '50, May 11, 2005.  
Ecker, Donald Ray, '54, no details.  
Ramsey, Harold Eugene, '55, May 24, 2007.  
Escola, James Thomas, '57, May 14, 2004.  
Maseck, Harvey Ernest, '57, October 7, 2001.  
Whitacre, Raymond E., '57, May 8, 2002.  
Bayless, Paul Clifton, '66, Nov. 26, 2020.  
Wahl, James Chester, '74, no details.

#### **DELTA OH A**

Flannery, Samuel Walter, '42, Jan. 30, 2006.  
Smith, Ralph Dorrance, '44, July 11, 2001.  
Hadley, Roger Adams, '56, August 10, 2020.  
Cavanaugh, John Richard, '61, no details.

#### **EPSILON OH E**

Pollock, Michael David, '40, Oct. 30, 2020.  
Koestel, Alfred, '43, October 25, 2014.  
Nemeth, Zolton Nicholas, '44, Jan. 24, 2007.  
Brajer, Edwin Joseph, '48, no details.

Seaman, Douglas David, '73, July 23, 2019.

#### **ZETA OH Z**

Keiter, Robert William, '52, no details.  
Bins, Robert Vincent, '54, no details.

#### **THETA OH O**

Colado Jr., Ramon E., '62, Dec. 12, 2011.

### **OKLAHOMA**

#### **ALPHA OK A**

Beall, Fallis Arch, '55, no details.  
Walker, Richard L., '55, August 24, 2001.

#### **BETA OK B**

Elliott III, William Ernest, '70, no details.  
Amstutz, Larry Warren, '72, Nov. 27, 2020.

#### **GAMMA OK I**

Catlin, John England, '60, no details.  
Nett, James Russel, '83, May 29, 2007.

### **OREGON**

#### **ALPHA OR A**

Bonney, Robert M., '41, May 25, 2013.  
Copenhagen, Lester D., '41, April 1, 2014.  
Bredemeier, Glen Ernest, '42, May 24, 2020.  
Henshaw, Tom Bernard, '44, no details.  
Campen, Clarence F., '49, Feb. 3, 2008.  
Gothro, George Harold, '49, August 31, 2007.  
Lacy, Harold C., '49, March 24, 2013.  
Norris, Dan Paul, '51, September 12, 2008.  
Potterf, Glen Ramon, '61, May 29, 2004.  
Gerstmann, John Karl, '70, Jan. 25, 2019.

### **PENNSYLVANIA**

#### **ALPHA PA A**

Heins, Edward Daniel, '41, March 2, 2012.  
Rushton, Alvey Bertan, '49, Dec. 6, 2016.  
Diaz, John A., '52, September 2, 2009.  
Buchart, Lawrence E., '54, Oct. 18, 2007.  
Hahn, Alfred David, '81, July 2, 2009.

#### **BETA PA B**

Calkins, Gerald Thomas, '56, no details.  
Gasowski, Chester Joseph, '71, Nov. 1, 2006.  
Dorazio, Gery Daniel, '79, February 27, 2011.  
Fairer, Robert Edmund, '84, July 28, 2003.  
Windows, Gordon E., '85, September 8, 2002.

#### **GAMMA PA I**

Grace, John Nelson, '49, March 11, 2019.  
Templeton, Robert Earl, '53, Nov. 28, 2020.  
Brown, Beverly Carol, '72, June 16, 2006.

#### **DELTA PA A**

Feidler Jr., Leslie L., '48, July 29, 2020.

#### **EPSILON PA E**

Wyks, John Rudolph, '48, January 6, 2005.  
Lugg, Robert Reuben, '49, no details.  
Gotschalk, Charles F., '51, March 25, 2010.  
Kressler, Durwood Roy, '51, August 12, 2016.  
Hodun, Sigmund Anthony, '52, Dec. 17, 2004.  
Tellin, Thomas William, '56, April 6, 2004.  
Kennedy, Craig Herbert, '65, Dec. 3, 2015.  
Napoli, Anthony Thomas, '65, Nov. 20, 2007.

#### **ZETA PA Z**

Letwin, Joseph, '48, February 14, 2019.  
Griffeth, Howard Y., '49, August 20, 2018.  
Dieter Jr., George E., '50, Dec. 12, 2020.  
McFarland Jr., Julian B., '50, March 13, 2017.  
Portzline, Walter Francis, '51, no details.  
Brewer, Robert Ira, '56, no details.  
Dennis, Joe Lamar, '62, August 8, 2011.  
Cooper, Murray Stephen, '65, May 1, 2008.

#### **ETA PA H**

Wian, Donald Harrison, '50, Sept. 30, 2019.

Ulp, Richard Booth, '56, November 29, 2009.

#### **THETA PA O**

Duffy, Edward Joseph, '61, Dec. 19, 2001.  
Warczyglowa, Clarence A., '76, Dec. 10, 2020.

#### **IOTA PA I**

Brazell, Jerry Wayne, '72, April 15, 2003.

#### **KAPPA PA K**

Hoffman, John William, '59, Oct. 10, 2003.

### **SOUTH CAROLINA**

#### **ALPHA SC A**

Fowler, John William, '48, February 25, 2017.  
Thomason, William Poole, '58, no details.  
Higgins, Philip Kevin, '74, October 30, 2011.

#### **BETA SC B**

Dickson, Raymond S., '59, Sept. 26, 2020.

#### **GAMMA SC I**

Kelso, William George, '60, Feb. 29, 2020.

### **TENNESSEE**

#### **ALPHA TN A**

Lotts, Adolphus Lloyd, '55, Nov. 19, 2020.  
Callis, Charles Payne, '60, Nov. 29, 2020.  
Cecil, Randal Harold, '73, February 13, 2001.  
Struttman, Lynn Markowitz, '77, no details.

#### **BETA TN B**

Kimble, Oscar Kavanah, '47, no details.

### **TEXAS**

#### **ALPHA TX A**

Nicholson, William Henry, '50, April 5, 2003.  
Thompson, Thomas H., '51, Sept. 22, 2010.  
Eschenburg, Robert Lee, '53, Dec. 17, 2008.  
Luttrell, Willis Walter, '63, January 18, 2005.  
Bohmfolk, Charles S., '65, Aug. 1, 2020.  
Lindsey, Carl Ray, '79, July 19, 2008.

#### **BETA TX B**

Taylor, Douglas Edison, '42, no details.  
Peticolas, Warner Leland, '50, June 26, 2009.  
Fyfe, Stanley Bruce, '53, May 12, 2020.  
Wilkerson, Lloyd C., '53, May 15, 2003.  
Claborn, Billy Joe, '56, February 17, 2012.

#### **GAMMA TX I**

Lloyd Jr., John Morgan, '45, June 12, 2020.  
Kraft, Jack Pickens, '50, April 21, 2016.

#### **DELTA TX A**

Bohlmann Jr., Willy Frank, '50, Nov. 9, 2020.  
Harris, Arthur Byron, '50, Nov. 24, 2020.  
Shockey, Thomas E., '50, June 26, 2006.  
Dietert, Robert Darrel, '51, no details.  
Keady, Donald M., '52, December 10, 2000.  
Simon, Haskell L., '53, no details.  
Heath, Rodney Thomas, '54, August 18, 2017.  
Knutson, James LeRoy, '55, July 16, 2020.  
Durbin, Richard Carlton, '56, Feb. 12, 2001.  
Perkins, Joseph L., '73, no details.  
Guidry, Annette Marie, '85, no details.  
Kersh, Jeremy Alan, '08, March 25, 2007.

#### **ETA TX H**

Armstrong, James Clyde, '55, no details.

### **UTAH**

#### **ALPHA UT A**

Hurst, Stanley Reid, '47, October 6, 2020.  
Collett, Wells Iris, '51, no details.  
Jepperson, Walter Clyde, '56, no details.

#### **BETA UT B**

Fuhriman, Dean Kenneth, '41, Sept. 7, 2006.

### **VERMONT**

#### **BETA VT B**

Wilcox, Reginald Burns, '67, no details.

*Continued on page 40.*

## Spring Problems *Continued*

degree Fahrenheit temperature, the nearest integer degree Celsius temperature. What is the exact probability that the reported Celsius temperature is wrong, i.e. not the actual temperature rounded to the nearest degree Celsius? Assume that the actual temperature is equally likely to be anywhere in the range 32 to 104 degrees Fahrenheit.

—*Technology Review*

### 4: Magic Square

A magic square is an array of different positive numbers arranged such that the sums of each row, the sums of each column, and the sums of the two main diagonals are all equal.

Find a 4x4 magic square that continues to be magic if the digits of all 16 numbers are reversed. For example: 2 reversed is 2, 20 reversed is also 2 (i.e. 02) but 21 reversed is 12.

—*Numbers: Fun & Facts*  
by J. Newton Friend

### 5: Cereal Prize

A breakfast cereal company decides to include a figure of one of Snow White's seven dwarfs in each cereal box.

A) If the same number of each dwarf is distributed among the boxes, what is the expected

number of boxes one must buy to get a complete set?

B) If there are only half as many Dopey figures as there are of the other dwarfs, what is the expected number of boxes one must buy to get a complete set?

For each scenario, provide the expected number of boxes purchased to within +/- 0.1 boxes.

—*Classic Mathematic*  
by R. Blum, A. Hart-Davis,  
B. Longe, and D. Niederman

**BONUS:** It's the first day of summer and I'm drinking a margarita while lounging in my backyard in Albuquerque. I notice that the shadow cast by my vertical flagpole onto the level yard is changing direction. The time is local solar noon (when the sun is directly to the south). To the nearest degree per hour, what is the instantaneous rate of change in the shadow's azimuth? Assume that Albuquerque is at 35 degrees north latitude and the Earth's axis is tilted 23.5 degrees relative to its orbital plan.

—*James L. Griggs Jr., OH A '56*

### DOUBLE BONUS:

In the two-handed game of Gin Rummy, which is played with a standard 52-card bridge deck, "Gin" is a particular type of hand in which all ten cards are "matched cards." A "matched card" is one

which belongs to a set (or meld) of 3 or 4 cards of the same rank or a set of 3 to 10 cards in sequence in the same suit. A "Gin" hand may contain both kinds of sets; however, a particular card cannot be used simultaneously in a rank and in a sequence. Further, an ace in sequence can only be used in an ace-2-3-4- . . . sequence, never with the king-queen sequence.

Of the  $C(52,10)$  possible deals, how many are Gin?

—*Journal of Recreational Mathematics*

Email your answers (plain text only) to any or all of the Spring Brain Ticklers to [BrainTicklers@tbp.org](mailto: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 Double Bonus is not graded. Where possible, exact answers are preferable to approximations. The cutoff date for entries to the Spring column is the appearance of the Summer *Bent* which typically arrives in mid-June (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 **F.J. Tydeman, CA Δ '73; J.C. Rasbold, OH A '83; J.R. Stribling, CA A '92;** and the columnist for this issue,

— **G.M. Gerken, CA H '11**

# CHAPTER ETERNAL

Continued from page 39

## VIRGINIA

### ALPHA VA A

Addington Jr., Joseph, '48, Nov. 16, 2004.  
Spicer Jr., Garland Hanes, '48, no details.  
Blake Jr., Edward F., '50, Sept. 21, 2013.  
Zapata, Richardo Nakin, '55, May 10, 2008.  
Peters, Eric Gordon, '62, no details.  
Cairns, Natalie Bates, '74, Dec. 22, 2010.  
Le, Loc Tan, '81, April 10, 2007.

### BETA VA B

Kingrea, Charles Leo, '43, Feb. 19, 2000.  
Greenlee Jr., Art Bland, '44, no details.  
Musser Jr., Harry Plaine, '44, Sept. 28, 2005.  
Hall, Christopher H., '49, August 6, 2004.  
Ewing, Hugh Culbert, '52, July 25, 2016.  
Knibb, Donald Eugene, '53, Jan. 29, 2017.  
Brawley Jr., Andrew V.B., '61, no details.

Peele, Billy Keech, '65, March 15, 2019.  
Wilbourn, Edward Gray, '67, Nov. 10, 2007.

### DELTA VA Δ

Chandler Jr., Webster M., '46, July 14, 2012.  
Taylor Jr., Arthur C., '47, July 22, 2016.  
Newsom Jr., James Holt, '48, July 28, 2004.  
Thompson Jr., Forest C., '55, Sept. 14, 2020.  
Hammond, Leroy Dow, '57, Sept. 13, 2005.  
Erchul, Ronald Anton, '61, October 8, 2011.

## WASHINGTON

### ALPHA WA A

Gribskov, Jon Russel, '84, Nov. 21, 2006.  
Hartman, Christopher D., '94, Oct. 6, 2020.

### BETA WA B

Hansen, Hans Edward, '52, January 7, 2015.  
Hendricks, Lowell Eugene, '59, Dec. 7, 2003.

## WEST VIRGINIA

## BETA WV B

Teshome, Meaza, '97, May 9, 2011.

## WISCONSIN

### ALPHA WI A

Manteufel, Robert John, '44, Feb. 6, 2012.  
Wendt Jr., William R., '45, Dec. 22, 2011.  
Canute, Daniel Arthur, '47, March 14, 2014.  
Gray Jr., Walter Erwin, '47, Dec. 3, 2001.  
Gundersen, Sidney, '49, no details.  
Te Beest, Roger Wayne, '60, July 14, 2001.

### BETA WI B

Probert, Walter Leslie, '50, Feb. 23, 2017.  
Miotke, Thomas Francis, '57, May 29, 2005.  
Donovan, Dennis Michael, '67, Oct. 2, 2020.  
O'Connor, Todd Brian, '86, January 7, 2013.

## WYOMING

### ALPHA WY A

Johnson, Bradley D., '95, March 15, 2001.

# Ballot Results from Unvention

The committees to the 2020 Unvention recommended four proposals for the Executive Council to review and submit to voting delegates for approval. An additional recommendation regarding the 2023 Convention was also reviewed by the Executive Council. **At their November meeting, the Council approved all five proposals and sent them to delegates for approval.**

**PROPOSAL 1:** Approve the petition from Georgia Southern University and grant a chapter to the institution. *Approved by delegate vote; 253 affirmative, 0 negative*

**PROPOSAL 2:** Update the reimbursement schedule for the 2021 Convention to remain the same as the 2020 Convention except for increasing meals on travel days to \$27 total and \$8 for breakfast, \$9 for lunch, and \$16 for dinner for meals not included in the meal package. *Approved by delegate vote; 240 affirmative, 4 negative, 9 abstentions*

**PROPOSAL 3:** Approve the appeal from North Carolina Alpha to consider students enrolled in their computer science program as eligible for Tau Beta Pi. *Approved by delegate vote; 222 affirmative, 20 negative, 11 abstentions*

**PROPOSAL 4:** Approve the virtual initiation ceremony and authorize the Executive Council to determine when it may be used. *Approved by delegate vote; 249 affirmative, 2 negative, 2 abstentions*

**PROPOSAL 5:** Approve Atlanta, GA, as host of the 2023 Convention since they were unable to host the 2020 Convention. *Approved by delegate vote; 248 affirmative, 2 negative, 3 abstentions*

*In accord with the Tau Beta Pi Constitution and the Tennessee Non-Profit Code, ballots were issued to all 289 delegates entitled to vote including 30 Association Officials, 30 Alumni Chapters, and 229 Collegiate Chapters. For the petition from Georgia Southern, the Constitution requires a  $\frac{3}{4}$  favorable vote (217 votes) to approve granting the chapter or a  $\frac{1}{4}$  negative vote (73) to reject granting the chapter. For the other four items, a majority vote would approve the action. In total, 244 ballots were received by the February 1, 2021, deadline.*

The 2021 TBII Convention will elect three new members to serve the 2022-24 term and join the six continuing members elected in 2019 and 2020.

## THE COUNCIL NEEDS YOU!

The Executive Council is looking for three new members with experience in a variety of functions—management, finance, teaching, business, research, etc. Those with knowledge in the areas of image enhancement, branding, fundraising/development, alumni relations, and advising collegiate chapters are strongly encouraged to consider running. **The deadline for nominations is April 1, 2021.**

**Requirements:** 1. Should be able to attend teleconferences or committee meetings each month. 2. Should plan to attend the annual Convention, usually requiring five days including travel. 3. Should make arrangements to attend this year's Convention in Knoxville, TN, on October 21-23 where delegates will elect the new Council members. 4. Make several trips per year for new chapter

inspections, installations, and District Conferences. They typically attend two District Conferences each year.

**Learn more:** Individuals interested in serving on the Executive Council can receive more information from, and chapters can submit nominations to, the Executive Director by email: [tbp@tbp.org](mailto:tbp@tbp.org).

More information and a position description is available at [www.tbp.org/other/ECJobDescription.pdf](http://www.tbp.org/other/ECJobDescription.pdf)

Please refer to the current Constitution and Bylaws, particularly Const. Article X, Secs. 1- 5, for the nominating and electing procedures and the Executive Council's responsibilities.

**Deadline is April 1:** Members interested in serving on the Executive Council must be nominated by a chapter—either collegiate or alumni.



The 2018 TBP Executive Council together in Washington, DC, for meetings hosted at George Washington University.

# Alumni Giving

Chi Club continued from page 27

- TX A** Badgwell, Thomas Alan '92  
Crippen, Robert L. '60  
Damek, Herman Andrew '97  
Glasow, Brian Scott '99  
Horton, Larry Earl '83  
Howerton, Lloyd Foster '51  
Le Bleu, Robin Boyce '65  
Marshall, James L. '72  
Meers, Steven Wayne '72  
Moorman, Charles Travis '59  
Reese, Francis Edward '75  
Rosales, Julian Francisco '83  
Stanbery, Sam R. '64  
Stanley, William Robert '94  
Whitesides Jr., John Lindsey '65  
Zuernemann, Gregory R. '76
- TX B** Baker Jr., Marvin Elroy '86  
Boyd, Joseph Gregory '76  
Evans III, Peter '80  
MacCallum, Gregory James '81  
Smith, David Lewis '71  
Upchurch, James Alan '76
- TX Γ** Hunter, David George '79  
Johnson, Terry Robert '55  
Popplewell, Thomas R. '74
- TX Δ** Barksdale, Donald Lee '55  
Boedecker, Tom Jay '64  
Crosser, Robert Earl '50  
Kasch, Vernon Ray '73  
Knowles, David Wayne '80  
Mason Jr., John Michael '81  
Muldrow, Grady M. '89  
Newton, Philip Lynn '67  
Pollock, Stephen Theodore '70  
Simpson, Stancy Jean '79  
Spahn, Rex Lee '80  
Sturrock, John Michael '72  
Wilson Jr., Edmon Doak '57
- TX E** Herrmann, Edwin Peter '67
- TX H** Brewster, William Howard '94  
Godwin, Albert Eugene '84  
Schaeper, Wilfred H. '76  
Williams, Larry Donal '80
- TX I** Harris, E. Douglas '83
- TX K** Davis Jr., Hulen Mack '80  
Davis, Pamela Walker '79  
Jolley, Lawyer Curtis '79
- TX Λ** Carter, Jason Oliver '87  
Carter, Norhanani B. '87  
Garcia, Danny '85  
Perez, Romeo Rene '82  
Saenz, Ida F. '84  
Schultz Jr., Alvin Frederick '73  
Wallace, Weldon Lee '74
- UT A** Hull, Wade Alan '97
- UT B** Lamph, Jane Ann '80  
Enke, Glen Graham '62  
Hart, Robert Evan '73  
Thompson, James Rowley '76
- VT A** Goddard, Eric Hapenny '86
- VT B** Berkman, Richard Lewis '69  
Henry, Thomas Arthur '70
- VA A** Cosby, James Gordon '61  
DeYoung, John Howie '99  
Matthews, Nancy Neuman '81
- VA B** Dalton Jr., Eddie Gene '86  
Doughty, Gary Springer '77

- Long, David A. '91  
Nowotarski, Adam Alexander '91  
Ray II, Robert E. L. '74  
Reading, Christopher Russell '00  
Sloan, Forrest Eugene '83  
Smith Jr., Sidney Crawley '63  
Snidow III, Lyle Christian '74  
**VA Γ** McGowan, David Michael '89  
Rausch, Leonard Earl '80
  - VA Δ** Brenner, Joseph R. '55  
Bunch Jr., Jennings B. '50  
Michael, Glenn P. '66  
Payne Jr., Lewis F. '67
  - WA A** Bullock, Dennis Eugene '76  
Chandler, Alan Scott '77  
Dracup, John Albert '56  
Matteson, James Harris '66  
Ogg, Daniel Grant '85  
Orr, Peter Courtenay '71  
Reichel, Jerel Dave '66  
Rosen, Donald George '58  
Smith, Jeffrey Francis '82
  - WA B** Hudspeth, James Charles '88  
Langley, Duane Douglass '55  
Scott, Norman Ray '58  
Simon, Terry William '68  
Turi, Michael Allen '07  
Wahl, David John '62
  - WA Δ** Campion, Paula JoAnne '00
  - WV A** Bibbee, Dennis Evans '75  
Blackshaw, George Lansing '58  
Engle, Geoffrey Stuart '94  
Fleischer, Charles John '70  
Gould, Marvin Burl '63  
King, Staci Renee '96  
Koval, John Stephen '78  
Rowe Jr., Eldridge Eugene '68
  - WV B** Lorkowski, Timothy Walter '93  
Stevens, Ellen Weber '84
  - WI A** Detjen, Edson Reinhold '46  
Guelker, Eric James '90  
Haas, Brian Lee '86  
Nesbitt, John David '82  
Page, Chris Scott '90  
Senty, James Anton '60  
Sieker, Frederick A. '70  
Zemke, Wayne Phillip '64
  - WI B** Gawlik, Michal A. '14  
McMorrow, Daniel Patrick '98  
Mooney, Thomas Joseph '79  
Penlesky, Richard J. '73  
Swiontek, Thomas John '69  
Wick, Paula M. '81  
Wolf, Thomas Francis '59  
Simon, Karen Anne '83
  - WI Γ** Hubmann, Martin Thomas '13
  - WI E** Fassett, Jeff W. '74
  - WY A** Lester, Roger N. '87
- The SECOND CENTURY Club**  
**\$500**
- SPEC** Dickson Jr., Bill Buckley
  - AL A** Essing, John Earl '67  
Jacks, Thomas E. '93  
Ponder Jr., Cecil Alexander '61
  - AL B** Davidson, Janet L. '78  
Davis, George Vestal '59

- †Dodson, Gene Austin '57  
Moore, Ronald Allen '69  
Pearson, Marcus Lowell '63
- AL Γ** Banasiewicz, Kenneth Adrian '79  
Jacobs, James Ralph '86  
Sahawneh, Mary Christine '76
- AL Δ** Laws, Crystal Dianna '08
- AK A** Darrow, Margaret Marie '02
- AZ A** de Shazo Jr., Thomas Edward '62  
Flanagan, Joseph Edward '63  
Shaver, Fred William '55
- AR A** Ball, Donald Harlin '66  
Cofer, Larry Wilson '61  
Magness, Joe Donald '55  
Perciful, Jerry Cecil '60  
Chu, Jeffrey M. '82
- CA A** Fretter, Ernest Fred '67  
Hassur, Karl Robert '82  
Selna, Michael William '70  
Royden, Constance S. '80
- CA B** Bankovitch, Walter John '87
- CA Γ** Ellgas, Robert Alan '74  
Landers, Carl Francis '88  
Luppen, Luppe R. '64  
Madden, Christopher J. '85  
Mitchell, Donald Beckley '59  
Rassieur, Robert Terry '79
- CA Δ** Bolliger, James E. '71  
Dussia, Brent Alan '73  
Gularte, Francis Brock '70  
Kohlenberger, Gerald Lewis '74  
Lawson, William Edward '62  
MacDonald, Kirk Stewart '70  
Oslick, Harvey Raymond '87  
Rey, Daniel '66  
Roum, James Henry '80  
Ung, Evelyn Fay '83  
Yamashiro, Keith Kotsu '79
- CA E** Argabrite, A. Hugh '53  
Bienstock, Bernard Joel '68  
Goodkin, Mitchell Arthur '68  
Ray, Harold B. '63  
Satorius, Edgar Harry '70  
Stein, Eugene P. '88  
Tipton, Howell Jack '61
- CA Z** Blaney, Timothy John '86  
Egan, Thomas Vincent '88
- CA H** Asgari, Ramak '99  
Ramirez, Victor George '70
- CA Θ** Carpenter, Victorina Marie '07  
Smith, John Mervin '70  
Wiering, Larry Arthur '77
- CA I** Au, James T H '61  
Hovland, Larry Eilers '72  
Loo, Chia Pyng '94  
Schneringer, Paul '65
- CA Λ** Kiss, Robert David '85  
Reynolds, Hugh McGinnis '69  
Sanicky, Susan Margaret '72  
Chang, Fu-Lien '74  
Empey, Daniel Martin '82  
Hume, Curtis Shen '80  
Imhoff, Tim A. '87  
Sciacca, Joan Michelle '87  
Taylor, Michael S. '78
- CA N** Amirhosseini, Michael M. '90  
Bales, Deborah O. '77  
Darlington, William E. '66



Delta Club  
**Wendy M. Chauvin**  
 TN Δ '89

*I am thankful for everyone who helped me achieve success in my engineering career!*



Chi Club  
**Suzanne Elnaggar**  
 FL B '93

*I am forever grateful for the help I received when I was an engineering student in need.*

Second Century Club continued

- Jimenez, Ramon '95
- Lansing, John Robert '79
- Pitzer, Allan Glen '66
- CA E** Fowler, David Michael '92
- Nicoloff, Louise Therese '82
- Nicoloff Jr., Nicholas '83
- Oneil, Patrick M. '82
- Peterson, John A. '93
- Schroeder, Steven Albert '78
- CA II** Gharibian, William '92
- CA P** Alexander, Dean Lee '80
- Costello, Vincent J. '08
- Sullivan, C. Bart '86
- CA Y** Bassett, James Drew '91
- Burns, Michael Thomas '88
- Landis, George Foster '88
- CA AI** Nguyen, Cindy '10
- CO A** Benjes III, Skip Henry H. '87
- Devoe, Tracie Kay '82
- Miks, Kathryn Fink '87
- CO B** Ashwood, Edward Ross '75
- Chapra, Cynthia '90
- Erickson II, Thurston Gunnar '74
- Greene, Christopher Storm '73
- Hamai, Daniel Masao '86
- Heiny, William Craig '77
- Morgan, James Irving '55
- Pitzak, Sandra Beth '00
- Velazquez, Jose F. '78
- Weber, Douglas C. '70
- Wightman, Michael Paul '90
- CO I** Conway, Kent Waldo '52
- Goodish, Michael Irvin '70
- Ton, Scott Marshall '74
- CO Δ** DeCrescentis, Joseph Michael '92
- CO E** O'Fallon, Sean Emmett '95
- CT A** Bazuin, Bradley Jay '80
- Eastman III, Frank H. '63
- Hoffmann, William Hurlock '50
- Ljung, Michael Allen '92
- Monterroso, Juan P. '69
- Ronalds, Hugh Churchill '58
- CT B** Brenna, Patricia Mary '81
- Dembiczak, Gerald Joseph '74
- Dzielenski, Edward Casimir '66
- Kramer, Steven M. '79
- McKinstry, Robert J. '72
- Staniunas II, Joseph William '65
- DE A** Bradley, Kevin Patrick '91
- Witt, Jeffrey Lawrence '81
- DC A** Drew Jr., Vernon Overton '61
- Grayson, Rodney Maurice '71
- Sharpe, Irene White '63
- DC B** Kosnik, Cristine Josephine '95
- DC I** Blackford, JP '95
- Wilhelm, Eugene Bailey '86
- FL A** Byrum, Bruce Banks '77
- Charlton, John Dunaway '72
- Ruelke, Timothy James '89
- Schardt, Craig Russell '99
- Schoppman, Gregg M. '08
- Shelton, Mark Robert '80
- Talbot, Michael Thomas '71
- Tinsley, William Charles '77
- Troceen, Daniel Ross '72
- Wabbersen Jr., William G. '90
- FL B** Gatica, Rafael E. '80
- Nunez, Ramon Luis '75

- Ross, Martin Cavanagh '76
- Routh, Andre Guy '89
- Zhao, Weizhao '91
- FL I** Anderson, John Lowell '81
- Anderson II, Shannon Richard '75
- Glenn, Frederick '92
- Miller, Joseph Raymond '73
- Suter, Bruce Wilsey '72
- FL Δ** Dobbins, Kathy Lynn '93
- Sieck, Robert B. '60
- FL Z** Fricke, Steven Allen '93
- FL H** Nance, Craig E. '91
- Reinert, Richard Douglas '94
- FL Θ** Tracy, William Andersen '06
- FL I** Passarelli, Brian L. '10
- GA A** Ackert, Robert Charles '69
- Axon, Michael William '90
- Drawdy, Jean Elizabeth '78
- Gaulter, Kenneth W. '81
- Glover, Edmund Cook '60
- Horne, Carey John '70
- Leathers, James Crewe '81
- Lee, George Henry '70
- Priest, Anthony James '88
- Seay II, Charles Tomlinson '63
- Taylor Jr., George Brown '75
- Yarbrough, David Wylie '60
- IL A** Allen, Charles Humphrey '66
- Bassler III, Robert Edward '74
- Dowden, Douglas Calhoun '73
- Hang, Kenneth Warren '66
- Herning, Joel Gregory '69
- Kenny, Kevin Bernard '90
- Kipp, Lyle Dean '86
- Kraft, Donald Edward '52
- Lipinski, Paul Richard '60
- Mueller, Vernon Charles '59
- Rebeschini, Michael E. '77
- Resman, Tom A. '84
- Ross Jr., William Charles '86
- Steffen, James R. '74
- Stubenrauch, Carl Frederick '62
- Stutzman, Byron William '60
- Wallace, John Robert '61
- Wenzel, Kevin Wayne '84
- IL B** Filetti, Edmund George '54
- Kufta, Richard Walter '77
- Stocker, Danny Lee '86
- Thomas, Robert James '82
- Ziomek, Arkadiusz '10
- IL I** Barnett, Eric Renner '94
- Dean, Randolph Hume '77
- Gosnell, John Reid '61
- Henze, Edward Durand '50
- Kazmar, Richard Charles '71
- Nudd, Oliver R. '92
- Rivera, Angel Luis '80
- Williams, Molly Wells '63
- Wright, Susan L. '74
- IN A** Andrew, Stephen Peter '82
- Bach, Gary Robert '74
- Bottos, Beth Antoinette '79
- Brennan, Linda LeAnn '84
- Carpenter, Richard Hatton '54
- Colville, James '59
- Cundiff Jr., Bruce Taylor '65
- Danner, David Lee '70
- Goette, William Edward '56

- Grubbe, Deborah Lynn '77
- Harding, Lisa ann '81
- Hibbard, George Lewis '65
- Houchens, Albert F. '61
- Hounshell, William Harrison '65
- Hughes, Gordon M. '81
- †Karrenberg, Hans Karl '54
- Kelly, Paul Donald '59
- Lee, Robert Edward '67
- Meier III, Lewis '60
- Mucha, Thomas Jerome '60
- Newby, Karl Eugene '82
- Southam, Robert Earl '78
- Stiffler, William Theodore '84
- Sudduth, Robert Charles '79
- Trickle, Chris Michael '13
- IN B** Bechtel, Alan '64
- Repp, Brent Thomas '88
- IN I** Charbonnet, Edward Cassidy '71
- Colleran, William Thomas '83
- Coolahan Jr., James Edward '71
- Foley, Dan Joseph '70
- Geer, Ivan Daniel '94
- Grunert, William Edward '60
- Markel, Michael Lawrence '78
- Quadrini, Mark L. '74
- IN Δ** Bolur, Adam Reza '02
- Hessler, Glenn Brian '61
- Kastman, Kenneth Herbert '66
- Lyons, David William '71
- IN E** Ali, Afzal '78
- Hasbrouck, Christie Robyn '16
- Nagielski, Lawrence Stephen '81
- IA A** Anders, Bryce Leroy '67
- Cortum, John David '77
- Gallagher, Richard F. '59
- Gaul, Alan David '83
- Hayes, John Oscar '66
- Hefty, Becky Kay '80
- Kurr, Amy Catherine '18
- Martin, Tiffany Marie '19
- Matheson, Harold Moffat '55
- Neumayer, Robert '59
- Norris, David Brian '94
- Oguntimein, Gbemeloluwa B. '74
- Stammer, Russell Dean '79
- IA B** Nicodemus, Keith Lynn '52
- KS A** Asher, Gary Lee '65
- Gerren, Donna Sue '90
- Rock, Brian Allan '85
- Vaughan, Charles Francis '77
- KS I** Doud, Galen Charles '90
- Hightower, Ray E. '64
- Kottwitz, Donna Dale '75
- Miller, Laurence F. '64
- KY A** Buemi Jr., Joseph Michael '74
- Click, Randall Robert '00
- Freeman, Richard Edwin '73
- Lockhart Jr., Zane Duane '86
- KY B** Black, Leslie Edward '50
- Fleischer, Donald Martin '79
- Hughes, Earl Christopher '76
- Moore, Richard William '71
- LA A** Bourgeois, Karl Francis '75
- Hero, George Allen '69
- LA B** Clouatre, Martyn Albert '81
- LA I** Mercer, Audley A. '59
- Nugent, Larry Edward '61

# Alumni Giving

Second Century Club continued

- LA** Δ Raabe, Mark Todd '90  
Key, John Autry '75
- ME** A Goodine, Paul Joseph '65  
Jones, Cheryl A. '78  
Legatos, Nicholas A. '55  
Ogden, Stephen Wade '79  
Richardson, Paul Walter '56
- MD** A Burroughs, Matthew O. '63  
Catlin Jr., John Carey '69  
Cummings, Lori Lynn '83  
May, Davis Shaw '60  
Piedrafita, James L. '78  
Sniegowski, Gary Howard '78
- MD** B Bell, H. Randall '67  
Errera, David Raymond '75  
Gillum Sr., Michael Joseph '91  
Roberts, Victor David '64  
Rosen, Robert Harold '65  
Shearman, Randall James '85  
Starosta, Lauren Elizabeth '03  
Taylor, Patrick Joseph '03  
Tracey, John Stanley '74  
Tracy, Anita Lynne '89  
Van Eepoel, John Michael '00
- MD** Γ Lipscomb Jr., George A. '87  
Obsitnik, Paul Edward '86
- MA** A Ahern, Michael Francis '78  
Burgarella, John Paul '50  
Franke, Gene Louis '73  
Irwin, Michael Joseph '75  
Marcaccio, Mario John '80  
Wright, Neal Timothy '76
- MA** B Ellison, William Theodore '68  
Greene, David Lockwood '68  
Johnson, Timothy Lee '68  
Liepins, Atis A. '57  
Post, Allen Edward '66  
Ross, Alexander Gregory '61  
Schreiber, Robert Paul '75  
Smith, Kenneth Alan '58  
Tou, Frederick Nelson '81  
van Raalte, John A. '59  
Walsh, Eamon Francis '03  
Wasem, Ondria Gay '85  
Weinstein, Roy Marshall '83
- MA** Δ Benedict, Kurt Gottfried '59  
Cashman, William Francis '64  
Curless, Richard Walter '66  
Hamby, Genevieve D. '92  
Iovanna, Paul Robert '78  
Orenstein, Mark Allan '66  
Poppele, Richard Elwood '58  
Surtees, Robert Elliott '55
- MA** E Field, Leslie Ann '83  
Johnson, David Norman '77  
Jurczyk, Thomas William '71  
Le Rette, William Edward '92  
Levesque Jr., George Emile '70  
Loto, Thomas Anthony '93  
Murphy, Kelly Ann '83  
Nordstrom Jr., Carl H. '73  
Schlee, John Joseph '69  
Swanton, Bruce David '85  
Thompson, John Woodruff '72  
Truxel, George Henry '68
- MA** Z Cramer, Robert Alan '80  
DiMambro, Richard A. '78  
Tebo, David L. '88
- Wu, Huiya '96  
Wylie, Bruce Kerr '66
- MA** H Dunkin, Brian James '85  
McKinstry, Bob C. '84
- MA** ⊕ Furlong, Kim Marlene '87  
Jones, Rebecca Leigh '82  
Vitale Jr., Anthony '86
- MI** A Cameron, John Howard '68  
Clements, Donald Paul '68  
Derby, Stephen George '69  
Fike, Jay Edward '96  
Golden Jr., August '66  
Heinmiller, Wayne R. '80  
Herrick, Robert James '68  
Logan, William Scott '75  
Lowry, Peter Alexander '60  
Meckler, Carrie Lynn '98  
Nastas III, George '66  
Ruth, Gregory Philip '86  
Su, William Perry '90  
Woodruff, Paul Harrison '59
- MI** B Durfee, George Lee '51  
Hammar, Richard Harry '65  
Klein, Raymond John '84  
Knutilla, Robert Lloyd '51  
Lindberg, John Robert '52  
Mansfield, Michael Guy '76  
McQuarter, Charlene Raneec '95  
Pelletier, Douglas Peter '89  
Sauer, Daniel Michael '05  
Schoof, Louis Walter '65  
Stone, David Garth '69  
Whipple, Kristina Gretchen '87  
Whitman, Brian Edward '92
- MI** Γ Ackenhusen, Thomas W. '89  
Anderland, Mark Steven '83  
Anderson, Richard Walter '66  
Badalament, Michael Anthony '91  
Bloomer, Craig D. '80  
Brown, Marshall Joel '96  
Carpenter, David Robert '08  
Fishback, James Allen '74  
Gross, Paul Henry '83  
Jackson, William Longstreth '70  
Krejci, John Charles '78  
Lambert, Thomas Joffre '77  
Linker, John Joseph '44  
Lugten, John Butterfield '76  
Martin, Edward Arthur '68  
McCormick, James Robert '58  
†Passman, Richard A. '44  
Sherman, Larry Glenn '66  
Totten, Halden Curtiss '61  
Van Zweden, John '68  
Vaughn, Wayne Allen '73  
Ye, Eric Thomas '84
- MI** Δ Dauerer, Walter Peter '60  
Hemminging, Joseph Anthony '69  
Lajeunesse, Robert Paul '74  
Sommerfeld, Jude Thomas '58
- MI** E Hill-Stramsak, Colleen Lynn '00  
Sagert, Harold Henry '68  
Waldrop, Mark Wayne '90
- MI** Z Miller, Gene H. '67  
Riemann, Hans Gunter '73
- MI** H Stramsak, Steven A. '01  
Webster III, James B. '79
- MI** ⊕ Zarins, Paul Steven '87
- MI** A Hupcik, Angela Kay '02
- MN** A Bussey, Howard Emerson '79  
Carlson, Philip Jay '68  
Fleming, David Paul '61  
Johnson, Lowell Gale '69  
Martin, Bruce Douglas '97  
Ness, Valoree Jean '73  
Prickett, Gordon Odin '58  
Waletzko, Nancy Ann '86
- MS** A Corley, Katrina Lynn '89  
Dickson, Ronnie Dean '77  
George, Jim Fredrick '71  
Hicks Jr., Alfred Barrett '73  
Waters Jr., William Ford '66
- MS** B Simmons, Mary Ann '85
- MO** A †Campen, Kenneth Wilbur '55  
Gardner, Roger William '63  
Taylor, James Stuart '77
- MO** B Brewer, Lawrence Oliver '77  
Cawns, Albert Edward '59  
Elfrink, Lindell Herman '62  
Kopsky Jr., Raymond John '84  
McJimsey, Edward Clair '71  
Riley, Kenneth Gene '56  
Vandergriff, Leland E. '71  
Wolff, Thomas Francis '70
- MO** Γ Eddy, James Dale '80  
Lum, Thomas '51  
Mitzel, Kevin Raymond '95  
Stephens, Mary Elizabeth '88  
Swallow, Louis John '54
- MT** A Braun, Bryan Wayne '89  
Delaney, Robert Charles '88  
Kujawa, Stephan T. '73
- MT** B Jones, Sharon Alane '93
- NE** A Hofer, Diane Sue '82  
Matthews, Deborah Jo '82  
Schlautman, Mark Alvin '84  
Shanmugam, Alagappan '83  
Van Skiver, Max Alan '75
- NV** A Davis, Adrienne Marie '98
- NV** B Vodrazka Sr., Walter C. '55
- NH** A Bean Jr., Stanley Oscar '57  
Charron, Ronald Harvey '64  
Granoff, Mark S. '82
- NJ** A Barrese, Anthony Louis '70  
Ciccolella, Sergio Augustine '72  
Ehrhardt, William Christopher '68  
Iapicco, Jeffrey Allen '77  
Newton, Thomas Joseph '58  
Reinhardt, Gregory Charles J. '65  
Stein, Gary Richard '67  
Tensfeldt, Thomas George '81  
Wolf, Joseph Allen '55  
Wolosky, Irwin Stephen '68
- NJ** B Koch, Paul Fredrick '59  
Rocca, Jeffrey John '78  
Vosseller, Carol '80  
Wasiewicz, Richard A. '69
- NJ** Γ Barry, James J. '70  
Becker Jr., George William '66  
Bornako, Gregory Louis '70  
De Caprio, Vincent '72  
Hampel, Daniel '53  
Kobylarz, Thaddeus John '58  
Kraft, Gregory Charles '73  
Morgan, Dennis Ross '68  
Mulligan, Michael A. '80

**NJ Δ** Reznak, Frederick John '69  
 Aughenbaugh, Jason Matthew '01  
 Bennett, Karl Edward '76  
 Chen, Ephraim Jonathan '09  
 Ma, Brian Bin-Ho '00  
 Moore, Christopher C. '87  
 Usas, Alan Michael '71  
 Weinmann, Winston Eason '80  
 Whitesides Jr., Lawson Ewing '68  
 Wise, Frank W. '80

**NM A** Aragon, Frank Garcia '77  
 Tarbox, David George '80

**NM B** Buck, Cindy Jo '90

**NY A** Olson, Eric Edward '98  
 Tills, Jack Lee '78  
 Welter, David Doyle '78

**NY A** Dorn, Christopher Hayes '86  
 Feuerstein, Stewart Fred '80  
 Jung, Dick Yee '77  
 Lawson, Derek Michael '09  
 Madia, Joseph '82  
 Muller, Philippe Christian '83  
 Mullervy, John '00  
 Repetti, Ronald Victor '57  
 Richter, Stephen Lawrence '63

**NY B** Jeffers, Richard David '73  
 Lavery, Warren Thomas '67  
 Leight, David M. '75  
 Rubinstein, Ian Z. '69

**NY Γ** Beesley, Arthur Hal '75  
 Chow, Francis M. '96  
 Diefenbacher, Robert Henry '59  
 Ives, Jon Robert '61  
 Jennings, Robert Edgar '63  
 Krause, Alfred Frank '52  
 Lenney, Robert Vincent '62  
 Otto, Carl W. '48  
 Patsos, Daniel Alexander '05  
 White, Andrew Hamilton '71

**NY Δ** Allen, Frederick Graham '44  
 Beaubien, Robert Patrick '90  
 Funke, Richard Harrison '71  
 Gordon Jr., James Power '83  
 Greenfield, Michael Richard '78  
 Hurta Jr., Gary Paul '06  
 Johnson, William Clifford '54  
 Law, John S. '79  
 Ng, Benjamin '81  
 Ramsdell, John Douglas '76  
 Reth, Thomas Bernard '64  
 Surovy, Randall J. '78  
 Thomson Jr., James Bruce '68  
 Waring, Michael Dana '65  
 Wiley, David Robert '82

**NY E** Lokenberg, John A. '69  
 Magilen, Robert Zachary '63  
 Reber, Raymond Andrew '63

**NY Z** Weschke, Rainer '67

**NY H** Davidoff, Donald A. '72  
 Del Mazo, Jorge R. '69  
 Luftig, Stephen David '70  
 McClean, Jomo L. '92  
 Wolf, Murray '48

**NY Θ** Berlat, Norman Robert '62  
 Bunker, Wayne Albert '82  
 Changlai, Brian Yi-Shing '71  
 Dalphin, Richard James '53  
 Free, Albert P. '78  
 Grubb, Michael Alan '78  
 Harris, Everette C. '76  
 Lawrence, Brian Leonard '87  
 Schwind, Daniel Richard '76  
 Stone, Robert Edward '76  
 Wesler, Philip '48

**NY I** Ahlman, Lars Thorsten '71

Andrews, Richard Francis '79  
 Orans, Robin Marsha '71  
 Roos, Gregory Joseph '79  
 Shevchuk, George John '71  
 Zwillenberg, Melvin Leslie '60

**NY K** Epstein, Benjamin Ross '78  
 Foote Jr., James Conklin '60  
 Levy, Cynthia Ann '80  
 Muller-Girard Jr., Otto '89  
 Saucke, Alfred William '60  
 Singer, Bart Alan '82

**NY Λ** Braun, Bernard '65

**NY M** Passut, Charles Albert '67

**NY N** McCarthy Jr., James Joseph '66  
 Wilcox, Robert E. '73

**NY N** Feldman, Scott '75  
 Anonymous '91  
 Nuding, Theodore Glenn '75  
 Pardini, Thomas John '77  
 Theoclitus, David Thomas '86  
 Tumminello, Paul Arthur '85

**NY Ξ** Defelice, Nicholas James '77  
 Kehrberger, Patricia M. '69  
 Mercando, Anthony Dominic '76  
 Mohan, Marguerite Anne '04  
 Short, Rosemarie '91  
 Storch, Florian Joseph '61  
 Taylor, Maryanne Barbara '80  
 Triano, Salvatore John '85  
 Lamborg, Michael Jay '83

**NY O** Conzola, Vincent Charles '88  
**NY Π** Shakshober, Douglas John '85

**NY P** Colella, Donald Anthony '78

**NY T** Venable, Richard Robert '95

**NC A** Bailey Jr., Charles Richards '73  
 Baker, Fred Eugene '60  
 Doggett, William Ray '86  
 Keith, Alan Randall '82  
 Norville, John Albert '58  
 Hustvedt, Kent Carlyle '75  
 Maher, Steven Thomas '80  
 Thor, Philip Wayne '74

**NC Δ** Clark, Michael J. '75  
 Dempsey, Gary Lee '82  
 Goodwin, Edward Carson '89  
 Gordon, Stewart Robert '87

**ND A** Melanson, Harold Griffith '68  
 Nelson, Lyle David '58  
 Penne-Delaney, Beth Marie '88  
 Vastag, Harold James '69  
 Wiechmann, David Paul '85

**OH A** Andersen, Kayla Brooke '17  
 Hazen, Ramon B. '60  
 Holloway, Walter Marion '67  
 Schuerger, Richard George '49  
 Stephan, Charles Eugene '61

**OH B** Bach, Wayne Stephen '72  
 Cline, Darrin O. '89  
 Hatch, Jeffrey Arthur '74  
 Kojola, Scot Alan '95  
 Lang, Benjamin Otto '99  
 Lenz, Richard Ray '66  
 McCune, Larry Clinton '63  
 Murray, Robert Edwin '83  
 Steiger, Gene Paul '57

**OH Γ** Billmire, David Arch '72  
 Elder, Kelly '95  
 Facer, Roger Glen '85  
 Howe, James Gavin '87  
 Mohr, John Glover '63  
 Powell, David Allen '71  
 Sattler, Frank Joseph '62  
 Weber, Robert Fredrick '61

**OH Δ** Hupp, William McIver '69

**OH E** Harrold, James Leon '91

Kuczarski, Maria Ann '84  
 Rutledge, Sharon Kay '84

**OH Z** Jones, Barbara J. '82

**OH H** Ballenger Jr., Wesley Allan '83  
 Davie Jr., Robert Nelson '69  
 Hahn, Danny A. '83  
 Hartman, Dean H. '99  
 Manter, Joseph Melvin '74  
 Merkle, Larry '92  
 Sterns, Alan R. '88  
 Tannen, Peter David '57  
 Wolfe, Stephen A. '85

**OH Θ** Begovich, John Michael '74  
 Berger, Norman Rudolf '68  
 Burkhart, Fred Steven '70  
 Centers, Robert Edward '70  
 Crispino, David Joseph '80  
 Keller, Robert Lee '63  
 Kelly, John Bernard '67  
 Kretschmann, Robert J. '74  
 Mikalauskas, George Anthony '86  
 Trogus, Frank Joseph '69

**OH I** Bennett, Dan A. '73  
 Boblenz, Thomas L. '63  
 Flower Lemaster, Mary C. '88  
 Hurtig, Michael Lee '91  
 Johnson, Scott D. '76  
 Lemaster, Bruce E. '87

**OH K** Bunnell, Robert Lee '76  
 Miller, Christopher Andrew '91

**OH Λ** George, Thomas E. '87  
 Sarantopoulos, Athanasios D. '86  
 Slovasky, Mark Stephen '85

**OH M** Kojola, Gregory Kenneth '89  
 Rathbun, Richard K. '58

**OK A** Kleinstreiber, Stanley Warren '78

**OK B** Miller, Michael Joseph '81  
 †Rhodes, Holly Faye '83

**OR A** Pittman, Leonard David '68  
 Rupe, Robert Charles '72

**PA A** Albright, Carl H. '55  
 Branting, Katrina Louise '80  
 Clegg Jr., Lee Milton '59  
 Frey, Philip '51  
 Godshall, H. Lynn '62  
 Lewanda, David Benjamin '02  
 Shah, Minesh Ashok '90  
 Shuey, David Edwin '78  
 Swartwout, John Baxter '73

**PA B** Chadwick, Kevin Sipling '78  
 Fetchen, John Howard '69  
 Harvey, John William '95  
 Kutz, Michael Ralson '88  
 Livingston, Jason S. '00  
 Martignetti, Joseph Francis '78  
 Mayers, Douglas L. '74  
 Olinick, Stephen Andrew '71  
 Pickenheim, Timothy Ronald '90  
 Sonstebly, Jon Michael '95

**PA Γ** Capone, Christopher David '87  
 Carey, Michael J. '79  
 Cooley, Wils Lahugh '64  
 Erwin, Jimell '73  
 Jourdain, John Michael '84  
 Kaplan, David Seth '03  
 Madine, Gary Edward '82  
 Miley II, George Hunter '55  
 Sack, John Stuart '75

**PA Δ** Besser, Gilbert M. '49  
 Cavallaro, Joseph R. '81  
 Chun, Ping Sun '62  
 Means, Richard Terry '68  
 Seremetis, Constantine M. '81

**PA E** Cook, Stanley C. '03  
 Gentilucci, Joseph Alexander '53

# Alumni Giving

Second Century Club continued

- PA Z** Young, Douglas Allen '86  
Boyle, Elmer Hugo '59  
Brecht, Howard Earle '63  
Daniels, Richard Edward '69  
De Maio, Michael '76  
Georges, George C. '63  
Howe, Howard Joseph '63  
Hunt, Thomas Robert '84  
Jastrzembski, Joseph S. '64  
Kopansky, Arkady '95  
Michel, Joseph Stephen '03  
Weiermiller, Eugene '68
- PA H** Bower, Jefferey L. '81  
Chick, Donald James '71  
Grier, Bruce Hood '77  
Pedersen, Neil Jon '74
- PA Θ** Aschenbrenner, George T. '82  
Barron Sr., William Robert '60  
Caggiano, Nicholas Joseph '78  
McElhenny, James Edward '70  
Orsatti, Louis George '66
- PA I** Henry, Martin W. '72  
Lorenz, Bryen E. '76
- PA K** Mangelsdorf, Frederick E. '53  
Siddiqui, Faruq M. '76
- PA Λ** Andes, John Arthur '82  
Hovanec, Andrew Stephen '58  
Kaplan, Kenneth J. '84  
Leiss, Wayne Guy '76  
Tjader, William Stephen '79
- PA M** Nicholas, Kathleen Sara '12
- PR A** Archilla, Joaquin '68  
Brana-Mulero, Francisco Jose '74  
De Jesus, Tommy '00  
Lebron, Jose Antonio '77  
Martin-Vega, Louis A. '68  
Novomestky, Frederick '69  
Perez, Luis A. '88
- RI A** Biddle, Justin Miller '56  
Newman, Gary Robert '73  
Olding, Duncan Robert '55
- RI B** Bershtein, Margaret '85  
Bradley, Ken Alan '81  
Burger, Laurie A. '76  
Knickle, Harold Norman '62
- SC A** Lancaster, Harry Lloyd '80  
Moose, Thomas Caswell '72  
Spangenberg, Gerhard Dieter '76  
Wilson, Rick Lane '81
- SC B** Fripp, Archibold Linley '66
- SC Γ** Barton Jr., Robert Harley '62  
Langston, Ronald E. '64  
Lindsay, Craig Thomas '86
- SD A** Bier, James John '84  
Byg, Jerald Norman '72  
Eizember, Thomas Richard '76  
Vosika, Janice L. '81
- SD B** Packard, Douglas Randall '64
- TN A** Dobrodziej, Kristen Lynn '08  
Garber, Joel Wade '61  
Graves, Richard Telfrod '70  
Hackney, James Edward '82  
Lowe, Robert Alexander '70  
Rasnake, Mark Steven '94  
Sewell, John Ike '54  
Tang, Alice W. '86  
Taylor, David Richard '69  
Utsman, Forrest Mckae '95
- TN B** Warren, Donald Earl '71  
Whaley, Christopher Lewis '94  
Wheatley, Hubert Carl '70  
Williamson, James Moore '79
- TN Γ** Keaton, Kathryn M. '76  
Keaton, Lawrence Thomas '71  
Vaughen, Bruce Kevin '88
- TN Z** Atchison Jr., Paul Carman '66  
Moyers, Robert Lewis '05  
Murphy, Fred Anthony '71  
Pedigo, Donald Bruce '83  
Brumley, Paul Edward '02
- TX A** Givens, Kent Barr '72  
Hodges, Bobby Wayne '53  
Irick, John Thomas '59  
Krieg, Raymond David '60  
Kumpf, David Kenneth '70  
Melton, Walter Curry '56  
Moss, Edward R. '64  
Parent, Laurence Edward '81  
Penley, Percy Alston '48  
Sener, Ilhan '67  
Shields, David Ray '00  
Smith Jr., Horace Vernon '64  
Wong, Lucas '84
- TX B** Davis Jr., Charles '67  
Lowder, Jack Thomas '79
- TX Γ** Cronin, Robert Hillsman '65  
Jackman, Alan Parker '64  
O'Gwynn, David Charles '78  
Ochoa Jr., Alfred Anthony '76  
Williamson, Kent Alan '77
- TX Δ** Altman, William Carl '79  
Brunkan, Bruce James '78  
Caso, Gregory Scott '87  
Crews, James Alvin '58  
Hopper, Bruce Lynn '67  
Johnson, Vance Clay '78  
Miesen Jr., Robert John '87  
Murthy, Prahlad N. '92  
Perkins, Thomas Keeble '52  
Schroeder, Scot Alan '81  
Schwierzke Jr., Perry Julius '60  
Thomas, Daniel P. '02  
Vaden III, Frank S. '56  
Vittetoe, James Edward '67
- TX E** Dunbar, Bonnie Jeanne '83
- TX H** Loper, Thomas Lee '81  
McBay, Michael Raymond '73  
Norwood Jr., Edwin Bosworth '67  
Suley, Eniola Oluwasola '14  
Tepper, John C. '82  
Uncapher, James Patrick '77  
Goolsby, Tommy D. W. '84  
Hippenstiel, Ralph D. '72  
Karlsruher, John Charles '77  
Klancher, Michael James '80  
Pearsall, Kitty '71  
Trejo, Pablo Antonio '00  
Van Reet, Leo Joseph '70
- UT A** Carn, Ronald M. '72  
Liu, Kevin K. '80  
Matthews, G. Morris '73  
Stewart, William '60
- UT B** Craig, Donald Dean '82  
DeCarlo, Armando '95  
Hardy, Mark Douglas '84
- VT A** Wilson, Adam Bertrand '89
- VT B** Clark, David Thomas '81  
Kloster, Mark Seawell '95  
Melzar, Jonathan Preston '85
- VA A** Ashton, Michael Duane '74  
Byers, Duane Michael '80  
Capon, Robert Stephen '80  
Coleman, George Whitney '45  
Fountain, Frank S. '52  
Jokl, James Anthony '80  
Keel Jr., Alton Gold '66  
Mudd, Courtney Payne '65  
Stansell Jr., Thomas Atlee '57  
Wyant III, Thomas Raymond '71
- VA B** Blanton, John C. '76  
Boward, Jill Kathleen '87  
Davidson Jr., Charles Albert '70  
Haight, Roger Quentin '82  
Hoglund, David Eric '87  
Howell, Paul Vernon '89  
Madden, Michael Mark '91  
Rhodes, Marvin Deavers '63  
Saucke, Debra Lynn '81  
Wayne, Jennifer Susan '83
- VA Γ** Youssef, Menna Mohamed '04
- VA Δ** Carr, Dale Allen '77
- WA A** Allen, James F. '74  
Chou, Chung-Kwang '75  
Levin, Marc E. '80  
Miller, Stefan John '63  
Miller, Steven Claude '72  
Purdy, Catherine Patricia '72
- WA B** Groat, J. Everett '94  
Peters, Janna Jill '99  
Sarles Jr., Daniel A. '83  
Sarles, Vivian Beatrix '80  
Lock, Raymond Tan '83
- WA Γ** Miyata, George Kenneth '10
- WA Δ** Amrhein-Cain, Wendy Ann '94
- WV A** Farnsworth, David L. '68  
Kacic, Richard John '84  
Pellegriin, John Daniel '73  
Pennline, Dennis Eugene '73  
Janeshak, Anthony Martin '74
- WV B** Antolovich, Stephen Dale '62  
Christenson, Solveig Ann '86  
Fahrbach, David Rolland '69  
Jens, Barry Lee '64  
Johnson, Brian Keith '87  
Washechek, Howard Charles '50
- WI A** Fedler, Richard Edward '65  
Garnier, John Edward '70  
Jilek, Carol Marie '84  
Koester, Fred William '59  
Kriofsky, Tom Allan '60  
Lenz, Marsha Joann '86  
Lubinski, Paul John '87  
Mueller, Gregory John '68  
Oehler, Daniel Arthur '79  
Sommerville, Martin Glenn '94  
Van Handel, Gerald John '65  
Wentink, William Stewart '68
- WI Γ** Merkel, Brian John '81  
Scherer, Richard Allan '74
- WI E** Holte, Jennifer E. '90  
Holte, Kenneth Alan '89
- WY A** Hill, Janet Lynn '95  
Reed, Bret Joseph '89

The FOUNDERS Club

\$250

- AL A** Clary, Jacob Michael '14  
Cobb IV, Henry Clay '71  
Holloway Jr., Coley Myer '94  
Reilly, Patrick Francis '93
- AL B** McLaughlin, Douglas Edward '77
- AL E** Eubanks, Harold Z. '08
- AZ A** Thigpen, Aaron Shay '12
- AZ A** Barber, Joel Frederick '85
- Berry, Robert Lee '67
- Heires, Daniel John '86
- Rosoff, Hank '79
- Spagon, Patrick D. '68
- Whitlock, Charles N. '79
- AZ B** Rasmussen, Brenda Kay '91
- AR A** Johnson, Cody '15
- Morris, Stacey O. '73
- Price, Ralph David '83
- Walton, Trent Avery '81
- CA A** Chew, Richard Sung '85
- Hong, Wilbur Edmund '80
- CA B** Tokheim, Robert Edward '58
- CA Γ** Conti, Walter '81
- Viegas, John Robert '58
- CA E** Georgeson, Duane L. '57
- Green, Robert Charles '53
- Mingori, Diamond Lewis '30
- Mishkin, Andrew H. '80
- CA Z** Smith, Tim R. '72
- Tapay, Martin H. '78
- CA H** Kolber, Gregory J. '02
- Kovalick, Albert W. '72
- Kuo, Tiao-Hua '83
- Wood, Walter Clyde '67
- CA Θ** Fuentes, Jorge Salomón '84
- Johns, William David '14
- Moel, Robert Victor '00
- CA I** Doria, Robert Carl '89
- CA K** Gero, Jason Leon '11
- Jensen-McMullin, Cynthia L. '89
- Khachatourian, Roger Rozzeh '07
- Young, Michael I. '02
- CA Λ** Bachand, Edward Nicholas '76
- Saephan, Syta '00
- CA M** Hunt, Catherine Balassu '88
- Kirkpatrick, Steven Edward '80
- CA N** Baba, Steve Teruo '86
- Davis, Gary Markham '02
- Hammond, Timothy Nicholas '74
- Melton, Richard D. '72
- Tougas, Gary Francis '79
- Van Alst, Eric Richard '87
- Welling, Conrad Gerhart '73
- CA Ξ** Smith, Martha Alice '83
- CA Π** Chhouk, Bounmy Namboun '92
- Koga, Melissa Mikie '91
- CA P** Jofuku, Mitchel S. '81
- McPherson, Glenn Allen '79
- CA Σ** Harper, Michelle Ore '87
- CA Ψ** Chu, Vincent Shu-Lai '99
- CA ΑΑ** Hershey, Nathan John '98
- CA ΑΓ** Fernandez, Matthew Go '07
- Giannini, Mark C. '13
- Rubick, Jondavid Henry '08
- CO A** Gardner, G. Curtis '76
- O'Connor, Andrew Joseph '79

- CO B** Smart, Parker Damon '89
- Eberhart, Lonnie Bruce '59
- Olson, David Roderick '79
- Showalter, Emmet M. '59
- CO Δ** Blakeley, Jeb Edward '78
- Gonzalez, Julio Jorge '91
- James, Miller Boyd '92
- Longino, James L. '81
- CT A** Greiner, William Earl '66
- Watson Jr., Richard Brown '73
- CT B** Dechene, Joseph Fernand '82
- Evitts Jr., Ken Kenneth '80
- Jacoby, Ronald '87
- Perreault, Gregory Joseph '84
- Riek, Kerry Anne '99
- DE A** Dominy, Kenneth Stafford '90
- Hudson, Daniel S. '82
- Konchar, Janelle Amy '06
- Pittenger, Michael Thomas '73
- Stein Jr., Edwin Lee '07
- DC A** Boddie, Michael Anthony '80
- Dugger, W. Emmanuel '82
- DC B** Campioli, Carl '76
- Petersen, Kalin Rebecca '09
- DC Γ** Greenwood, Sarah Caldwell '06
- Tsakos, Steven '61
- FL A** Adams, Donald W. '89
- Ferslew, Matthew Ryan '05
- Galloway, Patricia D. '78
- Guerrero, Mario Ignacio '65
- James, John L. '66
- FL Γ** Jones, Lawrence Edward '90
- FL Δ** Beaver, Robert David '76
- Bowman, Roger Dean '79
- Morgan, JoAnn '63
- Wilhoite, Karen Lynn '89
- GA A** Allison, Patton Manuel '08
- Andrews, Harry William '70
- Daniel, John Kent '70
- Gannaway, George Thomas '61
- Newberg, George Edward '84
- Savage, John Brian '81
- IL A** Allison, Herman Dean '69
- Benhabib, Jose '81
- Helfinstine, John David '67
- Krol, Allan Monforte '94
- Kuo, Franklin '56
- Randolph, Mark William '76
- Toy, Mae Y. '75
- Turkowski, Kenneth Edwin '76
- IL Γ** Bettinger, Paul C. '85
- Ho, Benjamin '87
- Jouppi, Norman Paul '79
- Pector, Scott Walter '78
- Won, Danny J. '77
- IL Δ** Brooks, Timothy Webster '82
- Calhoun, Walter Allen '64
- Yerby, Joel Talbert '56
- IL E** Barnes, William Gerard '00
- Mueth, Timothy Paul '89
- IL Z** Anaglate, David Kwasi '03
- Navarro, Robert W. '87
- IN A** Ayers, Peter Graves '66
- Long, Harold T. '59
- Macklin, Dennis Glen '81
- Obergfell, Mark Nicholas '80
- Pearson, James Andrew '55
- Rehm, Ronald George '60

- Riley, Daniel Wayne '71
- Schwenk, Thornton Duncan '63
- Wagner, Steven John '88
- IN B** Gemmer, Baron Guye '85
- Roll, Richard Russell '81
- IN Γ** Abot, Rosary Christine T.a '11
- Chou, Robert Vincent '61
- Mercurio, James Michael '92
- Mulinazzi, Thomas '64
- Romzick, Peter Gerard '81
- Turek, Joseph Anthony '79
- Turek, Mary Beth '79
- Walsh, John Steinemann '80
- IN Δ** Love-Pruitt, Jennifer Marie '81
- IN E** Hosack, Mack B. D. '88
- Miller, Walter Preston '87
- IA A** Bridges, Harold Ray '65
- Cullian Jr., John James '87
- Dotzler, Frederick Joseph '67
- Dueker, Leonard LeRoy '55
- Eybers, Lance Carl '81
- May, Judy Violet '58
- Rockne, Allan Kert '66
- Tennant, Jerry Ronald '61
- IA B** Folkers, Craig Alan '92
- Workhoven, Robert Merrill '59
- KS A** Batchman, Theodore E. '62
- Collins, Kevin Gerard '78
- Kulp Jr., Carl Raymond '82
- Obrien, Harry Glenn '59
- KS B** Henderson, Wesley Val '76
- Jaeger, Robert Gene '70
- KS Γ** Gudenkauf, Wayne Anthony '93
- Turner, Keith Spencer '74
- KY A** Emrath, Richard M. '75
- Hill, Glenn Carter '65
- Knight, Arthur Holt '65
- Krebs, Mark Edward '88
- Long, Robert Ritchey '84
- Mitchell, Joseph Blanc '74
- Walker, Roger Denton '70
- Williams, Matthew Ryan '08
- KY B** Kulaga, James Matthew '86
- Reynolds, Joseph Carter '48
- Tockstein, Carl DeWayne '74
- LA A** Bullard, Salem C. '63
- Evans Jr., Alfred Woodson '51
- Petitbon, John B. '86
- Shoemaker, Harry Lawrence '69
- LA B** Parets, Otto Luis '96
- LA Γ** Madden, Jerry Mack '66
- Sutton, Jerry Kent '67
- LA Δ** Gautreaux, Craig Anthony '79
- Randazzo, Bert J. '92
- LA E** Suarez, Jose Eduardo '10
- ME A** Goodell III, Trenor Franklin '91
- Lamoreau Jr., Earl Bishop '86
- Thierault, Lucien Joseph '51
- MD A** Becker, Michael Franklin '69
- Stammerjohn Jr., Lambert W. '72
- Yaffe, Barry Marshall '62
- MD B** Bloom, Seymour '59
- Cascio, Horace Eugene '77
- Fenstermacher, Thomas E. '80
- Heuckerth, Deborah May '88
- McCoy, Charles Michael '68
- Rader, Richard Andrew '62
- MD Γ** Weinert Jr., William Eric '83

# Alumni Giving

Founders Club continued

- MA B** Anderson, Martin David '85  
Bulzacchelli, John Francis '88  
Chiappetta, Vincent Funk '73  
Conklin Jr., James Byron '59  
Hamilton, Bruce K. '69  
Haritatos, Nicholas John '52  
Karoht, David Allen '85  
Lippitt, A. Warren '72  
Wandrisco, John Leonard '46  
Weston, Theresa Ann '80  
Wiegner, Allen Walter '69  
Wilbourn, David Straight '55
- MA Δ** Fisher, Evelyn C. '74  
Fogel, Arlene Beck '77  
Kaklamanos, James '08  
Levin, Neil '80
- MA E** Ames, Elizabeth Ellen '73  
Blecha, Mark Alan '85  
O'Donnell, John J. '56
- MA Z** Dance, Fran John '76  
Tan, Edwin Joseph '94
- MA ⊙** Aste, Stephen Robert '99  
Marchese, Paul S. '89
- MA I** Zawacki, David Vincent '98
- MI A** Conklin, Daniel Lee '65  
Knop, Ralph J. '67  
Lipsitt, Harry Allan '52  
Maier, Dirk E. '87  
Moravek, Michael J. '78  
Potvin, Deborah L. '91  
Suchyta, Paul Joseph '08  
Thelen, Stanley Paul '83
- MI B** Campbell, Edwin Herbert '64  
Ilax, Susan Bernice '77  
Thoune, Diane Lynn '98
- MI Γ** Bonevich, John E. '86  
Bulleri, Andrew Anthony '60  
De Boer, Douglas F. '78  
Hale, Kimberly Ann '93  
Hicks, Martha Kay '63  
Hubbell, Thomas W. '71  
Jackson, Richard Homer '64  
Lady, Kyle Alexander '10  
Lazaroff, Joseph Louis '62  
LeVine, David Michael '63  
Mohr, Dale '56  
Plecha, David Anthony '83  
Plecha, Gayle Eileen '83  
Schepis, Deborah Sharon '83  
Stoughton, Herbert Warren '73  
Yee, Dawson L. '87
- MI Δ** Cerquone, Peter F. '61  
Kudlac, Gregory Alan '86  
Kudlac, Maureen Theresa '86  
Stark, Daniel Joseph '74  
Ziemba, Gerald Paul '57
- MI E** Baker, Kathy Lynn '73  
Grant, Robert Michael '75  
Walton, Gregory Francis '71  
Whitehead, Tonya J. '17
- MI Z** Chernenko Jr., James '90  
Inman, Jeffrey J. '79  
Landis, Richard Wayne '69  
Reuter, David Fredrick '73  
Tyckoski, Paul J. '76
- MI H** Roman, Jeffrey Michael '01  
Weichselbaum, Helga M. '80
- MI ⊙** Bhatt, Bhushan L. '63
- Maki, Jean Courtright '85  
Quinn, Tom Ryan '18
- MI I** Haupt, Eric Keith '84
- MN A** Haupt, Shelby Elaine '84  
Goldstein, Richard J. '48  
Koch, Lynn Janette '83  
Lemke, John David '88  
Marpe, Donald Edward '57
- MS A** Ownbey, Karen Marie '88
- MO A** Amigoni Jr., Alex Joseph '66  
Goolsby, Jerry Dale '91  
Sandridge, Jack Richard '65  
Vetter, Louis Hugo '62
- MO B** Bachmann, David Ernst '72  
Katz, Manfred '53  
Storrs, Stuart Morgan '68  
Talbot, Nicole L M '77  
Washam, Breck Ray '90  
Weese, John R. '74  
Weinkein, Katie Mae '03
- MO Γ** Chamberlin, Charles Edward '71  
Wessling, Donald Richard '60
- MT A** Cornelius, David Michael '93  
†Johnson, John Lowell '49  
Morse, Mark Harry '83  
Sielinsky, James Walter '62  
White, Richard Henry '72
- NE A** Hansen, James A. '78  
Silver, Harry Irvin '71
- NH A** Brucker Sr., Paul Bradford '83  
Hewes, Robert Pennell '86  
Morash, William Angus '77  
Perlowski, John Stephen '56
- NJ A** Brown, Jerome William '99  
Buce, Stephen John '86  
Daugert, Richard David '88  
Maroulis, Alexandros '04  
Smith, Alexander Paul '07
- NJ B** Horowitz, Daniel Austin '99  
Jagodinski, Lorraine W. '84
- NJ Γ** Gumann, Ronald John '76  
Pisz, Frank Andrew '71  
Stevens, Barry Arnold '67
- NM B** Lacatena, Stephen Joseph '86
- NY A** Carlucci Jr., Joseph John '68  
Moody, John '58
- NY B** Bugiada, Robert Joseph '79  
Bunn, K. Wayne '67  
Chamberlain, Steven Craig '68  
Sahm III, William Herbert '64
- NY Γ** Kaplan, Steven Howard '67  
Kellis Jr., Robert Francis '78  
Polmann, Donald Jeffrey '79  
Savrlick, Martin '60  
Schmidt, Richard '56  
Smith Jr., Martin Gilbert '59  
Trolle, John Charles '66  
Lazar, Dale Steven '74  
Lux, Jeffrey P. '86  
Munch, William Dexter '76  
Price, Noah Matthew '88  
Sawchuk, John Andrew '71  
Zola, Jeff Sol '91
- NY E** Brolin, Stephen J. '57  
Jesaitis, Algirdas Joseph '67
- NY Z** Choi, Stephen '73  
Gold, Harris '58  
Levine, Howard Stanley '63
- NY H** Biesiadecki, Glenn Joseph '78  
Pedersen, John Frankland '69  
Rossolimo, Alexander '62  
Sugin, Leonard '55  
Wong, Keith Kin '79
- NY ⊙** Adair, James Leonard '83  
Atkinson, William Clark '70  
Quay, Jeffrey Robert '85  
Schepis, Randy Scott '83  
Seeger, Edward Samuel '78  
Watson, Richard Paul '78
- NY I** Dies, Erik Harding '04  
Serkes, Ira Mark '70  
Wilkowski, Stephen '80
- NY Λ** Leonardi, Thomas S. '72  
Shelley, Harold Barthau '67
- NY N** Roe, Kevin Peter '94
- NY ⊚** Cappelli, Joseph Angelo '79  
Cleary, Thomas F. '73  
Engels, Joseph Gerard '75  
Lehr, Valentine A. '62  
Zuccaro Jr., Richard Joseph '74
- NY O** Garcia, Agustin Melquides '80  
Weiss, Robert Aaron '86
- NY P** Massi, Joseph R. '81
- NY Σ** Votava, Ward Eugene '66
- NY T** Lui, Jennifer '13
- NC A** Benge, G. Gregory '83  
Calderone, Matthew Joseph '05  
Gidney Jr., Robert Sarratt '61  
Ingram, William Prentiss '70  
Perry, Mathew Howard '80  
Shuford Jr., G. E. '65
- NC Γ** Ballard, William Ed '52
- NC Δ** †Holshouser, Thomas Edward '86
- NC E** Thompson, Renee C.D. '98
- ND A** McCormack, Fred Eugene '76  
†Sauber, James George '58  
Schmidt, Wayne Joseph '50  
Solberg, Bruce Jerome '69  
Sprynczynatyk, David Allen '72
- OH A** Bogolin, Ronald Robert '56  
Dale, Scott Allan '85  
Dong, Yan '07  
Marcus, Julius Leslie '60  
Radke, Charles Edwin '55
- OH B** Engle, Charles Robert '92  
Fried, Joel R. '71  
Guckian, John E. '77  
Lynch III, Thomas Joseph '72
- OH Γ** Gruebmeier Jr., Orville W. '60  
Hall, Susan Elizabeth '84  
Jordan, Sarah Elizabeth '99  
Keller, Philip S. '84  
Likavec, Michael Thomas '00  
Wilkins, Scott Alan '72
- OH Δ** Shoemaker, Terry Ray '83
- OH E** Heckelman, James D. '62  
Jones, Michael Thomas '87
- OH Z** Mold, Donald Frederick '67  
Randolph, Brian Walter '82  
Snyder, Christopher Alan '83  
Walker, Edward Philip '74
- OH H** Cross, Stephen Edward '77  
Ethridge, Ronald Alan '78  
Spinelli, Chris John '05
- OH ⊙** Jalics, Julie Jane '97  
Kraft, David Christian '59

- OH I** Mysona, Ronald Joseph '82  
Chelmins, David Thomas '08  
Hurtig, Juliet Kay '91  
Ward, Robert Lee '88
- OH K** McCarthy, Stephen Joseph '07
- OH A** Ziemianski, John Joseph '82
- OH M** Moore, Leah Beth '10
- OK A** England, Cynthia L. '71  
McNamara, Robert '85  
Robbins III, George Earl '74  
Zink, James Gregory '74
- OK B** McKinley, Gordon Stuart '90  
Sutrick, John Stanley '83
- OK Γ** Goodin II, J. Riley '80
- OR A** Gibbs, Bruce Franklin '79  
Gruber, James B. '94  
Lindahl Jr., Ernest Raymond '73  
O'Brien, Robert Merle '56
- PA A** Banks, Gary John '86  
Bogert, Charles Ernest '82  
Corbett III, Stanley Wells '55  
Farese, Vincent '88  
Zacharias Jr., Edwin Henry '66
- PA B** Creese, Robert Claude '63  
Frick, T. Scott '93  
Getson, William J. '60  
Gettle, David J. '82  
Godlesky, Mark Albert '87  
Kempf, Dwight Clayton '81  
Koller, Keith Scott '81  
Krause, Scott Tobin '93  
Pollock, Andrew Michael '72
- PA Γ** Fugate, David W. '84  
Hasek, William Robert '49
- PA Δ** Menzies, Katherine Laura '08  
Fishstein, Bruce Lawrence '83  
Lucas, Jay Philip '69  
Marsh, Elbert Lynn '59  
Patrick, Herbert '70
- PA E** Pudleiner, James David '76  
Spencer, David Bruce '67
- PA Z** Brown, Kathleen Ann Happ '85  
Cheever, William Henry '56  
Schey, Donald '61  
Shaffer III, Thomas Hillard '68  
Strieffler, Frank H. '91
- PA H** Hine, Laurel Anne '08  
Mighell, Edwin R. '52  
Seferian, Karnik Michael '79  
Waldner, Harold Eugene '58
- PA Θ** Giangiulio, Arduino N. '73
- PA I** Reitmeier, Glenn Arthur '77
- PA I** Martelli, Phil Joseph '85
- PA Λ** Sanborn, Stephen Duane '78  
Filey, Justin Paul '99  
Loehlein, Werner Conrad '74
- PR A** Medina Velez, Tyrone '13  
Montanez-Lopez, Ramon E. '94  
Muniz-Alfonso, Michael '02  
Rodriguez-Fernandes, Norman '72  
Santana, Juan Carlos '97
- RI B** Caranci, Manfred Leonard '72  
Sano, Jun-Ichi '68
- SC B** Henry, Peter James '08  
Jacobs, Wynona P. '87
- SC Γ** Avery III, Hamilton K. '69  
Burns, James A. '60  
Hass, Paul Henry '56  
Hinson, Mary Elizabeth '08  
Hoel, Jeffrey Scott '83  
Mueller, Peter Walther '82  
Reese, Stanley Howell '62  
Walker III, Richard C. '92
- SD A** Carrick, Janet Lynn '81  
Dahl-Stamnes, Knut H. '80  
Fersdahl, Mark Curtis '02  
Fersdahl, Sarah M. '04
- TN A** Allgood, Glenn O. '79  
Connelly, Joseph Alvin '64  
Harris, Lauren Lindsey '05  
Hodgdon, Richard Lewis '76  
Johnson, W. Wendell '65  
Lambert, William Mark '91  
McConnell Jr., Oaklie Kermit '51  
Olberding, Robert Louis '82  
Olberding, Terry Darlene '78  
Ottinger III, Aurelious Jackson '87  
Settle, Gray Lamar '62  
Smith, Larry Gene '64  
Stache, Richard R. '76
- TN B** Myles, Jennifer Lee '94
- TN Γ** Clark, Tony Lee '89  
Hamby, James A. '69  
Ross, Anthony Dwayne '72  
Woods, George Richard '83
- TN Δ** Chamness, Mark Franklin '77  
Gillespie Jr., Clarence Earl '65
- TN E** Dodson, Gregory Austin '77  
Edlund, Bob '79
- TX A** Bouchier, Joe Tom '67  
Castiglione, Paul Alfred '70  
Chen, Annie Y. '89  
Mills, Denver L. '57  
Morrow, Jack D. '72  
Naas, Robert James '65  
Persyn, Steve Gus '71  
Reynolds, A-Lan Van Hornlein '91  
Tseng, Shiao Chung '86  
Wilson, Arthur Eugene '65
- TX B** Anderson, Roger Kent '60  
Fleming, Elizabeth Ann '79  
Hansen, Gracie Arlene '04
- TX Γ** Garvin, Robert Gene '52  
O'Rear III, Edgar Allen '75  
Rossen, Richard Gary '74
- TX Δ** Almaguer, Jill Ann '83  
Campbell, Thomas Mellor '55  
Casco, Andres Enrique '99  
McClung, David Allen '73  
McMullan, Charles Dewey '58  
Muhlstein Jr., Lado '59  
Szymczak, Edward J. '61  
Ballard, Craig Winford '90  
Bloschock, Mark J. '77  
Nieto, Shayler '63
- TX E** Shirokhar, Prashant Anand '97  
Wilson Jr., H. Clay '70
- TX I** Somes, Brian '89
- UT A** Rhudy, Ralph H. '62  
Weaver, Kevan Dean '98
- UT Γ** Bose, Tamal '82  
Olsen, Kettie Lynn '97
- VT A** Mazzini, Carl Andrew '68  
Rowland, William Chandler '77
- VT B** Kmet, Peter Nicholas '75  
Van Domelen, John Francis '64
- VA A** Clem, Kenneth Ray '69  
Ginn, F. Lester '72  
Griffith, Douglas Gene '61  
Kiss, Linda Diann '85
- VA B** Dunkley, Barry Thomas '71  
Frieman, Robert Philip '61  
Hall, Charles Devane '70  
Melick, James H. '76
- VA Γ** Ammentorp, Jennifer Lynn '08  
Cowen, Kenneth R. '90  
Pronko, Mark Steven '81
- WA A** Betts, Frank Patrick '90  
Christiansen, Walter Henry '84  
Laakso, Melvin T. '70  
Paepere, Gale Robert '85
- WV A** Mallare, Ronald Antone '74
- WV B** Thompson, David Wayne '87
- WI A** Froh, David '74  
Legault, Kathryn Ann '85  
Schroeder, Jeffrey Alan '96  
Treprow, Ethan Alan '99  
Tubbs, Dennis Howard '86
- WI B** Anderson, Ronald John '55  
Annen, Kurt Douglas '74  
Lancaster, John T. '61  
Novak, David A. '77  
Russell, Jeffrey Thomas '88  
Treadwell, George Wilson '52  
Wielebski, Rachel Ann '98
- WI Γ** Beisner, Richard Charles '74  
Dunn, Jeffrey William '81
- WY A** Muchmore, Royce Alan '93  
Obentland, Rebecca Rogness '83

## Pre-Club Members/Contributors Continues on page 50

- SPEC** Gomulinski, Nancy
- AL A** Evans, Erin Michelle '22  
Gardner, Gill Crosson '18  
Huffman, Gary Leroy '77  
Lewis, William Douglas '78  
Tamblyn, Lynn McClure '15
- AL B** Swanson, Wallace Albert '68  
Triantafillu, Dimos '07
- AL Δ** Anderson, Courtney Nicole '19  
Hall, Scott Lee '90  
Klomkaew, Atchima '18
- AL E** Johnson, Richard Douglas '04  
Klomkaew, Phiwat '18
- AZ A** Larimore, John Charles '58
- Lenczycki, Christopher T. '86  
Meisels, Barry Myron '61  
Mooberry, David George '68  
Van Veghel, Stephen John '72
- AZ B** Gegen, Elliot Thomas '22  
Hermens, Stephen Edward '15  
Islam, Nusrat '18  
Macias, Sabrina Louise '16
- AR A** Hartsell, Morgan McKenna '19  
McNew, Brandy Lynn '03  
Pile, Stephen Cline '66  
Troillett, Ronald Joseph '88
- CA A** Anderson, Robert Neil '58  
Rasmussen, Richard Scott '81
- Tse, Janet Man Yu '02  
Wizelman, David Aaron '00
- CA B** Arunachalam, Naveen '18
- CA Γ** Hammoor, Bradley Thomas '16  
Manuel Jr., Ernest Harry '68  
Sauer, Christopher Peterson '17
- CA Δ** Klein, Jerry Alan '61  
Young, Tina Ting-Ting '88
- CA E** Bennett, Deborah '93  
Delettrez, Jacques '65  
Hickling, Ronald Michael '80  
Lam, Khanh '92  
Wikholm, Duane Eser '55

# Alumni Giving

## Pre-Club Members/Contributors

Continued from page 49

**CA Z** Greenough, Ryan Daniel '16  
Pineda, Ricardo Steven '80  
**CA Θ** Alonso, Francisco Javier '84  
Gray, Gary David '69  
**CA I** Bute, Kyle S. '12  
DeVan, Glenn Charles '71  
Evans, Matthew Joseph '81  
**CA K** Megginson, Brian Edward '79  
**CA Λ** Murchison, Gary Scott '77  
Pritchard, James Thomas '70  
Rodriguez, Emmanuel B. '14  
**CA M** Holden, Thomas Jefferson '83  
Kraemer, Ronald Ray '86  
**CA N** Danahy, Colin Brian '16  
Shultz, Timothy Allen '88  
**CA Ξ** Wong, Jacky Chi Kin '85  
Hooley, Amber Sierra '19  
Tabor, Chelsea Jeanne '09  
**CA O** Davis, James Lee '63  
Koskovich, Robert J. '89  
**CA Π** Isa, Ricky H. '83  
Ledbetter, Kenneth Wayne '68  
**CA P** Burmeister, Joseph R. '01  
**CA Σ** Esparza, Luis Ricardo '02  
**CA Y** Ancheta, Cesar M. '87  
Haven, David James '08  
Kidwell, Mark '13  
McNinch, James E. '82  
Miller, Samuel Price '06  
**CA Ψ** Soedharto, Ferdinand G. '14  
Yang, Denis Jia Le '19  
**CA Ω** Dawson, Charles Burke '19  
**CO A** Luebke, Peter James '82  
**CO B** Banbury II, John Quincy '78  
Curry, James Howard '70  
Kraft, Virgil Don '55  
Malcolm, John Arden '82  
Wittrock, Edward Paul '63  
**CO Δ** Curry, Kenneth Rogers '81  
Lamp, Robert James '82  
Longino, Barbara Dellicker '80  
Thaemert, David Karl '89  
**CO E** Capuano, Jon Anthony '19  
Gast, Madison '20  
**CO Z** Henry, Karen S. '79  
Jodeh, Nidal M. '98  
Smith, Graham D. '19  
Wetzig, John Marshal '13  
**CT B** Gaal, Thomas G. '89  
Miller, Julian David '59  
Rogers, Eric James '05  
Shomon Jr., Anthony Paul '67  
Volpe, HelenAnn '70  
**CT Γ** Riley, Kristopher Michael '98  
**DE A** Bramble, Joye Lynn '84  
Harmon, Bruce David '84  
**DC A** Clark, Moyett Talmadge '61  
Gill, Christopher P. '92  
**DC Γ** Edzenga, Andrew Colin '19  
Rais, Martin '09  
Trocchia, Scott Marshall '11  
**FL A** Girard, Andrew Arthur '16  
Grau II, Erwin Frederick '67  
Lewis, Catherine A. '84  
Lyons, Leonard J. '62  
Tran, Kimmair K. '16  
**FL B** Shaw, Matthew Yao '19  
**FL Γ** Roberts, Maureen Birtch '83  
**FL Δ** Fishkin, Jeffrey '98

Goerz, Jesse William '05  
Yadi, Bert Anthony '95  
**FL E** Giannini, Diego Enrique '85  
**FL Θ** Martinez, Juan Manuel '00  
**FL I** Painter, Andy Andrew '12  
**GA A** Benator, David Ross '82  
Ecker, Harry Allen '57  
Kilpatrick, Keith Jonathan '97  
Parker, Elton L. '47  
Rawlings, Kenneth '69  
**ID Γ** Khanal, Mandar '76  
**ID Δ** Bergquist, Bennett '19  
**IL A** Bajt, Ronald Michael '66  
Byrne, Richard Peter '79  
Carroll, Matthew Charles '86  
Hall, Wilfred Brenton '75  
Kilmer, Tina Marie '81  
Maguire, John Anthony '79  
Mohler, Jeffrey Dean '77  
Musser, Linda Rose '81  
Primus, Carolyn M. '73  
Rita, Robert Anthony '70  
Schneider, Jeffrey C. '81  
Variakojis, John '55  
**IL B** Fuentes-Afflick, Peter Andre '82  
Johnson, Robert Brandt '69  
Parks, Robert Franz '88  
**IL Γ** Frystak, Mark K. '76  
**IL Δ** Walczynski, Stanley A. '77  
**IL Z** Davidson, Patricia R. '02  
**IN A** Almasi, George Raymond '61  
Austgen, Martin James '64  
Bissey, Stanley Ellis '65  
Ferguson, Dan M. '13  
Fleck, John William '48  
Hinrichs, David Allan '77  
Horton, James Alan '71  
Kenny, Michael Douglas '63  
Kimber, Douglas A. '80  
Longstreet, Robert Alan '67  
Love, James Richard '50  
O'Connell, Patrick Shane '76  
Rehfus, Elizabeth Mellett '86  
Thullen, Philip '65  
**IN B** Misak, Stephen Michael '17  
Twarek, Andrew Ball '05  
**IN Γ** Doty, Michael J. '96  
Durr, Christopher Jacob '10  
Harkins, Scott Patrick '89  
Pan, Yichao '12  
Ryan, Lawrence D. '65  
Berndt II, Robert John '83  
Hilgendorf, Don William '62  
**IA A** Garrison, Phillip Eldon '66  
Sherman, Donald Harold '65  
**KS A** Coudeyras, James Christian '94  
Jorgenson, Wilbur E. '61  
Lake, Orley Leon '61  
Mertz, Michael K. '78  
Ridder, Wendell Clayton '60  
**KS B** Brimmer, David Lawrence '71  
Longacre, Charles Jacob '74  
**KY A** Dopp, Daniel Blaine '20  
**LA A** Hollier, Joseph Keith '79  
Landry, Lambert Patrick '67  
Rousseau, Ronald W. '66  
**LA Γ** Ezell, George Dale '60  
Schneider Jr., George John '76  
**LA Δ** Dufrene, Philip Edward '08  
Dugas, Caffery James '77

**ME A** Dunlop, Raymond D. '60  
**MD A** Mahmood, Qasim Ali '14  
**MD B** Dannaway, Samuel Steven '78  
**MD Δ** Rothman, Neil S. '78  
**MD E** Smith, Andre St Clare '03  
**MA A** Crimmins, David Scott '58  
Grimm, John Richard '89  
Melanson, Vanessa Rose '01  
Skliutas, John Paul '79  
**MA B** Knibbe, Todd Eric '91  
Lumsdaine, AJ '85  
Motley, D. Carrington '16  
Mur-Miranda, Jose Oscar '95  
Nathanson, Josef '63  
Walter, Robert Frederick '72  
Yong, Tseh-Hwan '98  
**MA Δ** Heller, Ethan B. '07  
Sorgi, Aladino D. '61  
**MA E** Campinell, Brian F. '86  
Tsang, On K. '06  
Tyson, Rich P. '83  
**MA Z** Richardson, Alan M L '70  
Rovelli, Mark Lawrence '78  
**MA H** Hughes, Anna Belle '17  
**MI A** Glover-Cutter, Kira Marina '01  
Kent, Brian M. '80  
Nugent, Ronald James '57  
Porteous, William M. '70  
Simons, Ross Alan '13  
Vannice, Merlin Albert '64  
Brandt, C. Andrew '81  
Burnette, Keith Thomas '64  
Eldridge, John Lennox '84  
Erickson, Steven Charles '90  
Holley, Donald Leon '53  
**MI Γ** Bassler, Jerry '56  
Betz, David Karl '95  
Bloomer, Kristine Marie '81  
Carlson, Linda Elaine '70  
Greenman, Kevin Paul '19  
Johnson, Robert Arthur '74  
Oberin, Frederick Walter '61  
Sanabria, David Anthony '90  
Gutt, Donald Joseph '70  
**MI E** Bagomaan, Hana '18  
Harriman II, Doug Paul '14  
Morgan, Gary M. '75  
Shell, Ronald George '66  
Vultaggio, Andrew Peter '98  
Vultaggio, Noy Elena '99  
**MI H** Bowden, George F. '48  
**MI I** Burtka, Christopher Aaron '04  
**MS A** Broome, Thomas Houston '87  
Perry, George William '65  
Shelton, Roy Conley '66  
**MO A** Bryan, Joesph '66  
Lindaman, Bryce David '19  
Weber, Arthur Rudolph '47  
**MO B** Gredell, Thomas Richard '79  
Gruber, Myron Edward '64  
Johler, Craig Bauer '67  
Kipp, Stephen Edward '81  
Martin, Robert Lee '49  
Owens Jr., Malachi '87  
Sides, Andrew '15  
**MO Γ** Burns, Steven Michael '81  
Fleschner, William Louis '67  
Hironaga, Jon Kenich '90  
Stiens, Robert Russell '56  
**MO E** Budd, Andrew Paul '19

	Carrier, Bill L. '81	Eagle Jr., Eugene O. '65	Anderson, Roger Alan '79
	George, John A. '55	Ferguson, Roger George '73	Anderson, Sandra Kay '79
	Lyons, Frank T. '59	Hine, David Eugene '80	Gerdes, Karl Frederick '71
<b>MT A</b>	Ries, Jerome Leonard '76	Morales, Suzette '09	Johnson, Tracy Rebecca '97
	Sen, Banasri '81	Rudisill, Jacob M. '75	Kirk, Steven James '74
<b>MT B</b>	VanWichen, Spencer '17	Taylor, Tom '82	Koemmpel, Kenneth John '83
<b>NE A</b>	Cecrle, Chad Adam '07	Berry, Jeff Matthew '98	Perera, K. Nishanthi Ruwani '17
	Johnson, James Alan '85	Rawley, Curt A. '71	<b>SD B</b>
<b>NV A</b>	Conway, Patrick James '85	<b>NC E</b>	Reid, Rich A. '81
	Wilson, Kenneth M. '93	Armstrong II, Morris G. '16	<b>TN A</b>
<b>NV B</b>	Thota, Jagadeep '06	Haggins, Christopher Emil '96	Adams, Michael Eugene '91
<b>NH B</b>	Mitchell II, Scott Craig '16	<b>ND A</b>	Foster, Erick Robert '12
	Stehr, Ryan Carl '06	<b>OH A</b>	Lambert, Lisa Renee '90
<b>NJ A</b>	Behnke, James J. '02	Kauer, James Charles '51	Marcom Jr., Harvey Cline '63
	Fagel, Lawrence W. '59	Widmer, Mark Thomas '84	McDavid, Ernest Kenneth '61
	Fetics, Barry Joseph '95	<b>OH B</b>	Porter Jr., Jim '65
	Habert, William Charles '63	Abot, Jandro L. '93	<b>TN B</b>
	Menafra, Domenic Bernard '04	Koczwara, Thomas E. '88	Duncan Jr., Richard Dean '59
	Shaw, LeTisha Paulette '99	Nathan, David Levi '87	Goor, Joy Meiling '01
<b>NJ B</b>	Bachs, Baiba Aija '84	Valanis, Kirk C. '55	Johnston, Julia Wallace '81
	Covell, Daniela Maria Ana '90	Banks, Marissa '19	<b>TN G</b>
	Dreitlein Jr., Kace Charles '95	Brown, Helen C. '88	<b>TN E</b>
	Feuer, Carrie de Mackiewicz '84	Burkholder, Larry Lynn '70	Shah, Sunil Anant '19
	Rayski, Thomas A. '92	Davidson, Glen Lee '83	Swiegard, Rick J. '75
<b>NJ G</b>	Catalan, Jose Artemio J '96	Rankovic, Vladimir '85	<b>TX A</b>
	Holzman, Allen Leonard '53	Reindl, Jeffrey Louis '85	Campbell, David B. '68
	Stanko, Roger John '72	Tschanz, John Frederick '58	Giuffre, Dennis Michael '64
<b>NJ Δ</b>	Fisch, Adam Joshua '15	Williams, Robert Lloyd '60	<b>TX B</b>
	Lugannani, James C. '81	Zalewski, Lawrence Philip '98	English, Jenni Leigh '19
	Seitman, David Todd '74	Hands Schuh, Katherine M. '13	Garza, Santos '85
	Sierchio, James Gerald '72	Kline, Patrick Joseph '73	<b>TX G</b>
	Woods, Robert Octavius '62	Logan, Lauren H. '10	<b>TX Δ</b>
<b>NM A</b>	Pines, Edward '79	Mooney, William Thomas '59	Bounds, David Carlyle '58
<b>NM B</b>	Kelly, Maria '18	Contofalsky, Douglas Edward '77	Bowen Sr., Jerry F. '56
<b>NM G</b>	Hacker, Wes E. '17	Malik, Haider Hafeez '09	Brinkmeyer, Michael W. '75
<b>NY A</b>	Morrison, Jeffrey Steven '68	<b>OH Z</b>	Brown, Robert Calvin '51
	Thatcher, M. Llewellyn '59	Cherol, Anthony James '12	Davila Labastida, Jose Carlos '17
<b>NY B</b>	Mogish Jr., Andrew '78	Kastelic, Tara Ann '88	Garza, Claire Patricia '83
<b>NY G</b>	Barbash, William Arthur '55	<b>OH H</b>	Ginnings, James Ira '56
	Bazinet, Christopher Gerald '79	Cook, Jason Jeffrey '06	Haas, Harvey James '59
	Bottorff, David Elliott '61	Heil, Michael Lloyd '86	Lloyd, Stephen Vaughn '72
	Crouse, Edward Michael '86	Ratner, George Henry '70	Mask, Russell Lane '71
	Hidalgo, Fausto Gaston '44	Baylog, John Gerard '75	Pensock Jr., Edward Peter '83
	Miller, John Barrett '69	<b>OH ⊖</b>	Russell, Billy Don '70
<b>NY Δ</b>	Capron, Ann Louise '61	<b>OH Δ</b>	Waugh, Michael Scott '79
	Loo, Marcus H-H '77	<b>OH M</b>	Smylie, Shelby Corene '18
	Schwartz, Ricky Glen '78	Combs, Kara Lian '21	Bhatt, Tanay Mahendra '05
	Sinder, Stuart Jay '65	Mostashfi, Kouhyar '98	Smart, Eddie Eugene '69
<b>NY E</b>	†Hathaway, Robert Newman '58	<b>OK A</b>	<b>TX ⊖</b>
	Hayden, Steven Z. '73	Johnson, Melanie Diane '00	Erway, Paul S. '82
	Passut, Robert Charles '67	<b>OK B</b>	<b>TX I</b>
<b>NY Z</b>	Kilanowski, David Raymond '73	Golick, John Paul '78	Sindecuse, Judy Frances '86
	Truncellito, Nicholas Thomas '72	Hesse, Tanner Jonathan '10	Royer, Midge Hill '05
<b>NY H</b>	Henry, Michael Kernen '10	<b>OK G</b>	Sidney, Ezra Charles '10
	Kahn, Robert E. '60	Douglas-Mankin, Kimberly D. '87	Luera, Luther G. '75
<b>NY ⊖</b>	Buran, James Michael '80	<b>OR A</b>	<b>UT A</b>
	Cipollina, Joseph Domenick '09	Bailey, Robert William '65	<b>UT B</b>
	Devoid, Michelle Karen '98	Marx, Kenneth Donald '61	Andrews, Kenneth I. '78
	Smith, Bakari Imaan '17	McElmurry, Barry Randall '59	De Oliveira, Gui Pila '18
	van der Vorst, Lisa Margery '93	Kon, Chad Takeo '18	Glassett, Joel Ames '77
	Walczak, Brian G. '14	<b>PA A</b>	Holt, L. Bayles '71
<b>NY I</b>	Diskin, Glenn Stephen '84	Best, Bill Andrew '81	Strahl, William Riley '18
	Marder, Alan Mark '71	Carnali, Joseph O. '78	Taylor, Mark Lamoyne '96
<b>NY K</b>	Tanner, Edward Clein '72	Carnali, Leslie '78	<b>UT G</b>
<b>NY Δ</b>	Glenbocki, Alexander Joseph '70	Doty, Robert Kenneth '68	<b>VT A</b>
<b>NY M</b>	Gifford, Gregory P. '74	Dreyer, Darlene Anne '97	<b>VT B</b>
<b>NY N</b>	Burr, Geoffrey William '91	Grabner, Roy Walter '61	VA A
	Rietz, Ralph W. '89	Walsh, Christopher Dearborn '88	Colen, Rodney Beyer '83
<b>NY E</b>	Apriceno, William Joseph '81	<b>PA B</b>	Painter, James Walter '68
	Codispoti, Joseph S. '79	Del Rosso, Gerard Domnick '93	Whaley, Carlos Calvin '88
	Murphy, Susan Cavalea '88	Hurley, Francis X. '63	<b>VA B</b>
<b>NY O</b>	Blumrich, Mattias A. '86	Johnson, Michael Benjamin '08	Rapson, Robert Lee '63
	Imbrogno, Christina '14	Polifko, John Terrance '70	Sroka, Kristin Elaine '02
	Imbrogno, Joseph M. '12	Wambold Jr., James Charles '59	Street, Robert Ellsworth '72
	Kannan, Sandhiya '17	Fleckenstein, Joseph Edward '54	<b>VA G</b>
<b>NY II</b>	Warner, Steven E. '82	Niccolai, Nilo Anthony '62	<b>WA A</b>
<b>NY P</b>	Carillion, Geraldine Karst '86	<b>PA Δ</b>	<b>WA B</b>
	Gross, Heinrich A. '85	Boalick, Scott Russell '87	Baxter, Donald Wallace '74
	Lanzarone, John Richard '78	Margolis, Stephen G. '53	Sauer, Brian Walter '82
<b>NY Σ</b>	McCauley, James Weymann '61	<b>PA Z</b>	<b>WA Δ</b>
	Turco, Natalie Jean '20	Medway, Marc Jay '72	<b>WV A</b>
<b>NY T</b>	Grivas, William Dementri '97	<b>PA H</b>	Thurston, Henry Matthew '16
	Lo, Herman Ting '05	Hertz, Robert Goldberg '50	Hilton, Ernest William '78
<b>NC A</b>	Cosgrove, Spencer Church '16	<b>PA ⊖</b>	Piper, Mark Morris '78
		Deguilio, Andrew Phillip '98	Yassini, Rouzbeh '81
		Glessner, Alfred J. '64	<b>WV B</b>
		Morrison, Alan E. '69	Lathwell, Nicholas Wayne '19
		Scharff, Christopher Kenneth '95	Murthy, Kris Hos '60
		Mulkern, Kevin Michael '79	Beuscher, Hugh '59
		Acevedo, Jorge L. '66	Chesner, Ramon '58
		Gautier-Rivera, Pedro '72	Thompson, William Allan '78
		Pagan, Francisco A. '98	<b>WI A</b>
		Toro-Litts, Evelyn '93	Colasanti, Regis Joseph '65
		Schwartz, Bradley Dean '77	Hughes Jr., John Jeremiah '54
		Inkley, Tyler Joseph '17	Ries, John N. '63
		Roman, William J. '09	Stein, Francis Harold '59
		Queen, William Edwin '60	Sterner, Nathan Luke '07
		<b>SC B</b>	Swanson, Turner R. '14
		<b>SD A</b>	<b>WI Δ</b>
		Alphonsus, Aaron Germano '18	<b>WI E</b>
			Parr, Ethan Andrew '12

# ASSOCIATION BRIEFS



An image from the first *Tau Bate Talk* with Rob Streeter posing under the aurora australis with station meteorologist at the Geographic South Pole.

## ALUMNI EVENTS: TAU BATE TALKS SERIES

January 24 kicked off our first ever *Tau Bate Talk*. This series features Tau Bates who have used their engineering background to pursue fascinating experiences.



**Rob W. Streeter, P.E.,**  
WY A '11,  
our first speaker, shared

stories and photos from his year of work at the South Pole with the 90 participants in the Zoom session. He is a TBPI Fellow (2020) and current president of the Front Range Alumni Chapter.



**Jenna R. Jambeck, Ph.D.,**  
FL A '96,  
our second presenter, a

National Geographic Fellow, spoke about plastic pollution in our oceans on February 28. She is a professor of engineering at the University of Georgia.

## UPCOMING TAU BATE TALKS:

MARCH 28

**Jean W. Tom, Ph.D., MA B '84**

Head of Chemical & Synthetic Development in the Global Product Development and Supply organization of Bristol-Myers Squibb.



APRIL 25

**Kira C. Mendez, PA A '83**

Director of the Iacocca Institute at Lehigh University. She has 30 years of strategy consulting and leadership experience.



***Tau Bate Talks*** are scheduled on the fourth Sunday of the month at 4 p.m. Eastern / 1 p.m. Pacific.

If you would like to be notified of future talks, please email Tricia Gomulinski, Director of Alumni Affairs, at [tricia@tbp.org](mailto:tricia@tbp.org) and ask to be added to the *Tau Bate Talk* email list.

Also, if you know a *Tau Bate* who had fascinating experiences and would be interested in sharing them, email Tricia. Thank you!

## NEW MEMBER OF EDITORIAL BOARD APPOINTED

We welcome **Alison L. Hu**, CA G '96, as the newest member of the Tau Beta Pi Editorial Board.

A longtime volunteer for TBPI, she joins Board members John W. Prados, Ph.D., P.E., TNA '51, Lyle D. Feisel, Ph.D., P.E. (ret), IA A '61, and Executive Director Emeritus James D. Froula, P.E. (ret), TNA '67.

Alison is Director of Talent and Organization Development at fintech start-up Credit Sesame, where she manages corporate leadership development. Alison is passionate about helping others unleash their full potential through training in self-awareness, communication skills, and diverse perspectives. She attributes the origin of her career to when, as a graduate student, she volunteered to become an Engineering Futures Facilitator for TBPI. Alison has developed and delivered leadership programs and talent management processes at multiple tech companies including Agilent Technologies, VMware, Yahoo!, and ServiceNow.

In addition to being an Engineering Futures Facilitator for 13 years, Alison served as an Executive Councillor from 2002-06 and helped review TBPI Scholarship applica-



tions in 2016 and 2017. Alison, who lives in the SFBay area with her husband and three children, serves on the Board of her local region of AYSO. She holds a B.S. and M.S. in electrical engineering and an M.S. in industrial engineering and engineering management, all from Stanford University.

In addition to a diverse perspective, Alison brings to the Board a broad understanding of and commitment to the Association. Chartered in 2002, the function of the Board is to advise on issues related to editorial policy, suggest feature articles and authors, and recommend continuous improvements to meet needs and preferences of readers of *The Bent*. John Prados, as chair, and Lyle Feisel are charter members who continue to serve.

## BECOME A MEMBER OF THE EDITORIAL BOARD

If you have ever thought about serving as a volunteer for Tau Beta Pi, but did not have time to travel or devote more than a few hours a month, then please consider becoming a member of the Editorial Board. We are looking for one more member to complete the team of five that was initially chartered in 2002. Board members are called upon at least 10 times per year to review proposals for feature articles for *The Bent* and provide constructive feedback. Members who are familiar with the Organization, possess writing and/or editorial experience, and an interest in helping improve the magazine are urged to submit inquiries to Patricia McDaniel, Managing Editor, at [pat@tbp.org](mailto:pat@tbp.org).

## ASSOCIATION OFFICIALS: WELCOME NEW DISTRICT DIRECTORS

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NY G '02  
Honeywell  
Aerospace  
Mission Hills, KS



### DISTRICT 11

**Margaret G. Goshert**

MNA '12  
Biomerics, LLC  
Minneapolis, MN



### DISTRICT 6

**Caden J. Moore**

AL E '16  
Hargrove  
Engineers +  
Constructors  
Mobile, AL



### DISTRICT 9

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MS A '20  
Merck  
Kansas City, MO



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**Natalie J. Turco**

NYS '20  
General  
Dynamics  
Electric Boat  
Westerly, RI



For a full list of TBPI District Directors, visit:

[www.tbp.org/about/districtDirectors.cfm](http://www.tbp.org/about/districtDirectors.cfm)

# ALUMNI NOTES

Your fellow Tau Bates are interested in news about **you**.



ARIZONA BETA '81

## Debra A. Kimberling

Debra will serve the Society of Women Engineers (SWE) San Diego as the SWENext Chair. She is president at San Diego County Engineering Council and looks forward to expanding SWE into the K-12 community as a STEM role model and advocate. She has a B.S. degree in aerospace engineering.



LOUISIANA GAMMA '20

## Savannah S. Esteve

Savannah earned a B.S. in biomedical engineering from Louisiana Tech and joined UserWise, Inc., as a human factors engineer in July. She also received a yearlong appointment to the U.S. President's Council of Advisors on Science & Technology in October to provide input on improving STEM education.



MISSOURI ALPHA '84

## Michael J. Salerno

Michael is a 2020 inductee into the University of Missouri industrial and manufacturing systems engineering Hall of Fame. He most recently served as CFO of Boeing's Phantom Works R&D division, past manager of financial planning & analysis for Boeing's entire defense business, and retired in December.



NEW HAMPSHIRE ALPHA '12

## Eric A. Ohanian P.E.

Eric was named a 2020 Young Professional of the Year by the American Council of Engineering Companies of Massachusetts. The award recognizes accomplishments of young engineers by highlighting their interesting and unique work. He is a structural project engineer at Tighe & Bond Inc., since 2017.



NEW JERSEY EPSILON '21

## Muhammad T. Akhtar

Muhammad is a 2020 South Jersey Branch American Society of Civil Engineers scholarship recipient. He is a senior at Rowan University pursuing a B.S. in civil & environmental eng'g. He has worked two internships at Phillips Precision Medcraft and HNTB Corp. and plans to graduate in May.



NEW JERSEY ZETA '21

## Rosalie R. Connell

Ros was awarded a New Jersey Space Grant Consortium Academic Internship to conduct NASA related research on the systemic effects of space radiation during the 2020-21 academic year. She is a biomedical engineering major at The College of New Jersey and member of Dr. Anthony Lau's biomechanics lab.



NEW YORK BETA '20

## Kyle J. Huff

Kyle received a scholarship from the Syracuse University Office of Veteran and Military Affairs. He is a senior civil engineering major and currently serves in the New York Army National Guard as a maintenance control officer. He plans to become a qualified engineering officer in the U.S. Army National Guard.



NEW YORK ETA '21

## Karissa M. Collins

Karissa has been awarded the 2020 Lee Petrella Memorial Scholarship from Thornton Tomasetti for the 2020-21 academic year. She is a civil engineering senior at the City College of New York (CUNY) with plans to pursue a master's degree and become a licensed professional engineer.



NEW YORK ETA '21

## Inzamamdeen Kassim

Inzamamdeen, former NY Eta Chapter president, has been awarded the 2020 Daniel Cuoco Endowed Memorial Scholarship from Thornton Tomasetti for the 2020-21 academic year. He is a civil engineering major at the City College of New York (CUNY) with plans to take the FE exam in January.



OHIO EPSILON '14

## Sonia I. Zabin

Sonia started a new position at BASF as a precious metals resource manager. Previously, she was a chemical process engineer at BASF and worked for five years (2012-17) at Lubrizol Corp. She earned her B.S. degree in chemical engineering from Cleveland State University.

Send items about civic activities, honors won, weddings, promotions, etc. to Tau Beta Pi, P.O. Box 2697, Knoxville, TN 37901-2697 or to [media@tbp.org](mailto:media@tbp.org). Material for publication must be received by May 1 for the **Summer** issue and by August 1 for the **Fall** issue. Include name, address, chapter/class year, and email address or phone number. Thank you!



#### TENNESSEE ALPHA '87

### Donna R.H. Riggs P.E.

Donna worked 36 years for the Department of Energy retiring in January 2019, but not before she diamond stamped the first B61-12 canned sub-assembly as one of her final assignments as a quality assurance engineer at the Y-12 Nuclear Security Complex. This action ensures “all nuclear weapons components at Y-12 National Security Complex meet strict specifications and design requirements.”

“This is cool stuff and the capstone of my career in Oak Ridge,” Riggs said. “The act of diamond stamping certifies that the product has the pedigree that makes it worthy of going to the military.”

In October 2020, she became a member of the Nuclear Quality Assurance (NQA) Subcommittee on Software Quality Assurance (ScSQA) during the NQA Fall meeting held virtually. The ScSQA is responsible for the development, adjustment, and interpretation of quality assurance requirements related to the development and use of software in the design, construction, and operation of nuclear facilities that is published by The American Society of Mechanical Engineers (ASME) as consensus standard ASME NQA-1, *Quality Assurance Requirements for Nuclear Facility Applications*.

Donna joined TBII in 1987 as a graduate student at the University of Tennessee, where she earned B.S. and M.S. degrees in industrial engineering.

She has been an active volunteer with Tau Beta Pi in several capacities, including: serving as an Engineering Futures Facilitator, attending annual Conventions as a delegate of the Great Smoky Mountains (GSMAC) Alumni Chapter, and serving in many leadership roles for the GSMAC (currently as president).

Congratulations to Donna on her successful career and on her next adventure!



#### OHIO THETA '85

### Stephen W. Duda P.E.

Stephen retired from a successful 35-year career as a mechanical engineer in HVAC systems engineering for large commercial and institutional buildings and is now a full-time instructor at Southern Illinois University Edwardsville. He has a goal to establish and apply for a TBII chapter for SIUE.



#### OREGON DELTA '21

### J.T. Edmondson

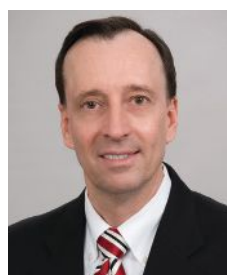
J.T. is a recipient of the Douglas P. Daniels / Coral Sales Scholarships established to support transportation engineering students at Pacific Northwest universities. He is studying civil engineering at Oregon Institute of Tech. and plans to pursue a career in transportation construction management.



#### TEXAS DELTA '81

### Robert C. Lanham Jr. P.E.

Bob is the 2020 president of the Associated General Contractors of America and serves as president (since 2013) of Williams Brothers Construction Co., in Houston, TX. He is a U.S. Army veteran, a graduate of Texas A&M University with a B.S. in civil engineering, and recognized as a Distinguished CE Graduate.



#### WISCONSIN ALPHA '79

### Bruce A. Dale P.E.

Bruce retired as chief subsurface engineer from ExxonMobil after 36 years, serving in technical leadership and management roles. He was a visionary to the company's upstream business for “engineering well performance to the physics limit” and promoted the use of advanced simulation and visualization technologies.

# TRUE TALES from the TESTBENCH...

Fellow engineers: the story you are about to read is *true*. Only the *names* have been changed to protect the guilty.

Words / Art:  
Krishna M. Sadasivam  
krishnadraws.com



Special thanks to Jerry J. Rij, USAF Ret. (NJ G '72), for submitting this True Tale.

**DO YOU HAVE A TRUE AND HUMOROUS TALE FROM YOUR ENGINEERING EXPERIENCE TO SHARE?**

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