SUMMER 2025

The Bent

Of Tau Beta Pi

THE ENGINEERING HONOR SOCIETY

Bentspedition Finale

TBP Fellows 2025

Engineering Elegance - Jewelry

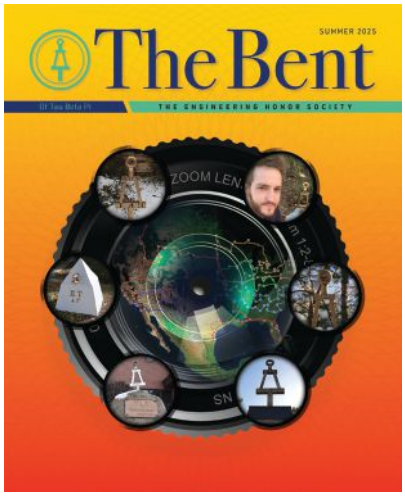
The Bent
Of
Tau Beta Pi
The Engineering Honor Society

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

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

On the COVER: It's been a remarkable journey following Nick on his quest to visit every collegiate chapter's campus and Bent monument. Often uplifting and occasionally humbling, his vivid descriptions and commitment are unmatched. Thanks Nick for taking us along for the ride. We honor you with a few images from your *Bentspedition*.

Artist: Dali Polivka



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See back inside cover for listing of Tau Beta Pi Chapters.

SUMMER 2025

The Bent

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COUNCIL'S CORNER

Henry H. Houh, Ph.D., *MA B '89*, ΤΒΠ 2025 Secretary

THE INTANGIBLES OF GROWING MEMBERSHIP

I recently had the privilege of being the installing deputy for the new Connecticut Delta Chapter of Tau Beta Pi at Fairfield University (see article on p. 36). It's the second chapter installation I have participated in the past few years, the other being the Massachusetts Kappa Chapter at Merrimack College (2023). It's always exciting to be a part of these ceremonies, as the colleges are eager to have a ΤΒΠ chapter available to those in their engineering program. In some sense, the deans and university presidents see having a ΤΒΠ chapter as lending more legitimacy to their engineering programs, just as we *mark in a fitting manner those who have conferred honor upon their Alma Mater by distinguished scholarship and exemplary character*. Furthermore, the energy among advisors, members, and officers of a new chapter is palpable.

In recent years, the Association has also installed its first international chapters, and now these student members are attending the annual Convention as well as District Conferences in order to participate in the shared energy and camaraderie of being members and leaders in our organization.

In the past 25 years, 37 new collegiate chapters have been installed, out of 38 petitions for new chapters received. There are currently 4 potential chapters in the inspection and evaluation phases. I plan to attend one such inspection visit this summer at Wentworth Institute of Technology in Boston, MA. Several other inspection visits are expected to take place in 2025. While some petitioning chapters may be recommended to attend Convention this year, some may be deferred pending updates in their operations that align these petitioning chapters closer to the way our own collegiate chapters operate.

These new chapters and their members clearly value membership, as well as fellowship with other Tau Bates. **Joshua S. Gunananda Muni,** *TX D '25*, and **Muhammad F. Hanif,** *TX D '25*, president and vice president, respectively, of the Qatar Alpha Chapter at Texas A&M University at Qatar, traveled around the world one April weekend to attend the District 1 Conference hosted by the VT Alpha Chapter at the University of Vermont in Burlington (even though QT A is a member of District 10), and had to endure a cancelled flight to the U.S. upon arriving at the airport in Qatar, finding a different flight, and transferring between Washington Dulles and Reagan airports just to make it on time, only to return as soon as the conference concluded, all while in the middle of their senior projects.

Joshua and Muhammad had previously attended the Convention, where I had first met them, and were eager to return to greet and exchange ideas with their fellow chapter leaders.

But, new chapters are not the only way to grow our membership rolls; another way, which is one of the strategic goals set forth by the Executive Council (EC), is to increase the percentage of eligibles that become members. Currently, that number stands at around 17%, and the goal is to raise that number to 20%.

One way the EC is trying to help chapters improve this number is through what we call our **Targeted Email Campaign**. Tau Beta Pi Vice President **Tom Pinkham,** *MA E '88*, has been driving this effort over the past year. One of the initial goals of the campaign is to present consistent messaging to all eligible members, put forward the best image of ΤΒΠ, highlight the numerous benefits of membership, understand what interests eligibles by tracking the click-throughs, then follow up with those that do not go on to become members to better understand the reasons why they decline membership.

While we have conducted surveys in the past to better understand these reasons, this effort is intended to integrate with a chapter's initial outreach and eventually automate the outreach process. To date, we have conducted one trial of this effort, at the FL Gamma Chapter. Out of 400+ emails sent, we tracked 193 responses and actions from eligibles.

I would like to see this effort be the start of providing an online initiation tracking system. Many steps of the initiation process can be easily completed and tracked online. This could be used every year to start, automate, and track much of the process, while integrating into the current Association's reporting system. The goal would be to simplify and harmonize such efforts, allowing chapter leaders to focus on the personal parts of the initiation process – that of running meetings and organizing events, and spending less time on the administrative part of the process, so that chapter leaders can be more efficient and effective at improving the initiation rate.

Thus, we hope to grow our membership through both new chapters as well as more effective and efficient operations.

HENRY HOUH works independently as a technology consultant and technical expert witness. He holds four degrees from MIT: B.S. in electrical engineering & computer science; B.S. in physics; and master's and Ph.D. degrees in electrical engineering & computer science. A TBP Laureate (1989), Henry joined the Executive Council in 2024.

YOUR LETTERS

Send letters to d.lane@tbp.org. Text may be edited for length and clarity; not all letters can be published.

Killer Sun?

I loved the comprehensive and very readable article (Killer Sun?). Great work.

Walter S. Ciciora, Ph.D., *IL B '64*

Hi, friends! The moment I saw the beautiful red-orange cover of the Spring issue, I knew who the author for that article ***HAD*** to be. Also, I knew it would be a great article, and I wasn't disappointed.

Trudy Bell has been an inspiration over the years, always with something pertinent, important, and engaging. Trudy is a wonderful credit to the profession. A million thanks!

Martin J. Cote, *MI E '65*

****From Trudy:** Martin – THANK YOU SO MUCH for your wonderful 'atta-girl,' and for taking the time to share about how you feel. I love writing for this magazine – it gives me an uncommon and fascinating opportunity to explore and share neat and sometimes important or underreported aspects of various topics. I'm so glad readers also appreciate the intellectual forays. Thanks again!

I read with much interest Trudy's article "Killer Sun?" in the Spring issue. It's quite an informative and interesting article.

The impacts of the Sun and Earth's space environment on a vast array of technologies is an important subject area in heliophysics research, and certainly for society as you describe.

You have covered the subject very well. Also, I just co-authored a book on the history of some major scientific debates in the early space program that might be of interest. ****Editor's Note:** See the Authors page (p. 35) for a profile of Louis' book.

Louis J. Lanzerotti, Ph.D., *IL A '60*

The Case of Ethel Ricker

Ms. Harrison's story of how Ethel Ricker was accepted into Illinois Alpha in 1902, and then summarily disinvited, was a sobering insight into how professional women were treated by their male peers in the early 20th century. Struck by the limited information that Ms. Harrison was able to uncover about Ms. Ricker's life after graduation, I did some sleuthing in an online newspaper archive.

Most mentions of Ricker in Urbana-Champaign newspapers were associated with social events or travel, largely alongside her father, Professor Nathan Ricker. She was listed in the *Daily Illini* as registered for courses in the fall of 1917. Two years later, a chilling notice in the *Urbana Daily Courier* announced that "Miss Ethel Ricker" had been "paroled" from the Kankakee hospital for the insane. In September 1920, a decidedly more uplifting report in that same newspaper announced that Ricker had taken a position in the office of the supervising architect for the University of Illinois. The following November she was identified as a draftsman in a *Daily Courier* advertisement for a local life insurance company.

Newspaper references to Ricker are scarce after she relocated to Chicago in the late 1920s. I did run across a May 1934 letter that Ricker wrote to the editor of the *Chicago Tribune* in which she provided suggestions on how to improve fire safety at the city's south side Union Stockyards after a fire there had decimated an adjoining neighborhood. Her recommendations regarding fire-resistant structures and fire breaks were clearly grounded in her technical education.

Larry E. DeFillipo, *NY O '79*

Thank you very much for writing your article about Ethel Ricker, and thanks to the magazine's staff for including it.

The story of Ms. Ricker's lack of acceptance into Tau Beta Pi at the University of Illinois in 1902, just because she was not a man, though her outstanding academic achievements merited such recognition, is a prime example of a lesson about such folly and discrimination that needs to be shared and learned.

My extended family and I have been blessed to benefit from the foresight of my great-grandparents that raised their family in a small farm town in Illinois, and valued education so dearly that they chose to invest in college educations for their seven children. Of those, my grandfather was the only one to not end up successfully receiving his degree; however, his six younger sisters all did earn their college degrees in the 1930s and 40s!

While my six great aunts did not attend the University of Illinois (the last one just passed at age 101), many of their offspring and I since have. Of those 15 or so and counting, one (so far) has their name engraved on the Bronze Tablet. She is a successful ophthalmologist, who also recently did 67 push-ups to celebrate her 67th birthday.

Engineering is about learning how things work and gaining insight from past failures to apply that knowledge to help solve the problems of today. Who says that mindset has to be limited to solving only scientific challenges?

All of us need and deserve opportunity, all of us need and deserve education, all of us need and deserve encouragement, and all of us need and deserve recognition and celebration.

Thank you, again, for your time and efforts to share this story.

I wish you all the best in your studies at U of I and in your future endeavors.

John E. Nelson, *IL A '98*

Pat McDaniel's Retirement

Thank you, Pat, for your 25 years of service to Tau Beta Pi. We appreciated your dedication and hard work very much.

I'm sure your retirement life will be as interesting and fun as in Tau Beta Pi.

Yi-Hsien Doo, P.E., *MI Z '81*

FROM THE EDITOR

Dylan S. Lane

Developing and organizing the content of this issue prompted an examination of my goals & intentions for the magazine.

I always enjoy collaborating with new feature writers (Peltz, p. 38) and being inspired by our next generation of leaders (Divilbiss, p. 6).

Recently, we've seen valued TBP HQ staff depart; however, our newest team members (p. 44) are energized to lead the way forward.

Most importantly, we recognize member achievements, such as the latest class of TBP Fellows (p. 12), strive to provide relevant news, opportunities to connect, and promote Tau Bate interaction.

I welcome reader feedback and encourage sharing the magazine with coworkers and on campus, to enhance the Association's image as we look to strengthen our position as the preeminent **Engineering Honor Society**.

WHO'S WHO IN TAU BETA PI

Recognizing Tau Bate accomplishments.

Nikhilesh Chawla Ph.D.

New Mexico Gamma '93

was named a fellow of The Minerals, Metals & Materials Society, the premier society in the field of materials science & engineering. A professor at Purdue University, he recently became the Associate Dean for Engineering in Indianapolis (new capital city extension) as well. His fellowship citation reads, "For advancing 4D characterization techniques to predict and describe material performance across multiple classes of materials."

Steven M. Cramer Ph.D., P.E.

Wisconsin Alpha '79

received the 2025 Bernard M. Gordon Prize for Innovation in Engineering & Technology Education by the National Academy of Engineering. He was recognized "for advancing the state of the art in downstream bioprocessing and educating generations of industry and academic leaders who transformed and grew the biotechnology industry." Steven is an Institute (Endowed) Professor at RPI and 2008 ΤΒΠ McDonald Mentor.

William "Bill" J. Dally Ph.D.

Virginia Beta '80

was awarded a 2025 Queen Elizabeth Prize for Engineering. He joined NVIDIA in 2009 as chief scientist after spending 12 years at Stanford Univ. as computer science dept. chairman. Bill holds 120+ patents, authored four textbooks, built the J-Machine with his team at MIT that pioneered the separation of mechanism from programming models, and introduced "wormhole" routing & virtual-channel flow control.

Jen-Hsun "Jensen" Huang

Oregon Alpha '84

received a 2025 Queen Elizabeth Prize for Engineering. He co-founded NVIDIA in 1993 and has served, since its inception, as president, chief executive officer, and a member of the board of directors. NVIDIA pioneered accelerated computing and with the company's invention of the GPU in 1999, sparked the growth of the PC gaming market. Jensen has B.S. and M.S. degrees in electrical engineering.

Robert R. Maxfield Ph.D.

Texas Gamma '64

was bestowed the Gold Medal Award from the Association of Rice Alumni group – their highest honor. Known as a distinguished engineer and technology pioneer, Robert passed away in August 2024. He founded ROLM Corp., alongside three other Rice alumni, which was later acquired by IBM. As a lifelong advocate for science and education, Robert started the Maxfield Foundation in support of making education more accessible.

Kristin M. Myers Ph.D.

Michigan Gamma '02

was inducted into the American Institute for Medical and Biological Engineering College of Fellows. She was elected "for pioneering contributions to women's health engineering, the biomechanics of preterm birth, and clinical studies of the biomechanics of pregnancy." Kristin is an associate professor and directs the Myers Soft Tissue Lab at Columbia University, where she is a past NY Alpha Chapter Advisor.

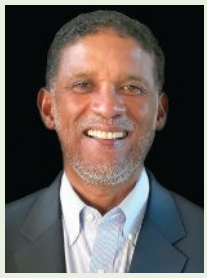
Jeffrey D. Singleton

West Virginia Alpha '84

was selected as the Deputy Assistant Secretary of Defense for Science and Technology Futures. He also serves as the U.S. Principal on the NATO Science and Technology Board, since 2019, and on the NATO Defense Innovation Accelerator for the North Atlantic Board of Directors, since 2023. He works to maintain awareness and oversight of R&D throughout the dept. in areas such as weapons technologies & human sciences.

Kenneth A. Warren

District of Columbia Alpha '80



was presented with the 2024 ASME Holley Medal for his contributions to the eng'g profession, including pioneering work to develop Open Process Automation architecture, a highly disruptive, standards-based, open, secure, and interoperable process control architecture by the American Society of Mechanical Engineers Foundation. He is a retired ExxonMobil vice president of engineering and past DC Alpha Chapter officer.

James G. Fujimoto, Ph.D., *MA B '79*
David Huang, M.D., Ph.D., *MA B '85*
Eric A. Swanson, *MA Z '82*

The three were inducted as part of the 2025 National Inventors Hall of Fame class. Together, they co-invented a revolutionary method for imaging internal structures of body tissue with unprecedented detail called optical coherence tomography (OCT). The technology has significantly advanced ophthalmology, where it is especially useful for examining retinal tissue allowing for rapid detection of diseases of the retina that impair vision. It is also being applied in cardiology and across a variety of fields. Dr. Fujimoto is an MIT professor, Dr. Huang is a professor at Oregon Health & Science Univ., and Swanson is a research affiliate and previously worked at MIT Lincoln Lab.

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 258 active collegiate student chapters.

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 to: Tau Beta Pi – The Engineering Honor Society 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 TBΠ. 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.

THE CHAPTER ENDOWMENT INITIATIVE:

You can learn more about the progress and developments of the CEI on our website, *www.tbp.org/?CEI* or by contacting Director of Development & Communications Sherry Jennings-King, *TN Alpha '93*, by phone at **(612) 226-2922** or by email at s.jennings-king@tbp.org.

Newly Received Gifts & Pledges

Anonymous, *MA B '67*
MASSACHUSETTS BETA — $7,000
Massachusetts Institute of Technology

Thomas E. Dunham, Ph.D., *OH Γ '65*
NY BETA — $5,000
Syracuse University

Robert S. Egerman, MD, *LA B '83*
LOUISIANA BETA — $5,000
Tulane University

James L. Rushworth, *IN A '58*
INDIANA ALPHA — $5,000
Purdue University

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

Current Endowed Chapters (32) with $100,000 or more in cash and pledges:

ARIZONA ALPHA
Univ. of Arizona — $105,000

CALIFORNIA DELTA
Univ. of Southern California — $100,000

CALIFORNIA EPSILON
Univ. of California, Los Angeles — $100,000

CALIFORNIA UPSILON
California State Univ., Sacramento — $100,000

COLORADO ZETA
U.S. Air Force Academy — $100,000

FLORIDA GAMMA
Univ. of South Florida — $105,000

ILLINOIS ALPHA
Univ. of Illinois at Urbana-Champaign — $187,520

INDIANA GAMMA
Univ. of Notre Dame — $125,000

IOWA ALPHA
Iowa State Univ. — $110,289

LOUISIANA ALPHA
Louisiana State Univ. — $100,000

MARYLAND BETA
Univ. of Maryland — $135,000

MASSACHUSETTS BETA
MIT — $103,000

MICHIGAN BETA
Michigan Tech. Univ. — $100,000

MICHIGAN GAMMA
Univ. of Michigan — $204,912

MICHIGAN EPSILON
Wayne State Univ. — $250,000

MICHIGAN ZETA
Kettering Univ. — $100,000

MISSISSIPPI ALPHA
Mississippi State Univ. — $115,000

MISSOURI BETA
Missouri Univ. of S&T — $100,000

NEW JERSEY ALPHA
Stevens Institute of Tech. — $105,228

NEW JERSEY DELTA
Princeton Univ. — $100,000

NEW YORK GAMMA
Rensselaer Polytechnic Inst. — $105,000

NEW YORK DELTA
Cornell Univ. — $105,000

OHIO ALPHA
Case Western Reserve Univ. — $100,000

OHIO BETA
Univ. of Cincinnati — $100,000

OHIO GAMMA
Ohio State Univ. — $100,000

OHIO EPSILON
Cleveland State Univ. — $100,000

SOUTH DAKOTA ALPHA
SD Mines — $204,675

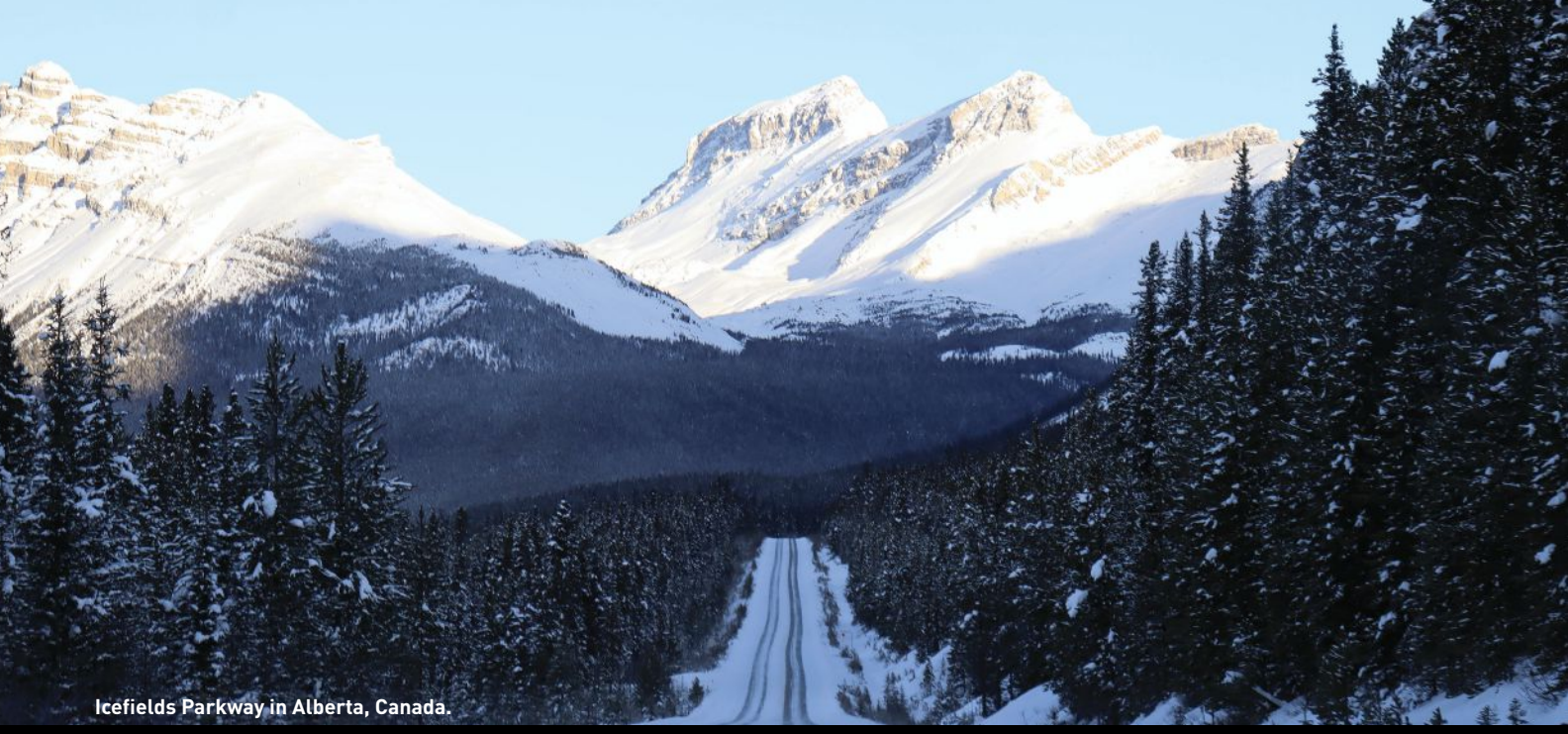
TENNESSEE ALPHA
Univ. of Tennessee — $100,000

TEXAS BETA
Texas Tech Univ. — $100,113

VIRGINIA ALPHA
Univ. of Virginia — $115,000

WEST VIRGINIA BETA
West Virginia Tech. — $108,000

WYOMING ALPHA
Univ. of Wyoming — $100,000



Icefields Parkway in Alberta, Canada.

BENTSPEDITION FINALE

A 'MONUMENTAL' ADVENTURE — BY NICHOLAS R. DIVILBISS, *KANSAS GAMMA '25*

INTRODUCTION

What would it take to visit every Tau Beta Pi collegiate chapter? Could a full-time student do it? My name is Nick Divilbiss. I'm honored to serve as the 85th president of the KS Gamma Chapter at Kansas State University, and in December 2023, I began to answer these questions. This is the final article of my multi-year journey: *The Bentspedition*

Last summer, I wrote an article detailing the first three legs and defining the rules for this project: all collegiate campuses must be visited in person; flying is not allowed unless driving is impossible; and hotels are off limits. I've since visited 260 of 264 Tau Beta Pi collegiate chapters. A brief update was published in the Winter issue on progress made during the fourth leg which included the Upper Midwest, Mid-Atlantic, Northeast, and New England. The focus of this article is on the fifth and sixth legs, which include all chapters in both mountain and pacific time zones.

THE SOUTHWEST

On November 23rd, I left Manhattan, KS, and began the fifth leg. At 9:30 a.m., I journaled, "About to leave for Lubbock. I'm ready for a break." This was a much-needed escape. Across the flat plains of Southwestern Kansas and the Oklahoma and Texas Panhandles, I traveled with Tortillo the Tacoma. Our first destination – Lubbock, Texas.

Megan E. Lehmann, *TX B '23*, then the TX Beta Chapter president, and I met at roughly 10:00 p.m. at the Texas Tech Univ. Bent monument.

The day ended with Tortillo and I camping at a Walmart parking lot in Hobbs, New Mexico. A wave of energy came over me the next day as the Guadalupes shot up dramatically from the horizon. Zyrtec and Flonase laid waste to my energy when a dust storm hit in the Chihuahuan Desert. Soon after, while overlooking Juarez, Mexico, TX Theta's Bent, the final bent in Texas, was checked off the list at the University of Texas at El Paso.

Tortillo then guided us toward the NM Alpha Chapter's Bent monument and the Sigma Tau (ST) Alpha Gamma Chapter's Pyramid. Later, in Truth or Consequences, NM, I attended a virtual KS Gamma Chapter's officer meeting at McDonald's, where my palette has been dramatically expanded thanks to *The Bentspedition*. Next in Socorro, I found NM Gamma's indoor Bent at New Mexico Tech. Students watched with confusion as I found an optimal photo angle on the hallway floor of Weir Hall. Albuquerque luck was spent stumbling into the Chi Pyramid at the Univ. of New Mexico. Sitting immediately adjacent to a randomly chosen parking spot, there it stood! I was ecstatic. Its plaque is gone, but its distinctive thru-rail leaves no question of its purpose.

In Arizona, the Painted Desert and Petrified Forest provided a marvelous break from the monotony of the open road (**See Figure 1**). In Flagstaff, the AZ Gamma Chapter's Bent was surrounded by Northern Arizona Univ. students in their atrium. An especially suave student plucked his guitar on a nearby couch and as I photographed their Bent monument, he played

"Long Cool Woman" by the Hollies; I drummed along accordingly on the nearby concrete canoe.

Tortillo raced the sunset as we neared Embry-Riddle Aeronautical Univ. "Hangriness" took hold by the time Prescott appeared. Tortillo felt it necessary to introduce an RPM-dependent rattle after stopping at AZ Delta's Bent. Trainee pilots soared overhead as my stomach growled and Tortillo rattled on. Will we lose an oil pump? A transmission? Short on time, there was only one way to find out. My main concern was addressed as I found food at a nearby... well, you know where.

Phoenix is flat, with beautiful interstates, and the AZ Beta Chapter's Bent was found with ease at Arizona State Univ. That night, I slept at a Pilot truck stop on I-10. Tortillo is like Fiona from *Shrek* – Tortillo by day, Hotel Tacoma by night. The next morning, our followers gained unique insight into life on the road as I gave them a 'walk through' of Hotel Tacoma. Then, I discovered the AZ Alpha Bent monument under a Tucson sunrise on the Univ. of Arizona campus (**See Figure 2**).

Tranquility is Saguaro National Park. Its longest dirt road leads to a stone picnic structure. There, I sat for an hour and relaxed for the first time in months. It was 65 degrees. The air was still, but for a slight breeze. Gentle chirps of birds and insects filled the air, and faint was the sound of a propeller plane. Oh, and there was no cell signal! Peace perfected.

On I-8, there's a pass I fell in love with when approaching San Diego, CA. One moment I was in rural hills and the next overlooking the city and the ocean. A sight for sore Kansan eyes! San Diego was wonderful and the CA Psi Chapter welcomed me into their ranks for a gingerbread competition. Our team's abstract house wasn't received well. Still, we sang Christmas karaoke, and I was sent away with a CA Psi t-shirt. A prized possession!

Most of the next day was spent at San Diego State Univ. where I chatted with District 16 Director **Neal T. Bussett,** *CA X '09*, and a CA Xi Chapter officer for many hours before carpooling to the Univ. of San Diego. It was refreshing to meet so many people in San Diego, a much-needed recharge before the rest of District 16. The night before Thanksgiving, I headed north from San Diego, sleeping at a state beach by Camp Pendelton.

Fourteen – that's the number of campuses that Tortillo and I visited on Thanksgiving Day in greater Los Angeles. "Happy Thanksgiving from me to me," I journaled. Believe it or not, in 250 miles of city driving, I only encountered traffic once! Later, the sun set at Santa Barbara, and I cut the fifth leg short, vowing to return and show our followers CA Sigma's shiny Bent monument in daylight.

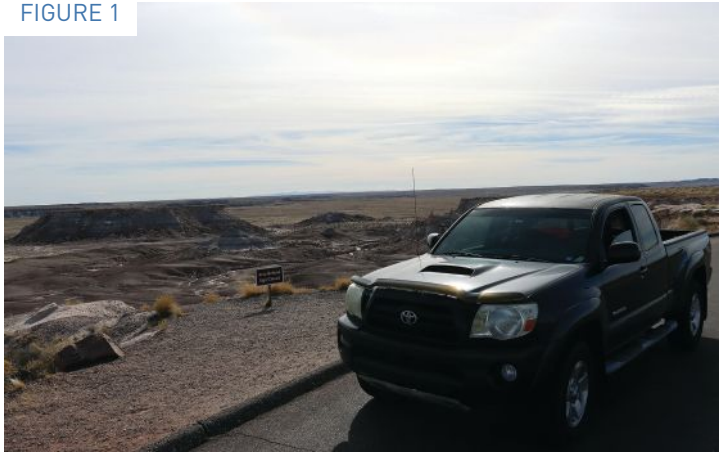
Important sites along the way home were: the birthplace of Borax at Searles Lake; the lowest point in North America at Death Valley; and Nevada Beta's Bent at the Univ. of Nevada, Las Vegas. ***Fun fact***: theirs is under the flight path of an international airport!

A scary moment took place between St. George, Utah, and Zion National Park, when parking woes left me sleeping at a pull-off on the side of Utah Route 9. Freezing temps and strange noises woke me up throughout the night. Once, it sounded as though a deafening siren was just outside the truck. By the time I woke up to investigate, there was no one in sight.

Zion, Glen Canyon Dam, and Four Corners were impressive, but what captivated me was a discovery in Durango, Colorado. While meeting virtually with an officer at McDonald's, I found the Hatch Green Chili McDouble – a burger with a layer of diced Hatch green chilis. It's local to New Mexico and Durango. Visit Durango. Do it for the sandwich.

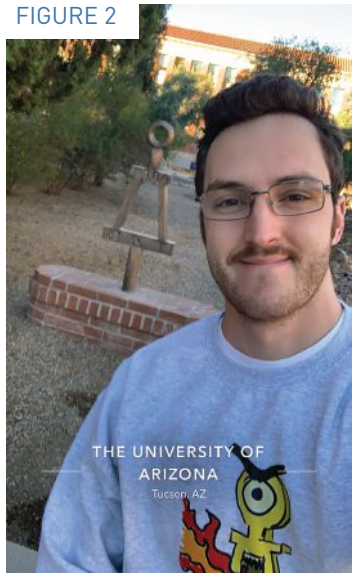
Fourteen and a half hours of driving separated me from my warm Kansas bed the following day. US-550 a.k.a. the "Million Dollar Highway" is beautiful and not for the faint-of-heart. The road tightly hugs icy edges of massive vertical cliffs. The CO Alpha Chapter Bent monument stands prominently in Golden, where yet another virtual meeting took place. Many hours later, I arrived home at 3:00 a.m. on Monday, December 2 – just in time for a nap before Monday morning classes!

FIGURE 1



Tortillo the Tacoma basking in the sun while resting at the Petrified Forest National Park in Northeastern Arizona.

FIGURE 2



THE NORTHWEST AND CANADA

The sixth leg was unique in that it crossed international borders and imposed harsh winter conditions and extreme remoteness. I left Kansas City on the morning of December 16 with a plan to cover 10,000 miles over the course of five weeks and knock out all remaining U.S. chapters in one swoop.

In Rapid City, I visited Dinosaur Park for the first time and Cabela's to purchase winter gear and the most insulated sleeping bag I could find. It was 27 degrees when I awoke at a truck stop the next morning. Fresh snow covered the ground. Skies were overcast, and it was windy. "I've got some work to do to be better prepared for this," I wrote.

After visiting South Dakota Alpha's Bent and ST Pyramid, I headed northwest towards Devil's Tower. Slick and snow-packed were the roads, but Tortillo and I pressed onward. We eventually returned to I-90 and entered Montana. Rolling plains and wind-eroded rock shelves extended for miles ahead as the highway vanished into the big sky horizon.

Soon, I met an old friend not seen since the 2023 Convention in Atlanta. Back then, **Logan D. Schmidt,** *MT A '24*, was MT Alpha Chapter president at Montana State Univ. He has since graduated and now works in Billings. We met to catch up and talk about life. One of the great benefits of TBΠ membership is making friends across the world; friends who you can chat with when passing through Montana.

Livingston, MT, was the next stop. My stomach growled; Fiesta En Jalisco caught my attention. Eating spicy foods is my forte, so I challenged the staff to serve their spiciest salsa and queso. "Insanely, demonically hot cheese" is my journaled description. Milk could not soothe the searing pain. It was a character-building experience.

In the parking lot of Smith's Grocery in Bozeman the next day, I arose before sunrise. The MT Alpha Chapter's Bent monument was the first stop of the day (**Figure 3**). Hours later, I arrived in historic Butte to see the chrome-plated MT Beta Bent monument at Montana Tech. Their hilltop campus has one of the most striking views of all the campuses visited thus far, like NY Upsilon's Hudson Valley vista at West Point.

FIGURE 3

FIGURE 4


FIGURE 5

Headwinds plagued the drive to Rexburg, home of the ID Delta Chapter at BYU-Idaho. Advisor **Adam J.Dean, Ph.D., P.E.,** *UT G '05*, and 2024 president **Kallan N. DuPaix,** *ID D '24*, welcomed me and presented their charter certificate. Idaho State Univ. is located in Pocatello, along with the ID Beta Chapter Bent. It was an exciting find, as were the other Idaho Bent monuments, for which I had no intel. A Vietnamese restaurant in Boise 'Pho Real' later cured my hunger, and a travel stop housed Tortillo and I for the night.

Much time was spent on Boise State Univ.'s campus. For now, there's a charter certificate on display, but no Bent monument. North of Boise is the Payette River National Scenic Byway. Two-lane winding roads, deep canyons, rolling plains, and incredible elevation gradients characterize the drive to Moscow where I later located ID Alpha's Bent; however, no evidence of the ST Rho Pyramid was found. A short drive to Pullman, Washington, provided access to the WA Beta Chapter's Bent monument and the ST Eta's Pyramid, cleverly integrated into a concrete drinking fountain. By 10 p.m., Tortillo's fluids had been checked, his rear mudflap (torn off in Richmond, IN, on the second leg) reattached, and the new sleeping bag deployed. I was ready for the biggest challenge yet:
A Canadian winter.

At Gonzaga, it was clear that there was no WA Delta Chapter Bent, so I began the final push towards Canada on US-95. At 12:41 p.m., I was officially cleared by Canadian border police after they confiscated my pepper spray. My intent was to have it in case of bear troubles, but it's a weapon in Ottawa's eyes, whereas bear spray isn't because "it's for bears." I also had to get used to using SI units in a U.S. market vehicle and the extreme remoteness of the Canadian wilderness.

From the moment I crossed the border (**Figure 4**), the roads were wet with mixed winter conditions at best. I bought a copy of *The Milepost* in preparation for the drive to Fairbanks, but didn't effectively track my route and wound up off-course in a town named Golden, BC. In Golden, there was four inches of slush on all city streets, a constant snowfall, a thick white blanket on endless forests, and a fully obscured Trans-Canada Hwy 1.

Tired and out-of-place, I stopped at a Canadian McDonald's for familiarity. That's when I discovered the glorious 'Le Grande M.' For roughly $12 USD, one can buy a double-Whopper-sized Big Mac with a thick layer of fried French onions and a side of poutine: a mixture of fries, cheese curds, and brown gravy (**Figure 5**). Oh, and not to mention their jelly-filled donut bites called McPops. Real cane sugar, paper straws, bamboo cutlery – how was this possible? How could Canadian McDonald's be so superior to ours? Utter madness, I say!

"ONE OF THE GREAT BENEFITS OF TBP MEMBERSHIP IS MAKING FRIENDS ACROSS THE WORLD; FRIENDS YOU CAN CHAT WITH WHEN PASSING THROUGH MONTANA."

At 7:44 p.m., I chose parking spot one, an empty lot on the side of TC-1. At 10:44 p.m., a semi-truck's horn blasting and headlights shining in my eyes is what I awoke to as three trucks waited to park next to me. Oh no, I must be in the way. Actually, the rest of the lot was still empty. Maybe my American license plate prompted the harsh treatment. Spot two was a truck stop just down the road. There, I tried to fall asleep for a few hours, but constant traffic outside my window was not optimal. At nearly 1:00 a.m., I took a major risk and drove east on TC-1 in hopes that conditions would be manageable, and the next rest stop would be open. At times, the thick fog totally obscured my vision. When it cleared, the faint moonlight defined the towering mountaintops above, but no light was reflected from the blackness of the deep valley below. Eventually, Kicking Horse rest area appeared in the fog. There, completely alone, I slept through the first Canadian night.

At sunrise, I drove east to Lake Louise, Alberta. The plan – head north from there on Alberta Highway 93 a.k.a. Icefields Parkway (**As seen in hero image on page 6**). The problem – as soon as I turned onto 93, conditions became treacherous with six inches of slush covering the width of the roadway, and I needed to drive 150 miles with no cell service before arriving in Jasper, AB. So, I anxiously returned to Lake Louise to grab a cherry Coke and some Old Dutch ketchup chips and rethink.

There was no better option, and if I was going to chicken out here, then may as well turn around, because it's only going to get worse in Alaska, so I thought. With new resolve, I headed north and experienced the most breathtaking drive of my life. The road was a solid sheet of ice, but seeing the Canadian Rocky Mountains was worth the risk.

Much later, darkness fell as I approached Grande Prairie, AB. My headlights were almost totally mud-covered and the road lanes were not visible due to even thicker fog. I recall saying some choice words to myself on that white-knuckled drive and acknowledging that I was grossly unprepared. Feeling immense relief upon my arrival in Grande Prairie, I visited NAPA for winter provisions and LED headlights before calling some friends to weigh my options. At roughly 700 miles north of the lower 48, I was just 80 miles away from a critical point – mile zero of the Alaska Highway. Through recent difficulties, I was still quite fortunate – Canada was experiencing a heat wave as temperatures were above zero. However, this would only last for another five days as temps were then set to drop below -20 degrees. Five days separated me from Fairbanks and conditions were far worse up north. Reluctantly, I decided to postpone the Alaskan leg and made the announcement at Mile Zero the next morning.

In a Canadian Tire parking lot, I spent that cold Grande Prairie night. I had no idea how bad the roads would get on the way back to Washington. For 100+ miles between Dawson Creek and Prince George, I drove on a thick sheet of mud. Other vehicles flew at full speed, unphased by the conditions. When the mud cleared, a composition of slush and thick ice patches took its place. Further south, the road was fully iced over, and Tortillo often tried to kick sideways as his rear tires pushed forward. William's Lake, BC, is where we spent our final Canadian night. There, I slept between Tim Horton's and an A&W at a scenic overlook above town. The A&W restaurants in Canada don't serve root beer floats anymore! Can you believe that?

The relief was great when I hopped back on TC-1 the next day and was blown away by the grandeur of Fraser Canyon. In Hope, BC, I drove on a four-lane freeway for the first time since leaving I-90 four days prior. The Peace Arch in Blaine, Washington, is the northern terminus of I-5. That's where I returned to the United States with unmatched excitement on December 23. Border patrol did a double-take when checking my plate; they had never met a Kansan!

The WA Alpha Chapter Bent monument at the Univ. of Washington couldn't be found because it's in storage, but while standing in the rain I did photograph WA Gamma's Bent at Seattle Univ.

Driving as much of US-101 as possible was a personal goal tied to the project. Touring the Northwest was a treat; I'd never been there before, and Washington was my 48th state! Just south of the historic Lake Quinault Lodge, I stopped at a pizza diner, where I talked with a retired couple for a few minutes. They had relocated from Seattle, but she was originally from Kansas City. What a small world!

That night, I walked the Univ. of Portland campus searching for evidence of an OR Gamma Bent monument. I found their charter in a glass case in a hallway and they have one of the largest Christmas trees I've ever seen. A late-night drive through downtown Portland took me to a Love's on the east side of town, where I bought chocolate milk as the clock struck midnight on Christmas morning.

'Quiet' was relative in the case of my sleeping spot that night! When I awoke on Christmas morning, there in front of Tortillo was Multnomah Falls, the second tallest U.S. year-round waterfall. It was already wet and rainy, but the mist from the falls took it up a notch. A disposable poncho kept the camera safe.

At Portland State Univ., OR Beta's Bent was easy to find, and I celebrated the holiday by indulging in Indian food from a nearby food truck. Ferocious winds and steady rain characterized my drive down the Oregon Coast. Relief was when I turned inland at Newport for Corvallis, home of the OR Alpha Chapter at Oregon State Univ. and the former ST Zeta Chapter. Online research revealed their big Bent, but I was most interested in searching for an ST pyramid. While wandering, I came across a unique monument – four Bent castings on a concrete block serving as the school's official elevation marker (**image below**). That's one way of ensuring permanence!

Both nights on the Oregon Coast were terrifying. The first was at an overlook by Lake Winema and the next was outside Ray's Food Place in Port Orford. Coastal winds gusted up to 80 mph each night, violently rocking Tortillo. Much melatonin was needed to sleep through those bouts of anxiety.

On December 27, I made it back to California. In the early morning, I stopped to wet my hair in the Smith River at Redwood National Park before heading northeast to Oregon. To my surprise, **Logan Schmidt** was then in Medford, so we met up again to catch up on happenings since our chat in Billings. I then ventured to Klamath Falls to see OR Delta's Bent monument as the sun was setting on Oregon Tech.

That night, I took a side quest to the former site of Copco Lake and 15 miles down what's now a minimum maintenance road, I slept in the driveway of an electric company's utility shed. In the morning, I pressed on and saw empty lake beds and former dam sites along the Klamath River. It's the biggest dam removal and river restoration project ever undertaken, and I'm excited to see if salmon populations will rebound as a result. While leaving, I got caught in a traffic jam (**Figure 6)** of an unusual nature!

Breakfast was sourced at the Hi-Lo Diner in Weed, CA, and the CA Alpha Alpha Chapter Bent wasn't accessible, but could be seen through a window at Chico State. Next, I found the Sacramento State (CA Upsilon) Bent monument and my family in Vacaville who was surprised when I appeared out-of-the-blue, as I do. Days passed as we celebrated New Year's. CA Lambda Chapter president **Tate L. Chatfield,** *CA L '25*, showed me the UC Davis Bent. A short excursion to San Francisco didn't reveal the CA Alpha Gamma Chapter Bent monument, as it hasn't been seen since the start of major renovations at San Francisco State Univ. On January 1, I headed to the Univ. of the Pacific in Stockton, home of the CA Phi Bent. Bay Area Bents were next, but it was not clear where I would sleep. The Berkeley Waterfront was the winning option with its wonderful view of San Francisco.

FIGURE 6

FIGURE 7

CA Alpha's Bent monument was easy to find on the historic UC Berkeley campus. While there's no CA Gamma Bent, the Stanford campus was well worth visiting. The CA Zeta Chapter's Bent at Santa Clara was easily located, but I had to move fast, because my parking job was worth a tow. From the time I parked, it took less than six minutes to find their Bent, take photos, post a video on Instagram, and get back to Tortillo. Minutes later, I parked at CA Eta's Bent monument at San Jose State Univ. Then, I arrived at UC Santa Cruz in search of California Alpha Delta's Bent. I didn't find one, but thankfully found a bathroom. Hurried stubbornness almost got the best of me, as I should have stopped in San Jose!

Further south, I enjoyed scenic CA-25 and felt, aside from the picturesque weather, as though I was back in the Flint Hills of Kansas. A massive landslide had closed the coastal highway south of Big Sur, and after touring Pinnacles National Park, it was my objective to get to the coast ASAP. Through King City and Fort Hunter Liggett I went and found Nascimento-Fergusson Road. It is hands-down the sketchiest road I've ever driven, characterized by slope failures and precipitous drops to the valley below as the one-car-wide path snakes two-way traffic up and over the Santa Lucia mountains. At times, the descent was so steep that Tortillo began to run away in low gear, but watching the ocean appear over the highest pass at 2,780 feet is a dramatic and worthwhile experience. The southern closure of CA-1 was north of Lucia, and there I spent the night with no cell signal in a turnout hundreds of feet above the Pacific Ocean as the moon reflected vividly against the waves. The distant waves crashing and a gentle breeze lulled me to sleep.

What a wonderful scene to wake up in. I spent an hour on a rock at the edge of the nearby cliff, writing, pondering, existing. Virtual meetings required my attention that morning, so I couldn't stay long. The coastal drive never disappoints. After 30 miles or so, the road flattens out in San Luis Obispo County, where I located the CA Mu Chapter's Bent at Cal Poly – SLO.

As promised, our followers saw the CA Sigma Chapter's Bent (**Figure 7)** in the glorious sunshine upon my return to Santa Barbara. Tortillo then said his final farewell to the ocean, and I discovered how incredible the views are on I-5 between Los Angeles and the Central Valley. Impressive is the scale of the final descent to the valley floor. As usual, Hotel Tacoma had one opening that night, this time at a rest stop on CA-99 just south of Tulare. Sequoia, Kings Canyon, and Yosemite National Parks all warned of wintry road conditions, but after braving the Canadian winter, it may as well have been summer as far as I was concerned. At Fresno State (CA Rho), I found the final Bent in California, and after nine days, I slept in another state, Nevada, on January 5.

Reno is home to the Nevada Alpha Chapter's Bent monument and the ST Alpha Epsilon's Pyramid.

A map showing Nick's six legs of travel on the Bentspedition.

Use the QR code below to follow along on Nick's journey.

KSUTBP

Bent monument #260 at USAFA (CO Zeta).

The "Loneliest Road in America" (US-50) across Nevada was a sweet escape from the bustle of California traffic, and the next cold, windy night was spent on Bureau of Land Management land in the middle of the Utah desert. Gone was California sunshine.

Great discoveries were made in Utah with the UT Beta, Alpha, and Gamma Bent monuments found at Brigham Young, and Utah State universities in Provo, Salt Lake City, and Logan, respectively. During a conversation with UT Gamma Chapter Chief Advisor **Christian R. Bolander, Ph.D.,** *UT G '18*, it became clear that the ST Alpha Delta Pyramid was destroyed to make way for the building we stood in. I'm thankful to have gotten ahold of him, because the UT Gamma Bent monument was in his office, which led to a jovial reveal once he learned why I was there. Winter storms ravaged Kansas City, and I assured my friends that the weather wasn't bad in Utah, which was true, until about 20 miles east of Logan. As the sun began to set, I crossed the mountains and blizzard conditions set in. Many hours later, I arrived in Kemmerer and had the best fried ice cream of my life at El Jaliciense of Wyoming. Feeling restless, I took a risky drive to the I-80 rest area in Lyman to sleep. I was awoken by the cold as the temperature in Hotel Tacoma dropped to zero. Thankfully, Cabela's winter bag, multiple coats, and hats kept me alive.

Much of the next day was spent driving to Laramie to photograph Wyoming Alpha's Bent and ST Omega's plaques at the University of Wyoming. Next, Colorado Delta and their Fort Collins Bent at Colorado State were standing proudly on an eight-pointed star base in symbolism of ST Alpha Alpha. Boulder is where I slept after leaving Fort Collins. The CO Beta and ST Iota Chapter monuments were found the following day, and they have a unique Bent which is cast as a relief on a concrete picnic table. The CO Epsilon and Gamma Bents were easy to locate, and my focus quickly turned to getting home safely. To my dismay, I-70 was closed between Denver and Kansas, so I took US-36 instead. Bad choice as it was covered by solid untreated ice all the way to Kansas, and 50+ mph crosswinds regularly blew Tortillo sideways even in 4WD at speeds as low as 20 mph. The roads cleared up for a few hours once I made it to Kansas, but eventually I-70 was completely snowed over. I stopped in Wilson, Kansas, home of the world's largest Czech egg, for the night before returning safely back to Manhattan for the first time in 26 days.

For those tracking closely, you'll notice that Colorado Zeta was not mentioned. They are located at the U.S. Air Force Academy in Colorado Springs, and effort was made to conduct a visit on both legs 5 and 6, to no avail. However, we finally gained the clearances needed, and I returned to Colorado the following week on an unrelated trip and was able to gain base access on January 16 to officially see the last Bent in Colorado!

CONCLUSION

The Bentspedition is the greatest adventure I've ever tackled. It has taken me to places I never would have gone, introduced me to people I never would have known, broadened my horizons, and helped me better understand the world in which we live. Additionally, it has provided for completion of the ***Bent-O-Rama map*** (**bents.tbp.org**), three articles in *The Bent* magazine with more student-authored content now in the works, and has inspired and reinvigorated passion for Tau Beta Pi among longstanding alumni.

What would it take to visit every collegiate Tau Beta Pi chapter? We don't know yet, but to visit 260 it takes 6 travel legs, over 2,000 miles flown, over 30,000 miles driven, and one full-time student who's crazy enough to pursue the endeavor.

Whether you're interested in pursuing a Bentspedition or not, it's my hope that this story will inspire you to set a goal and accomplish it despite all obstacles. You don't need to sleep in Home Depot parking lots in Puerto Rico or brave Canadian winter weather to prove that you love Tau Beta Pi; find your own way to give back, foster liberal culture, and make a difference in the Association and in the world. Follow *@ksutbp* on Instagram if you'd like to keep up with Kansas Gamma and see me complete the Bentspedition. There are still four campuses left!

NICHOLAS R. DIVILBISS is pursuing a master's degree in architectural eng'g at Kansas State University. Next year, he will continue at K-State towards a Ph.D. in civil eng'g. Nick enjoys driving, singing, and litter cleanups. After selling real estate for a few years, he committed to going to college and doing whatever was required to be successful. Nick gained his first leadership experiences through Tau Beta Pi and for that reason he's extremely grateful for TBP's role in both his personal and professional life.

TBP FELLOWS

Fellowships have been awarded to 31 members for a year of graduate study in 2025-26.

Nuha K. Akhtar ID Γ '25
Anderson No. 25 | Mechanical eng'g

Asa S. Alstead CA Ψ '25
Nagel No. 28 | Structural eng'g

Karthik Boregowda FL Α '23
King No. 64 | Environ. eng'g sciences

Katherine G. Broun NY Κ '23
Fife No. 252 | Biomedical eng'g

Stephen S. Cheng IL Γ '25
Centennial No. 40 | Computer science

Sarah E. Cole ID Γ '25
Swalin No. 9 | Nuclear science & eng'g

Heather E. DiFazio RI Β '23
Fife No. 253 | Medical eng'g & MEMP

Julia R. Going FL Δ '25
Fife No. 254 | Materials sci. & eng'g

Jackson E.H. Granat IL Α '25
Fife No. 258 | Nuclear science & eng'g

Anna Guidry LA Α '23
Fife No. 255 | Structural eng'g

Halide Zeynep Haciguzeller MA Η '25
Fife No. 256 | Medical eng'g & MEMP

Abdullah S. Hyder NJ Α '22
Fife No. 257 | Plasma physics

Ethan Q. Kessel IN Α '25
Hennis No. 6 | Mechanical eng'g

Kayla M. Ketterling WY Α '25
Sigma Tau No. 51 | Environmental eng'g

Nicole E. Kormos MI Ι '25
Spencer No. 70 | Materials sci. & eng'g

Parker L. Kotlarz FL Α '22
Tau Beta Pi No. 849 | Medicine

Erin Kreis NJ Α '24
Stark No. 47 | Biomedical eng'g

Douglas K. McDonough NJ Α '25
Stark No. 48 | Mechanical eng'g

Kendall Millett CA Ε '25
Matthews No. 28 | Electrical eng'g

Deepti Naruka OH Α '24
Williams No. 46 | Medicine

Gabriela Nomura TX Α '25
Tau Beta Pi No. 850 | Medicine & MEng

Nora P. O'Kelly GA Α '25
Tau Beta Pi No. 851 | Materials sci. & eng'g

Manikandan Pandiyan MI Γ '27
Hanley No. 14 | Mechanical eng'g

Dominic J. Peters NY Η '23
Zimmerman No. 14 | Chemical eng'g

Mary R. Peterson KS Β '24
Brandt No. 4 | Electrical eng'g

August B. Phelps MD Δ '25
Dodson No. 12 | Mechanical eng'g

Vaidehi Pujary AZ Α '25
Forge No. 13 | Elec. & comp. eng'g

Magnolia "Maggie" Saalman MA Ε '25
Tau Beta Pi No. 852 | Mechanical eng'g

Jonathan B. Silberstein CA Α '15
Tau Beta Pi No. 853 | Medicine

Hansen Tjo MA Ζ '21
Tau Beta Pi No. 854 | Chem. & biol. eng'g

Kyle J. Woody CA Α '24
Anderson No. 26 | Aerospace eng'g

The **Anderson Fellowships** are named for Mabel E. and Marshall Anderson, *MI Γ '32*, who was TBΠ Fellow No. 19 and left a bequest to the Society in 2005.

The fourth **Brandt Fellowship** is made possible thanks to a gift from Larry D. Brandt, *OR Α '67*, which will permanently endow a fund in support of TBΠ member graduate studies.

Given for the 40th time, the **Centennial Fellowship** honors the Society's most outstanding fellow and commemorates Tau Beta Pi's 100th anniversary.

The **Dodson Fellowship** is named for the late Charles R. Dodson, *MD Β '30*, who made a gift to the Association in 1998 and 1999.

The seven **James Fife Fellowships** are presented in memory of the father of the late member William Fife, *CA Α 1921*.

The **Forge Fellowship** is named for Charles O. Forge, *CA Γ '56*, who left a bequest in 2010.

The 14th **Hanley Fellowship** is awarded in honor of Mary A. and Edward P. Hanley, *IL Β '42,* TBΠ Fellow No. 84, who left a bequest to TBΠ in 1991 and 2021.

The **Hennis Fellowship** is awarded for the 6th time thanks to a generous gift from the late Lee A. Hennis, *CA Δ '65*, to continue mentoring young engineers.

The **Harold M. King Fellowship,** awarded for the 64th time, honors the 1954-58 president of TBΠ, Harold M. King, *MA Α 1910,* and is given to that recipient whose participation in his/her technical society is judged worthy of special mention.

The **Matthews Fellowship** is awarded in honor of R.C. "Red" Matthews, *IL Α 1902*, who served as Secretary and Secretary-Treasurer from 1905-47 and as Secretary-Treasurer Emeritus in 1947-78.

The Fellowship Board has announced the selection of 31 engineering students from 376 applicants for graduate fellowships. More than $9,210,000 in stipends will have been given by the Society when this 92nd group of fellows completes its graduate work. These awards bring the total to 1,861 fellowships since the program began in 1929. The Association is grateful to volunteer members for their role in the selection process; they are recognized at ***www.tbp.org/?Fellows***.

Nuha K. Akhtar

Anderson Fellow No. 25

Nuha will be graduating *summa cum laude* from Boise State University with a B.S. in mechanical engineering and a Physics minor. Through research at Caltech's Kavli Nanoscience Institute and MIT Lincoln Lab, she has represented Boise State on a national level. As ID Gamma Chapter president & co-chair of the mechanical and biomedical student advisory board, Nuha has worked to enhance student engagement, mentorship and accessibility in engineering. Along with outreach, she conducts research in two labs and is the senior student supervisor of the Engineering Innovation Studio. In addition to her academic and leadership roles, Nuha plays saxophone at the collegiate level along with local bands in Boise. She also enjoys concerts, collecting vinyls, and driving her NC Mazda Miata and motorcycle. She is committed to continuing her efforts to cultivate inclusive environments, ensuring future generations of students feel empowered to succeed in STEM. Looking forward, Nuha will pursue a Ph.D. in the fall at UC Berkeley in the newly established Optical Nanoengineering Lab under Dr. Claudio Hail.

Asa S. Alstead

Nagel Fellow No. 28

Asa graduated from the University of California, San Diego (UCSD) in June 2025, earning a B.S. in structural engineering (SE) with a specialization in aerospace structures. Beginning his sophomore year, he served on the CA Psi Chapter officer board as the SE representative. Beyond involvement in ΤΒΠ, he was also a lead for UCSD's Human Powered Submarine organization. As an undergraduate, he was involved in research with Dr. Joel Conte and Maitreya Kurumbhati, studying Bayesian inference and MCMC methods. This fall, he is continuing his academic studies as part of UCSD's SE B.S./M.S. program. His coursework will focus on advanced composites, computational mechanics, and FEA. Outside of academics, he enjoys serving as a keyboardist in his church's worship band, working out, and riding his motorcycle. Last summer, he was employed by the U.S. Navy, and is currently interning with the Space and Mission Systems sector of BAE Systems. Whether in industry or academia, he hopes to contribute meaningfully to the nation's defense.

Karthik Boregowda

King Fellow No. 64

Karthik is a graduate student in environmental engineering, with an agricultural & biological eng'g minor at the University of Florida (UF). He also received a graduate certificate in wetland and water resource management, where he mentors undergrad students at the UF Integrated Product & Process Design, an experiential education program that develops eng'g products for industrial and research sponsors. He volunteers with the Community Weatherization Coalition as an energy coach, helping low-income residents reduce their energy and water consumption. At UF, Karthik worked with per- and polyfluoroalkyl substances (PFAS), synthetic chemicals that contaminate drinking water and bioaccumulate in humans and plants. His work focused on developing a surveillance system to help water treatment facilities respond swiftly to PFAS contamination. Karthik's service-driven leadership and advocacy have earned him the following honors at UF: 2025 Presidential Service Award; 2024–25 Attributes of a Gator Engineer Award; and 2024 Alec Courtelis Award for his distinguished service to the community.

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

The **Sigma Tau Fellowship**, given for the 51st time, perpetuates the name of Sigma Tau, a national engineering honor society founded at the University of Nebraska in 1904 and merged with Tau Beta Pi in 1974. It also commemorates Sigma Tau's former national president and secretary-treasurer, Clarel B. Mapes.

The **Charles H. Spencer Fellowship** is given for the 70th time. Named for Tau Beta Pi's president from 1936-47, Charles H. Spencer, *IL B 1913*, it is awarded to a recipient whose contributions to his/her collegiate chapter are judged worthy of commendation.

The **Donald A. Stark Fellowships** are supported by a gift from a charitable trust named for the man who contributed much to progress in the fluid-power industry.

The **Swalin Fellowship** is named in honor of Helen M. and Richard A. Swalin, Ph.D., *MN A '52*, who left a bequest in 2015 to support ΤΒΠ scholarships and fellowships.

The **Tau Beta Pi Fellowships** are supported by matching gifts from companies as part of the annual alumni giving program.

The **Edward H. Williams Jr. Fellowship**, awarded for the 46th time, honors the founder of Tau Beta Pi. It is given to a recipient who plans to earn a doctoral degree and become a professional engineering teacher, as was Dr. Williams, *PA A 1875*.

The **Zimmerman Fellowship** is named for Marlin U. Zimmerman Jr., *MD A '44*, who left a bequest in 2011.

Katherine G. Broun

Fife No. 252

In 2023, Katherine graduated *cum laude* from the University of Rochester with a B.S. in biomedical eng'g and an optics minor. At Rochester, she was a Phi Beta Kappa member and mentoring chair for the Biomedical Engineering Society chapter. Her undergraduate research focused on chondrocyte vulnerability and its relation to mechanotransduction pathways altering humeral joint biomechanics. She is currently pursuing a Ph.D. in biomedical eng'g at Duke University as a part of Duke's Global Women's Health Technologies. Her passion for mentorship continues as she serves on Duke's BME Ph.D. Peer Mentoring Leadership team and as Director of the Research Triangle Alumni Chapter. Within her Ph.D., Katherine aims to build a low-cost optical toolkit to study breast cancer metabolism in three-dimensional cellular models to compare metabolic changes with patient outcomes. Katherine is excited to work in the industry developing devices that will impact clinical imaging in the U.S. and abroad.

Heather E. DiFazio

Fife Fellow No. 253

Heather graduated from the University of Rhode Island in 2023 with a triple major, earning a B.S. in biomedical engineering, B.S. in applied mathematics, and B.A. in German. Through the International Engineering Program, she spent a year in Germany studying at the Technical Univ. of Braunschweig and interning at Siemens Healthineers, where she worked on CT detector assembly and photon-counting. Currently, as a Fulbright Scholar and Swiss Government Research Award recipient, Heather is contributing to an interdisciplinary project at the ARTORG Center, developing an intraoperative diagnostic tool that utilizes optical polarimetry and artificial intelligence for pancreatic cancer surgeries. She is completing an M.S. in artificial intelligence in medicine at the University of Bern and will graduate this summer. Afterward, Heather will pursue a Ph.D. at the Harvard-MIT Health Sciences and Technology program, where she will continue her research at the intersection of imaging, healthcare, and artificial intelligence.

Stephen S. Cheng

Centennial Fellow No. 40

Stephen is graduating from Northwestern University with a B.S. in electrical eng'g and an M.S. in computer science. His senior year, he served as the IL Gamma Chapter president and hosted professor panels to facilitate discussions between faculty and students about career options in industry and academia. Throughout his four years on campus, Stephen's been deeply involved in research. In his first two years, he analyzed memristor nanotechnology with Prof. Hooman Mohseni and fabricated wireless optogenetic devices with Prof. John Rogers. Then, his junior year, he discovered his ultimate research interest: embodied artificial intelligence. Working with Prof. Han Liu, he's currently investigating multimodal foundation model frameworks for robotic agents. He will continue his research next fall as a Ph.D. student in computer science at the University of Maryland, where he hopes to make further advancements in robot foundation models and neural network interpretability. Outside of academics, Stephen enjoys lifting weights.

Julia R. Going

Fife Fellow No. 254

Julia graduated from the University of Central Florida with a B.S. in environmental engineering. Her research in the Microsensor Biofilm Lab under Dr. Woo Hyoung Lee aided in two prestigious research grants for UCF: the EPA P3 Grant and the NASA Florida Space Grant. Her research focused on algae-based green energy alternatives and waterborne pathogen electrochemical sensors. Funded by the National Science Foundation in the summer of 2024, Julia researched nanowires for supercapacitors in Busan, South Korea. Outside the classroom, she developed leadership skills as a coxswain for the UCF D1 Women's Rowing team. For these accomplishments, she was awarded the Order of the Pegasus — the most prestigious and significant award at UCF. Julia served two years as FL Delta Chapter recording secretary, planning events including Engineering Futures. In the fall, Julia will pursue a master's degree in materials science and engineering at Stanford University, focusing her studies on advancing green energy technologies such as perovskite photovoltaic systems.

Sarah E. Cole

Swalin Fellow No. 9

Sarah studies materials science and engineering at Boise State University focusing on materials research for extreme nuclear environments. Her research in the Advanced Materials Lab focuses on the synthesis of uranium nitride nuclear fuel. Additionally, Sarah serves as president of her university's American Nuclear Society student section and vice chair of the Nuclear Engineering Student Delegation in Washington, D.C. Sarah has interned at the Stanford Synchrotron Radiation Lightsource and Nuclear Energy Institute, exploring electrochemical energy storage materials and nuclear energy policy, respectively. After graduation, Sarah plans to pursue a Ph.D. in nuclear science and engineering at the Massachusetts Institute of Technology.

Jackson E.H. Granat

Fife Fellow No. 258

Jackson recently graduated from the University of Illinois at Urbana-Champaign with a B.S. in physics and as a Chancellor's Scholar. A TBII Scholar, he has served as IL Alpha Chapter social projects vice president, treasurer, and president. At UIUC, Jackson conducted research in plasma physics with Professor David Ruzic, where he modeled hydrogen-driven irradiation of liquid lithium plasma-facing components and developed a MATLAB app for calculating rarefied gas transport properties from interatomic potentials. While studying abroad at KTH Royal Institute of Technology in Stockholm, Jackson worked with Professor Thomas Jonsson to model ion cyclotron resonance heating in fusion plasmas and enhanced the code's treatment of finite Larmor radius effects. He also mentored underclassmen physics majors through UIUC's Guidance for Physics Students organization. Outside academics, Jackson enjoys badminton, cooking & traveling. This fall, he will pursue a Ph.D. in nuclear science & eng'g at MIT, studying plasma turbulence in tokamaks. Passionate about research and teaching, he plans to pursue a career in academia.

Anna Guidry

Fife Fellow No. 255

Anna graduated *summa cum laude* from Louisiana State University in 2023 with a B.S. in biological engineering. She was involved in SWE, several other campus STEM outreach groups, and participated in research under Dr. Todd Monroe, working to create a microfluidic device that housed three-dimensional cancer cell scaffolds. Anna also participated in an REU at the Univ. of Pennsylvania under Dr. Paul Janmey, studying hydrogel mechanics. She received the Distinguished Undergraduate Research Award for impactful undergrad research, the S&B Engineering and Constructors Scholarship for working while pursuing school full-time, and the Discover Research Grant that funded her research. Anna is currently attending the University of Texas at Austin to earn a Ph.D. in biomedical eng'g under Dr. Aaron Baker, working on cell culture models of the blood-brain-barrier. Driven by her passion for research, she intends to continue researching neurological disorders.

H. Zeynep Haciguzeller

Fife Fellow No. 256

Zeynep is graduating *summa cum laude* from Boston University (BU), with a B.S. in biomedical eng'g and a nanotechnology concentration. She is also graduating from Kilachand Honors College and is a Trustee, Harold Case & ΤΒΠ Scholar, and ENG Earle and Mildred Bailey Memorial Award recipient. Her research has spanned cartilage tissue eng'g in Dr. Michael Albro's lab, cmmRNA delivery for radiation burn wound healing in CEMS at Mass General, and synthetic biology & nucleic acid therapeutics in Dr. Wilson Wong's lab. She's received multiple research honors and held leadership positions in the MA Eta Chapter, BU Turkish Student Assoc., BU DREAM Program, and as a member of BMES and SWE. This fall, she will start her Ph.D. in the Harvard Univ. — Massachusetts Institute of Technology Health Sciences & Technology Medical Engineering and Medical Physics Program. She aims to pursue a research career to lead novel discoveries in the clinic for advancements in human health.

Abdullah S. Hyder

Fife Fellow No. 257

Abdullah graduated with highest honors from Stevens Institute of Technology, in 2022, with a computer engineering B.E. and physics minor. He served as NJ Alpha Chapter vice president, then president, and two years as IEEE-HKN chapter president. A 2020-21 ΤΒΠ Scholar, Abdullah interned as a software engineer at L3Harris Technologies and Network to Code before switching paths to become an undergrad researcher at Princeton Plasma Physics Lab. This led Abdullah to begin a Ph.D. in plasma physics at Columbia Univ. in 2022, where he currently researches Alfvénic stability in stellarators as part of the Paul Stellarator Theory Group, contributing to the advancement of nuclear fusion. He has strong interests in scientific computing and numerical methods. Passionate about outreach, he's currently Columbia Plasma Students Assoc. president and oversees its many outreach efforts. Abdullah aspires to become a research scientist or professor.

Ethan Q. Kessel

Hennis Fellow No. 6

Ethan began his master's in mechanical engineering at Purdue University this year, continuing research into additive manufacturing of composites that he began during his undergraduate in aeronautical & astronautical eng'g. He is using research through graduate school to invent new capabilities in composite manufacturing and to build a foundation of knowledge and skills to be a leader in the aviation industry after graduation. Further, Ethan is making use of the financial support of the ΤΒΠ Fellowship to help pay for flight school to further his understanding of aviation for a future career as a leader in aerospace. He's served as IN Alpha Chapter vice president for two years and been the friendly face of the chapter to hundreds of new members during that time. In addition, Ethan is a member of the Purdue IEEE ROV team building underwater robots, and also exercises creativity through art with drawing, photography, and graphic design.

Kayla M. Ketterling

Sigma Tau Fellow No. 51

Kayla graduated from the University of Wyoming in 2025 with a B.S. in civil eng'g and is pursuing an M.S. in environmental eng'g at the same institution. As 2024-25 Wyoming Alpha Chapter president and ASCE vice president, she demonstrated exceptional eng'g organization leadership. As president of the WATERR Club (WY Association for Treatment, Environmental Resources & Recovery), she revitalized the AWWA/WEF student chapter, fostering collaboration on innovative water treatment initiatives. With two years at HDR Engineering, Kayla has contributed to water infrastructure projects across Wyoming and internationally, building expertise in her field. Under Dr. Jonathan Brant's guidance, Kayla's graduate research explores nanobubbles for membrane pretreatment and organics destruction, advancing sustainable water treatment and resource recovery. Committed to environmental stewardship, she aims to excel as a water treatment process engineer in consulting and designing sustainable solutions to enhance water quality for rural and global communities while addressing critical resource recovery challenges.

Nicole E. Kormos

Spencer Fellow No. 70

Nicole is a first-generation college graduate who earned her B.S.E. in bioengineering with high distinction from the University of Michigan–Dearborn. She joined the MI Iota Chapter in 2023, serving as media coordinator before being elected vice president. In these roles, she launched the chapter's first official social media platforms & website, and led a redesign of the initiation process that helped the chapter surpass 1,000 total members. Her undergraduate research with Dr. Caymen Novak explored sex-based differences in pulmonary fibroblast behaviors to study fibrotic lung disease, sparking her interest in mechanobiology. Nicole is also active in outreach through the Society of Women Engineers and the Biomedical Engineering Society, where she supports efforts to mentor and inspire future engineers. She is passionate about inclusive leadership, impactful research, and supporting fellow first-generation students in STEM. Nicole will pursue a Ph.D. in materials science & engineering at the University of Michigan, with a focus on biomaterials.

Parker L. Kotlarz

Tau Beta Pi Fellow No. 849

Parker graduated *summa cum laude* from the University of Florida in 2022 with a B.S. in biomedical eng'g, where he was honored as the College of Engineering student commencement speaker. A ΤΒΠ Scholar, he served as FL Alpha Chapter vice president. While at UF, Parker conducted research on graph theory and artificial intelligence applied to Alzheimer's disease, presenting his work to Congress through Posters on the Hill and winning the IEEE-USA prize for "Excellence in Engineering." He spent a year in the Center for Biomedical Imaging at Massachusetts General Hospital, researching ultra-high-resolution neuro-imaging and novel neuromodulation modalities. He is currently an M.D. candidate at Harvard Medical School, where he continues to develop and deploy brain stimulation technologies for basic science and clinical applications. Parker also conducts neurosurgical research, focusing on novel ablation techniques and modeling for epilepsy surgery and plans to become a neurosurgeon-engineer.

Kendall J. Millett

Matthews Fellow No. 28

Kendall graduated *summa cum laude* with a B.S. in mechanical engineering and a minor in data science eng'g from the University of California, Los Angeles (UCLA). Inducted into Tau Beta Pi as a freshman, she served as CA Epsilon Chapter tutoring chair for three years, providing four hours of free, drop-in tutoring each week in lower-division engineering courses. Kendall served on the executive board of the National Society of Black Engineers for three years, where board members were awarded the UCLA Samueli School of Engineering's "Overall Student Group of the Year" award for three years in a row. She also served as a UCLA Engineering Ambassador, offering tours of campus to prospective students. Kendall participated in research, investigating racial bias in medical devices (pulse oximeters and infrared thermometers) under Dr. Achuta Kadambi, where she was published as the co-author of a research paper. Additionally, she is the co-author of a pending patent for a diagnostic catheter handle.

Erin C. Kreis

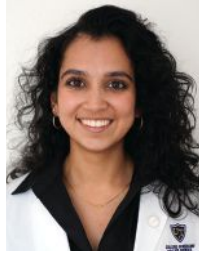
Stark Fellow No. 47

Erin graduated *summa cum laude* with a B.E. in mechanical engineering from Stevens Institute of Technology, where she is now pursuing a Ph.D. in biomedical eng'g. As a social entrepreneur and researcher, she develops technology that equips older adults to improve their health & quality of life. Her research focuses on understanding the biomechanics of real-world fall-risk scenarios and developing more effective and engaging balance training protocols. Erin takes a holistic approach, collaborating across disciplines to explore attitudes toward aging and technology to build intergenerational programs. She founded SilverStrides, a nonprofit inspired by her grandparents, that supports healthy aging through walking groups and access to science education. Erin invites ΤΒΠ students and alumni, interested in sharing their work or starting a walking group, to reach out! She envisions SilverStrides as a way for Tau Bates nationwide to meaningfully engage their local communities fostering connection across generations and lifelong learning.

Deepti Naruka

Williams Fellow No. 46

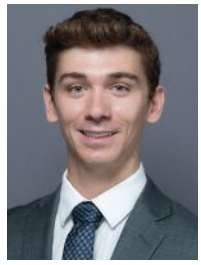
Deepti graduated *magna cum laude* from Case Western Reserve University with a biomedical engineering degree. At CWRU, she served as OH Alpha Chapter president and played violin in the Camerata Chamber Orchestra. Deepti volunteered in labor and delivery at university hospitals and as a grant writer for the American Red Cross, earning recognition as a 4-year CWRU Civic Engagement Scholar. Her research experiences include drug-delivery polymers, CT imaging analysis of pericoronary fat, and an internship with Avient Corp. on data automation and developing testing methods for materials. Deepti is pursuing an M.D. at the Univ. of Toledo College of Medicine and Life Sciences, where she serves as general surgery chair for the surgery club and treasurer for the American Medical Women's Association. She's now an OH Zeta Chapter advisor and plays violin with the Sylvania Community Orchestra. This summer, Deepti will complete a surgery research fellowship with Cleveland Clinic and Akron General and hopes to combine her background and medical training to develop solutions to advance patient care.



Douglas K. McDonough

Stark Fellow No. 48

Douglas graduated from Stevens Institute of Technology with a B.E. in mechanical engineering and two graduate certificates in robotics & controls and design & production management. A ΤΒΠ Scholar, he served as NJ Alpha Chapter treasurer and his deep interest in surgical robotics was first sparked at Stryker's Robotics Innovation Center, where he interned as a MAKO robot engineer. Douglas furthered this interest in the Advanced Robot Manipulators Lab under Dr. Long Wang, focusing on the design and control of a tendon-driven continuum probe for a minimally-invasive surgical instrument. Outside academics, he was heavily involved in Engineers Without Borders, serving as treasurer and a dedicated project development team member. Douglas is excited to pursue an MSE as a Distinguished Master's Fellow at Johns Hopkins Univ. in the fall and plans to deepen his technical expertise in robotic systems. He looks forward to positively impacting people's lives by addressing critical challenges in medical robotics research.



Gabriela Nomura

Tau Beta Pi Fellow No. 850

Gabriela graduated with a B.S. in biomedical engineering from the University of Texas at Austin in 2025. As an undergraduate, she conducted research in medical AI, developing deep learning models to analyze dynamic CT imaging and improve lung cancer radiotherapy. Gabriela published her research as first author in *Frontiers in Oncology*, and it earned recognition from the National Institutes of Health, the American Association of Physicists in Medicine, and the American Society for Radiation Oncology. Outside the lab, she served as co-chair of Baylor College of Medicine's Teen and Young-Adult Cancer Prevention Advisory Council, where she led initiatives focused on mental health, vaccination awareness, and nicotine addiction prevention for youth. Gabriela is passionate about designing a 21st-century healthcare model that combines engineering innovation with compassionate care, emphasizing emotional well-being, preventative medical education, and AI integration in clinical settings. She is currently pursuing an MD/MEng dual degree at Texas A&M's School of Engineering Medicine to develop medical technologies that serve communities in the U.S. and globally.

Nora P. O'Kelly

Tau Beta Pi Fellow No. 851

Nora recently graduated from Georgia Tech with a B.S. in materials science & eng'g. She served on the GA Alpha Chapter officer board as both director of initiate programs and vice president. Nora was also involved in multiple projects in Dr. Blair Brettmann's lab, studying electrospinning effects and settling properties of dense polymer composite pastes. Her involvement on these projects has gotten her named on three publications.

She focused her thesis on investigating how the composition of pastes influenced filament geometry for Direct Ink Writing. Nora has also interned at FMC Corp., gaining experience in formulations chemistry with herbicide products. Outside academics, she enjoys playing the flute and mentoring. This fall, Nora will attend MIT for a Ph.D. in MSE as both an NSF Graduate Research and Lemelson Presidential Graduate Fellow. She intends to specialize in polymer and soft matter materials, studying how novel additive manufacturing methods can be converted to broadly valuable processes.

Mary R. Peterson

Brandt Fellow No. 4

Mary graduated *summa cum laude* from Wichita State University in May 2024 with a B.S. in electrical engineering. As an undergraduate, she was involved in research, the IEEE Power & Energy Society, the Society of Women Engineers, and Tau Beta Pi. To continue her research in renewable energy and its impacts, she completed her master's degree in December 2024 and then began her Ph.D. under Dr. Visvakumar Aravinthan. She is currently studying the socioeconomic impacts of clean energy resources, especially in rural communities.

Manikandan Pandiyan

Hanley Fellow No. 14

Manikandan, a mechanical eng'g Ph.D. candidate at the University of Michigan (UM), is advised by Professor Margaret Wooldridge and holds dual master's degrees in MechE and electrical & computer eng'g, both from UM. He previously served as a senior engineer at Mercedes-Benz R&D India for five years, earning three patents and multiple awards for innovation. In his doctoral work, Manikandan develops scalable hydrothermal liquefaction systems to convert non-food biomass into energy products for applications in circular waste management and climate mitigation. At UM, he has demonstrated a strong commitment to leadership and service and was nominated for the Rackham Outstanding Graduate Student Instructor Award. Manikandan led multiple initiatives across campus, including as an EHS Ambassador and coordinator of engineering education and outreach initiatives. Inspired by his agricultural upbringing in rural India, he is dedicated to advancing solutions for underserved communities.

August B. Phelps

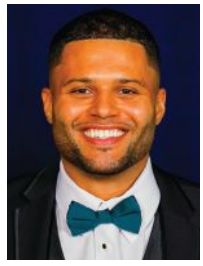
Dodson Fellow No. 12

August graduated *summa cum laude* from the University of Maryland, Baltimore County (UMBC) in 2025 with a B.S. in mechanical engineering. At UMBC, he was a Meyerhoff and ΤΒΠ Scholar, served as MD Delta Chapter president, and vice president of UMBC's chapter of the American Society of Mechanical Engineers. His research at UMBC focused on designing learning-based feedback controllers to follow time-optimal trajectories. He also participated in research experiences in flexible thermoelectric devices, bistable carbon-fiber composites, and ingestible electroceutical devices. This fall, August will be pursuing his Ph.D. in mechanical eng'g at Johns Hopkins University (JHU) as an NSF Graduate Research Fellow. At JHU, he will conduct research in surgical and rehabilitative robotics. After his Ph.D., he intends to pursue a career in academia.

Dominic J. Peters

Zimmerman Fellow No. 14

Dominic was 2023 valedictorian of The Grove School of Engineering at The City College of New York, where he served as NY Eta Chapter president. He earned a B.E. in chemical eng'g and is currently pursuing a Ph.D. in the same field at the Univ. of California, Los Angeles. His research focuses on developing AI-driven electrochemical systems that convert carbon dioxide into fuels and chemical feedstocks. These systems use advanced automation to dynamically modulate reactor production rates in response to local energy availability and target product demand. Dominic aims to demonstrate the pilot-scale feasibility of these technologies and foster the broader adoption of AI controllers in industrial manufacturing. Advised by Dr. Christofides and Dr. Morales-Guio, he's published eight journal articles on thermal and electrochemical energy generation systems integrating AI- and physics-based predictive control and real-time sensing techniques. Dominic hopes to join an energy technology startup focused on next-generation fuel production.



Vaidehi Pujary

Forge Fellow No. 13

Vaidehi graduated *summa cum laude* in May 2025 with a B.S. in electrical & computer engineering and optical sciences and mathematics (honors) minors. She's been involved in research in the Model-Based Design Lab under the guidance of Prof. Jerzy Rozenblit, where she contributed to projects enhancing haptic feedback in robotic surgery & integrating it with virtual reality for use in a surgical training system.

Vaidehi also worked as an application developer on campus, and interned at Cepheid during the summer of 2024. She also served as AZ Alpha Chapter webmaster and treasurer during her junior and senior years, respectively. Vaidehi has played an active role in the Society of Women Engineers, participating in outreach programs to encourage young girls to pursue careers in STEM. In her free time, she enjoys playing tennis, hiking, and traveling. This fall, Vaidehi will be pursuing a master's in ECE at Purdue University. In the future, she aspires to develop next-generation medical technologies that enhance patient outcomes and expand accessibility to life-changing treatments.

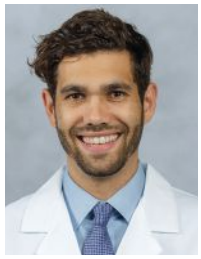
Magnolia Saalman

Tau Beta Pi Fellow No. 852

Magnolia graduated *summa cum laude* from Northeastern University with a B.S. in bioengineering & biochemistry. She was a member of the University Honors Program, named to the Huntington 100, and served as Chief Operations Officer of the Northeastern triathlon team. As a PEAK Research Fellow, she led the design of a dual-sport prosthetic racing leg for Paralympic triathletes, focusing on improving efficiency using biomechanics analysis, CAD modeling, and carbon fiber prototyping. Her goal is to increase performance and comfort for adaptive athletes. Her background in American Sign Language and engineering led her to Tatum Robotics, where she has contributed to the development of a robotic hand that enables Deaf-Blind individuals to access digital content through tactile sign language. She works on ASL language modeling, ergonomic testing, and iterative design through user feedback. This fall, Magnolia will begin her MechE M.S. at Northeastern, conducting athlete testing of the prosthetic leg, and pursuing a thesis on advancing the signing robotic hand. She plans to pursue a career developing human-centered technologies.

Jonathan B. Silberstein

Tau Beta Pi Fellow No. 853



Jon graduated from UC Berkeley with high honors and a B.S. in bioengineering and an electrical eng'g and computer sciences minor. At Berkeley, he chaired the Biomedical Engineering Society's corporate committee, researched compressive light field 3D microscopy, and was named Engineer of the Week for his work on a mental health community platform. After graduation, Jon was part of the founding team at Piccolo Medical, developing and patenting SmartPICC's core technology for real-time PICC placement navigation. He later consulted for Ananya Health, building a low-cost cervical cryoablation system for pre-cancer treatment in low-resource settings. Jon is now pursuing his M.D. at the University of Illinois College of Medicine, Chicago, where he was selected for the Innovation Medicine program. His research focuses on improving kidney stone ablation and retrieval to minimize post-procedural complications. Alongside medical practice, he remains committed to applying clinical insights to drive the development of transformative medical devices that will address unmet healthcare challenges.

Hansen Tjo

Tau Beta Pi Fellow No. 854

Hansen graduated *summa cum laude* from the University of Massachusetts Amherst with a B.S. in chemical engineering. He was a supplemental instruction leader for general Physics and a TA for several ChE courses, including Jeffrey Davis's fluid mechanics class. His senior thesis with Sarah Perry explored the physics of polyelectrolyte complexes, while a Chemical Engineering REU with Allie Obermeyer at Columbia University cemented his interest in synthetic biology. He's now pursuing a Ph.D. in chemical & biological eng'g with Jonathan Conway at Princeton, engineering thermophilic microbes to transform plant biomass into renewable fuels and chemicals. He genetically demonstrated that Caldicellulosiruptor bescii, the most thermophilic cellulose-degrader, depends on a single transporter to consume cellulose. His work has been recognized by the Univ. of Massachusetts Jack M. Wilson Presidential Scholarship and Class of 1941 Humanitarian Award. Next, Hansen aims to develop biomanufacturing platforms that expand access to everyday needs: fuels, chemicals, therapeutics.

Kyle J. Woody

Anderson Fellow No. 26

Kyle graduated from the Univ. of California, Berkeley with a B.S. in mechanical eng'g. He served two years as CA Alpha Chapter industrial relations chair, connecting underrepresented students with industry and organizing recruitment events with leading tech companies. As an undergrad, Kyle developed a passion for space exploration, building liquid bipropellant engines with his rocketry team, publishing work on sounding rocket apogee control, and contributing to the development of Starship and other launch vehicles through multiple internships. Kyle was also a member of Prof. Grace Gu's lab, researching ceramic additive manufacturing and the optimization of metamaterials with generative artificial intelligence. Kyle is committed to advancing aerospace through research, mentorship, and outreach that broaden access to STEM and empower the next generation of engineers. This fall, he begins graduate studies at MIT in aero & astronautics, investigating the design & manufacture of reusable rocket propulsion systems with Prof. Zach Cordero. Kyle aims to advance the sustainability of spaceflight & expand access to orbit.

KEEP COOL THIS SUMMER, SHOP THE TBP STORE

On the left is the Official Women's t-shirt. It is a BELLA CANVAS women's relaxed triblend v-neck in 50% polyester and 25% airlume combed and ring-spun cotton. **$23**

On the right is the Gildon Softstyle Official t-shirt. It is 90/10 cotton/polyester with a modern classic fit and taped neck. **$18**

Order at *www.tbp.org/store*, where you can find these and other TBΠ insignia such as hats, mugs, and more.

The STORY BEHIND The PHOTO

Announcing the Summer 2025 "Caption This Photo" Contest!

In March, at the District 12 Conference in Boise, Idaho, a group of Tau Bates from different collegiate chapters presented a skit on financial reports to other attendees from Western South Dakota to Idaho, Montana through Wyoming to Colorado, and Utah.

How to Enter: Send us your witty caption(s) for this photo. If the judges vote yours as one of the ***top three*** (and you have not been a previous winner), **we'll send you a ΤΒΠ t-shirt of your choice!**

Submit your entry using this form: *www.tbp.org/?CaptionSub* or mail to *The Bent* of Tau Beta Pi, Caption Contest, P.O. Box 2697, Knoxville, TN 37901-2697.

DEADLINE: FRIDAY, AUGUST 1 AT 5 P.M. [ET]

Questions? Contact *d.lane@tbp.org*

WINNERS of the Spring 2025 "Caption This Photo" Contest:

The judges reviewed 32 entertaining captions created by 25 Tau Bates. You can read all entries, including captions and results from recent contests, at ***www.tbp.org/bent-features.cfm#caption***. ***If you are interested in serving as one of our judges, contact Dylan Lane at*** *d.lane@tbp.org*.

1ST PLACE:

"We knew it could be dangerous. That's why we had the Air Force test this new stuff called Super Glue! "

Dean S. Butterman, *IL A '84*

2ND PLACE:

"AI graphics never does get fingers correct."

Eric M. Lussier, *TN A '96*

3RD PLACE:

"We were Zoomies before Zoom was Zoom." (Note: 'Zoomie' is the name used for Air Force cadets.)

John Q. Banbury II, *CO B '78*

4TH PLACE:

"Off we go, into the Pi blue yonder!"

Daniel J. Denninghoff, *CO Z '04*

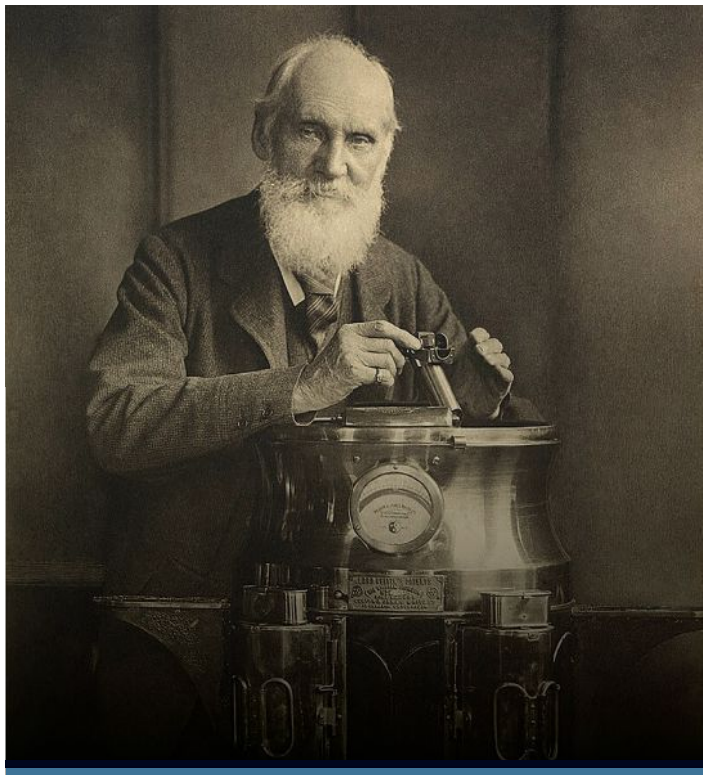
▲ At the 1996 Convention, petitioners from the United States Air Force Academy celebrate being granted a ΤΒΠ chapter. The Colorado Zeta Chapter became the Association's 226th chapter in 1997.

CONGRATULATIONS TO OUR WINNERS!

THIS IS THE SEVENTEENTH IN A SERIES OF ARTICLES THAT INVESTIGATES THE HISTORY OF SCIENCE AND ENGINEERING.

One way in which this history has been preserved is in the names of the scientific units that we commonly use. Those units will serve as starting points for these articles as we explore "Why do we call it a...?"

By: ***Lyle D. Feisel***, *Ph.D., P.E. (ret.), Iowa Alpha '61*



WHY DO WE CALL IT A...

KELVIN

As the scientists of the seventeenth and eighteenth centuries worked to understand the intricacies of the natural world, they recognized the importance of temperature in determining how that world behaved. They also recognized that if they were to conduct repeatable experiments and convey the results of those experiments to others, they would need a formal definition of temperature and a common scale and units. This took a few decades. It is said that at one time there were as many as 35 different temperature scales in use. Today, fortunately, we have only four: Celsius, Fahrenheit, Rankine, and Kelvin.

The freezing point of water is approximately 0 degrees Celsius, 32 degrees Fahrenheit, 492 degrees Rankine, and 273 kelvins. No, dear reader, that is not a typo. While the first three scales are divided into degrees, the Kelvin scale is divided into kelvins. While the name of the scale (Kelvin) is capitalized, the name of the unit of temperature (kelvin) is not. The abbreviation of the kelvin is K.

So, who was this Kelvin? Well, there's another little twist. His name was not Kelvin; that was his title, Lord Kelvin or, more formally, Baron Kelvin of Largs. His name was William Thomson. We will use both names in this article although, as we shall see, he received his title late in his life.

William Thomson was born in Belfast, Ireland, on June 26, 1824, when all of Ireland was part of the United Kingdom. His father, James, taught mathematics and engineering at the Royal Belfast Academical Institution. William's mother died when he was six, leaving James to raise William and his three brothers and two sisters. In 1833, when William was nine, James moved his family to Glasgow, Scotland, where James became a professor of mathematics at the University of Glasgow.

Thomson's early education was provided by his father, who tutored him at home. When the family moved to Glasgow, William was enrolled in the university at the tender age of ten. It was the practice of the university to provide a level of elementary education as preparation for more advanced studies, and it obviously worked well for Thomson. He excelled at Glasgow and then, in 1841 at the age of 17, enrolled in Cambridge University. Four years later, he graduated with high

honors and the title of second wrangler which recognized his high score on the traditional Cambridge mathematics test.

His career took a significant turn just a year later when he was appointed to the chair of natural philosophy at the Univ. of Glasgow. It is likely that his father exerted considerable influence in securing such a prestigious appointment for a 22-year-old recent graduate. In any event, he was extremely successful at Glasgow and remained there for the rest of his career.

Thomson was particularly interested in the phenomenon of heat and the means by which heat could be converted to mechanical energy. The prevailing theory held that heat was a manifestation of caloric, a massless, invisible fluid. Under that theory, a hot body had lots of caloric which would flow from a hot body to a cold one if the bodies were in contact. Thomson first accepted the theory but conducted experiments and mathematical analyses that made him increasingly skeptical. He corresponded and coordinated with Stokes and Joule and supported the work of Laplace in understanding the flow of heat in solids. Thomson also observed the mathematical similarity of heat flow and electrostatics – an insight later used by Maxwell. While he did not originate the notion of absolute zero – the temperature at which there is no heat – he developed the concept and determined what that temperature should be relative to other fixed temperatures such as the boiling point of water.

Thomson was the quintessential mathematical physicist, using his phenomenal mathematics skills to investigate and solve problems in the physical realm. He collaborated with several of the famed scientists of the day, contributing to the advancement of various fields of physics. In his lifetime, he published some 650 papers. That's roughly ten per year or one every month. Productive, indeed.

While Thomson worked extensively on scientific theory, he also devoted considerable energy to projects of an applied nature, such as the Atlantic Cable. Following development of the electromagnetic telegraph in the 1840s, people on both sides of the Atlantic Ocean began to dream of a telegraph connection between Europe and North America. Several short cables were laid across relatively shallow bodies of water, but an Atlantic cable presented far greater challenges: a length of some 2,000 miles and depths of greater than 10,000 feet. Various scientists contributed to the design of the cable, but two, our William Thomson and a self-taught scientist named Edward Whitehouse were closest to the project. They often disagreed. Whitehouse favored using high voltages and standard sensing devices while Thomson recommended low voltages and a sensitive mirror galvanometer – which he developed to detect the signal. Thomson was on the board of directors of the company and sailed with the cable-laying vessels. His views proved to be correct.

A mirror galvanometer is an ammeter that indicates it has sensed an electric current by deflecting a light beam with a mirror.

Thomson was involved in various engineering projects, including an international commission to plan the Niagara Falls power station. He was on the direct current side in the great DC/AC controversy but ultimately agreed to the use of alternating current. Throughout his career, he applied for some 70 patents.

Thomson received many honors during his lifetime. In recognition of his work on the Atlantic Cable, he was knighted by Queen Victoria in 1866, becoming Sir William Thomson. In 1892, he was ennobled as Baron Kelvin of Largs, consequently becoming a member of the House of Lords. He was made a Fellow of the Royal Society in 1855 and received the Copley Medal in 1883. The full list of his honors is too long for this article.

Some twenty phenomena and principles bear the name of Thomson or Kelvin, including the Joule – Thomson Effect, Kelvin Functions, and Kelvin Sensing. There is a Mount Kelvin in New Zealand and Kelvin's birthday is observed as World Refrigeration Day. Kelvinator refrigerators and freezers are still important commercial products. Readers of my age may remember the day when home refrigerators were generically called kelvinators.

Lord Kelvin died on 17 December 1907 at the age of 83. He is buried in Westminster Abbey next to Sir Isaac Newton, a fitting recognition of the many contributions he made to our understanding of the physical world. Lord Kelvin – or William Thomson – is noted for both theoretical and applied achievements but is primarily remembered for his work in the field of energy, particularly its manifestation as heat and its measurement as temperature. And that's why we call a kelvin a kelvin.

BRAIN TICKLERS

Results From Winter

Perfect Scores

Couillard, J. Gregory	IL	A	'89
*Gerken, Gary M.	CA	H	'11
Kuhn, Walter A.	OH	A	'81
*Mayer, Michael A.	IL	A	'89
McCullough, Charles R.	AL	B	'12
Norris, Thomas G.	OK	A	'56
Norris Jr., Thomas G.	PA	Γ	'79
Riedesel, Jeremy M.	OH	B	'96
*Schwam, Susan E.	WA	A	'88
Schwam, Freely	Member spouse		
Slegel, Timothy J.	PA	A	'80
Strong, Michael D.	PA	A	'84
Thaller, David B.	MA	B	'93
Verkuilen, William W.	WI	B	'92
Wilkinson, Timothy S.	WA	A	'84

Other

Bagtzoglou, Ross C.	FL	Z	'87
Bannister, Kenneth A.	PA	B	'82
Bertrand, Richard M.	WI	B	'73
Braña-Mulero, Francisco	PR	A	'74
Budd, Christopher M.	AZ	B	'94
Chatcavage, Edward F.	PA	B	'80
Chou, Joel	Member son-in-law		
Doo, Yi-Hsien	MI	Z	'81
Field, Gregory T.	NY	Γ	'78
Gibbs, Kenneth P.	MO	Γ	'76
Goodrich, Robert W.	CA	B	'81
Grewal, Rashi	NJ	Γ	'09
Griggs Jr., James L.	OH	A	'56
Jordan, R. Jeffrey	OK	Γ	'00
Lalinsky, Mark A.	MI	Γ	'77
Manning, Robert J.	MA	A	'88
Marks, Lawrence B.	NY	I	'81
Prager, John	Non-member		
Partanen, Thomas A.	MI	B	'70
Routh, André G.	FL	B	'89
Rowe, Steven A.	ME	A	'81
Spring, Gary S.	MA	Z	'82
Spring, Mitchell G.	Member son		
Sutor, David C.	Member son		
Tellechea, Gabriel	TX	A	'87
*Upshur, John I.	VA	A	'83

*Denotes correct bonus solution

Winter Review

For Problem 4 (pips on a die), we received more than 50 percent correct answers, while submissions for Problem 5 (cryptic addition) were all correct (100 percent).

Conversely, the Bonus problem (rotating rod pendulum) proved difficult as only 25 percent of the responses were correct.

Spring Answers

1: To solve this problem, one must divide the outflowing water into vectors that are radial to the rotation and tangential to the rotation. Only water that is tangential to the rotation has any influence on the rotation speed. The outlet of the sprinkler arm is at:

$X = 5*\sin(30°) = 2.5$ cm

$Y = 25 + 5*\cos(30°) = 29.33$ cm

The total distance from the axis of rotation to the outlet can be found using the Pythagorean Theorem and is 29.436 cm.

Taking the arctan of the X & Y distances found, atan(2.5/29.33) = 4.872 degrees. This 4.872 degrees can be subtracted from the 30 degree angle, so it can be seen that the exit angle with respect to the radial direction is 25.128 degrees, and the angle with respect to the tangential direction is 64.872 degrees. Using these angles to split the 10 m/s exit velocity into vectors, the radial vector is 9.054 m/s and the tangential vector is 4.246 m/s. Steady state is reached when the tangential speed of the nozzle is equal to the tangential speed of the water exiting the nozzle. Using the equation $V = \omega R$, we can solve for ω, the angular velocity. Where

V = velocity = 4.246 m/s

R = radius = .29436 m

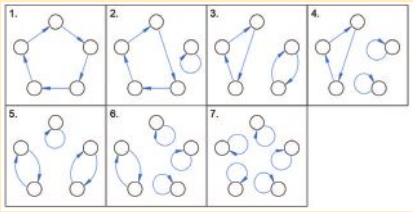
$\omega = V/R$ = 14.426 rad/sec = 2.296 rev/sec = **137.76 RPM**

2: The number of ways (permutations) to arrange 8 unique items is 8!, or 40,320. However, since the 4 red cards and 4 black cards are considered "identical" to each other, that reduces the total number of permutations to $8! / (4! \times 4!) = 70$.

One can carefully lay out the 70 possible permutations, realizing that 35 will be mirror images of the other 35. Then it is simply a matter of determining which arrangements are winning arrangements. There are 36 winning arrangements, so the probability of winning is **18/35**, or approximately **51.43%**.

3: This problem can be thought of as a directed graph to find the solution. For this problem, each person is a "node" on the graph, and there are exactly two arrows connected to each node: one arrow pointing toward the node (the work they are reading), and one arrow pointing away from the node (the work they wrote).

For directed graph with 5 nodes like this, there are 7 possible arrangements.



From the problem statement we know that an author cannot be reading his own work, which eliminates arrangements 2, 4, 5, 6, and 7.

Professor	Wrote...	Is Reading...
Aristotle	Words of Wisdom	Understanding Understanding
Baralipton	Xenophilia	Yesterday was Tomorrow
Castellio	Zeno	Xenophilia
Descartes	Understanding Understanding	Words of Wisdom
Einstein	Yesterday was Tomorrow	Zeno

More information on answer #3 is available at: *www.tbp.org/?BT3*

4: The total amount bet is $T = A + B + C + D$. Since we desire to come out \$10 ahead ($T + 10$) we can express the 4 winning possibilities with 4 equations:

4: *Continued*

If Ace wins: $3A = T + 10$

If Bandit wins: $3.5B = T + 10$

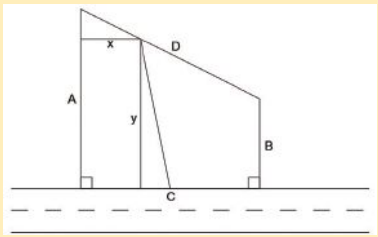
If Comet wins: $7C = T + 10$

If Duke wins: $7D = T + 10$

$A + B + C + D$ can be substituted for T in these 4 equations, giving 4 equations with 4 unknowns.

Solving the system, the way to place your bet so that you come out $10 ahead no matter who wins is to bet **$35 on Ace, $30 on Bandit, $15 on Comet, and $15 on Duke**. Your total bet is $95, and no matter who wins, you will win $105.

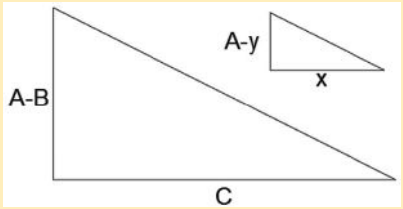
5: It is intuitively obvious that for each part of the divided lot to have the same frontage along the road that one end point of the split-line must be at the midpoint of Side C. The point along Side D has coordinates $\boldsymbol{y = (A^2 + B^2)/(A + B)}$ and $\boldsymbol{x = BC/(A + B)}$. This can be found by assuming a point along Side D, and dividing half of the trapezoid into triangles and rectangles:



One right triangle has side lengths x and $A - y$, and the other right triangle has side lengths y and $C/2 - x$. The sum of areas of the two right triangles and the xy rectangle can be set equal to half of the total area of the trapezoid.

$$0.5x(A - y) + 0.5y(C/2 - x) + xy = 0.25C(A + B)$$

Further, by scribing a horizontal line across the trapezoid from the corner of sides B and D, we can see that these two triangles are similar:

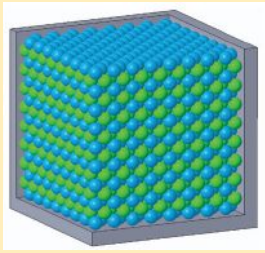


By the law of similar triangles, the following equality can also be made: $(A - y)/x = (A - B)/C$

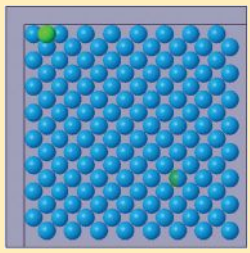
Using these two equations it is simply an exercise in algebra to solve x and y in terms of A, B, and C.

BONUS:

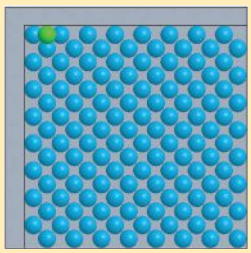
The maximum number of 1 cm diameter spheres that can be packed into a 12 ×12 ×12 cm cube box is **2,176 spheres** as depicted here:



Special thanks to **Walter A. Kuhn,** *OH A '81*, for finding this solution, which improved upon the solution given by the original puzzle source, which was 2,151 spheres. The method of solution is as follows: Begin with a layer of spheres arranged in a square pattern, but rotate it by 45 degrees:



This results in a layer of 128 spheres. The tight packing (1.00 cm between sphere centers) leaves a significant amount of space along the sides of the box. The packing may be relaxed to 1.037 cm between spheres to fill up the bottom layer:



A mirror image of this layer will nest directly on top of itself. The height between layers can be determined by realizing that the centers-to-centers of adjacent spheres form a square-based pyramid, and the height is 0.68 cm. This allows 17 layers of 128 spheres to be packed into the box with 0.12 cm to spare at the top.

COMPUTER BONUS:

The longest string of numbers between two semiprimes without a prime number between them in the range of 1 to 1 billion is **53**, and occurs between semiprime numbers **877,812,503** and **877,812,557**.

New Summer Problems

1: Heads or Tails?

Twenty-six identical coins are lying on a table — ten are showing heads and sixteen are showing tails. Blindfolded, you are asked to divide the 26 coins into two groups with the same number of heads in each group. You may move the coins and turn them over, but have no way of telling whether a coin is heads or tails. How do you accomplish this?

—*All-star Mathlete Puzzles* by **Richard I. Hess,** *CA B '62*

2: It's All Downhill from Here:

Alice is telling Bob about her running. "I run 8 kilometers (km) per hour on level ground and 6 km per hour going uphill, and I run at a constant rate downhill," she says. She then tells him how fast she runs downhill, and continues: "Yesterday I went for a run. I ran for a while, then turned around and retraced my path to return home. Altogether, it took me 2 hours. How far did I run?"

"How much of your route was on level ground, how much was uphill, and how much was downhill?" asks Bob. "Don't I need to know that to figure it out?"

"No," says Alice, "I've given you all the information you need."

Alice is right, she has given Bob all the information he needs. How far did she run in 2 hours, and how fast does she run going downhill?

—*Bicycle or Unicycle?*
by Dan Velleman and Stan Wagon

BTs continue on page 41.

FEBRUARY 1 — APRIL 30, 2025

Alumni Giving

Donor Recognition Clubs

The Donor Recognition Clubs are part of our effort to recognize a donor's total lifetime cumulative giving to Tau Beta Pi. **THANK YOU** to the 2,310 Tau Beta Pi alumni and others who made donations to the Association totaling $539,835 between February 1, 2025, and April 30, 2025. The names of donors whose gifts were received after April 30 do not appear here but will be published with the Fall 2025 issue. These club names and amounts, established by the ΤΒΠ Executive Council, are set at the following levels:

$1 MILLION+
Williams Club

Edward H. Williams Jr., Sc.D.
PA A 1875, Founder of Tau Beta Pi

$500,000+
Heikes Club

Irving A. Heikes, *PA A 1885*
1st student member

$250,000+
Harelson Club

Katharine C. Harelson, *KY A 1924*
1st Women's Badge (WB) recipient

$100,000+
Matthews Club

R.C. "Red" Matthews, *IL A 1902*
1st Sec.-Treasurer of ΤΒΠ

$50,000+
Franklin Club

Marjorie A.H. Franklin, *KS A 1957*
1st woman initiated into Sigma Tau

$25,000+
Nagel Club

Robert H. Nagel, P.E., *NY D 1939*
2nd Sec.-Treasurer of ΤΒΠ

$10,000+
Clarke Club

Edith Clarke, WB #95
Inventor of graphic calculator

$5,000+
Evans Club

Henry B. Evans, Ph.D., *PA A 1893*
1st president of Tau Beta Pi

$2,500+
Eaves Club

Elsie Eaves, *CO B 1920*, WB #24
Influential civil engineer

$1,000+
Downing Club

Lewis K. Downing, *MI G 1921*
1st Black HBCU eng'g dean

$500+
Moore Club

A.D. Moore, *PA G 1915*, ΤΒΠ president, Fellowship Program founder

$250+
Forman Club

George W. Forman, *IL A 1941*
Led ΤΒΠ/Sigma Tau merger

NOTES:
1. Names preceded by SPEC denote gifts from non-members.
2. Names marked with a † symbol are of deceased members in whose memory donations were made either by relatives and friends or through bequests.

Evans Club
Frank R. Fogle, Ph.D.
AL Δ '80
"Donations support the next generation of engineers. I'm proud to help and encourage others to do the same."

Evans Club
John J. Grosso
NY Ε '69
"Contributions support engineering excellence, the key to success in developing new technologies."

Downing, Moore, Forman & Pre-Club Members

Due to the number of alumni contributors, the Downing, Moore, Forman, and Pre-Club Members will be acknowledged on our website at: *www.tbp.org/?AGP*. All donations are essential to the continued success of the Association, but as print costs rise with each issue, these donors will be listed with all of the other contributors in a protected PDF document. If you have questions or concerns, please contact *s.jennings-king@tbp.org*. Thank you for your understanding as we strive to produce an enjoyable and cost-effective magazine for our readers.

$100,000+ Matthews Club

CA Ζ Grigsby, Dave A. '84
CA Μ †Fewell, Thomas Joseph '72
GA Α †Stowell, Robert Luther '60
MI Γ Clark, Terry Blue '69
MI Ε Schmuhl, John Curtis '71
MI Ζ Lange, Harry William '75
NJ Δ Lim, Yung Bong '87

$50,000+ Franklin Club

SPEC Anonymous
Zeigler-Lyons, Nancy
IN Α Clements, David '80
RI Β Anonymous '81
WV Β DeHart II, Bob Elwood '72
WY Α Schoenborn, Renee Margal '85

$25,000+ Nagel Club

AK Α Stella, Damien F. '82
CA Α Kepler II, Dave Edwin '75
Masatani, Peter James '04
CO Γ Ton, Scott Marshall '74
IL Α Ditman, Jason Blair '91
IN Α Newcomb, Robert Wayne '55
IN Ε Dausman, Alan Vernon '77
MA Β Anonymous '67
MI Α Colbry, Dirk Joel '06
Colbry, Katy Luchini '99
MS Α Shackouls, Bobby Stone '72
PA Λ Anonymous '90
RI Β Keddie, Bill Joseph '59
TN Α Holmes, Sammy Sanner '78
TX Η Trich, John Albert '70
WA Β Moors, Donald Edward '55

$10,000+ Clarke Club

AL Α Griffith, Gordon Harvey '57
CA Α Cocotis, Paul Alexander '90
CA Γ Johnson Jr., Pitch '50
CA Δ Fong, Frank Moodo '69
CA Ε Burnett, James William '72
CA Λ Holl, Sue '76
CA Ν Erickson, Ralph Edward '71
Lytle, Scott K. '86
CA Ξ Boyd, Bob Alan '74
CA Υ Alexander, Joseph W. '06
Alexander, Rachel Kristin '15
Idenmill, Ethan Matthew '04
Mukhar, Marwan John '93
FL Α Biasco, James Randal '78
Uhler, Bob Bruce '74
FL Ε Cowan Jr., David James '14
IL Α Wait, Jay Jenner '71
IL Γ Ayres, Rick Owen '79
Herzing, Hank George '59
IN Α Ricks, Steve Wayne '63
Shaffer, Gerald Harley '74
IA Α Burmeister, Jon Barth '68
Peterson, Mike Laurel '89
LA Β Egerman, Robert Scott '83
LA Γ Baldwin Jr., George Alexander '78
LA Δ Blaylock, Martin Edward '61
MD Β Burgio, Robert Blake '87
MI Γ Anonymous '82
Tielking, Tom '62
MI Ε Strebendt, Richard Ernest '65
MN Α Stanley, Steven F. '84
MS Α Benton, Dan Daniel '71
NJ Β Mudie, Samuel Hunter '62
NM Β Modrall, David Righter '91
NY Β Fleisher, Richard Stephen '72
NY Ξ Denning, Peter James '64
OH Α Rasbold, Chuck '83
PA Β Klingensmith, Rick Lee '82
Reese, J. Mark '80
PA Δ Harker, Pat Timothy '81
PA Η Hettche, Ray Raymond '61
PA Λ Schuler, Joseph J. '80
RI Α Vigar, Judy Wells '83
TN Α Cook, Jim Michael '72
TX Α Adamo, Paul Magness '85
TX Γ Sandmann Jr., Charles W. '82
TX Δ Sisney, Steven Lynn '83
UT Α Endo, Thomas Minoru '62
VA Β Berk, Ben Charles '72
WV Β Payne, Michael E. '81

$5,000+ Evans Club

AL Α Spurlock Jr., Jerry '72
Stone, Jeffrey Ira '79
AL Δ Fogle, Frank Risher '80
Selby, Michael W. '96
AK Α Gaddis, BL '73
AZ Β Berry, John Bradley '89
CA Α Ikeda, Kenneth Akira '62
CA Ε Warner Jr., John Hilliard '63
CA Θ Temple, Richard C. '90
CA Λ Okpisz, Alexander Edward '91
CT Β Klopfenstein, Rex Carter '59
DC Β Walsh, Bryan Patrick '97
FL Α Lewis, Becky Ann '04
Vice, William Eugene '70
GA Α Jenkins, William Craig '68
IL Β Bernhardt, John Edward '89
Lewis, Ted Howard '68
IL Γ Carlson, Norman Wesley '81
IL Ε McElrath, Pamela S. '92
IN Α Hale, Dave Charles '59
Houze Jr., Jerry Lucian '58
Ihlenfeld, Jay Vining '74
Papanicolas, Mitchel '65
Vosteen, Louis Frederick '52
IN Γ Jackewicz Jr., Joseph Ignatius '75
Poore, Michael Francis '71
KS Γ Hefty, Keith William '87
ME Α Blaisdell, John Robert '66
Johnson, Christine Elizabeth '82
MD Α Tate, David Marshall '84
MA Α Lescoe, James Terrence '05
MA Β Dettmer, Robert Gerhart '55
Mandell, Gordon Keith '69
MA Ζ Grzeslak, Kazimierz T. '88
Lastella, Michael James '72
MI Β Saccany, Richard Joseph '71
Vukovich, Robert James '83
MI Γ Halverson, Mark Wayne '72
Hopping, William Daniel '71
Insprucker III, John Louis '78
Pepper, Julia Lynn '84
Wackenhut, Thomas Carol '69

Alumni Giving

Evans Club continued

MI Δ Klimaszewski, Richard A. '65
Stanczak, John Stephen '70
MI E Szafranski, Joseph Paul '66
MI Z Dymale, Raymond C. '70
MI H Hill, Scott S. '83
Pascany, Kenneth Michael '86
MS A Black, Howard Wayne '95
Nelms, Larry Thomas '63
MO A Edgington, Bobbie George '69
MO B Elliott, Joseph Oscar '71
MO Γ Taber, Norma J. '80
MT A Brown, Lloyd Robert '72
Carlson, Gene Stewart '64
NE A Schmidt, Wayne William '70
Walcott, Gwen Sharyn '82
NJ A Skowronski, Victor J. '71
NJ Γ Kenney, Thomas Edward '70
Raia, Lawrence A. '65
NM A Smith, Jeffrey A. '84
NM B Menako, Jack Allen '84
Sullivan, Thomas Daniel '74
NY B Newman, Michael '84
NY Γ Anderlik, Jeffrey David '89
NY Δ Altschuler, Stanley '63
NY E Grosso, John Joseph '69
NY H Arminski, Leslie M. '75
Butterman, Heidi Carol '79
Pasquarelli, Louis Ralph '73
NY K Muller-Girard, Otto Theodore '52
NY N Sherman, Lawrence Joseph '74
NY Ξ Mancuso, Richard G. '92
O'Keefe, Luke Francis '80
NY Π Stalzer, Jeffrey '74
NY T Olenik, Anthony Michael '08
OH A Ikeda, George Toshinori '54
Linsalata, Frank N. '63
Markuson, Donald Miner '80
OH B Totten, James Ernest '56
OH Γ Dunham, Tom E. '65
Steiner, William Samuel '63
OH Δ Wuerdeman, Robert Chambers '69
OH K Yannayon, Benjamin C. '05
OH M Duval, Daniel W. '60
PA B Hertneky, John A. '79
PA E Scott, Walter Alfred '59
PA Z Pechulis, Michael John '97
PA H Hills, Fred James '61
PA I Salyers, John Marshall '01
PR A Hilerio Sanchez, Josuan '07
Merle-Ramirez, Luis F. '93
SC Γ Hanes, Richard Michael '67
SD A Cossins, Sheryl Lynn '94
Kizer, Jade Michael '99
TN A Lillard Jr., Denny Dennis '75
Moore, Robert Monroe '66
Riggs, Donna R.H. '87
Rosser, Howard Ward '70
Wilson, Wayne '77
TN B Thomas, James Louis '77
TN Δ Chauvin, Wendy M. '89
TX A Dorr, Larry Daniel '68
Smith, Matt Thomas '93
TX Δ Cloud, Eugene Harrington '67
Johnson, Dennis Ray '74
Knowles, David Wayne '80
TX E Sitton, Randal Warren '85
TX Z Wint, Stephen Peter '83
TX H Brown, Ian William '73
Lin, Frank Kuo-Chiang '80
VA A Orphan, Victor John '62
VA B Lovell, Lale Gokbudak '96
Lovell, Matt Bruce '96
WA A Pierce, Russ W. '70
WV B Hughes II, Paul Kendrick '71
WI Γ Hanson, Dave L. '86

$2,500+ Eaves Club

AL A Anderson, Pete Lawrence '75
Brown, Lawrence Owen '64
AL Γ Haggard, Warren O. '94
AL Δ Appleton, Robert Scott '90
AK A Usibelli Jr., Joseph Emil '81
AZ A Chen, Daniel J. '83
AZ B Barnett, J. Matthew '90
AR A Newtown Jr., Glenford Andrew '69
Weaver, Mark Edwin '77
CA A Figueira, Michael Robert '73
Fong, Kirby William '67
Hoe, Albert '92
Keith, Edward James '61
Wing, Jimmie '52
CA Γ Taniguchi, Brian Yoshito '77
CA Δ Barr, Juliana '80
CA E Brunton, Daniel William '78
Dobbs, Michael Wayne '66
McCandless, Roger James '65
Schurr, Hermann Dieter '82
Schurr, Juliet N. '82
Simsarian, Greg Garabed '82
Yoshizumi, Steven Akira '88
CA Z Pham, Alexander Hung Nhut '88
CA H Asgari, Ramak '99
CA Θ Hinker, Fred L. '68
Lawson, Wayne Alan '69
Anonymous '84
Sedlak Jr., William Lee '81
CA I Haan Sr., George Thomas '69
CA K Ramirez, Marvin Jerome '82
CA M Tucker, Naftalia France '89
CA Ξ Preston, Kimberly Denise '96
CA O Elliott, Pamela Ann '88
CA P Andersen, Eric Kenneth '79
Owens, Lawrence Paul '82
CO A Maurer, Mike Allen '87
Peters, Richard Duane '80
Rense, John A. L. '74
CT B Devin, Maurice Roger '73
Leib, David Bernard '61
Mastracchio, Robert '64
Pitkin, Edward Thaddeus '52
DE A Remondi, Benjamin William '67
DC A Engram, Robert Louis '69
DC Γ Keltie, Robert Joseph '69
FL A Daniher, Peter Michael '66
Lewis, Lee Conley '91
Passman, Alan Joseph '06
FL Γ Dip, Anthony '86
Lyons Jr., Tom Francis '76
Paugh, Wayne Bruce '93
GA A DeLoach Jr., Thomas Clifton '69
Hair, J.G. Graham '59
Lorenzo, Donald Kevin '77
Peatman, John Burling '56
IL A Beernink, Kurt Patrick '82
Buboltz, Lisa Ann '01
Szumski, Daniel Raymond '80
Waranauskas, Amy Louise '85
IL B Carter, David William '68
Forish Jr., George Edward '75
Gurney Jr., Donald P. '59
IL Γ Dixon, David Allen '63
Gajda, Gregory Joseph '80
Wilsak, Richard Allen '78
IL E Williams, Michael Joe '95
IL Z Glait, Scott Steven '84
IN A Sommer, Dianna Marie '83
Weigand Jr., Karl Russell '66
Yoder, Norman Everett '71
IN B Rosenbarger, Donald Glenn '78
Schipper, Michael Joseph '82
IN Γ Drnevich, Raymond Francis '70
Fitzgerald, Edward John '86
Kelly, Robert A. '65
O'Connor, Brian Thomas '72
Richter, Richard Terrell '70
Zupcic, Tony Mario '70
IN Δ Epperly, Michael Philip '65
IA A Cortum, John David '77
Puffett, George E. '83
Snyder, Merrill Herbert '68
IA B Smith, Richard Kenneth '60
KS A Meyer, Leslie D. '65
KS B Henderson, Wesley Val '76
KY A Anderson, Lee Roy '71
Halloran, Stephen Richard '75
LA B Paul Jr., Howard Cochran '80
LA Δ Landry, Glen Ray '75
Lejeune, James Joseph '73
MD A Guzy, Jeffrey David '83
Hartlove Jr., Charles L. '76
Lu, Stanley '95
MD B Beard, James Lawrence '67
MD Γ Merritt Jr., Chuck Raymond '85
MA A Alley, Christopher P. '85
Burgarella, John Paul '50
Downs, Allen Gybbon '75
MA B Chang, Nancy Tien-Tien '87
Patterson, John Bryan '68
MA Δ Smeglin, Anthony Michael '76
Sullivan, Gerard Francis '68
MA E Bittner, Douglas E. '83
Linscott, Anne Wiklord '80
Moore, Timothy Eugene '71
Pinkham IV, Tom A. '88
MA Z Brindis, Samuel B. '80
Meurer Jr., Glenn William '86
Strzegowski Jr., Joseph C. '67
MA H Penafiel, Jay Buhay '90
MI A Chaffee, Stanley Wendell '74
MI B Dejonge, Michael Kent '65
Lindgren, Douglas LeRoy '69
MI Γ Davies, John Richard '50
Gromer, John David '74
Nobunaga, Alan Shizuo '83
Rigge, Lawrence Allen '83
Smithies, Henry '49
Subramanian, Suresh '88
MI Δ Kogut, Ken Joseph '71
MI E Chudd, Richard Alan '66
MI H Obudzinski, Gary Thomas '76
MN A Goodwin, Robert Wayne '62
Van Essen, John Scott '74
MS A Coley, James William '61
Yates, Karen '73
Yates, Michael Douglas '74
MS B Woody, Marvin David '79
MO A Sandfort, Robert Melvin '64
MO B Mahin, Clif Alan '76
Miller, Michael John '74
Sedovic, Pete Stephen '81
Unnerstall, James Anthony '56
Voss, Thomas Robert '69

Evans Club
Anthony M. Olenik
NY Τ '08
"I contribute to directly support the future engineers that will advance this world for the better."

Eaves Club continued

MO Γ Galambos, Theodore Victor '53
Goldring, Stanley '64
MT Α Whitcomb, David L. '64
NE Α Plummer, Scott Royce '81
NV Β Nietling, John J. '90
NJ Β Pu, Chaohui Andrew '90
Rodgers, Douglas Noss '67
Sharkey, John Michael '84
NJ Γ Angyal, Stephen '63
Dooley, Ronald M. '64
Reitano Jr., Anthony James '72
Riede, Bruce Erwin '67
Sharon, Tony Peter '74
Weibrecht Jr., Edwin Herbert '68
NJ Δ Coco, Elizabeth Halliday '87
NM Β Andrews, Mark Jay '91
NY Α Epling Jr., William Young '83
NY Γ Bond, Paul William '72
Geschwindner Jr., Louis Fred '67
McCormick, Peter Elliott '80
Ordway III, Fred Delancy '69
Smith III, George Earl '80
Vilardi, Gregory Henry '90
NY Δ Livingston, Laura Jane '73
NY Ζ Frohman, John E. '72
Zieve, Robert M. '55
NY Η Stoll, Eric Duane '61
NY Θ Foell, John Daniel '77
NY Ι Grant, Richard Joseph '88
NY Κ Gaul, Michael Arthur '76
Mastro, Noreen Louise '79
NY Μ Rest, George B. '75
NY Ν Mann, Michael '77
Zarchy, Andrew Stephen '73
NY Π Cole, David Michael '88
Hill, David Alan '77
NC Α Caudle, Daryl Lane '85
Weirs, Gregory '91
NC Γ Hansen, Mikkel Anders '78
Hovis, John Garrison '78
NC Δ Jones, Luellen Barnett '83
ND Β Dehen Jr., James John '80
OH Α Beach, Robert Chester '56
Ockunzzi, Kelly Anne '94
OH Γ Bouman, Robert William '60
OH Ε Kubinec, William Richard '67
OH Ζ Babula, Maria '89
Bliss, Douglas Paul '75
Busbey, Bruce C. '84
Herman, Madison Rachelle '13
Novak, Eugene Clark '59
Pyers, Dean Hale '84
OH Η Campbell, John Joseph '76
Clarke III, DeFrance '81
Fraass, Ronald Guy '78
Gressang, Randall Vernon '72
Kelso, TS '88
Leifeste, Sam Ernest '63
Schmoll, Joseph Herman '81
OH Λ Chegar, John Thomas '90
Rohr, Timothy Paul '80
OK Α West, Earl Ray '59
Wustenberg, John Walter '84
OK Β Bobo, James Edward '77
OR Α Miller, George Edward '77
Milton, Stuart W. '84
Sias, James Frederick '57
PA Α Hernjak, James Gregory '96
Leitch, Donald George '56
Lybas, John Michael '70
PA Β Cirota, Marcie Dale '95
Hummel, John Richard '73
Kolivosky Jr., John Edward '92
Smyth, John '61
PA Γ Shaffer, David Bruce '68
Wisman, Craig Burton '75
PA Ε Kulicki, John Milton '65
Ryan, Richard Edward '86
PA Θ Castellan, Susan Marie '84
Dever, Patrick Brian '94
Gallen, Robert Michael '64
Girondo, Dominic Peter '70
Kneidinger, Carl Frederick '70
Meyer, James Leo '68
Threston, Joseph Thomas '57
PA Ι Schoenberger, Lewis Robert '84
PA Λ Janocko, David Jeffrey '81
Reedy, Herman E. '75
PR Α Ramirez, Miguel Angel '73
RI Α Nielsen Jr., Carl Ernest '56
RI Β Lamoureux, Suzanne May '82
TN Α Bowers, Bob '68
Burnett, William Allen '71
Davis, Wayne Thomas '73
Hueser, David Lee '76
Jennings-King, Sherry Denise '93
Kennedy, Michael Earl '86
TN Β Hodges Jr., Willie Erwin '67
Kepper III, James Henry '71
Petersen, Eric Scott '84
TN Γ Buell, Phillip Ray '95
McDonald, Gary Haywood '77
Steelman, James Taylor '71
TX Α Abad-Fitts, Carmen Beatrie '80
Haley, Dennis Clyde '70
Herring, David M. '55
†Howerton, Lloyd Foster '51
Meers, Steve Wayne '72
Reese, Michael Steen '70
Sweet, Paul Alan '70
TX Β Boyd, Suzanna Ruth '81
Carey, Martha Derden '80
Eakens, Robert William '72
Gilmer, Tracy F. '80
Hoiberg, John Arnold '64
Newkirk, Todd Leland '87
Soules, James Gregory '79
TX Γ Dobbins, James Roy '74
Fisher, John David '70
TX Δ Barger, David Carl '71
Clinton Jr., Daniel Darius '52
Muldrow, Grady Montgomery '89
Woram, Brian James Anthony '81
TX Η Bishop, Neil Erasmus '66
Godwin, Albert Eugene '84
Hoffman, Heather Brunn '92
Williams, Larry Donal '80
TX Λ Rosenwald Jr., John Andrew '88
UT Α Lyman, George Randall '79
VA Α Johnson, W. Reed '53
VA Β Creslein III, William Edward '52
Hanley, Thomas Richard '67
Marcus, Larry Allen '72
Pearson, Glen Hamilton '71
VA Γ Abbott, Terence Scott '75
WA Α Williams, Donald Sidney '66
WA Β Bowers, Jack W. '80
Groat, J. Everett '94
Opfer, Neil David '76
Ray, Edworth Lillard '48
WV Α Skujins, Margaret Stuart '69
Skujins, Ojars '68
Tompkins, Joseph Andrew '77
WV Β Lorkowski, Tim Walter '93
WI Α Goba, John J. '66
Tellier, Ronald Robert '73
WI Β Dschida, Linda Maria '82
WI Γ Formella, John Patrick '81

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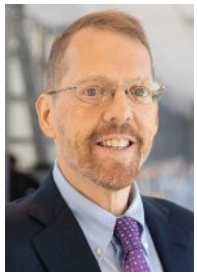
IN THE COLLEGES

Tau Bates having an impact at institutions of higher learning.

David A. Bader Ph.D.

Pennsylvania Alpha '90



David was inducted into the Mimms Museum of Technology & Art Hall of Fame and received the Heatherington Award for Technological Innovation. A distinguished professor at NJIT, he revolutionized computing by designing the first commodity-based supercomputer, which established Linux-based systems and his work led to creating the first Linux supercomputer for open scientific use.

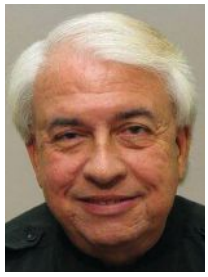
Patsy D. Brackin Ph.D., P.E.

Tennessee Alpha '74

Patsy received the 2024 Kate Gleason Award from the American Society of Mechanical Engineers Foundation in recognition of contributions by a distinguished female leader in the eng'g profession. At Rose-Hulman Institute of Technology (IN), she's a professor and Engineering Design program director. Established in 2018, the program received ABET's Innovation Award in 2024.

Michael A. Ferrante

Florida Beta '75



Michael was honored as the AlumKnight Leadership and Service volunteer at the 2025 University of Central Florida Awards. He serves as FL Beta Chapter Chief Advisor and retired in 2013 as a senior systems engineer from the Naval Air Warfare Center. Michael worked at NAVAIR since 1975 as a program manager and engineer on simulation & live system development projects.

SPOTLIGHT: CEOs Call for Computer Science Graduation Requirement — "In the age of AI, we must prepare our children for the future — to be AI creators, not just consumers." This was part of an open letter, published by the nonprofit CS for All that 250+ CEOs recently signed. Currently, only 12 U.S. states require students to learn computer science basics and roughly 6.4% of high school students take computer science courses annually, according to the Computer Science Teachers Association. The letter also cited a widening skills and income gap, stating that "A basic foundation in computer science and AI is crucial for helping every student thrive in a technology-driven world." DoorDash CEO **Tony X. Xu,** *CA A '07,* and Uber CEO **Dara Khosrowshahi,** *RI A '91,* were listed as signers.

Gift to Wayne State Focuses on Engineering — A $50 million gift to Wayne State University (WSU) to accelerate research, entrepreneurship, and student success in the College of Engineering was recently made by **James A. Anderson,** *MI E '66,* and his wife, Patricia. In recognition of this historic investment, the college will be renamed the James and Patricia Anderson College of Engineering. Jim is president and CEO of Urban Science, an automotive consultancy and technology firm and a two-time WSU graduate with B.S. (civil eng'g) and M.S. (MechE) degrees. Aiming to continue creating new opportunities for high-paying STEM careers and fostering innovation, the gift will also provide support for faculty, doctoral fellowships, mobility & energy storage research, and recruitment at WSU.

Andrea J. Goldsmith Ph.D.

California Alpha '86

Andrea was named the seventh president of Stony Brook University (NY), effective August 1. Most recently, she's been dean of the School of Engineering and Applied Science at Princeton Univ. Her research interests include communications, control & signal processing, and their applications to wireless communications, and biomedical devices. Andrea authored the book "Wireless Communications" in 2005.

Gary S. Ledley MD

Maryland Alpha '78

Gary was awarded the William Likoff Clinical Excellence Award from Drexel University College of Medicine, where he is a professor. Gary also serves as the regional director of Clinical Cardiology Services, Tower Health, at Phoenixville Hospital and Pittstown Hospital. The award recognizes a faculty member who serves as a role model through professionalism, ethics & diagnostic acumen in the practice of medicine.

Joel "Alex" Mejia Ph.D.

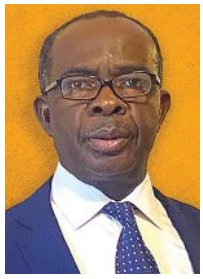
Texas Theta '07

Alex was appointed as head of the University of Cincinnati Dept. of Engineering and Computing Education. He arrives from the University of Texas at San Antonio, where he served as an associate professor of biomedical & chemical engineering and in the dept. of bicultural-bilingual studies. His work has significantly contributed to the understanding of bilingualism and broadening participation in eng'g spaces.

George A. Nnanna Ph.D., P.E.

Texas Eta '01

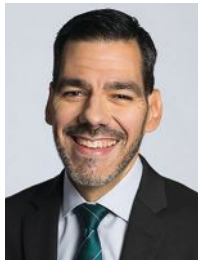
George will serve as founding director of the new School of Engineering at University of Missouri-St. Louis. He previously served as founding dean of the College of Engineering at the Univ. of Texas Permian Basin and recently as the director of its Texas Water and Energy Institute. His research expertise includes topics such as the development of plasmonic metasurface nanostructures.



José R. Sánchez Ph.D.

Illinois Delta '00

José was named the next dean of Purdue University Northwest's College of Engineering and Sciences. Previously, he was at Merrimack College (MA), where he served as dean of the School of Science and Engineering and founding dean of the School of Engineering and Computational Sciences. José has three degrees in electrical and computer eng'g, B.S. and M.S. from Bradley Univ., and a Ph.D. from UIUC.



William H. Sanders Ph.D.

Illinois Alpha '83

Bill will become Rochester Institute of Technology's eleventh president beginning July 1. He's been Carnegie Mellon University's dean, College of Engineering since 2020, has 37 years of experience in academia, and spent 25 years as a tenured professor at the University of Illinois. Bill has three degrees from the Univ. of Michigan, including a B.S. in computer engineering.

FACILITIES: New building for lasers at Colorado State University — Construction has started on a powerful new laser research facility located on Colorado State University's (CSU) Foothills Campus. The facility is the combined result of 40 years of laser development research at CSU in partnership with the U.S. Dept. of Energy's Fusion Energy Sciences program in the Office of Science and a strategic $150 million public-private partnership with industry leader Marvel Fusion that launched in 2023. To be known as the Advanced Technology Lasers for Applications and Science (ATLAS) Facility, plans are for it to be completed by 2026. A major topic of research will be laser-driven fusion as a viable clean energy source and support for interdisciplinary work into topics like medicine.

Syracuse Advanced Semiconductor Manufacturing Center — Plans have been announced to launch the Syracuse University Center for Advanced Semiconductor Manufacturing, an interdisciplinary center that will bring together expertise in artificial intelligence, cybersecurity, manufacturing processes, optimization, and robotics to advance the science of semiconductor manufacturing. The center will be funded through an investment from the University, as well as a $10 million grant from Onondaga County. The new center is part of a more than $100 million investment in transforming STEM and expanding the College of Engineering and Computer Science. The state-of-the-art teaching and research facility will replicate an autonomous-advanced manufacturing floor enabling research & design.

Steven Schreiner Ph.D., P.E.

Massachusetts Iota '86

Steven was selected as the inaugural dean of the College of Charleston's School of Engineering, Computing, and Mathematics. Most recently, he served as provost and VP for academic affairs and professor of electrical and computer eng'g at Manhattan College, where he was also a NY Xi Chapter advisor. An engineering education & research leader, Steven has a biomedical eng'g Ph.D. and was a neurosurgery research fellow.

Kimberly R. Stillmaker

Ph.D., P.E. *California Rho '08*

Kimberly received the Wang Family Award for Outstanding Faculty Innovator in Student Success from the California State Univ. She is an associate professor and Director of the Lyles College of Engineering's Foundations for Success program at the California State Univ., Fresno, which focuses on improving outcomes for first and second year eng'g students. Kimberly is a ΤΒΠ Fellow, Scholar, and served as a D15 Director from 2010-15.

Neel U. Sukhatme Ph.D., J.D.

Illinois Alpha '01

Neel was appointed Dean of Law at the University of Michigan Law School, effective July 1. He joins from Georgetown University Law Center, where he has been associate dean for research and academic programs since 2023. Neel is recognized for his research on felony disenfranchisement, which has had significant policy implications, and earned a computer eng'g B.S. from the Univ. of Illinois (UIUC).

District Doings

A few images and short summaries from the 2025 District Conferences.

Additional highlights can be found in *The Bulletin*.

Georgia Delta Chapter officers at the D5 Conference (L to R: Katie Kahn, Alex Thrash & Ed Nickerson)

MARCH 1-2, 2025:

District 5

The FL Alpha Chapter, at the Univ. of Florida, hosted the D5 Conference as 70+ members from Florida, Georgia, Puerto Rico, and South Carolina gathered in Gainesville. Student members from all 17 collegiate chapters in the District met for the first time since the newest chapter, Georgia Delta at Univ. of Georgia, was installed.

Tau Bates from the Central Florida, Palm Beach/Broward, and Gainesville alumni chapters were in attendance, along with advisors representing five collegiate chapters.

The weekend kicked off with a series of activities, including a service day where members teamed up with St. Francis House and the GRACE Marketplace to organize and assess their equipment conditions and donations. They also partnered with Tau Bates and K-12 students to learn about buoyancy through GatorTRAX (precursor to TBΠ MindSET program), and the Leveling Up (Problem Solving & Decision Making) Engineering Futures module.

Saturday, the newest D5 Director, **Brent D. Weinberg, M.D., Ph.D.,** *TN A '01*, was introduced and students learned of the successes and struggles of other collegiate chapters through a Chapter Showcase. Afterwards, alumni joined the Executive Council for a networking dinner.

On Sunday, there was a Q&A session, District Interactive Chapter Exchange, and selection of next year's host, GA Delta. The festivities concluded with a traditional cookout, after which members returned to their home chapters enthusiastic about implementing new ideas and bringing fresh approaches to shared challenges.

FEBRUARY 7-8, 2025:

District 6

This year's D6 Conference was held at Tennessee Tech University, with the TN Gamma Chapter hosting. Representatives from 15 collegiate and 3 alumni chapters were present for the two-day event. Forty-four TBΠ students participated in sessions led by District Director **Ellen S. Styles,** *AL D '85*, Director of Alumni Affairs **Tricia E. Gomulinski,** *SD A '98*, and Executive Councillor **Tom A. Pinkham IV,** *MA E '88*. Topics included District Interactive Chapter Exchange (DICE), the Student Advisory Board, and Chapter Operations. The discussion on chapter operations featured a lecture and skits with posters created by the student groupings that presented.

Tom shared charts prepared by the Executive Council and reviewed the structure of the organization while also providing unique insights related to chapters. A student suggested holding an Engineering Futures Session on Friday afternoon, prior to dinner, so that those attending could experience a session.

The collegiate chapters in attendance were: Alabama Alpha, Gamma, Delta, and Epsilon; Kentucky Alpha, Beta, and Gamma; Mississippi Alpha and Beta; and Tennessee Alpha, Beta, Gamma, Delta, Epsilon, Zeta, and Eta.

MARCH 7-8, 2025:

District 9

The Missouri University of Science and Technology's new Innovation Lab facility hosted the D9 Conference. In total, 37 students, 4 alumni, 4 advisors, and 3 ΤΒΠ Officials attended, representing 10 collegiate and 3 alumni chapters. The group image around the Bent monument on campus, features a special guest – "Joe Miner," the MS&T mascot.

The program included a welcome by Engineering Dean **David M. Borrok, Ph.D.,** *MO B '05*, a keynote speech from Vice Provost and Dean **James D. Sterling, Ph.D.,** *TX D '83*, Association remarks by ΤΒΠ President **Marla A. Peterson,** *AZ A '83*, and a sharing of best practices by chapters. There was also an egg-drop challenge, tour of the research labs, time for networking, and opportunities for professional headshots.

Event organization was led by MO Beta Chapter officers **Rylie Miller, Evonne Siampos, Josh Perkins,** and Chief Advisor **Steve E. Watkins, Ph.D.,** with assistance from District Directors **Brent Barcus** and **Christian Branch**.

APRIL 11-13, 2025:

District 10

The annual D10 Conference was hosted by the LA Alpha Chapter at Louisiana State University.

Highlights included: an alumni panel; a session on chapter development where new ideas and methods were shared to enhance each chapter's impact; and presentations on MindSET and NEST by **Chris W. Potts,** *CA Y '16*. Executive Councillor **David J. Cowan Jr., P.E.,** *FL E '14*, also shared his inspiring journey to success in the corporate world with valuable insights for aspiring engineers.

FEBRUARY 22-23, 2025:

District 14

Students and alumni representing 8 collegiate and 2 alumni chapters came together on the University of Portland campus for the D14 Conference hosted by the Oregon Gamma Chapter.

Delegates shared how their chapters transfer knowledge of chapter operations from year to year. Attendees also discussed the challenges chapters face to increase membership, enhance ΤΒΠ's image on campus, and to hold events that are meaningful to their members and student bodies.

The group is looking forward to reconvening next February on the University of Washington campus in Seattle.

CHAPTER ETERNAL

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

The condensed style of these notices is necessary due to 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 ***tbp.memberupdate@tbp.org.*** Members 100 or more years when passing are identified with "***Cent.***"

ALABAMA

ALPHA AL A

Foreman, James Wheeler, *'60*, Jan. 1, 2024.
Wales Jr., Alvis Fielding, *'72*, Oct. 25, 2024.

BETA AL B

Bobo Jr., Gonzalous A., *'48*, February 7, 2022.
Cockrell, Robert Chetham, *'50*, Jan. 1, 2007.
Wiley, Clyde Furman, *'50*, no details.
Applequist, Roy Anders, *'52*, 2011.
Chastang, Phelham Dewey, *'56*, Oct. 27, 2004.
Sciple, Timothy W., *'66*, October 23, 2019.
Kemp, Donald Ray, *'67*, no details.

ARIZONA

ALPHA AZ A

Dingle, John Tretise, *'49*, July 4, 2017.
Rice, Ivan Glenn, *'50*, May 8, 2024.
Enloe, Louis Henry, *'55*, February 5, 2025.
Koupal, Jerome Robert, *'56*, August 26, 2024.

BETA AZ B

Moore, Phillip Michael, *'66*, no details.

ARKANSAS

ALPHA AR A

Crow Jr., Chester, *'48*, January 31, 2015.
Blevins, Robert E., *'50*, August 8, 2016.
Shook, William Eugene, *'50*, January 1, 2017.
Controy, Allan Thomas, *'51*, May 3, 1998.
Robinson, Neal A., *'57*, February 15, 2025.
Johnson, Dudley Bruce, *'66*, no details.
Wells Jr., Milton Clarkson, *'68*, Dec. 7, 2024.

CALIFORNIA

ALPHA CA A

Brorson, Carl Oscar, *'50*, September 4, 2022.
Froid, Stanley Harold, *'51*, December 14, 2013.

BETA CA B

Pounder, Edwin, *'46*, May 24, 2020.
Vreeland Jr., Thad, *'49*, August 9, 2010.

GAMMA CA Γ

Heninger, Grant O., *'48*, no details.
Kershaw Jr., William Ernest, *'48*, no details.
Garzoli, Fulvio Frederick, *'51*, no details.
Sedgwick, Thomas Andrew, *'52*, no details.
Bates Jr., Clayton W., *'54*, February 18, 2024.
Eggers Jr., Alfred John, *'54*, Sept. 22, 2006.

DELTA CA Δ

Smit, Jan, *'41*, August 1, 2012.
Kilbury, Minard Barth, *'49*, January 13, 2019.
Murar, Francis Joseph, *'50*, Feb. 17, 2018.
Kinoshita, Joseph, *'52*, February 7, 1995.

EPSILON CA E

Haase, Richard Henry, *'45*, no details.
Jeffs, George William, *'45*, May 25, 2019.
Strite, Robert Eugene, *'56*, Nov. 10, 2015.

ZETA CA Z

Creegan, Patrick James, *'48*, May 18, 2021.
Malneritch, Robert Charles, *'48*, Jan. 26, 2021.
Prudhomme, Harry P., *'48*, August 23, 2019.
Nulk, Robert Anthony, *'58*, May 14, 2024.

ETA CA H

Lima, James Alphonso, *'61*, January 27, 2019.

COLORADO

BETA CO B

Dearth, Keith Herndon, *'48*, October 26, 2014.
Danielson, Donald W., *'55*, March 20, 2004.
Hamborsky Sr., Rudolph J., *'58*, Oct. 19, 2015.

EPSILON CO E

Hoerig, John Arthur, *'89*, March 1, 2024.

CONNECTICUT

ALPHA CT A

Lyon, Richard, *'44*, February 3, 2017.

BETA CT B

Curland, Marvin Lewis, *'47*, March 13, 2021.
Barnsbee, Clive Dennis, *'56*, no details.

DELAWARE

ALPHA DE A

Chirnside, Albert, *'49*, March 3, 2005.

DISTRICT OF COLUMBIA

ALPHA DC A

Mamoer, Rai, *'55*, December 31, 2010.

GAMMA DC Γ

Keene, Warren Elmer, *'57*, August 20, 2024.

FLORIDA

ALPHA FL A

Galloway, Patricia D., *'78*, October 26, 2024.

GEORGIA

ALPHA GA A

Schatz, Edward Joseph, *'51*, August 20, 2012.
Wilkins Jr., Bert, *'58*, July 13, 2021.
Barber, Paul T., *'60*, May 23, 2024.

ILLINOIS

ALPHA IL A

Berglund Jr., Wallace A., *'50*, May 5, 2015.
Duff, Robert Earl, *'50*, January 7, 1996.

BETA IL B

Rosenthal, Felix, *'47*, February 16, 2021.
Chernof Jr., Joseph, *'49*, December 30, 2014.
Pros Jr., Anton John, *'51*, May 1, 2015.
Richey, Orville Paul, *'53*, November 20, 2010.
Leeson II, Forrest John, *'67*, January 1, 2024.

GAMMA IL Γ

Crown, Lester, *'46*, January 1, 1990.
Olson Jr., Hilding M., *'48*, Sept. 20, 2021.

ZETA IL Z

Setton, Henry A., *'50*, February 10, 2025.

INDIANA

ALPHA IN A

Geye, Richard Paul, *'51*, July 7, 2013.
Kececioglu, Dimitri B., *'51*, March 21, 2014.
Thompson, Curtis Brooks, *'51*, Feb. 4, 2025.
Gardner, Howard Wyatt, *'52*, January 8, 2025.

GAMMA IN Γ

Jones, Ronald William, *'68*, no details.

IOWA

ALPHA IA A

Larsen, Melvin B., *'46*, December 8, 2019.
Green, Warren E., *'51*, September 28, 2019.
Lorenz, Richard Allen, *'51*, February 28, 2025.
Brom, Richard Hovey, *'52*, February 15, 2025.
Sauter, James Edward, *'71*, Feb. 21, 2025.

BETA IA B

Putzrath, Franz L., *'43*, November 16, 2012.
Hunstad, Norman Alan, *'49*, Feb. 12, 2023.
Moeller, Howard F., *'51*, January 5, 2019.

KENTUCKY

ALPHA KY A

Rodgers, Robert Ligon, *'55*, Dec. 10, 2024.
Norman, Wendell Smith, *'56*, no details.
Taylor, Ralph R., *'58*, March 18, 2025.
Bauer, Arthur Robert, *'63*, February 2, 2025.
Smith, Bobby Glynn, *'66*, January 27, 2025.

BETA KY B

Sheehan, Charles Joseph, *'52*, Feb. 7, 2023.
Paz, Mario, *'53*, June 14, 2014.

LOUISIANA

ALPHA LA A

Blanchard, Ulysse Joseph, *'49*, July 6, 2003.
Hansen, Robert M., *'50*, November 18, 2009.
Lafargue Jr., Alfred I., *'50*, Dec. 24, 2023.
Hagius Jr., Leon E., *'52*, April 12, 2006.
Ritter Jr., Oran A., *'57*, August 24, 2020.
Harkins, Alvin E., *'59*, October 12, 2020.
Guillot, Rodney J., *'63*, January 24, 2020.
McCoy, Larry T., *'63*, October 14, 2014.
Wiese, John C., *'63*, January 10, 2017.
Miller, John A., *'66*, May 3, 2009.
Millar, John S., *'68*, February 8, 2025.

BETA LA B

Kron, Susan Mary, *'83*, May 18, 2024.

GAMMA LA Γ

Orr, Virgil, *'44*, April 24, 2021.
Fletcher, Kay L., *'59*, July 22, 2021.

DELTA LA Δ

Pastorick Jr., Wallace J., *'59*, August 14, 2023.
Hanchey, James R., *'61*, February 4, 2018.

MAINE

ALPHA ME A

Bowden, Warren William, *'49*, April 20, 2018.
Boucher, Edmund Gerald, *'50*, Nov. 30, 2019.
Larson, Anton Wallace, *'50*, August 22, 2020.

CA G

California Gamma '54

Clayton W. Bates Jr., Ph.D.

February 18, 2024

Principal creator of the x-ray intensifier tube for diagnostic radiology. Professor emeritus at Stanford Univ., he was a noted expert in photosensitive materials, an advocate for the inclusion of Black students in STEM, and recognized as a SCIENCEMAKER by The History Makers.

FL A

Florida Alpha '78

Patricia D. Galloway, Ph.D., P.E.

October 26, 2024

A trailblazer in megaproject management and arbitration, she was an early adopter of risk assessment. Pat was the first woman to serve as American Society of Civil Engineers president and in 2006, President George W. Bush appointed her vice chair of the National Science Board.

MARYLAND

ALPHA MD A

Stiegler Jr., George Henry, *'49*, Feb. 3, 2025.

BETA MD B

Frey, Christian Miller, *'51*, July 14, 2014.
Siegrist, Ronald Arthur, *'52*, Nov. 4, 2018.
Goeller, Jacque Earl, *'55*, Sept. 30, 2024.
Spitler, Philip, *'64*, February 8, 2025.

MASSACHUSETTS

ALPHA MA A

Emanuel, Alexander E., *'63*, January 24, 2023.
Sambade, Johanna, *'95*, no details.

BETA MA B

Hague Jr., Wesley McLoren, *'48*, Feb. 10, 1982.
Kulin, Saul Andrew, *'49*, August 22, 2014.
New, Noah Carroll, *'49*, July 25, 2006.
Thurston, Peter E., *'62*, January 1, 2024.
Krynytzky, Alexander J., *'71*, no details.
Wiesman, Richard Mark, *'76*, no details.

DELTA MA Δ

Warren, William, *'57*, March 28, 2024.

EPSILON MA E

Lerner, Herbert Arthur, *'50*, Dec. 14, 2018.
Winslow, Walter R., *'51*, June 9, 2018.

ZETA MA Z

D'Argento, Frank Raymond, *'52*, Dec. 25, 2011.
Goodwin, Robert Lewis, *'58*, January 31, 2025.
Golen, Francis S., *'83*, March 3, 2025.

MICHIGAN

ALPHA MI A

Pepke, Edward Bender, *'49*, Feb. 17, 2022.
Tanaka, Akira, *'49*, August 29, 2018.
Voelzow, Bernard Fred, *'52*, March 30, 2013.
Lebay, Elmer Louis, *'53*, July 19, 2014.
Premo, Sarah Jean, *'22*, February 6, 2025.

BETA MI B

Phalen, Clinton A., *'48*, December 8, 2018.
Cota, Samuel William, *'49*, October 8, 2016.
Kauppila, Paul Walfred, *'49*, Nov. 26, 2018.
Castro, Victor Manuel, *'53*, May 21, 2022.
Pohlman, John Frederick, *'53*, no details.
Smuk, John Michael, *'55*, no details.
Campbell, Edwin Herbert, *'64*, Jan. 28, 2025.

GAMMA MI Γ

Datsko, Joseph, *'43*, February 9, 2024. ***Cent***.
Bigelow, Wilbur C., *'44*, March 7, 2025. ***Cent***.
Fashbaugh, Richard H., *'49*, Sept. 19, 2021.
Lindeman, Richard Jay, *'49*, Nov. 24, 2019.
Nebel, George Joseph, *'50*, Sept. 14, 2016.
Seel, Richard Warren, *'50*, February 25, 2010.
Stroebe, Richard Myron, *'50*, April 1, 2022.
Kristofetz, William Stephen, *'54*, Sept. 7, 2018.

DELTA MI Δ

Zack, Chester Virgil, *'50*, November 5, 2017.

ETA MI H

Shamamy, Patricia Mae, *'63*, March 23, 2023.

MINNESOTA

ALPHA MN A

Dreyer, Wesley Melvin, *'69*, October 29, 2024.

MISSISSIPPI

ALPHA MS A

Wilson Jr., Hugh Wells, *'50*, March 26, 2002.
Filgo, Charles H., *'51*, July 11, 2023.
Ginn, Hal G., *'57*, November 11, 2020.
Cochran, Rex Warren, *'60*, January 20, 2025.
Massey Jr., James E., *'64*, Nov. 20, 2019.

MISSOURI

ALPHA MO A

Frisby, James Curtis, *'56*, August 21, 2018.
Angerer, Robert W., *'58*, March 7, 2025.

BETA MO B

Bott, Winston Frederick, *'48*, April 2, 2005.
Snook, Donald Franklin, *'57*, August 11, 2016.
Rowley, Blair Arlie, *'62*, February 8, 2025.
Diemer, Charles Eugene, *'63*, Dec. 19, 2024.
Chopin, Lamy J., *'64*, September 20, 2017.
Hinz, Gary A., *'65*, November 9, 2024.

GAMMA MO Γ

Hopen, Leonard Francis, *'49*, Sept. 8, 2012.
Hagee, Frederick Price, *'50*, Dec. 12, 1998.
Mueller Jr., Theodore H., *'58*, Feb. 22, 2025.

NEW HAMPSHIRE

ALPHA NH A

Plamondon, Maynard A., *'62*, Dec. 11, 2024.

NEW JERSEY

ALPHA NJ A

Sofrin, Thomas G., *'42*, no details.
Casulli, Dominic Luke, *'57*, January 15, 2024.

GAMMA NJ Γ

Dalalian, Hrant, *'50*, no details.
Kuchner, Robert Andrew, *'69*, no details.
Audet, James Robert, *'74*, April 21, 2021.

NEW YORK

ALPHA NY A

Sege, Thomas, *'46*, March 3, 2015.
Adelman, Barnet Reuben, *'47*, Feb. 23, 2015.
Ash, Robert B., *'56*, April 15, 2015.
Bindi, Gian L., *'67*, November 21, 2022.

BETA NY B

Wild, Herbert Kurt, *'49*, April 8, 2016.

GAMMA NY Γ

Hopson, Norman Frank, *'49*, Sept. 3, 2022.
Dally, William Jasper, *'50*, July 12, 2014.
Maichak, Thomas Henry, *'50*, Nov. 26, 2020.
Ostergaard, Palle Clifford, *'50*, Nov. 5, 2014.
Owen, Matthew Anthony, *'50*, January 1, 2018.
Parson, Ralph Sven, *'50*, December 8, 2019.
Fox, Ervin Alfred, *'51*, May 17, 2019.
Schrader, Gustav, *'51*, October 29, 2023.

DELTA NY Δ

Watson Jr., Edward Fisk, *'51*, Oct. 25, 2021.
Anderson, Gordon Wood, *'59*, July 24, 2021.
Stewart, Charles W., *'60*, March 18, 2025.
Streett, William B., *'61*, February 5, 2024.

EPSILON NY E

Search, Robert Walter, *'49*, February 15, 2012.
Kammenzind, Henry A., *'50*, April 5, 2023.
Yamasaki, Akira Arthur, *'51*, March 3, 2017.
Torigian, Andrew, *'60*, November 25, 2024.

ZETA NY Z

Moughalian, Artin Pierre, *'67*, Nov. 28, 2007.

ETA NY H

Plotkin, Martin, *'43*, no details.

THETA NY Θ

Ferris, Erman Earl, *'50*, June 30, 2020.
Perlis, Harlan Jay, *'50*, April 4, 1980.

IOTA NY I

Lipnick, David, *'60*, January 14, 2015.

LAMBDA NY Λ

Heacock Jr., William Joseph, *'49*, no details.
Fazzolari, Carolyn Ann, *'63*, October 1, 2022.

MU NY M

Stickle, Robert E., *'79*, no details.

NU NY N

Schneeberger, Richard F., *'50*, March 6, 2025.

SIGMA NY Σ

Pownall, Kristian Michael, *'05*, Jan. 26, 2025.

NORTH CAROLINA

ALPHA NC A

Thayer, Cleveland Harper, *'50*, no details.
Reddeck, Alexander P., *'65*, June 1, 2024.

GAMMA NC Γ

Fishburne, Charles Carrol, *'52*, Nov. 24, 2020.

NORTH DAKOTA

ALPHA ND A

Erickson, Merle Leonard, *'49*, July 4, 2017.
Buermann, David Allan, *'94*, no details.

OHIO

ALPHA OH A

Seegel, Beryl S., *'48*, May 19, 2019.
Berlincourt, Ted Gibbs, *'49*, March 12, 2024.

BETA OH B

Ehrnschwender, Arthur R., *'48*, Oct. 20, 2014.
Bodenstein, Abraham, *'50*, June 21, 2016.
Henke, Russell Fay, *'63*, no details.

GAMMA OH Γ

Gonya, Harold Joseph, *'50*, June 21, 2020.
Laurrell, Robert William, *'50*, August 8, 1997.
Cowden, Lewis Milton, *'51*, January 1, 2023.
Haettinger, George C., *'54*, June 26, 2007.
Lossman, Edward August, *'54*, Dec. 1, 1984.
Feltz, John Francis, *'61*, December 5, 2024.

CHAPTER ETERNAL

Continued from page 33

DELTA OH Δ
Keesey, Joseph S., *'64*, February 9, 2025.
EPSILON OH Ε
Lorence, Elmer Louis, *'49*, March 22, 2006.
Tuske, Julius Victor, *'57*, January 1, 1975.
ETA OH Η
Martin Jr., Emlen Linton, *'63*, Sept. 11, 2012.
IOTA OH Ι
Maier Jr., Otto Herbert, *'49*, October 23, 2015.
LAMBDA OH Λ
Valentz, Thomas Michael, *'80*, Aug. 12, 2019.

OKLAHOMA

ALPHA OK A
Hise, Bill R., *'52*, November 26, 2020.
Tieger, Robert Marshall, *'56*, Nov. 12, 2018.
Wade, Lowell E., *'56*, August 28, 2024.

OREGON

ALPHA OR A
Judkis, Melvin Harry, *'48*, September 3, 2021.
Kawata, Kazuyoshi, *'49*, January 13, 2023.
Davis, Donald Arthur, *'51*, Sept. 25, 2023.
Akerman, Ned Ralph, *'53*, no details.

PENNSYLVANIA

ALPHA PA A
Moskowitz, John, *'50*, March 10, 2021.
Freeh, John Joseph, *'51*, February 12, 2016.
BETA PA Β
Etzweiler, George, *'49*, March 16, 2025. ***Cent***.
Neyhart, Paul Lester, *'55*, February 11, 2018.
GAMMA PA Γ
Rentz Jr., Jacob Fred, *'48*, no details.
Rung, Robert Donald, *'50*, Nov. 26, 2018.
Bissert, Fred John, *'56*, September 1, 2019.
Delaney, John E., *'61*, October 2, 2018.
DELTA PA Δ
Faber Jr., Richard James, *'50*, Feb. 27, 2017.
Kane, Thomas Reif, *'50*, February 16, 2019.
McIlvain, Donald Raymond, *'52*, Oct. 23, 2024.
Zelby, Leon Wolf, *'56*, November 9, 2020.
EPSILON PA Ε
Sandercock, Robert G., *'44*, May 17, 2019.
Mould, Channing Bennett, *'49*, Dec. 13, 2001.
Atno, Ralph Pengelly, *'50*, January 25, 2009.
ZETA PA Ζ
Freeburger, Robert, *'47*, Oct. 14, 2023. ***Cent***.
Herion Jr., Robert Walter, *'48*, May 17, 2024.
Minshall, William Thomas, *'48*, Sept. 1, 2020.
Schneider, Helmuth F., *'48*, January 1, 1988.
Leidigh, Thomas Jacob, *'49*, February 3, 2019.
Buri, John Henry, *'51*, April 25, 2020.
DeBaun Jr., Lester Edward, *'51*, Feb. 27, 2002.
Browne, Joseph Dominic, *'60*, July 22, 2024.
THETA PA Θ
Moore, Douglas McWhirter, *'99*, Nov. 2, 2023.
IOTA PA Ι
Facetti, Eugene Leonardo, *'49*, July 3, 2013.

RHODE ISLAND

ALPHA RI A
Jessup Jr., Walter Edgar, *'44*, January 3, 2024.
Conti, Edward, *'49*, June 1, 1996. ***Cent***.
BETA RI Β
Hurdis, David Albert, *'62*, June 5, 2022.

SOUTH CAROLINA

ALPHA SC A
Davenport Jr., Charles F., *'79*, April 11, 2005.
GAMMA SC Γ
Rogers, Cranston R., *'49*, June 18, 2024.
Rone, James Walter, *'61*, Dec. 24, 2023.
Lucas, William Ray, *'84*, February 10, 2025.

SOUTH DAKOTA

BETA SD B
Skubic, Louis George, *'47*, October 29, 2018.

TENNESSEE

ALPHA TN A
Whitworth, Gary Glenn, *'66*, Sept. 14, 2025.
BETA TN Β
Rawls, Lucien Ernest, *'46*, Feb. 15, 2025. ***Cent***.
GAMMA TN Γ
Selewski, Margaret E., *'81*, Feb. 27, 2025.

TEXAS

ALPHA TX A
Westkaemper, John C., *'47*, April 18, 2021.
Watts III, John Hill, *'60*, January 13, 2025.
Glover, Robert L., *'76*, March 22, 2025.
King, Robert Kendall, *'88*, no details.
BETA TX Β
Blagg, Leon, *'49*, August 8, 1999.
Current, Darrell K., *'50*, Dec. 18, 2024. ***Cent***.
Botkin, Jack Vernon, *'51*, May 3, 2001.
Nease, Robert Frank, *'51*, no details.
Hansen, Maynard James, *'58*, Oct. 17, 2023.
DELTA TX Δ
Kunze, Otto Robert, *'50*, June 12, 2020.
Mullinnix, Ted Lee, *'53*, July 1, 2007.
Springer, Karl Joseph, *'57*, February 23, 2025.
Rainey, Harold W., *'63*, April 26, 2000.
ZETA TX Ζ
Waites Jr., James W., *'61*, March 15, 2014.

UTAH

ALPHA UT A
Sadler, Stanley Gene, *'63*, December 7, 2024.
BETA UT Β
Crockett, Earl David, *'62,* January 28, 2025.
Clemens, James Alan, *'11*, April 7, 2018.
GAMMA UT Γ
Cleave, Mary Louise, *'79*, November 27, 2023.

VERMONT

ALPHA VT A
Outwater, John Odgen, *'43*, August 12, 2009.

VIRGINIA

BETA VA B
Gibson, Robert C., *'61*, February 20, 2025.

WASHINGTON

ALPHA WA A
Dillner, Bertil, *'49*, May 9, 2015.
Hoglund, Paul Alfred, *'50*, March 26, 2023.
Boydston, Blair Donald, *'52*, August 3, 2019.
Hamamoto, Masaru, *'57*, November 9, 2018.
BETA WA Β
Garretson, Lloyd, *'49*, July 16, 2016.
GAMMA WA Γ
Robel, Stephen Bernard, *'48*, October 5, 2007.

WISCONSIN

ALPHA WI A
Knoke, Calvin Arthur, *'45*, February 25, 2023.
Katzer, Melvin Floyd, *'48*, Feb. 8, 2021. ***Cent***.
Bond, Richard C., *'55*, no details.
Suhrke, Kenneth E., *'63*, November 20, 2014.
BETA WI Β
Luy, Warren Jack, *'49*, December 13, 2017.
Treadwell, George Wilson, *'52*, Nov. 4, 2024.
GAMMA WI Γ
Halter, Joseph Peter, *'81*, December 31, 2024.

SC G

South Carolina Gamma '84

William R. Lucas, Ph.D.

February 10, 2025

Directed the Marshall Space Flight Center (AL) from 1974-86. He began his career at Redstone Arsenal under **Wernher von Braun,** MI G '32, *helped design the passive thermal control system for the first U.S. satellite, Explorer I, and joined* ΤΒΠ *as an eminent engineer.*

UT G

Utah Gamma '79

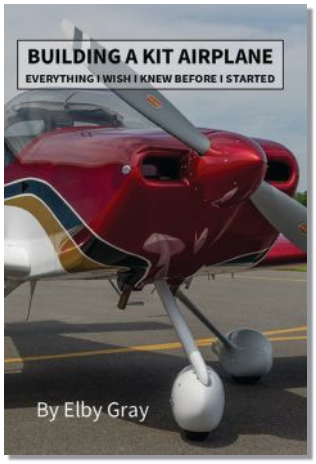
Mary L. Cleave, Ph.D.

November 27, 2023

A veteran of two NASA spaceflights (STS-61B and STS-30), she was also the first woman to serve as an associate administrator for the Science Mission Directorate. With training in civil eng'g and biological sciences, Mary was project manager for an ocean vegetation sensor.

Authors

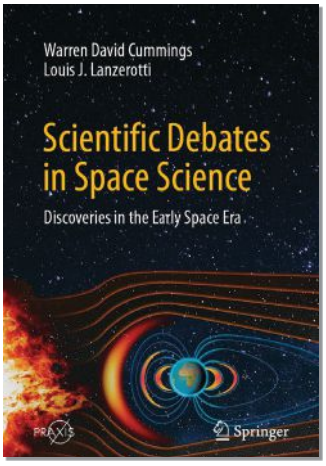
Recently published a book? If so, we would like to recognize you! Send details and a cover image to d.lane@tbp.org. Note: Due to the popularity of this section, submissions are first come, first served, as room allows. Thanks!



Larry "Elby" B. Gray
Massachusetts Zeta '84

Building a Kit Airplane, Everything I Wish I Knew Before I Started

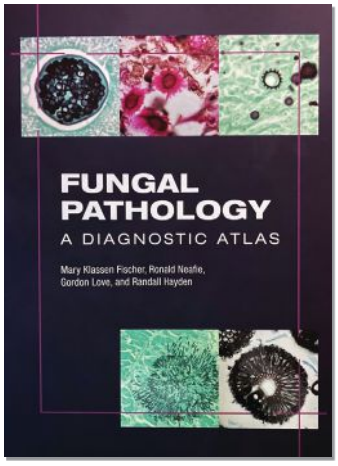
Larry is a retired mechanical engineer and instrument-rated private pilot who's built and flies his own kit aircraft. This book details the challenges of project planning, researching, building, painting, maintaining, and flying an experimental aircraft while balancing work and family life. His knowledge will help first-time builders improve their likelihood of success, build a better airplane, and determine if they have what it takes to start a kit airplane project.



Louis J. Lanzerotti, Ph.D.
Illinois Alpha '60

Scientific Debates in Space Science

This book features several of the significant scientific debates and controversies that helped develop space science in the early space era. With a goal of showing how science advances, topics include the origin of cosmic gamma-ray bursts. Co-author Dr. Lanzerotti is a Distinguished research professor of physics at NJIT in the Center for Solar-Terrestrial Research with interest in space plasmas and eng'g problems related to the impacts of atmospheric and space processes.



Gordon L. Love, MD
Louisiana Gamma '73

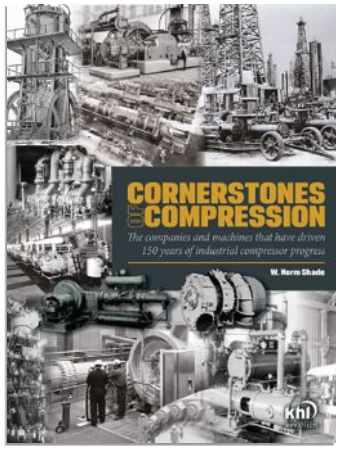
Fungal Pathology: A Diagnostic Atlas

Dr. Love, Chairman, Dept. of Pathology LSU School of Medicine, co-authored this book derived from unusual case files for surgical pathology consultation at the Armed Forces Inst. of Pathology during a 150-year period until its closure in 2011. These consultations included rare manifestations of fungal infections. The material has been curated into a guide for tissue pathologists to assist in interpretation of human disease. A mycologist and pathologist, this is his third book on fungal disease.

W. Norman Shade Jr., P.E.
Ohio Gamma '70

Cornerstones of Compression

An expert in industrial compression, Norm's latest book is designed as an industry resource with infinite shelf life. It traces the evolution of major industries: steel making, mining, construction, manufacturing, refrigeration, and oil & gas that required the compression of air & other gases and drove the development of industrial compressors through 150+ years of progress. It documents the history of compressors, engines, and the companies behind them.



STAY CONNECTED

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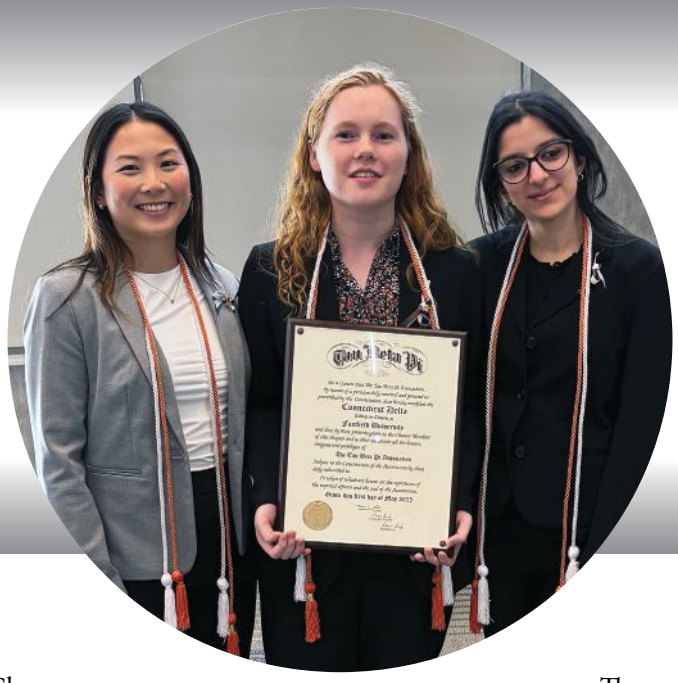
twitter.com/TauBetaPi

YOUTUBE:
youtube.com/c/TheTauBetaPiAssociationInc

CONNECTICUT DELTA



CONNECTICUT DELTA

was welcomed as a Tau Beta Pi Chapter on May 1, 2025. District 1 Directors Michael C. Munsey, *MA Δ '89,* and Scott M. Trocchia, Ph.D., *DC Γ '11,* joined Secretary Henry H. Houh, Ph.D., *MA B '89,* and Executive Director Curtis D. Gomulinski, *MI E '01*, in traveling to Fairfield University to formally install the Society's 264th collegiate chapter.

The 2024 Convention granted a charter to Tau Beta Phi, the local honor society at Fairfield University, which was represented in Rapid City, SD, by President Maeve G. O'Connell, Vice President Matthew J. Manduca, and Chief Advisor Susan L. Freudzon, Ph.D., *MA Δ '01*. O'Connell, *CT Δ '25*, and Manduca, *CT Δ '25*, had the honor of becoming the first members of their chapter during the Model Initiation at Convention.

INITIATION AND INSTALLATION

The DiMenna-Nyselius Library was the site of the first initiation of members on the Fairfield University campus. The initiation team consisted of the four Association Officials listed above, three student officers and an advisor who attended the 2024 Convention, and CT Delta Chapter Advisor Sidike Paheding, Ph.D., *AL E '13*. Fourteen undergraduates, three alumni, and two eminent engineers were initiated during the ceremony. They, along with the two students initiated at Convention comprise the charter members of Connecticut Delta.

Following the initiation ceremony, participants headed to the Event Hall of the Charles D. Dolan School of Business for the School of Engineering & Computing's annual Awards Luncheon. In addition to recognizing outstanding students and faculty achievements, attendees witnessed the initiation of new members into the Upsilon Pi Epsilon Computing & Information Disciplines honor society and into the Order of the Engineer. The formal installation of Connecticut Delta took place during the award celebration. Dr. Houh served as the installing deputy with the assistance of Mr. Gomulinski and constituted the charter members into a new chapter in the official ceremony of installation. The ceremony included the formal election and installation of the chapter's charter officers and advisors.

NEW OFFICER TRAINING

Following the initiation and installation ceremonies, Secretary Houh, Executive Director Gomulinski, District Directors Munsey and Trocchia, and Manager of Member & Chapter Services Connor C. Dubrule congratulated the new officers and conducted a training session to prepare them for their new roles as officers of the CT Delta Chapter. In addition to the aforementioned representatives of the Association, Chief Advisor Freudzon and outgoing officers O'Connell and Manduca, incoming President Ryan A. Van Allen, *CT Δ '26*, Vice President Charlotte R. Savigny *CT Δ '26*, and Secretary Emma R. Maselli *CT Δ '26*, attended the session. The Association Officials covered the key elements of running a ΤΒΠ chapter and answered questions about operations. The new officers and members expressed their enthusiasm in having a chapter of Tau Beta Pi on the Fairfield campus.

First Officers (left to right)
Matthew Manduca, Maeve O'Connell, and Mikayla Haut.

Charter Presentation (left to right)
Susan Freudzon, Maeve O'Connell,
Henry Houh, and Curtis Gomulinski.

Initiation Team (left to right)
Susan Freudzon, Henry Houh, Maeve O'Connell, Matthew Manduca,
Curtis Gomulinski, Michael Munsey, Scott Trocchia, and Sidike Paheding.

All Tau Bates in attendance for the Connecticut Delta installation at Fairfield University.

Engineering Elegance — The Application of Science to Create Jewelry

BY ADRIENNE N. PELTZ, *NEW YORK GAMMA '07*

When I graduated high school, someone asked me what I was going to be doing in 10 years; my response was "engineering." But, had they asked me what I would be doing in 20 years, never in my wildest imagination would I have said, "running my own jewelry business."

And yet, here we are. My husband, Aric, and I are both Rensselaer Polytechnic Institute graduates. I studied industrial engineering and worked those 10+ prophesized years as an engineer. My husband studied biology, and worked in a few different industries, including metal plating. When an opportunity presented itself to learn the traditional craftsmanship of repairing jewelry, he jumped at the chance.

While there was a lot happening in the world in 2020, for us, it was a very transformative year. Having been asked to leave my current position, we decided that the time was "now or never" to pursue our own dreams and start a business. So, with my engineering/project management background and his experience having worked at a jewelry corporation for a few years, we decided to go off on our own. And that is how our business came to life – Forge Gone Conclusions – a custom fine jewelry designer and manufacturer.

So, what does engineering have to do with jewelry? A lot more than you might think. Even I was surprised at how much materials science, physics, geometry, thermal dynamics, and chemistry goes into the art of jewelry making. And when you add in the business side, which includes supply chain, logistics, packaging, computer science, and project management – now you've got an entire college curriculum!

Today, let's explore a few different disciplines of what goes into making jewelry.

MATERIALS SCIENCE AND THERMAL PROPERTIES

One of the most common assumptions in the jewelry space is that if you hand a jeweler a few inherited pieces to melt down, they can magically make you a new piece. But, it doesn't work that way! In theory, yes it should (and engineers love theory). In practicality, many of the important variables are conveniently left out of the equation.

Let's take gold for example. Pure gold (24K) is absolutely amazing. If you ever get the chance, check out how bright and rich it is in color. Not only that, but when you apply heat to it while working on it as a jeweler, it really doesn't change color, oxidize, or create fire scale. This alone is really cool to see in person and saves the jeweler a lot of clean up time.

But, let's contrast that to what a lot of jewelry is made of – 14K. This designation means that the composition of the material is 58.3% gold with 41.7% alloy (typically copper, nickel, silver, zinc, etc., depending on the color and blend). When a jeweler works on a 14K piece with a torch, it will change color/oxidize/create fire scale. As a result, the jeweler has to spend time after the piece is constructed for cleaning.

These different alloys (**See Figure 1**) have a significant effect on the thermal properties of the metal. As an example, let's use a jeweler resizing a ring to make it bigger. The jeweler will cut the bottom of the ring, add a piece of metal, and then solder the piece in to complete the ring again. When a jeweler does this, there are multiple different solders (hard, medium & easy) available for each grade of metal! This means that 14K will have its own set of solders for both application (hard, medium & easy) and color (yellow, white & silver). 10K will also have its own set of solders for application and color. As for application, the type of solder is chosen by the desired usage and temperature of the flame. Easy solder is used at lower temperatures for quick connections, or connection points that can change in the future, while hard solder is used at higher temperatures for permanent strong connections. Overall, a jeweler will have a plethora of solders for the types of gold, application, and color. To learn more, view the video referenced in **Figure 3**.

So, now that we talked about material composition and thermal considerations, let's go back to the original proposition of handing a jeweler a bunch of inherited items to melt down and create something new. One of the biggest problems is purity and material composition. As mentioned before, 14K is gold alloyed with different metals to create different material properties and colors. When these independent items are melted down and formed into a new conglomeration, this now has its own unique properties that may or may not work well in a desired application. For example, if we tried to create a hand-fabricated piece, it might be brittle, crack, or develop pits on the surfaces, which would not be desired characteristics. As a result, old pieces are typically sent into larger facilities for refinement so that the gold can be extracted, and re-alloyed into known combinations. But, if there are compelling sentimental reasons, and the customer is willing to accept the risks, it is still possible for a jeweler to attempt to melt down the existing gold and rework it into a new piece.

GEOMETRY

Most engineers have played with CAD models to create beautiful renderings on the computer. But then reality hits when you try to actually make it – things don't fit exactly as you imagined them, tolerances aren't correct for that industry, and the users don't actually use it the way you intended.

The same thing happens in jewelry, but on a much smaller scale. Although you may have designed a stone to be held beautifully with two prongs on a ring, have you ever tried to secure a small stone with only two prongs and have it perfectly aligned along three axes? Can't say that I have, but my husband does this all the time. **See Figure 2.**

If you look at stones that are two-prong set (that means that there are only two pieces of metal holding it in place), those stones have to be aligned so that the top of the stone is flat, centered in the setting, and really good jewelers will also align the cuts of the stone in a certain way relative to the piece. Not only that, but the pressure on the stone has to be just right. The prongs must have enough pressure to prevent the stone from falling out, but it also can't be too much or else the stone will crack when it is being set. Some of it goes back to the choice of materials and their associated properties, and some of it is the skill of the jeweler.

Figure 1: Different types and colors of metals. From left to right: 18K Rose Gold, 14K Rose Gold, 24K Yellow Gold, 22K Yellow Gold, 18K Yellow Gold, 14K Yellow Gold, 18K White Gold, 14K White Gold with Palladium, Continuum Sterling Silver, Platinum with Ruthenium, and Continuum Sterling Silver with Black Rhodium plating.

Figure 2: A two-prong set ring, gold+silver twist with sapphires.

Learn How to Resize a Ring!

Figure 3: This video shows how a ring is resized. Certain stones (ex. pearls and opals) can't withstand heat, so Thermo Shield Paste was used to protect the stones during the resizing process.

To watch the video, scan the QR code or visit: ***https://youtu.be/STm5LBDqxpE***

RING PROGRESSION

The images below show the progression from pieces of metal and stones to a new piece of custom jewelry.

PHYSICS

And while we are talking about gemstones, physics comes into play. Remember the physics lab experiments from your college days? For most of us, there was probably one that involved water to determine a refractive index. Well guess what? One way that jewelers can identify gemstones is through their refractive index. A jeweler will sometimes use a refractometer and compare the result to a table of known values. For example, a diamond refractive index is around a 2.42, while a cubic zirconia is around 2.17. This is a quick way for a jeweler to get an idea as to if the stone is even in range of what it is supposed to be, but there are still many drawbacks.

One drawback is that some refractive index ranges overlap each other for different types of stones, so it might still be inconclusive. In addition, sometimes it is hard to test stones, especially if they are very small or already set in a piece. As a result, bigger lab testing facilities might use multiple methods as well as more sophisticated equipment to determine exact types of stones and even how they were made.

LOGISTICS

I would be remiss if I didn't mention all the logistics that goes into not only running a jewelry business, but any business. From my years working in the corporate world, I saw what a multi-million dollar company looks and feels like. But, if you want the efficiencies of a large company, on a much smaller scale, you really have to rely on the advances in technology to make this happen. For example, having a Customer Relationship Management system that has multiple aspects integrated within it such as marketing/communications, project management, finances, and IT support is critical for a small business. Today, there are providers that do just this. For example, a single platform can support a customer database, host your website, provide an email platform, support invoicing and point of sales, and will even do the IT work of updates and bug fixes. A single all-in-one solution keeps all the data streamlined and complete because there is only one system housing everything.

JUST IN TIME MANUFACTURING

Partnering with premier suppliers that can provide high-quality materials in a timely fashion is key. Our main supplier handles the compliance, material testing, and ethical/responsible sourcing of the material, which allows us more time to focus on the customer and the custom jewelry requests. This partnership also allows us a true "just in time" manufacturing approach where we are only ordering in materials for projects with paid deposits. This allows us to capitalize on all the benefits of "just in time" such as reduced cost, very little waste, small footprint, increased efficiency, and most importantly, we are able to focus our attention on quality and relationships.

CONCLUSION

Although we only scratched the surface of some of the engineering jewelry connections, I look back at my experiences from college and can pick out those exact courses and topics that were taught, and I am now using daily. I also look back upon my years spent as an engineer/project manager that showed me how a well-oiled company is run and how they gain efficiencies by using different techniques and technologies.

And all these years later, I now understand why I couldn't have predicted what I would have been doing 20 years in the future. Because, I needed to experience the different facets of life in order to even start to put some of the puzzle pieces together.

ADRIENNE PELTZ and her husband Aric Potter are owners of Forge Gone Conclusions, a designer and manufacturer of custom fine jewelry. They work to bring your designs and inspirations to life, especially for milestone occasions such as birthdays, anniversaries, and holidays. To learn more visit, ***www.fgconclusions.com*** or check out their Youtube channel (**@fgconclusions**)

Summer Problems *Continued from page 23.*

3: UFO Surface Area

The National Aeronautics and Space Administration (NASA) has just detected three UFOs hurtling towards the Earth. One is shaped like a cube, the second is shaped like a sphere, and the last is shaped like a regular tetrahedron. The engineers at NASA want to use their brand-new photonic lasers to destroy the UFOs. However, to obliterate them, the engineers must determine the correct intensity settings, which are based on each object's surface area.

The sphere's volume is twice that of the cube, the cube's volume is one-third that of the regular tetrahedron, and the regular tetrahedron's volume is one-sixth that of the Moon (2.1958×10^{10} km^3).

If the cube has edge length *a*, the sphere has radius *b*, and the regular tetrahedron has edge length *c*, what would be their respective surface areas in km^2 (to 5 significant figures)?

Hurry up now, the people of Earth are depending on you!

— **Isaiah J. Woodley,** *FL Γ '25*

4: Twin Days

At the annual convention of twins in Twinsburg, there is a session devoted to a special type of twin where the two people are born on different days. That is, one is born shortly before midnight and the other is born shortly after midnight on the immediately succeeding day. Assuming a year always has exactly 365 days, how many sets of these twins are needed to be in a room to have a greater than 0.5 probability of at least two people sharing the same birthday?

Suppose instead the convention takes place on the planet Gemini where a year has only 29 days. How many sets of these twins need to be present to have a greater than 0.5 probability of at least one common birthday? What is the ***exact*** probability of this?

— **Timothy J. Slegel,** *PA A '80*

5: Escape from the Tower

Three hundred years ago, a groom, a bride, and their servant were locked up high in an unfinished and abandoned tower.

Glancing out the window, they concluded it was too high to jump safely to freedom. A rope, abandoned by the original masons, was hanging near the window, thrown over a rusty tackle fastened to the tower above the window. Empty baskets were tied to each end of the rope. The baskets had been used by the masons to lift bricks and lower rubble. Our trio could see that if one basket's load was 5 kilograms (kg) more than the other, the heavier basket would descend smoothly to the ground while the other basket rose to the window.

The bride's weight was 50 kg, the servant 40 kg, and the groom a full 90 kg. In the tower they found 13 separated pieces of chain, each weighing 5 kg. They found a way for all three prisoners to safely reach the ground. The descending basket's load never exceeded the ascending basket's load by more than 5 kg. The pieces of chain were not thrown from the tower to the ground. Assume that the rope can be tied off to secure the loaded baskets in place, when needed.

Rather than giving the detailed tracking of the basket movements, tell the judges (1) the minimum number of basket descents required to safely lower all three prisoners to the ground and (2) the number of descents each prisoner made, assuming the combined total descents made by the prisoners is a minimum.

— *The Moscow Puzzles* by Boris A. Kordemsky

BONUS: The Supyire language belongs to the Senufo group of the Atlantic-Congo family. It is spoken in Mali and Côte d'Ivoire.

Here are some numerals in Supyire and their values:

baashuunni	7
bɛɲjaaga na niŋkin	21
ŋkwuu taanre na beeshuunni na kaŋkuro	285
kampwoo na ŋkwuu shuunni na beetaanre na baani	626
kampwɔhii sicyeere na bɛɲjaaga na kɛ na baaricyeere	1639

Write in digits the numbers:

kampwɔhii shuunni na kɛ
ŋkuu na baataanre

Write out in the Supyire language: 15; 109; 152; 403; 1534.

Feel free to substitute the character 'C' for '*ɔ*,' an 'E' for '*ɛ*' and an 'N' for '*ŋ*.'

—International Linguistics Olympiad

DOUBLE BONUS:

Create a 5x5 grid of letters from the alphabet. Earn points for each of the 50 U.S. states that can be spelled by using chess king's moves to walk the grid.

- each state name can start anywhere in the grid
- spell a name by making a sequence of one square moves (in any direction) to walk the grid
- score one point for the length of each state name, e.g. TEXAS is 5, NORTHDAKOTA is 11.
- each state name can only score once for a given grid

Submit your answer as a 5x5 block of characters, your total score, and your list of states found. There are no wrong solutions, only good, better, and best.

Here's a sample solution (using a 3x3 grid for simplicity):

X I H
D A O
Y W D

Three states can be found in the grid for a total of **13 points: IDAHO, IOWA, OHIO**. Note that HAWAII is *not* found, since there is no king's move in this grid from the **I** to another **I**.

— Jane Street

Email your answers to any or all of the Summer Brain Ticklers to *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 and the Double Bonus is not graded. Where possible, exact answers are preferable. The cutoff date for entries to the Summer column is the appearance of the Fall *Bent* which typically arrives in mid-September. 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.R. Stribling,** *CA A '92*; **K.D. Berthold,** *TX B '04; and columnist for this issue* **J.C. Rasbold,** *OH A '83.*

ASSOCIATION BRIEFS

TAU BETA PI DAY 2025 RECAP

Tau Bates across the world celebrated ΤΒΠ *Pi Day* through collegiate and alumni chapter events, sporting our merchandise, and sharing pictures on social media. Thank you for making our twelfth annual *Pi Day* a success! Visit our website to watch the 2025 recap video at: *www.tbp.org/pi-day.cfm*

In conjunction with ΤΒΠ *Pi Day*, our Giving Campaign raised more than $7,774, from 55 contributors, to help fund ΤΒΠ programs that benefit the future of engineering. Four ΤΒΠ *Pi Day* images along with short summaries appear below.

Figure 1

The Alabama Alpha Chapter's Pi a Professor fundraising event was a huge success due to the attendance of Auburn eng'g students, professor volunteers, and members.

The 2025 AAAAC Inter-Chapter Pi Day event, hosted by the Ann Arbor Area Alumni Chapter, was the largest in its history. It was organized by MI Gamma Chapter Advisor and AAAAC Director Drew A. Boughton, *MI G '23*, with the help of officers from the MI Gamma, Epsilon, and Iota Chapters. Drew used his own 3D-printer to create gold, silver, and bronze pie-themed trophies (Figure 1) with metallic filling for the winners of the banner design and trivia competitions. In the end, all attendees (above image) expanded their ΤΒΠ knowledge and enjoyed plenty of food & good times.

The Puget Sound Alumni Chapter and the MIT club of Puget Sound celebrated Tau Beta Pi Day with Zev Siegl, global thought leader and co-founder of Starbucks. Zev shared reflections on Starbucks' humble beginnings and the invaluable lessons imparted by their mentor, Alfred Peet, founder of Peet's Coffee. He emphasized the importance of mentors, highlighting their role in guiding mentees through thoughtful questioning rather than direct judgement.

ALUMNI ACTIVITY:

ST. LOUIS ALUMNI CHAPTER

In early April, the St. Louis Alumni Chapter hosted an event at a St. Louis Blues (NHL) hockey game.

Both alumni and local student chapter members were invited to the event and a group of roughly 20 alumni and 10 students from the Missouri Alpha and Beta Chapters showed up for the game. Attendees sat in a large booth behind the goalie and enjoyed complimentary food and drinks.

The night ended on a high note as the Blues won their 12th consecutive game, a franchise record!

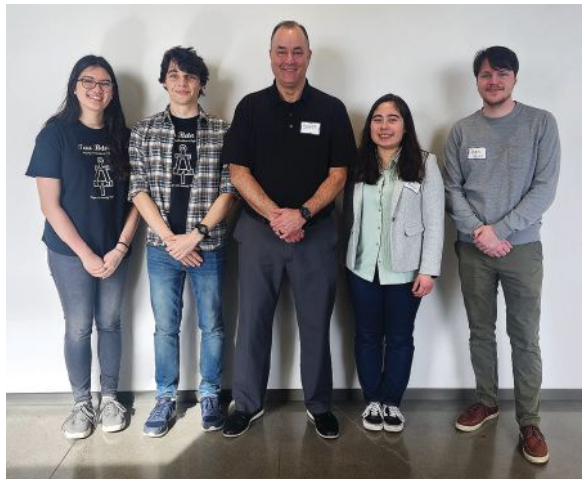
Credit: St. Louis AC vice president Anna M. Buss, *IL A '24*, for the images and summary. Want to join the chapter? Send an email to: *STLAlumni@tbp.org*

WELCOME NEW DISTRICT DIRECTORS

District 5
Brent D. Weinberg
TN A '01

District 11
Rebecca R. Seemann
ND B '23

District 15
Thomas J. Merritt
CA Σ '83



The OR Alpha Chapter at Oregon State University hosted an Engineering Futures (EF) session in March. The image above includes OR A vice president Alexia Follett (far left), OR A president Hunter Elwell (second left), and EF Facilitator Scott Eckersall, *CA I '96* (middle).

It was the first in-person EF session hosted by their chapter or any District 14 chapter since 2020, due to the pandemic.

OR Alpha Chapter officers worked hard to promote the session by pinning up fliers in every academic building on campus and uploading digital information to campus monitors. It worked – 74 people signed up!

TAU BETA PI HEADQUARTERS NEWS

Updates from the Association in Knoxville, Tennessee

MEET OUR NEW STAFF MEMBERS:

Erin Andrews hails from New Smyrna Beach, Florida, studied political science at Vanderbilt University, and began her fundraising career at her alma mater. She will serve as development & fundraising coordinator.

After earning her TESOL certification and teaching English in Prague, Erin moved to New York City where she held development roles with various nonprofits and higher education institutions. More recently, Erin received her M.F.A. in comics from the California College of the Arts.

After visiting family in the area for years, she moved to Knoxville this past fall and is excited to apply her creative storytelling skills to her work supporting the Association. In addition to making art, Erin enjoys cooking, taking rambling walks, and studying pop culture.

Kelly Caro, originally from Ponchatoula, Louisiana, just outside of New Orleans has joined ΤΒΠ HQ as a support specialist with the Member Services team.

Currently, she is pursuing a degree in mechanical engineering with aspirations of building a career in patent and corporate law. With expertise in successful logistics coordination, FDA audits, event coordination, and ergonomics research, Kelly is a proven leader.

In addition to practicing yoga, she enjoys spending free time indulging in her favorite shows, cheering for football games, and exploring her creative side through digital content creation.

Andrea Dake, a native of SE Pennsylvania, is excited to be back in her second home – East Tennessee – as the Association's executive assistant.

Andrea has experience growing start-up companies, consulting with small businesses, human resources (including talent acquisition), DEI initiatives, and legal support. She was recognized as a finalist for the 2017 Nashville Emerging Leader Award and has spoken at universities and workshops about the benefits of flexibility and creating a more agile workplace.

Andrea obtained a B.A. in international relations with a minor in Women's Studies from the University of Delaware in 2004 and moved to Knoxville in 2011. Prior to that, she lived in New York City for several years, working for a private equity investment firm and traveling the world.

Hope Gamble, born and raised in Asheville, North Carolina, recently moved to Tennessee from Delaware.

She brings a diverse background to her role as chapter & member services coordinator at ΤΒΠ HQ.

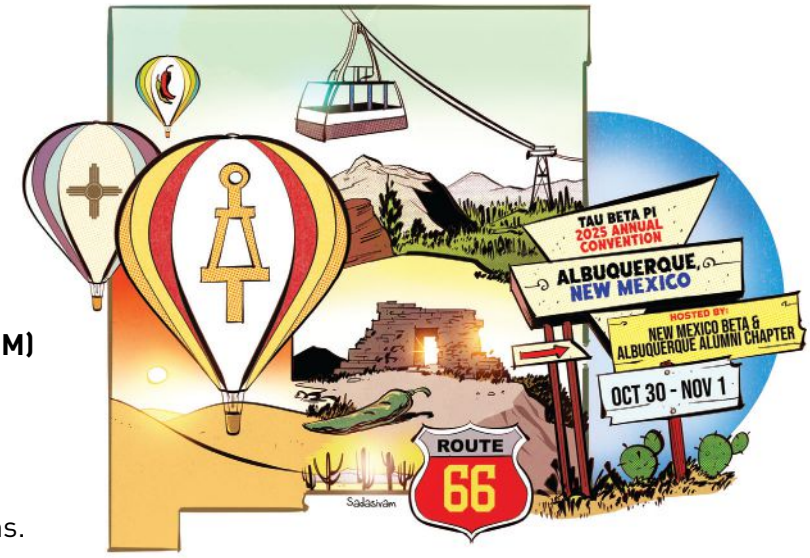
Hope began her career in collections before transitioning into corporate banking, where she honed her skills over several years. Most recently, she worked as a program coordinator for an environmental nonprofit, focusing on program management and community engagement.

Outside of work, she enjoys hiking, reading, and taking spontaneous road trips with her daughter.

Join us for the 2025 Convention in Albuquerque, NM

- **October 30 - November 1 at The Albuquerque Convention Center**
- **Hosted by the New Mexico Beta (at UNM) and Albuquerque Alumni Chapters.**

More information is available at: www.tbp.org/convention.cfm or, contact tbp.convention@tbp.org, with any questions.



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- Save an additional 5% on Core Packs and Services
- Access to exclusive member only promotions
- Buy more, save more

WELCOME

We are excited to announce HP's new partnership with Tau Beta Pi. You now have access to a private store built for members, where we provide exclusive discounts on HP equipment. From back to school to building your business, HP is here to save you money and provide a world class shopping experience. Get started now at: ***www.tbp.org/hp-request.cfm***

The 2025 TBΠ Headquarters staff around the TN Alpha Chapter Bent monument in Knoxville, Tennessee. Left to right:

(Front row) Mike Brown, Director of Finance & Operations; Kelly Caro, Support Specialist; Renea Lewis, Marketing & Communications Specialist; Sherry Jennings-King, Director of Development & Communications; Roxanne Bachert, Finance Coordinator; Angie Boles, Member Services Coordinator. (Back row) Curt Gomulinski, Executive Director; Brady Strobl, Member Services Associate; Ryan Hubbuck, Full Stack Developer; Bill Dickson, IT Manager; Connor Dubrule, Services Manager; Erin Andrews, Development & Fundraising Coordinator; Andrea Dake, Executive Assistant; Matt Brissette, Systems Programmer; Dylan Lane, Marketing & Communications Coordinator; and Hope Gamble, Support Specialist.

ALUMNI NOTES

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

COLORADO BETA '15

Brittany A. Earle

Brittany was recognized by the University of Colorado Boulder as a 2025 Recent Alumni Award recipient. She works as the project execution owner of a multimillion-dollar plant improvement project at BASF's site in Geismar, LA, and is active at the advisory board level with the CU Boulder dept. of chemical & biological engineering.

FLORIDA EPSILON '06

George J. Morales Ph.D.

George recently joined Amazon as a senior program manager at the Relay Operations Center Tech Team in Tempe, Arizona. He has M.S. and Ph.D. degrees in electrical engineering from Florida Atlantic Univ. and served as a ΤΒΠ Executive Councillor from 2014-22, including as Association president in 2021.

INDIANA EPSILON '02

Crystal H. Sattler

Crystal was added to the Trine University Board of Trustees. She is a distinguished alumna having been inducted (2007) into Trine's Athletic Hall of Fame for basketball & tennis and previously served on the Engineering Advisory Committee. A chemical eng'g graduate, Crystal works as the API organic synthesis lead for Pfizer.

INDIANA EPSILON '10

Sarah E. Waidelich J.D.

Sarah has joined Trine University's Board of Trustees. A mechanical eng'g graduate, she went to Univ. of Michigan Law School and is a partner at Honigman LLP as an intellectual attorney. At Trine, Sarah was on the basketball team, student body president, 2018 Distinguished Service Young Alumna, and IN E Chapter president.

MICHIGAN EPSILON '16

Tejaskumar B. Patil

Tejas was selected as a distinguished member of Oakland (MI) County's 2025 Class of 40 Under 40. A staff engineer at Qualcomm, he has 15+ years of experience as a systems engineering and system safety leader, an industrial eng'g master's degree from Wayne State Univ., and the expertise to drive advancements in the field.

NEW MEXICO GAMMA '02

Anthony L. Montoya Jr. P.E.

Anthony was selected as Engineer of the Year (2025) by the New Mexico Society of Professional Engineers. He works for the City of Albuquerque Planning Dept. in Development Review Services (Hydrology Section) as a senior engineer. Anthony is a NM Beta Chapter Advisor and past president of the Albuquerque Alumni Chapter.

NEW YORK SIGMA '19

Elizabeth M. Tsekrekas Ph.D.

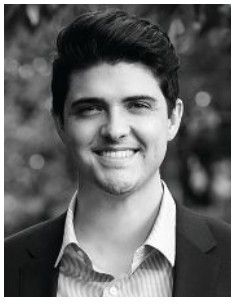
Elizabeth received the American Ceramic Society's David W. Richerson Educational Outreach Award. It's given annually to an undergrad or graduate student member who has made a significant impact through outreach to primary and secondary school students. She is a postdoctoral researcher at Savannah River National Lab.

OHIO ETA '21

Maj. Brigham A. Moore USAF

Ph.D., P.E.

Brigham was named the 2025 Federal Engineer of the Year by the National Society of Professional Engineers. He is deputy commander of the 51st Civil Engineer Squadron (U.S. Air Force) and oversaw a $42 million military construction project to reduce carcinogenic exposure.



WASHINGTON DELTA '16

Jeffrey D. Kvamme P.E.

Jeff recently obtained his professional engineer license from the State of Florida. He also started a new position, Staff Engineer I - Structural, at Pennoni, where he's worked since 2023. Jeff has a B.S. degree in civil eng'g from Gonzaga, where he was WA D Chapter treasurer, and an M.S. from CU Boulder.

WISCONSIN GAMMA '83

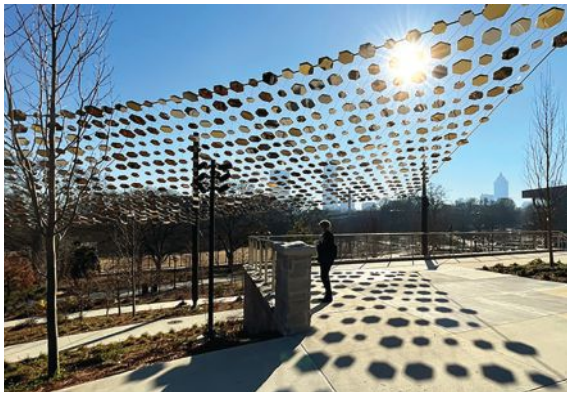
David N. Metzger P.E.

David was recently awarded the Northeast Tennessee Tourism Pinnacle Lifetime Achievement Award in recognition of his 37 years of transportation engineering success in developing and operating traffic control plans for special events in TN/VA. After retiring, he now serves as an eng'g instructor for the Univ. of Tennessee Transportation Assistance Program.

Send news about civic activities, honors, weddings, promotions, etc. to Tau Beta Pi, P.O. Box 2697, Knoxville, TN 37901-2697 or to d.lane@tbp.org. Deadlines: August 1 for **Fall** issue and November 1 for **Winter** issue. Include head shot, name, address, chapter/class year, and email address or phone number. We cannot accept graduation announcements. Thank you!

An aerial picture of the Pathway of Progress project taken by Parrish Ruiz de Velasco, courtesy of Gray Matters.

Etched mirrored tiles from the completed project. Courtesy of Georgia Tech.



An observer checks out the new art installation as the sun reflects the mirrors and with the downtown Atlanta skyline in the background. Courtesy of Georgia Tech photographers – Allison Carter, Rob Felt, and Parrish Ruiz de Velasco.

GEORGIA ALPHA

Helen E. Grenga Ph.D.

Holly E. Jeffreys Ph.D., P.E., S.E.

Steven W. McLaughlin Ph.D.

Mary Lynn Realff Ph.D.

On March 8, Georgia Institute of Technology officially opened its newest permanent art installation to the public, "Pathway of Progress: Celebrating Georgia Tech Women."

The "pathway" is a winding mosaic sheet at the heart of campus, made up of nearly 3,000 mirrored tiles that catch the light. One-hundred and sixty-eight of the tiles are inscribed with etched micro-stories of Georgia Tech's past, present, and future women.

The project was envisioned by Andrea Laliberte, an industrial eng'g Tech graduate, with Merica May Jensen, also a Tech alumna, serving as lead architect and artist.

Several Tau Bates were involved in the construction, execution, and process of bringing the art installation to life and includes:

- **Holly E. Jeffreys, P.E., S.E.,** *GA A '95*, co-founder and managing partner at Shear Structural, served as one of the structural engineers.
- **Steven W. McLaughlin, Ph.D.,** *IL G '85*, Georgia Tech Provost, who was recognized for his support of the project.
- **Mary Lynn Realff, Ph.D.,** *GA A '87*, associate professor for material science & eng'g and associate chair for undergraduate programs at Georgia Tech, served on the panel discussion that took place before the ribbon-cutting ceremony.

More details on the ceremony were published by the Georgia Tech News Center (*https://news.gatech.edu/features/2025/03/pathway-progress-opens*). In addition, there is a Pathway of Progress website that includes an interactive map of the tiles to learn about the honorees whose stories have been etched into the installation.

Several of the current honorees are Tau Bates, including **Helen E. Grenga, Ph.D.,** *GA A '60*, the first woman faculty member in engineering at Georgia Tech. She is also recognized with the Helen Grenga Outstanding Woman Engineer Award which honors her legacy as a teacher, mentor, and leader.

A full list of the inaugural honorees, a time lapse video of the construction of the project, and more can be found at: *https://celebratingwomen.alumni.gatech.edu/*

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In-Person - OCTOBER 30

At the Albuquerque Convention Center in Albuquerque, New Mexico, during the Tau Beta Pi Convention

Full details on RECRUITING opportunities at:

WWW.TBP.ORG/?RECRUIT

Questions?

Contact Erin Andrews at: e.andrews@tbp.org

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258

COLLEGES +

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Electrical
Biomedical
Chemical
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Send updated information to ***tbp.memberupdate@tbp.org.*** Please include your name, initiating chapter, year of graduation, and any preferred name changes.

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PPI: 20% discount on preparation materials for the FE/EIT and PE licensing exams.

HP: Partnership providing discounts on HP equipment. See **page 45**.

LINKEDIN: Join 37,950 Tau Bates for professional networking and career discussions and follow our business page.

TAU BETA PI JOB BOARD: Post a resume online and browse hundreds of engineering jobs at top companies.

COLLEGIATE CHAPTERS

264 COLLEGIATE CHAPTERS
258 ACTIVE — 647,160 MEMBERS

6 Inactive chapters shown in ***BLUE***

Α = ALPHA
Β = BETA
Γ = GAMMA
Δ = DELTA
Ε = EPSILON
Θ = THETA
Ι = IOTA
Κ = KAPPA
Λ = LAMBDA
Μ = MU
Ν = NU
Ξ = XI
Ο = OMICRON
Π = PI
Ρ = RHO
Σ = SIGMA
Τ = TAU
Υ = UPSILON
Φ = PHI
Χ = 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 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
DELTA Fairfield University
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
GAMMA Georgia Southern Univ.
DELTA University of Georgia
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.
KAPPA Merrimack College
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)
ZETA Brooklyn Polytechnic (inactive)
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
ETA Western 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
QATAR ALPHA Texas A&M Univ. at Qatar
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
ETA Lipscomb University
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
UAE ALPHA American Univ. of Sharjah
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 Wlisconsin-Milwaukee
DELTA Milwaukee School of Eng'g.
EPSILON Univ. of Wisconsin-Platteville
WY ALPHA University of Wyoming

ALUMNI CHAPTERS

82 ALUMNI CHAPTERS
52 ACTIVE

30 Inactive chapters shown in ***BLUE***

DISTRICT 1
Central CT, Hartford
Greater Boston Area, MA

DISTRICT 2
Buffalo, NY
Central Jersey, NJ
Long Island 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
Charlotte, NC
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
Southwest FL
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

DISTRICT 7
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
Scissortail, OKC-Norman, OK
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
Wasatch Front, 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

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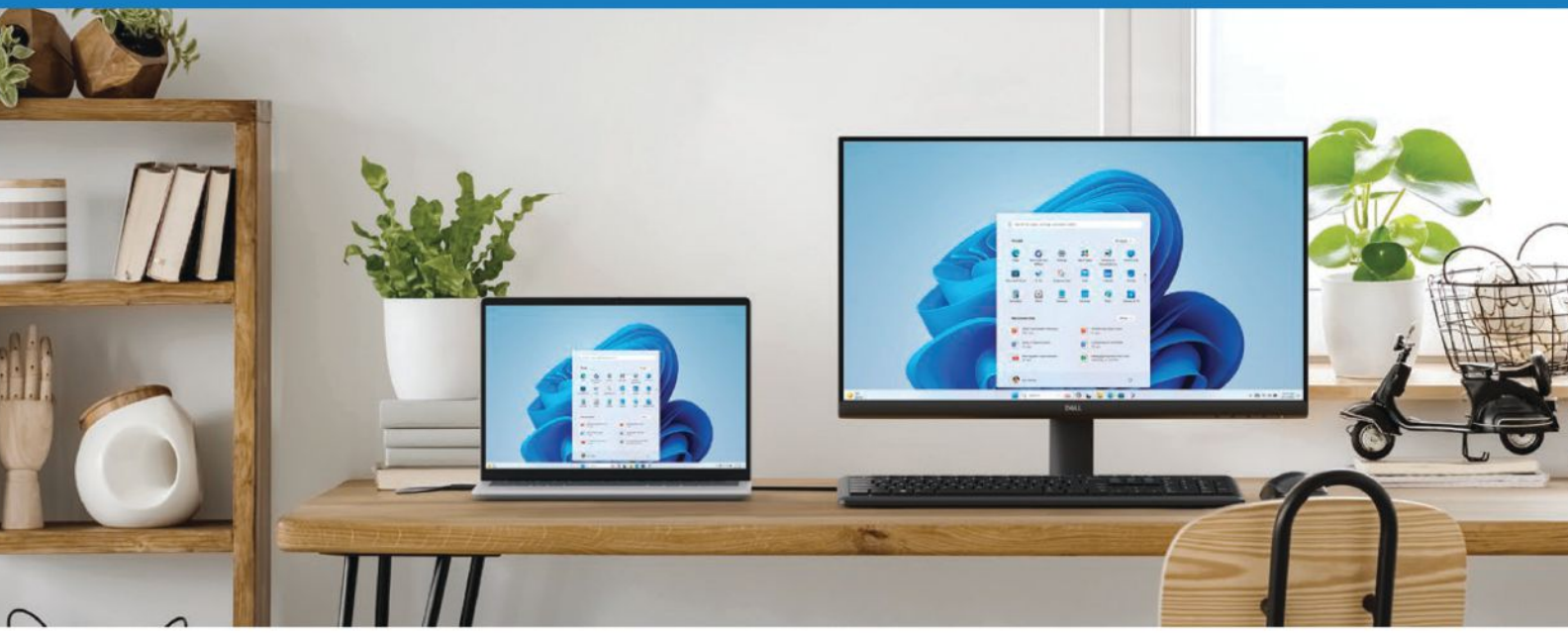

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