



WINTER 2026

# The Bent

Of Tau Beta Pi

THE ENGINEERING HONOR SOCIETY

**Creative Industries: Textiles**  
**2025 Convention Recap**  
**Lyle's Last Column**



# The Bent

Of

# Tau Beta Pi

The Engineering Honor Society

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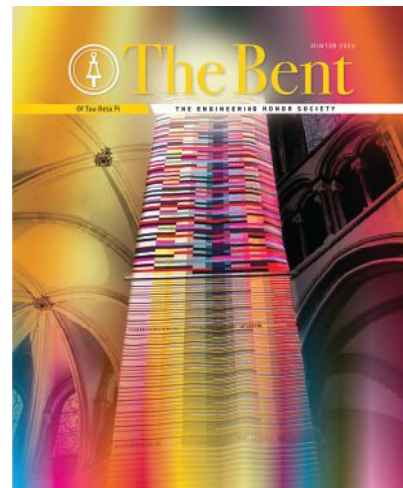
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Member, *American Society for Engineering Education (ASEE)*;  
co-founder, *Association of College Honor Societies (ACHS)*; and  
Affiliate, *American Association for the Advancement of Science (AAAS)*.

**On the COVER:** An image of the “moon landing” tapestry in Canterbury Cathedral (UK), which is a 16-meter hand-woven textile by artist Margo Selby, accompanied with a musical score by composer Helen Caddick. This immersive installation honors the women who wove the integrated computer circuits for the 1969 Moon landing and was on display until August 31, 2025.

Read Bridget Moorman’s feature (**page 6**) for more information on how engineering technologies are used in the manufacturing of textiles.

**Artist:** Dali Polivka



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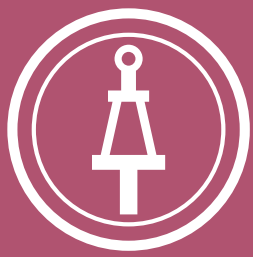
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**See back inside cover for listing of Tau Beta Pi Chapters.**



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Image credit:  
Binghamton University

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# COUNCIL'S CORNER

David J. Cowan, P.E., ENV SP, FL E '14, TBP 2026 Executive Councillor

## THE BEST MEMBER BENEFIT: MENTORSHIP, SERVICE, AND REMAINING ACTIVE AFTER GRADUATION

From their start as spaces for intellectual debate and fellowship, collegiate honor societies have offered far more than just a line on a resume. For students, they provide a vital support system, a "home away from home." Through leadership roles, members develop essential life skills, gain access to a vast network, and receive mentorship that guides them throughout their journey. While these connections are crucial for promoting a student's well-being and instilling a sense of civic responsibility, their value does not end at graduation. In this column, I'll explore how service and continued involvement after graduation create a rewarding cycle, where alumni who give back often receive more in return and enrich their own lives while fostering the next generation and growing in their own careers.

### During My Time as a Student

As a Tau Beta Pi (TBP) collegiate member, I learned quickly that membership would become what I put into it. The organization provided a powerful platform for service, allowing me to focus on initiatives I felt were truly meaningful. Thus, I dedicated energy to impactful projects such as K-12 STEM outreach, organizing beach clean-ups, and hosting an annual Engineers' BBQ, all aimed at building a stronger sense of community.

Beyond service, the FL Epsilon Chapter offered significant leadership opportunities that fueled my growth. I eagerly took on roles as MindSET Program chair and later served as both VP and president. I was responsible for planning key professional events such as speed networking nights and resume reviews,

directly contributing to the success of my peers. A particularly formative experience was a trip to Kentucky for the annual Convention, which solidified my commitment and charged me up for a lifetime of involvement with TBP.

### Immediately After Graduation

My service did not end with graduation; in fact, it was only the beginning. Shortly after finishing my undergraduate degree, I helped reactivate the Palm Beach/Broward (FL) Alumni Chapter, which remains active a decade later. The values and habits cultivated in TBP directly inspired me to get involved with other professional organizations, extending my impact within the engineering community. I also found new opportunities to lead, in a different capacity, serving as a collegiate chapter advisor to guide the next generation of student members.

### A Decade Later and Beyond

Now, more than ten years later, my involvement has expanded in ways I never could have imagined. A few years into my career, I moved into a District Director role. This position has been incredibly rewarding, giving me the chance to mentor some of the most amazing young engineers in the country. It has also allowed me to build deep, lasting friendships with these talented individuals.

My opportunities to mentor continue to grow each year. I can easily say I have personal and meaningful interactions with 10 to 15 new inspiring young engineers annually, in addition to the hundreds I connect with through smaller yet significant experiences. I also have been able to maintain an incredible and diverse network.

What began as a student's desire to get involved, has evolved into a lifelong journey of service, leadership, and connection, all thanks to the spirit fostered in Tau Beta Pi.

### A Network of Support that Amplifies

Every day I get to experience people who are impacted by the gift that is the Association's network. From going to a career fair and having a member outside my engineering discipline introduce me to a friend in my discipline, to walking through a technical conference wearing a TBP sweatshirt and having someone introduce themselves, to helping members connect as they begin their professional careers.

Continues on page 3.

## 2026 EXECUTIVE COUNCIL DIRECTORY

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**BONUS:**  
 Read David's account of a recent service trip to Peru.



David (center, w/ TBP hat) meets with community leaders in Peru to strategize sustainable clean water solutions.

**Continued from page 2**

If you have drifted away from TBP over the years, or were not very active as a student, it is not too late to join us on this road of service. If you are a student member, engage with your local alumni chapters; they want to interact with you but they don't know how. If you are a recent graduate or about to graduate, **do not waste what may be your best member benefit: connection with other Tau Bates.**

Find a mentor through LinkedIn or Discord. Start mentoring immediately, as even a single semester of work experience gives you valuable insight that you can share with a collegiate member near graduation. If you have changed jobs, you can offer guidance to someone considering a similar move.

I promise you, if you have not been of service in the past, it is an experience you won't want to miss. I stand by the statement that member-to-member interactions are the most priceless benefit of all.

Contact me at [d.cowan@tbp.org](mailto:d.cowan@tbp.org), I'd love to hear how I can help.

.....  
**DAVID COWAN** works as an assistant department manager of Florida Storm-water at Baxter & Woodman and is also an adjunct professor at Palm Beach State College. He has civil engineering degrees (B.S. and M.S.) from Florida Atlantic University, is certified as an ENVISION Sustainability Professional, and joined the Executive Council in 2025.

## Amplifying Impact: Clean Water, Real Change

Every day, thousands die from a lack of clean water, many of them children. Around the world, women and girls spend 250 million hours daily hauling water, often walking miles instead of attending school or work. Clean water transforms everything, it restores dignity, prevents disease, and gives time back to families.

Through the Baxter & Woodman (B&W) vacation reimbursement program and a donation from B&W Cares, I joined Vera Aqua Vera Vita in Piura, Peru, helping bring clean water & sanitation to three underserved communities. Together, we monitored a previously installed VAVV water treatment system in Monte Castillo, launched WASH workshops & water committees in La Merced, and created a "virtual pipeline" in Las Mercedes to deliver safe water. Seeing the new water tanker roll through Las Mercedes was a powerful reminder that lasting change begins with partnerships and action.

B&W's support helped make this mission possible and when companies empower employees to serve, they amplify kindness into global impact. Imagine the difference if more of us had the chance to use our skills to build a better world.

Clean water is not a luxury, it's a lifeline. Together, we can turn every drop into health, dignity, hope, and change.



Community members in rural Peru celebrate the arrival of a new clean water tanker made possible through Vera Aqua Vera Vita's ongoing partnership.

# WHO'S WHO IN TAU BETA PI

Recognizing Tau Bate accomplishments

## Judson B. Althoff

*Illinois Beta '95*

was named to an expanded role as CEO of Microsoft commercial business, leading a new organization that will combine sales, marketing, and operations. He'll also be the chief of a new leadership team that includes leaders from engineering. Judson is a member of the Board of Directors for Ecolab and previously served as president of Microsoft North America. He earned a B.S. in mechanical and aerospace eng'g from Illinois Tech.



## Raj Shah Ph.D.

*New York Omicron '91*

was awarded the ASTM International (formerly known as American Society for Testing and Materials) Award of Merit, which is the highest award granted to an individual society member and accompanied by the title of ASTM Fellow. He serves as the Director at Koehler Instrument Company and has also been recognized as a Fellow of the American Oil Chemists' Society, Institute of Chemical Engineers, and Royal Society of Chemistry.



## Breck R. Washam P.E.

*Missouri Beta '90*

has served as vice president of the National Society of Professional Engineers since 2024 and is now president-elect. He works for Burns & McDonnell as senior vice president and general manager, Midwest Region. Breck has spent many years supporting NSPE, the Missouri Society of Professional Engineers (MSPE), and the MSPE St. Louis Chapter. He earned his B.S. degree in mechanical eng'g from Missouri S&T.



## David L. Bourell Ph.D.

*Texas Delta '75*

was elected to the The Minerals, Metals & Materials Society (TMS) Board of Directors Presidential Cycle, beginning in March as vice president. As a pioneer in additive manufacturing, he holds 10 patents, authored 290+ publications, and founded the TMS Additive Manufacturing Bridge Committee. David is a mechanical eng'g and materials science & eng'g professor, and currently the Temple Foundation Professor Emeritus at UT Austin.



## Katherine J. Rogers Ph.D., P.E.

*Missouri Alpha '79*

was selected as the 2025 Linton E. Grinter Distinguished Service Award recipient, the highest honor bestowed by the Accreditation Board for Engineering and Technology, Inc. (ABET). She is a UT-Systems Regents Outstanding Teacher, Endowed Professor, and Associate Chair of the IMSE department at UT-Arlington. Her research focuses on manufacturing, logistics, and eng'g education. She is an IISE Fellow and past ABET & IISE president.



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I certify that the statements made above are correct and complete. —Curtis D. Gomulinski, Executive Director



# YOUR LETTERS

Send letters to [d.lane@tbp.org](mailto:d.lane@tbp.org).

Text may be edited for length and clarity; not all letters can be published.

## Graduate Studies in Engineering

I read this article with interest and bemusement. I graduated from Speed Scientific School (now Speed School of Engineering) at the Univ. of Louisville in the mid 80s. At the time, Speed had a five-year master's of engineering program that was ABET accredited, but the B.S. degree was not. (That has since been changed.)

When I graduated, roughly half of the students left with just the B.S. degree. The economics were obvious – it took between five and ten years to make up the income difference from sticking around. And that did not include the added expense of staying in school.

I did some quick math based on the numbers that you presented. Assuming that the numbers were all averages, and that the "mean" salary was the midpoint of a 30-year career, then it will take five years to catch up from getting a B.S. and 10 years for getting a Ph.D. I did the same calculations using a different set of assumptions based on my own career and got the same results.

Admittedly, after 40 years, the M.S. and Ph.D. people will have made 25 percent more over their careers than the B.S. folks. However, that's hard to think about as a 22 year-old student.

I will confess that I probably would not have gotten my first job at McDonnell Aircraft without my MEng degree. I have thoroughly enjoyed my career there, but I understand why half of my classmates left when they did.

**Michael S. Goodrow, KY B '85**

In Dr. Lindvall's article, he describes salary data "showing the opportunity for upward mobility within the engineering workforce for those with graduate degrees."

Since higher education is one of the largest investments that we make in our careers, I suggest analyzing this data as a comparison between two or more possible investments.

According to [www.cambridgedb.com](http://www.cambridgedb.com), "A Ph.D. in engineering typically takes five to seven years of graduate study." For this discussion, let's assume that: (a) an M.S. in engineering can be obtained in two years, (b) a Ph.D. can be obtained in an additional three years beyond the M.S., (c) engineers receive 7.5% merit raises each year, and (d) there is no inflation during this period of graduate study.

Thus, an engineer completing an M.S. in year  $X$  can choose between the following career paths. In year  $X + 3$ , this engineer can be:

- a newly minted Ph.D. with a starting salary of \$123,000, or
- an M.S. engineer with three years of graduate level work experience whose starting salary in year  $X$  was \$100,000, and who now earns \$124,230 due to his three years of merit raises.

Additionally, during years  $X$ ,  $X + 1$ , and  $X + 2$  the engineer selecting option 2 would have earned a salary of \$323,062. That sum less the graduate student income that would have been earned during these years under option 1, represents the economic opportunity cost of selecting option 1 over option 2. For purposes of simplicity, I am ignoring income taxes.

There are many reasons for pursuing a graduate degree other than money. However, if money is an important factor in deciding whether to pursue a graduate degree, then a rigorous economic analysis of the data in Dr. Lindvall's article should be viewed as essential.

**Richard T. Redano, J.D., NC A '78**

## FROM THE EDITOR

**Dylan Lane**

From all of us at Tau Beta Pi Headquarters, we wish you and your family a joyous holiday season and a prosperous New Year.

We love to hear from our readers, so please reach out ([d.lane@tbp.org](mailto:d.lane@tbp.org)) and let us know how we can make *your* magazine better.

Here's a letter from an ardent reader:

Most of my 42-year career in the military and federal government was in the space business. Early on, I managed contractors that built and launched rockets that put satellites in space. Then I designed, built, launched, and operated National satellite programs. While our program office was staffed with engineers and program managers, we were not on a daily basis deep in exercising engineering problems that required us to use calculus, probability theory, geometry, etc. I've always believed we need to keep those skills sharp, and as a result I collaborated with people across our program on tough puzzles/problems to solve. Then, around 2005, one of my USAF Captains introduced me to the Brain Ticklers. This, by far, contained the most challenging problems I've encountered and over the years I've collaborated with many folks to solve them. Now that I'm retired, I'm still diving in on these puzzles as a way to stay sharp and help me with ongoing projects. For example, the Bonus in Summer 2000 asked to calculate the Earth-Sun-Venus angle that makes Venus appear brightest. In the solution, it helped me better understand the trade-off between distance and Solar illumination, and it drove big changes in one of my projects that determines planet ephemerides and conjunction angles for any given Julian Date and their visibility from Earth. I also really enjoyed Spring 2023, problem #2 - The World is Not Flat - wondering to myself if this might have been the way mankind actually did determine the circumference of the Earth. The bonus in Fall 2007 forced me to brush up on my numerical integration skills. There are many more examples; thank you for keeping me on my toes all these years! **Pete Linnemann, P.E., Lt Col USAF (ret.)**

## PART OF A SERIES ON HOW ENGINEERING SUPPORTS THE CREATIVE INDUSTRIES AND ARTS

### Introduction

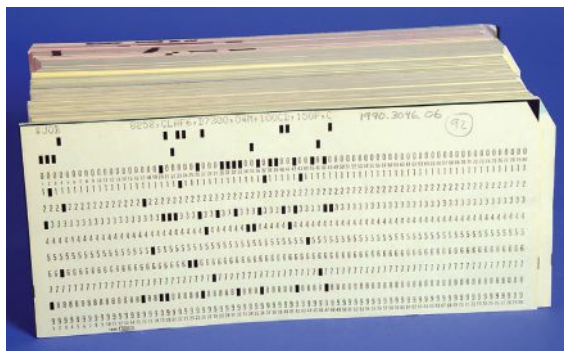
The *American Heritage Dictionary* defines a textile as a “cloth, especially one manufactured by weaving or knitting; a fabric.” A fabric or cloth has a highly utilitarian purpose: to cover something such as a body, floor, table, window, or even as in the past an airplane wing. This covering usually is for protection while also being decorative. Textiles and/or cloth have been manufactured for thousands of years with concomitant technological improvements providing the ability to manufacture many different types of textiles for ever more expanding purposes. Moreover, some of the technologies used to produce textiles have been spun off for use in other industries, such as the punched card technique used for programmed color changes in jacquard looms being analogized for use in computer punch card programming.<sup>1</sup>

### Weaving and Knitting

The two main techniques for making cloth are weaving and knitting. Weaving uses looms, which have yarns strung parallel vertically (warp) and with the use of treadles to lift or separate the warp yarns or swifts, another yarn is ‘threaded’ horizontally (weft) using a shuttle over and under the warp yarns interlocking the two yarns together into a two-dimensional flat surface. By altering the numbers of yarns passed over and/or under, different surface patterns can be produced in the cloth.

Figure 2 (left): IBM punch card used with a PDP-9 minicomputer from the mid-1960s.<sup>2</sup>

Figure 3 (right): Jacquard engaging square reading drum on the right. (Gessler photo).<sup>3</sup>



## Engineering and the Creative Industries: Textiles

BY BRIDGET A. MOORMAN, COL., USAF (RET.), ARIZONA BETA '85

Figure 1 (above): Moon Landing in Canterbury Cathedral, July 2025. See the sidebar on page 11 for more information. Image by B. A. Moorman.



In contrast to weaving, industrial knitting is usually done on cylindrical machines and the yarn is interlocked into successive loops. Depending on how the yarn is drawn through the loops, either through the front or back of the loop, different surface patterns can be produced on the cloth.

## YARN AND CLOTH MATERIALS

Before cloth can be produced, yarn must be produced. Yarn is measured by its thickness indicated by wraps per inch (WPI). The higher the number of wraps, the thinner the yarn with ranges from lace weight to various bulky weights. Cloth drape is mainly a function of the yarn thickness used in production. The ply or number of strands in a yarn that are twisted together also alters yarn thickness. Additionally, multi-ply yarns can use different materials as the plies, producing yarns with varying material properties.

The materials used in producing yarn are either organic, inorganic, or a combination. Each material has specific properties to meet use requirements of the cloth being produced, including: cost, durability, drape, color, and more recently, sustainability. Increasingly today, cloth is made with organic and inorganic yarn blends to take advantage of the benefits of the different materials, while minimizing the more undesirable characteristics. For example, wool or cotton can be blended with acrylic to make the cloth more durable, more easily washed with minimal cloth distortion, added cloth flexibility, less or more drape or stiffness, better color saturation and fastness, and an increase in the ability to re-use materials for sustainability goals. If one has purchased a pair of jeans or denim lately, it seems as the addition of elastane is de rigueur in most brands, demonstrating how adding a percentage of an inorganic yarn/fiber to an organic one enhances certain characteristics of the denim as listed above.

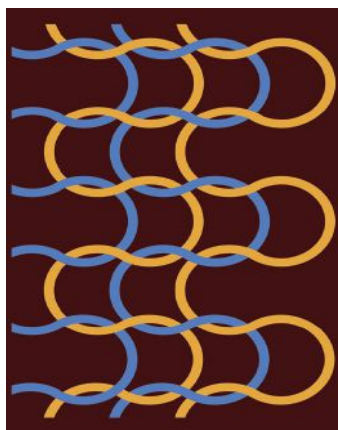
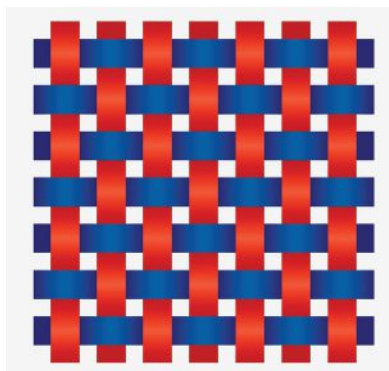
Figure 4 (top): Weaves versus knit: Types of weaves - vertical warp (red) and horizontal weft (blue).

(bottom) Knit showing interlocking loops.

Organic materials are usually animal hairs or plant fibers. Inorganic materials are usually long chain polymers produced in very long running bats. The nature of organic materials is such that the fibers have uneven lengths which have a natural affinity to catch along the ends and form longer strands. Inorganic materials are produced in very long, even lengths and during processing are broken into uneven lengths to prepare the material for spinning. In other words, the inorganic material is processed to behave like an organic material in the downstream yarn processing steps.

## CLOTH COLOR

Color is an important aspect of cloth, mainly from an aesthetic perspective. Different materials interact with different dyes such that the hue and saturation may reflect a different visual frequency in the final product. Cloth designers take this into account when designing as they are endeavoring to invoke an emotional response with the cloth color and design.



## YARN PRODUCTION

I visited Spectrum Yarns on July 2, in Huddersfield, UK, and met with Richard Stoker – technical manager.<sup>4</sup> This original cotton spinning mill was established and converted to spin wool and acrylic in 1986. This mill takes raw materials and creates yarn. There are two sides to the mill, one creating yarns for commercial uses and fabrics, and the other side creating yarns for handcrafts. Making yarn, converting a fiber into a yarn, is the most difficult and intricate of the textile processes. The process of turning the raw material into yarn includes dyeing it, stretching it, breaking it, re-breaking it, drawing it out into successively thinner slivers, spinning it, plying and twisting it, balling and then packing it. They use thirteen machine steps and processes from raw material to the final product, a ball of yarn.



Figure 5: Spectrum Yarns Mill.<sup>5</sup>



“With an inorganic material we want to make it act more like an organic material – organic materials have different lengths so lend themselves to ‘drafting,’ i.e. slipping past each other more easily to turn slivers into yarn. Woolen yarn, made of natural fiber, is coarser and used in carpet yarn as well as in fine knitwear.”

Some of the material is pre-dyed. If not, then the material cake goes into a dye vessel for 4-4.5 hours. It is then hydrated and dried (spun dry) to remove 60-70% of the moisture. To finish drying the cake, it is then placed in a high temperature vessel at atmospheric pressure. This type of drying process is a bit more expensive than using a radiation process, however, the radiation process modifies the material at the molecular level which then negatively affects the final yarn material properties.

## FIBER

The first stage of Polyacrylonitrile (PAN) fiber preparation is fiber conversion (endless fiber lengths converted into multiple length fibers) with 97% of fiber breakage occurring with the first breaking machine and the last 3% done with a re-breaking machine (**Figure 6**). This part of the process, stretch breaking, stretches the fibers and breaks them into different lengths by running the fibers over rollers running at different speeds.

Figure 7 (below): Raw PAN.  
Used courtesy of B. A. Moorman.



Figure 6 (right): Breaking machine.  
Used courtesy of B. A. Moorman.



One must have varying lengths to make a yarn; if they are too short, the yarn pills. The fibers must have the right amount of length to ‘behave’ because if they stayed the same length, the yarn would not be ‘level’ or have a consistent diameter, resulting in varying gauges or yarn thickness along the length.

By stretching the sliver producing varying lengths of fiber, they are trying to simulate natural fibers as they want the material to respond like wool, an organic fiber, when they spin it.



Figure 8: Dye vats and slivers. Used courtesy of B. A. Moorman.

The breaking and stretching process takes a 100kg cake and ends with a 96kg cake (4% waste). That waste and plastic dust is then re-cycled and re-processed. They can also mix slivers, i.e. blend, with other materials in this process. There are four companies in the world who produce raw PAN (**Figure 7**) for spinning purposes and Spectrum Yarns

has found blending the different acrylics does not work well, i.e. it does not produce an even gauge yarn. Mixing the slivers and blending produces a more level or even gauge over the length of the sliver. Using the re-breaking, stretching and then successive drawing processes takes the sliver from thick to thin. A bit of twist, termed a false twist, is added at the end of the breaking, stretching, and blending to enable the next steps in the process: drawing and spinning.

Drawing prepares the slivers for spinning by straightening and aligning the fibers, reducing the bundle sizes for spinning. Spinning is where one yarn is created and wound onto a bobbin. After spinning, the full bobbins are put into a winding machine, checked for irregularities, and rewound onto cones. The wound

cones are 5 kgs which are then further divided down to 100 grams per ball. Spectrum Yarns produces 10.5km of single yarn per kilo of PAN material. Each initial winding assembles one yarn, then several yarns are twisted, plied or assembly wound, and given a final twist to the final yarn configuration (they ply/assemble three yarns into one assembled yarn for balling; the ply determines the final yarn diameter/thickness).



Figure 9: Yarn relaxing and balling.<sup>7</sup>

“Twist is inserted to the staple yarn to hold the constituent fibers together, giving strength to the yarn while producing a continuous length of yarn. Twist also induces lateral forces in the yarn; friction created by these forces acts to control fiber slippage in a strand under tension. Fine yarns require long staple fibers and high twist. Coarse yarns can be produced with short fibers and low twist.”<sup>6</sup>

After the final twist is applied to the assembled yarn, it is relaxed and then balled. To relax the yarn, a machine steams yarn, air dries it, (**Figure 9**) and then prepares it for balling by aligning and spooling it into spirals along a conveyor belt providing a buffer to the pulling for the balling process. In balling, the machine rotates the yarn into a skein, places a label around the skein (it takes 30 seconds to make each ball/skein), and then packages 10 balls/skeins to a plastic bag. There are no knots in the final product sold through their retail channels. They will sell a knotted skein but only in a mill end sale.

Throughout the yarn processing, a quality control function is applied with the QC personnel checking the end product: ball weight, count checks,

meterage/length per ball, presence of any fasteners or knots, etc. They also test each machine to make sure it is working correctly. QC is the main feedback mechanism into all of the processes.

Spectrum Yarns purchased cast-iron spinning machines from a decommissioned mill in America and shipped them to the UK. The other machines used for breaking, re-breaking, and blending are a mixture of German and French machines. Most of the machines used in the mill are mechanical and electrical. Steam is only used for dyeing the material and relaxing the yarn before balling. Water is extracted from a natural ground source 150 feet below, which contains elements and minerals that soften the water. Water is recycled and they have a team of mechanics to maintain the machinery and stock the materials. Spectrum runs a 24-hour shift (0630-0630 – 12 hour shifts) Monday through Thursday; Fridays are for maintenance with weekends off, unless more maintenance is required.<sup>8</sup>

The cloth requirements and end use drive the yarn production characteristics. As an example, suppose airplane seating cloth is being produced. The requirements of durability and fire-retardant would be of high priority,

and would depend upon the material blending for the yarn used to produce the cloth. The number one constraint when engineering the material is cost: what is the optimum raw material that meets the material requirements for the quality desired. Those materials used in making the yarn may also affect the machinery. Wool, cotton, and other organic materials are dirtier than plastic, so the material quality can affect the cost due to machinery wear and tear/maintenance.

## THE WEAVER AND DESIGN

I visited the Margo Selby Studio in Whitstable, UK, on November 21, 2024 and interviewed Margo Selby.<sup>9</sup> She is an award-winning UK graphic and textile and graphic designer who weaves for both commercial and art purposes. When designing for commercial purposes, Margo takes into account many variables which affect the end product: usability, durability, color fastness, the cloth maintainability, and the technology constraints of the cloth factories to include the size of the looms, the thread/yarns/colors available and most suited for the looms. The processing of the yarn can also affect color fastness as dye is absorbed differently by certain materials, changing the textile end result, which may, for example, contribute to increased fading.

Different factories specialize with expertise in the end textile products, such as bedding, toweling, upholstery, and material for clothing. Most of the large mills are located in India and China. When Ms. Selby works with a cloth manufacturer/mill she wants to collaborate making it easy for them to produce her design. As with most production, time equals money and complexity of a weaving design increases the cost, so if she can manifest her design using the specific loom characteristics and materials, her cloth design can be produced efficiently.



Figure 10 (left): Marge Selby Studio.  
Used courtesy of B. A. Moorman.



Figure 11: Industrial fabric production.

She has at times walked through the mills and on the looms to get a sense of what is possible, how the threads will interact and in order to attain her vision, how large a pattern she can use for repeatability, etc. While interacting with the mill and loom engineers, she will change one aspect or variable at a time while testing her design with the loom.

There are machine loom width and length restrictions with widths ranging from 1 m 40 cm/60 inches with most industrial looms being 3 m wide/120 inches. Warp, the vertical threads, is the most difficult aspect of a loom setup; it is easier to make changes with the weft, the horizontal threads. Threads per inch designates the ‘resolution’ of the cloth which defines both the possible design resolutions and affects the final cloth ‘density.’

The thicker the thread/yarn used, the thicker the end cloth. Weaving involves areas of interaction with the warp and weft threads. In general, weaving is two dimensional with regard to design options. Finishing techniques can also change the final product with regard to color, sheen, and the introduction of three dimensional affects.

Cloth drape is determined by the thread or yarn used in weaving. Durability is provided by the density of the weave; for example, upholstery cloth is very tightly woven and dense due to its end use and expected lifetime of 40 to 50 years, both in use and color fastness.

The weave structure also affects the drape and durability of the final material. A plain weave with alternating warp and weft threads produces the most interlocked and straight cloth with the shortest floats. Floats are the yarns that are seen on the surface of the cloth (not the interlocking areas).

Three dimensional effects can be attained by using different yarn/thread materials in weaving which when combined cause material distortion. The distortion becomes apparent in cloth finishing techniques after weaving. For example, a tiny bit of acrylic can be sandwiched (stentored) with silk such that with processing, the acrylic shrinks and tightens up with the silk remaining on top of the cloth as the acrylic is hidden in the weave. Cloth finishing techniques include: felting-fulling (agitation of the cloth to cause tighter adhesion between the thread fibers), ‘burn-singeing’ hairs or excess fiber off the cloth surface to obtain a shiny sheen, heating the cloth to activate certain yarns and their properties (such as shrinking or relaxing) to obtain a specific cloth characteristic, and scouring, which washes out the oils and/or grass from the cloth.

The colors she uses in cloth are also of prime consideration. Color is instinctive and is used to evoke an emotional response and maintain interest.

Ms. Selby’s color theory is to entice optical excitement. She tries to maximize this by juxtaposing light and dark, bright and neutral, and saturated and

non-saturated colors. She also designs patterns within patterns for visual stimulation.

## ENGINEERING AND TEXTILES

Weaving/textile making is an ancient skill which has benefited from mechanical, chemical, electrical, and computing expertise. Cloth is also something that will always be required for day-to-day living. Something so seemingly simple and ubiquitous has a fairly complex set of steps to achieve the desired outcome of a cloth that optimizes many requirements: affordability, drape, specific protection from the elements, re-usability, and feel. Engineering is and has been a major component of manufacturing textiles, and engineers work hand-in-hand with the designers to achieve a product that is both useful and beautiful.

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### BRIDGET A. MOORMAN, BSME, MSBME, CCE, COL, USAF (Ret.)

has 30+ years experience in the clinical engineering/digital health field working and consulting for large healthcare organizations as well as serving as chair of the board of examiners for certification in clinical engineering (2011-13). She has worked in bio-mechanical research, power-line relay design and space system launch, and telecommunications. As an Air Force reservist, Bridget served as IMA to the MILSATCOM Directorate. Her B.S. from Arizona State Univ. (ASU) is in ME; M.S. in BME from Rensselaer Hartford Graduate Center; and MAS in health-care informatics from ASU College of Health. She is an Instrument Private Pilot, Single Engine Land.



Figure 12: Margo Selby textile. Used courtesy of B. A. Moorman.



Figure 13: Margo Selby color studies. Used courtesy of B. A. Moorman.

## MOON WALK

Ms. Selby hand wove a large tapestry titled “Moon Landing” in collaboration with Ms. Helen Caddick, a composer, in response to a call by Collect 2024. The inspiration for the work was the story of female Navajo weavers, while working for Fairchild Semiconductor, using their knowledge and traditions of intricate weaving to create the integrated circuits and memory cores that contributed to the successful 1969 Apollo 11 Moon Landing.<sup>10</sup> The moon landing weaving is approximately 1600 cm x 140 cm and depicts an undulation and stepping motion of colorful stripes and geometric patterns which reflect a visual interpretation of Ms. Caddick’s musical composition. Figure 1 on page 6 of this article shows the tapestry suspended over the nave of the Canterbury Cathedral.

– B. A. Moorman

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# PRESIDENT



## ADDRESSING CONVENTION: STATE OF THE ASSOCIATION

MARLA A. PETERSON, *Arizona Alpha '83*  
2025 President of the Association

As we gather here in Albuquerque, New Mexico, for Tau Beta Pi's 119<sup>th</sup> Convention, we stand at a remarkable intersection of heritage and possibility. For 140 years, our organization has not merely endured — it has thrived, adapting to each generation while holding fast to the principles of engineering excellence and integrity that define us. Today, we celebrate the opening of another Convention. We are where we are today due to our donors' generosity and our members' determination, but in our rapidly changing world TBII requires us to double down on growth. Growth in membership, impact, and innovation that will carry us forward into a future, limited only by our collective ambition. I would like to thank our hosts, the New Mexico Beta Chapter at the University of New Mexico and the Albuquerque Alumni Chapter. Together with our Headquarters staff, they will host and support us throughout Convention.

### HISTORY

Albuquerque — its history began with Native American peoples over 10,000 years ago, but the Spanish officially founded the city in 1706 as La Villa de Albuquerque. Named after the Spanish Viceroy of New Spain, it was a Spanish outpost on El Camino Real until Mexico gained independence from Spain in 1821. The United States acquired New Mexico in 1846, it became a U.S. territory in 1850, and a state on January 6, 1912. The city of Albuquerque was incorporated in 1891 and hosts the International Balloon Fiesta every October — the largest in the world.

### STATE OF THE ASSOCIATION

The Association is governed by the Convention and the Executive Council. The Executive Council has multiple responsibilities that are outlined in the provisions of our Constitution and Bylaws to guide the Association's programs. In general, we receive direction from the Convention to guide the programs of the Association. This work is carried out by the Executive Director, our dedicated Headquarters staff, the Program Directors, and numerous volunteers serving on Boards, Committees, District Directors, Advisors, and Engineering Futures Facilitators.

The Council reports its activities during the preceding year by addressing the Convention. As President, this report is presented on behalf of the Executive Council. ([www.tbp.org/leadership.cfm](http://www.tbp.org/leadership.cfm))

### NUMBERS

The Association is comprised of 257 active collegiate chapters and 52 active alumni chapters. Collegiate chapters initiated 8,296 members in 2024-25, bringing the total number of initiated members to 649,681.

### FINANCIAL

The Trust Advisory Committee (TAC) is responsible for the organization's financial portfolio. The TAC has five members, all with the knowledge to advance our trust. ([www.tbp.org/boards-and-committees.cfm](http://www.tbp.org/boards-and-committees.cfm))

On July 31 of this year, the TBII Trust was valued at \$45.9 million. The generosity of our donors allows us to continue the work of the Association. The annual giving program received 7,624 donations from members and the total giving for the period 2024-25 was \$1.1 million.

The Chapter Endowment Initiative program was launched in the Spring of 2014, and allows alumni, companies, and foundations to endow the Association's activities that support any of our 257 active collegiate student chapters. There are currently 33 endowed chapters with \$100,000 or more in cash and pledges.

### FELLOWSHIPS AND SCHOLARSHIPS

This year, TBII awarded 254 scholarships for a total of \$499,000. The recipients will use these funds to continue their undergraduate education. In addition, 30 graduate fellowships were awarded, totaling \$300,000. ([www.tbp.org/fellowships.cfm](http://www.tbp.org/fellowships.cfm))

All scholarships are given on the competitive criteria of high scholarship, campus leadership & service, and promise of future contributions to the engineering profession. To date, TBII has awarded 4,655 scholarships since 1998. ([www.tbp.org/scholarships.cfm](http://www.tbp.org/scholarships.cfm))

The President's Report continues on page 38.

# Newly Elected Executive Councillors

The 2025 Convention delegates elected three new members to the Executive Council to fill the seats of three members whose terms expire on December 31, 2025 — President Marla A. Peterson (reelected) and Councillors Rachel K. Alexander & Michael J. Hand. The new Councillors will serve the 2026-28 term and join six previously elected members. The Executive Council comprises nine Tau Beta Pi alumni who serve staggered terms of three years.



## JOSEPH P. BLACKFORD

DISTRICT OF COLUMBIA GAMMA '95

JP is an associate professor of engineering & applied science and assistant director of operations at George Washington University (GW). Initially serving as director of doctoral programs for the GW Online Engineering Programs, he's been at GW since 2013.

JP has a B.S. degree in civil engineering and a master's degree in environmental engineering from GW. He previously served as a District 4 Director from 2019-25, and is currently an Engineering Futures Facilitator.

This will be his second term on the Executive Council, having served a four-year team beginning in 2014, including two years as president of the Association.



## MARLA A. PETERSON

ARIZONA ALPHA '83

Marla retired from Honeywell Aerospace in March 2024, most recently working as a senior technical manager for Continuous Improvement. She's been dedicated to aerospace product excellence for 41+ years and held various leadership positions.

She earned a B.S. in systems engineering from the University of Arizona (UofA) and refined her love of technology and efficiencies by becoming a Six Sigma Black Belt, Lean Expert, and Lean Master.

Marla sits on the UofA College of Engineering Dean's Advisory Board and just completed her first term on the Executive Council, serving as Association president in 2025.



## STEVE E. WATKINS

MISSOURI BETA '83

An ECE professor, Steve joined the Univ. of Missouri-Rolla (UMR – now Missouri S&T) in 1983 and has been an advisor to the MO Beta Chapter since 2014. He has three electrical engineering degrees: his B.S. and M.S. from UMR and Ph.D. from UT at Austin.

Steve held governance positions in the IEEE Education Society, is a founding member of the editorial board for the IEEE Teaching Excellence Hub, and a TBP-McDonald Mentor in 2024.

His technical interests are smart structures, sensing systems, and engineering education. Steve enjoys pre-college outreach and champions professional development opportunities within the engineering community.

Members of the 2026 Executive Council include: **(more information on page 2)**

- Joseph P. Blackford, DEN, DC Gamma '95 **newly elected**
- David J. Cowan Jr., P.E., ENV SP, Florida Epsilon '14
- Ronald M. Hickling, California Epsilon '80
- Colleen L. Hill-Stramsak, P.E., Michigan Epsilon '00
- Sue L. R. Holl, Ph.D., California Lambda '76
- Henry H. Houh, Ph.D., Massachusetts Beta '89
- Marla A. Peterson, Arizona Alpha '83 **reelected**
- Thomas A. Pinkham IV, Massachusetts Epsilon '88
- Steve E. Watkins, Ph.D., Missouri Beta '83 **newly elected**

The new Executive Council has elected officers for the upcoming year from among the Council members, who will serve for a period of one year. After serving as vice president for one year, the vice president automatically becomes president the following year. The 2026 Association President is Thomas Pinkham. Executive Director Curtis D. Gomulinski serves as a non-voting member of the Council.



The newly elected Councillors at the 2025 Convention.



# 2025 TAU BETA PI CONVENTION

## A SNAPSHOT OF ACTIVITIES AND BUSINESS FROM THE 2025 CONVENTION

Albuquerque, NM, was the setting for the 119<sup>th</sup> Convention of Tau Beta Pi, held October 30 - November 1. Convention attendees enjoyed three days of beautiful fall weather and enchanting views of the Sandia Mountains (appropriately named after the Spanish word for “watermelon” due to their pink hue at sunset).

Making the trip to New Mexico were 262 voting delegates representing 196 collegiate chapters, 38 alumni chapters, and 28 Association Officials. Additional non-voting student delegates, non-member guests, headquarters staff, and volunteers also participated in Convention activities.

The New Mexico Beta Chapter at the University of New Mexico and the Albuquerque Alumni Chapter hosted the Society’s annual meeting, led by **Moises Loya, NM B ’25**, Convention Arrangements Chair and NM Beta Chapter president.

Headquarters for this Convention was The Albuquerque Convention Center. Four Business Meetings, Committee and District meetings, Professional Development and National Interactive Chapter Exchange (NICE) Sessions, a Recruiting Fair, Engineering Futures training, and a Model Initiation were held at this site.

At the First Business Meeting on Thursday, the President’s Report on behalf of the Executive Council was presented by **President Marla A. Peterson, AZ A ’83, (p. 12)**. Reports of the Directors of the Association were heard including the Director of Alumni Affairs, Director of District Programs, Director of Engineering Futures (made on her behalf by an Engineering Futures Facilitator), Director of Fellowships, and Director of Rituals. **Chris W. Potts, CA U ’16**, New Engineering Solutions for Tomorrow (NEST) Program Lead shared information on this annual engineering competition.

**Convention Chair Ronald M. Hickling, CA E ’80**, led a humorous and informative primer on Robert’s Rules of Order which are used in debate on the Convention floor. The day’s activities included District and Committee meetings, a corporate and graduate program Recruiting Fair (**see p. 15 for list of Recruiters**), and Professional Development and Engineering Futures training. The evening’s banquet honored the 2025 Laureates and included welcome messages from **Thomas A Pinkham IV, MA E ’88**, Association Vice President; **Heidi Menges, NM B ’25**, New Mexico Beta Chapter Vice President; and **Donna Riley, Ph.D., NM B ’93**, Dean of Engineering and Computing at the University of New Mexico. The Chapter Recognition Awards Luncheons on Friday and Saturday included presentations of the 2025 Chapter Excellence Awards (**p. 18**), Reports of the Executive Director and

Director of Development & Communications, 2026 Membership Challenge, and Chapter Project Awards (pp. 20-21).

The Friday evening Alumni Recognition Banquet included presentations of the 2025 TBP-McDonald Mentor, Outstanding Advisor, and Distinguished Alumni. **Colleen L. Hill-Stramsak, P.E., MI E '00**, Association Treasurer, led the recognition of TBP Advisors; **David J. Cowan Jr., P.E., FL E '14**, Executive Councillor, presented service certificates to 19 volunteers.

A special thanks to this year's Convention photographer, Wendy Sweeter, for taking the group photo and the majority of Convention images in this issue.

The Chapter Awards Banquet on Saturday evening, sponsored by **Harry W. Lange, MI Z '75**, brought the Convention business to a close. The Final Business Meeting was held along with recognition of the collegiate chapter winners (pp. 18-19) of the R.C. Matthews Outstanding Chapter Award, R.H. Nagel Most Improved Chapter Award, and J.D. Froula Most Improved Membership Award. **Director of Alumni Affairs, Sean Aiton, NC A '22**, presented the 2025 Alumni Chapter Awards (p. 40). In addition, a plaque was presented to the Texas Alpha Chapter as the winning team of the 2025 New Engineering Solutions for Tomorrow (NEST) Competition.

Following the Resolutions Committee presentation, Executive Council service as well as the new Executive Councillors were recognized. The Convention was adjourned with a napkin chain as well as a rousing rendition of the Tau Beta Pi yell led by **Secretary-Treasurer Emeritus, James D. Froula, TN A '67**.

## TAU BETA PI LAUREATES

At Thursday's Laureate Banquet, **Executive Councillor Susan L. R. Holl, Ph.D., CAL '76**, introduced the 2025 Laureates: **Annaliese M. Braucht, SD A '25**, for achievements in the arts; **Marjorie J. Cenese, VA G '25**, for diverse achievements; **Nicholas R. Divilbiss, KS G '25**, for service; **Hunter A. Elwell, OR A '25**, for service; and **Matteo P. Sollecito, IN A '25**, for athletics. Each Laureate received a commemorative plaque and \$2,500 check.

## TAU BETA PI-MCDONALD MENTOR

**Smitha M. N. Rao, Ph.D., MI B '04**, was honored with the 2025 TBP-McDonald Mentor Award at Friday's Alumni Recognition Banquet.

**Executive Councillor Rachel K. Alexander, P.E., CA U '15**, presented her with a \$1,000 check, a bronze engraved medallion, and a replica lapel pin. Another \$1,000 will be presented to the nominating chapter, Michigan Beta at Michigan Technological University.

## OUTSTANDING ADVISOR

**Cassandra Birrenkott, Ph.D., SD A '07**, was recognized as the 2025 Outstanding Advisor by **Executive Councillor Susan L. R. Holl, Ph.D.** Dr. Birrenkott received \$1,000, and another \$1,000 will be presented to SD Mines's College of Engineering discretionary fund.

## DISTINGUISHED ALUMNI

Three Distinguished Alumni were honored: **Daryl R. Armentrout, Ph.D., P.E., TN A '65**; **Carl Ice, KS G '79**; and **Cara A. Cowan Watts, Ph.D., OK G '97**, who is the Asad M. Madni Distinguished Alumna. **Association Vice President Pinkham** presented each with an engraved plaque and a \$2,000 scholarship in each winner's name was awarded to three TBP students for the 2025-26 academic year.

## CHAPTER & PROFESSIONAL DEVELOPMENT

The Chapter Development Program included National Interactive Chapter Exchanges (NICE) and District Meetings. Each district met three times during Convention and NICE Sessions were offered on Friday. A Professional Development Program presented 11 topics in career growth and leadership:

- Graduate Fellowships
- The NEST Effect: A New Engineering Competition
- Understand Intellectual Property and Exploring Career Opportunities
- Science & Technology in the Space Force
- Think Like an Engineer – Investing Strategies for Success
- How to Lead Without Draining Your Energy
- Full Cycle Recruiting for Tech and How to Pivot in Engineering

## A SPECIAL THANKS TO OUR RECRUITERS

We gratefully acknowledge the 2025 Virtual and In-person Recruiting Fair participants:

### Platinum Recruiters

University of Pittsburgh  
Swanson School of Engineering

Day & Zimmermann

### Gold Recruiters

The George Washington University  
New Mexico Tech

Pennsylvania State University  
College of Engineering

Purdue University

University of Michigan  
Electrical & Computer Engineering

University of Southern California

### Silver Recruiters

Columbia University Engineering  
Epic

Iowa State University

MIT Leaders for Global Operations

Michigan Technological University

National Radio Astronomy Observatory

Northeastern University  
College of Engineering

NYU Tandon School of Engineering

Rensselaer Polytechnic Institute

University of Virginia

Worcester Polytechnic Institute

### Virtual

Cornell Tech

Dartmouth Engineering

Lehigh University

North Carolina State University  
Mechanical and Aerospace Engineering

Northwestern University  
Master of Science in Law

Ohio State University

PPI, A Kaplan Company

South Dakota School of Mines & Technology

Stevens Institute of Technology

University of Michigan  
College of Engineering

University of Tennessee –  
Oak Ridge Innovation Institute

Vanderbilt University

Connect your company or school with Tau Bates at next year's Convention! Reach out to Erin Andrews at [e.andrews@tbp.org](mailto:e.andrews@tbp.org)

## PROFESSIONAL DEVELOPMENT CONTINUED

- Maximizing Mentorship and Networking in Graduate School
- Lifelong Learner Smarter, Not Harder
- Life After Graduation – How to Prepare for Entering the Workforce
- How to Develop Your Superpowers for Success in Your Life and Career

## 2026-28 EXECUTIVE COUNCILLORS ELECTED

Three candidates, introduced in the Fall issue, ran for the opportunity to serve on the Executive Council (**Cameron H.G. Wright, Ph.D., P.E., LA G '83**, withdrew from running). The following alumni were elected by the Convention to fill three positions on the Executive Council. More information is available on **p. 13**. They are:

- **Joseph P. Blackford, DEN, DC G '95**, nominated by the Kansas Gamma Chapter;
- **Marla A. Peterson, AZ A '83**, nominated by the Arizona Alpha Chapter; and
- **Steve E. Watkins, Ph.D., MO B '83**, nominated by the Missouri Beta Chapter.

## COMMITTEES

Convention business was handled by 13 standing and *ad hoc* committees with collegiate and alumni chapter voting delegates serving on one of the following committees: Advisors; Alumni Chapters; Awards; Chapter & Association Financial Affairs; Constitution and Bylaws; Convention Site; Diversity, Equity & Inclusion; New Engineering Solutions for Tomorrow; Petitions; Program Review; Public Relations; Resolutions; and Rituals.

## CHAPTER AWARDS

The Chapter Awards Committee announced FL Alpha at the University of Florida as the R.C. Matthews Outstanding Chapter for 2024-25, the highest honor for a collegiate chapter in Tau Beta Pi. Honorable mentions were presented to the KS Gamma and IL Alpha chapters. The R.H. Nagel Most Improved Chapter for 2024-25 went to TX Theta at the University of Texas at El Paso, with honorable mentions going to the FL Beta and MO Alpha chapters. The J.D. Froula Most Improved Membership Award for 2024-25 was presented to MN Alpha at the University of Minnesota-Twin Cities. Honorable mentions for Most Improved Membership went to NY Upsilon and TX Delta chapters.

## CONSTITUTION AND BYLAWS

The committee was charged with reviewing and recommending action on a proposal to make optional the Constitutional requirement outlined in Art. XIV, Sec. 2(c) that the back of membership keys be engraved with the name of a member's chapter, the member's last name, and graduation year. Upon review, the committee decided to take no action on the proposal to amend the Constitution. The committee did charge the Executive Council with collecting and collating data points for each collegiate chapter regarding the timeline involved with key engraving and provide the data for future charges of the 2026 and 2027 Conventions.

A motion requiring advance notice to members of meeting dates of the collegiate chapters, alumni chapters, and Executive Council failed.

## PETITIONS

The Petitions Committee reviewed petitions for new chapters at Campbell University in Buies Creek, NC, and Wentworth Institute of Technology in Boston, MA. Determining that they both met the requirements in the Constitution & Bylaws, a motion to accept the petitions of the local societies and grant a chapter to each was passed. Their installations are scheduled for spring 2026, bringing the total number of collegiate chapters to 259.

## CONVENTION SITE

The Convention Site Committee reviewed information to recommend sites to host the 2029 Convention. Information from six locations was reviewed for the selection. The proposal to host the 2029 Convention in Richmond, VA, with Knoxville, TN, as an alternate option was approved.

## FINANCIAL AFFAIRS

The committee was tasked to review the auditor's report for 2023-24 (auditor's opinion was accepted), the status of the initiation fee increase approved by the 2024 Convention (enacted changes shall stay in place), unusual delegates' expenses for the 2025 Convention (none were reported), and chapter accounts receivable to HQ (16 chapters owed greater than \$500 to HQ; the committee representatives spoke with delegates from the 12 delinquent chapters present at Convention).



Wentworth Institute of Technology (MA) petitioners (left) and Campbell University petitioners (right) applauded by the Convention.



(left to right) Nora Su and Melissa Wong, CO Beta Chapter vice president and president, respectively.

The committee was asked to review and recommend action on the Convention reimbursable expense policy (no changes recommended), a proposal to change the due date for Alumni Chapter dues (the motion carried to reconcile inconsistent dates), and a proposal to increase chapter fines (the motion failed). The committee was also tasked to review and recommend action on enforcing fines as currently written in Const. Art. XII, Sec. 2 and Bylaw III, and also collecting data on the fines. The committee decided it would be in the best interest of the Association to enforce fines and collect data for the current 2025-26 academic school year to report at the next Convention. The motion carried.

## RESOLUTIONS

The committee's charge included preparing the resolutions presentation to the Convention and also preparing recognition materials for members of the Association. In addition, the New Engineering Solutions for Tomorrow Program was unanimously approved for another year. Lastly, the Committee thanked the host chapter members, officials, generous alumni, recruiters, award winners, HQ staff, volunteers, and others for many positive outcomes during the year.

## RITUALS

The Rituals Committee reviewed a proposal and recommended to the Executive Council and the Director of Rituals to research methods to make ritual updates and/or the complete text of the ritual to be more easily accessible by collegiate chapters and advisors. The committee organized the Model Initiation ceremony held on Saturday, which included initiates from New Mexico Beta



and a charter member from both Campbell University and Wentworth Institute of Technology.

## NEST

The Texas Alpha Chapter at the University of Texas at Austin dominated the 2026 NEST Challenge Hatch Award, winning the poster, final report, and pitch competitions. The team's project tackles global water insecurity with a system designed to collect atmospheric moisture and convert it into clean, usable water. Grounded in solid research, their human-centered approach prioritized accessibility, affordability, and adaptability. This ensures their solution can serve diverse communities, fitting thoughtfully into daily life with the potential for lasting impact. Beyond the technical achievement, the team demonstrated exceptional collaboration and strategic foresight. They presented a clear development path — including further testing, user feedback, and campus partnerships — to enhance the solution's scalability and cost-effectiveness. Their reflections revealed a mature engineering mindset focused on persistence and iteration, proving how a unified vision can transform an ambitious idea into a real-world solution.

Looking ahead, the 2027 NEST Competition will shift its focus to "Mitigating the Impact of Natural Disasters," inviting teams to explore both proactive and rehabilitative strategies. Visit the NEST website for more info at: <https://tbpnest.wixsite.com/home>



Left to right: Mrigayu Ghosh, TX A '26, TX Alpha NEST team member and chapter vice president receives Hatch Award plaque from Chris Potts, CA U '16, NEST Program Director.

**More Convention information will be made available at [www.tbp.org/convention.cfm](http://www.tbp.org/convention.cfm) including Convention minutes and images for download.**

Image below, right (left to right): Convention Arrangements chair Moises Loya, NM B '25, receives a plaque of appreciation for his efforts in organizing the 2025 Convention from Kimberlee Britton, OR A '25, Resolutions Committee Chair.

Image far left: Scott Schmucker, OH A '04, District 13 Director and NM Beta Chapter Chief Advisor, celebrates the final banquet of the 2025 Convention.

# Chapter Awards



FL Alpha Chapter President Joseph Hill, FL A '24, (right) with Awards Committee Secretary Sarah Freeland, KY A '26.

## OUTSTANDING CHAPTER AWARD:

# Florida Alpha

The Florida Alpha Chapter at the University of Florida received the 2024-25 R.C. Matthews Outstanding Chapter Award. With a historically rich tradition, FL Alpha was also recognized as the Association's top collegiate chapter for 2021-22 and with an honorable mention in 2017.

*The 1956 Convention established the Outstanding Chapter Award to encourage and recognize high-grade work in both routine and special affairs. It is based on how well chapter service projects fulfill the objectives of Tau Beta Pi and on the quality and promptness of reports to Headquarters.*

The Convention Awards Committee recognized the chapter for receiving perfect reporting and operating scores and for providing opportunities for their students to become involved in truly meaningful projects with lasting impacts. These range from K-12 outreach (GatorTRAX), to professional development with industry leaders, to social events such as field trips, road clean up, and video game nights.

### FLORIDA ALPHA CHAPTER LEADERS (2024-25):

President – **Samuel K. Lonneman, FL A '25**

Vice President – **Aidan P. Rowell, GA G '24**

Treasurer – **Eric Tobon, FL A '25**

Recording Secretary – **Sarah E. Clees, FL A '24**

### FLORIDA ALPHA CHAPTER ADVISORS (2024-25):

**Michael W. Griffis, Ph.D., FL A '85 (Chief)**

**Karthik Boregowda, FL A '23**

**Meghan C. Ferrall-Fairbanks, Ph.D., FL A '12**

**Steven P. Klepac, E.I., AL E '21**

**Curtis R. Taylor, Ph.D., AR A '01**

**HONORABLE MENTIONS** — Outstanding Chapter Award: **Kansas Gamma** (Kansas State Univ.) and **Illinois Alpha** (Univ. of Illinois Urbana-Champaign)



## Chapter Excellence Awards 2024-25

Executive Director Curt Gomulinski recognized the following collegiate chapters to mark excellence in their performance in seven areas. Chapters with distinction, scoring 100 percent or more, are in bold:

- Alabama Alpha
- Alabama Epsilon**
- Arizona Beta**
- Arizona Delta
- Colorado Beta**
- Florida Alpha
- Florida Iota
- Illinois Alpha**
- Kansas Gamma**
- Michigan Gamma

- Missouri Alpha
- New Jersey Alpha
- New Jersey Beta
- Ohio Alpha**
- Oregon Alpha
- Tennessee Alpha
- Texas Delta
- Vermont Alpha**
- Virginia Alpha**



**Tau Beta Pi**  
The Engineering Honor Society

# 2025 Convention



Awards Committee Vice Chair Gary Tran, *KS B '26*, (left) with Texas Theta Chapter President (right) Nicholas Gonzalez.



Jim Froula presents Elizabeth Ngo with the 2025 J.D. Froula Award.

## MOST IMPROVED CHAPTER AWARD:

# Texas Theta

The Texas Theta Chapter at the University of Texas at El Paso received the 2024-25 R.H. Nagel Most Improved Chapter Award.

*The 1971 Convention established this award to recognize major improvement in chapter development, including project work and reports to HQ, in one year as compared with previous years.*

Cited for having the most significant three-year turnaround of all chapters in terms of Chapter Excellence points, the TX Theta Chapter was installed March 29, 1969, and previously won this same award in 2019. This year, they participated in the following projects: a Bent monument polishing cookout with trivia games, a fall food drive, and an alumni panel.

### TEXAS THETA CHAPTER LEADERS (2024-25):

President – **Kalea M. Oshiro, TX Q '25**

Vice President – **Alejandro Giner Vega, TX Q '24**

Treasurer – **Nicholas R. Gonzalez, TX Q '25**

Corresponding Secretary – **Volgaduina E. Ajiz, TX Q '24**

### TEXAS THETA CHAPTER ADVISOR (2024-25):

**Soheil Nazarian, Ph.D., TX A '85 (Chief)**

**HONORABLE MENTIONS** — Most Improved Chapter Award: **Florida Beta** (Univ. of Miami) and **Missouri Alpha** (Univ. of Missouri-Columbia)

## MOST IMPROVED MEMBERSHIP AWARD:

# Minnesota Alpha

The Minnesota Alpha Chapter at the University of Minnesota-Twin Cities was selected as the 2024-25 J.D. Froula Most Improved Membership Award recipient.

*In 2011, the Executive Council established an annual Most Improved Membership Award to recognize chapters for increased membership over a three-year period. Named in honor of James D. Froula, P.E. (ret.), TN A '67, the third person to hold the position of TBII Secretary-Treasurer.*

In the past three years, MN Alpha has demonstrated remarkable growth, increasing its number of initiates from 22 to 83. With a 277% growth rate, the highest among all chapters, it has set a new standard of excellence. Moreover, the chapter achieved an outstanding ratio of initiates to eligible candidates (151%), underscoring its exceptional commitment to engagement and recruitment.

### MINNESOTA ALPHA CHAPTER LEADERS (2024-25):

President – **Sebastian M. Helgeson, MN A '25**

Vice President – **Janagan Ramanathan, MN A '25**

Treasurer – **Kallen K. Murphy, MN A '25**

Corresponding Secretary – **Elizabeth M. Ngo, MN A '26**

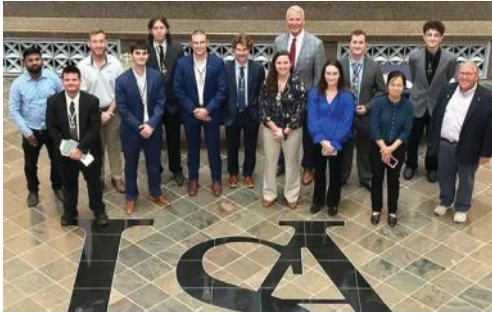
### MINNESOTA ALPHA CHAPTER ADVISORS (2024-25):

**Chris J. Ellison, Ph.D., IA A '00 (Chief)**

**Lee E. Swanson, Ph.D., IN A '07**

**HONORABLE MENTIONS** — Most Improved Membership Award: **New York Upsilon** (U. S. Military Academy) and **Texas Delta** (Texas A&M University)

# Chapter ★ Project Awards



Spring initiates at the AL Epsilon reception in their honor.

**AL E University of South Alabama**  
**67 Projects** Organized the 9<sup>th</sup> annual Leadership Workshop for all engineering societies and hosted 500+ middle & high school students on campus throughout the year to interest them in engineering careers.

**CA E Univ. of California, Los Angeles**  
**35 Projects** Performed outreach as part of the Grant Elementary K-12 STEAM Expo and tutored college students on the fundamental subjects applicable to engineering through academic outreach efforts.

**CA Λ Univ. of California, Davis**  
**50 Projects** Hosted the District 15 Conference and social events for initiates and members, including: "Steal the Bent" scavenger hunt, trivia night & also participating in an inter-chapter event with CA Upsilon.

**FL A University of Florida**  
**50 Projects** Took group field trips to the Kennedy Space Center and the Florida Museum of Natural History. Had initiates complete a new Gator Clock and continued GatorTRAX K-12 STEM activity sessions.

**FL Δ University of Central Florida**  
**18 Projects** Held 2<sup>nd</sup> Annual "Pi-For A Cause," to raise money for The Epilepsy Foundation on *TBPi Day*. Organized bowling and movie screening social events.

**IL A Univ. of Illinois at Urbana-Champaign**  
**124 Projects** Hosted a trivia night for 40 freshmen from the Eng 100 class, a corporate talk with Caterpillar, and a Picnic on the Quad social. Volunteered as part of iHelp day in the local community.

**IN A Purdue University**  
**173 Projects** Partnered with the Purdue Space Program as part of outreach to middle schoolers. Assisted with Purdue football game day parking to raise funds for chapter activities.

**KS Γ Kansas State University**  
**214 Projects** Continued the Google website construction & historical research project as part of the 50<sup>th</sup> anniversary of the chapter in January 2024. Sent out personalized recruitment emails to each individual.

**MD B University of Maryland**  
**50 Projects** Members and electees participated in a stream clean up with the Sustainable Ocean Alliance on campus. Met at the Great Falls hiking trails for a social and also hosted a S'mores gathering.

**MI E Wayne State University**  
**26 Projects** Volunteered with Forgotten Harvest, hosted a K-12 MindSET session at Ralph Emerson Elementary-Middle School, and organized a leadership workshop.



The 2025-26 CA Lambda Chapter Officer Board.



FL Alpha initiates show off the new Gator Clock.



Image (left): Together on the Great Falls Hiking trails, members of the MD Beta Chapter pose for a picture.

Image (right): Members of the Indiana Alpha Chapter won first place in the SASE Cardboard Ship Building event.



At the 2025 Convention, 18 chapters were recognized with **Chapter Project Awards** for outstanding performance during 2024-25.

**MI I Univ. of Michigan-Dearborn**  
**71 Projects** Participated in a high school outreach event pairing up with students to provide insights on their research projects. Also, hosted mock interviews for members and other societies before a campus job fair.

**NM B University of New Mexico**  
**15 Projects** Organized a Pi Day "Celebration Student Bash" with other campus societies with games, music, and more. Volunteered on the first day of the 53<sup>rd</sup> annual Albuquerque International Balloon Fiesta.

**NM I New Mexico Tech**  
**14 Projects** Hosted a holiday party get-together with socializing, gaming, and studying! To celebrate E-Week, put on a series of engineering/craft centered competitions to promote image/name on campus.

**OH I Ohio Northern University**  
**24 Projects** Ran project organizing weekly tutoring sessions (27 total) for engineering classes. Hosted a scavenger hunt across campus with 75 3D printed polar bears hidden, each with a corresponding prize.

**SC B University of South Carolina**  
**18 Projects** Provided information on TBIT Scholarships, which led to three 2025 Scholars. Invited guest speaker, Ashleigh Cook, a graduate school board member at Wake Forest University, for a grad school meeting.

**TN A University of Tennessee**  
**38 Projects** Focused on increasing member participation and fostering relationships with events including "Pi Your Professor," Keep Knoxville Beautiful cleanups, and seasonal Bent monument decorating.

**TX A University of Texas at Austin**  
**116 Projects** Organized a Q&A panel with Texas Instrument employees, specifically recruiters and engineers. Held social events such as paddle boarding, intramural dodgeball, arcade, and a "Family Day" of activities.

**VT A University of Vermont**  
**39 Projects** Held a pie potluck to celebrate Tau Beta Pi founder's day (Edward Williams' birthday). Organized an Alumni Networking event with resume exchange and a Halloween pumpkin painting and night.



OH Iota electees polishing the Bent monument in front of the college of engineering.



Pi Your Professor Day at New Mexico Tech with the NM Gamma Chapter.



TN Alpha members decorated the Bent monument for Valentine's Day.

**A total of \$4,500 in Scholarships will be awarded to nine chapters that received Chapter Project Awards for at least three consecutive years. Each chapter will receive \$500.**

Alabama Epsilon  
 California Epsilon  
 Florida Alpha

Florida Delta  
 Illinois Alpha  
 New Mexico Beta

Ohio Iota  
 South Carolina Beta  
 Texas Alpha

**THIS IS THE  
EIGHTEENTH 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...**

# GILBERT

There must have been a moment, many millennia ago, when one of our prehistoric ancestors first had the thought, “I wonder how ...,” or “I wonder if ...,” or “I wonder why ....” Such a question began the long quest of humankind to understand the universe in which we live. That quest has proceeded in fits and starts, sometimes based in fact and observation, sometimes in fancy and superstition, and marked, on occasion, with quantum leaps forward. One such leap came in 1600 in the work of William Gilbert, personal physician to Queen Victoria. His book, *De Magnete* in Latin, or *On the Magnet* in English, not only explored in depth the behavior of magnets but set new standards for scientific investigation and discourse.

In recognition of his contributions, the unit of magnetomotive force in

the Centimeter-Gram-Second (CGS) system has been named the gilbert (abbreviation Gb).

William Gilbert was born in Colchester in southeastern England on May 24, 1544. For historical perspective, this was only some 50 years after Columbus made his first voyage to America and almost 300 years before the discovery of electromagnetism. His family was reasonably well-to-do, and he was able to enroll in St. John’s College of Cambridge University, where he received all his degrees, including, in 1569, the MD.

We don’t know what got Gilbert interested in electricity and magnetism but get interested he did. While conducting a regular medical practice, he also pursued a study of lodestones and amber and the mysterious effects of attraction and repulsion in these materials.

Knowledge of these phenomena was often based on folklore or superstition. For instance, it was believed that garlic destroyed the magnetic properties of a lodestone. Gilbert introduced the concept of experimentation; he went to his laboratory and actually tried out the garlic theory, clearly demonstrating that it was not true. Another misconception was the belief that if a lodestone was broken in two, the result would be a north pole and a south pole. Again, this was not true, and Gilbert was able to demonstrate that fact in his laboratory.

The concept of experimentation is so central to the conduct of science today that one wonders why it has not always been a standard tool in efforts to understand physical phenomena. Apparently, it was not general practice in the 16<sup>th</sup> century, and it took Gilbert to demonstrate its value.

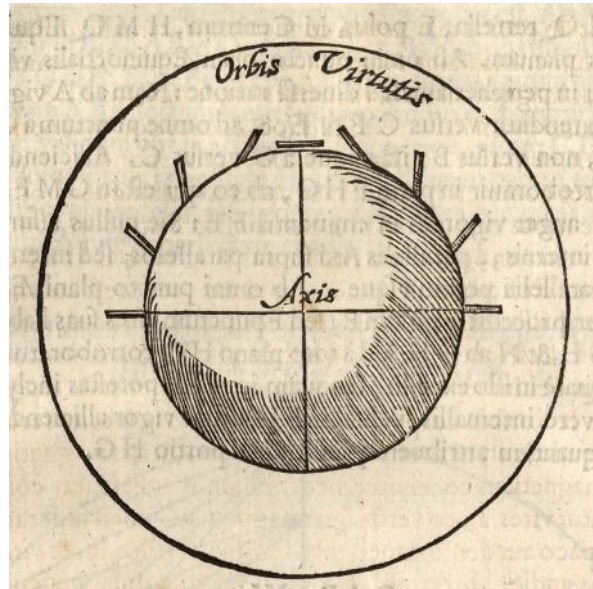
**It is with a heavy heart that we share the news of Lyle Feisel's passing November 5, 2025, at the age of 90. He has contributed so much to the engineering profession, and through his writings he's shared valuable insights into what makes the pursuit of science & engineering a truly special endeavor. More information on his career can be found on page 41.**

The full name of the book we generally call *De Magnete* is *De Magnete, Magneticisque Corporibus, et de Magno Magnete Tellure* ("On the Magnet, Magnetic Bodies, and the Great Magnet of the Earth"). Clearly, magnetism was the principal subject of the book although he also devoted considerable attention to what was called the amber effect or electrostatic attraction. Indeed, it appears that he may have coined the term "electricity" or at least used it extensively.

Perhaps his most profound observation was that the Earth is itself a great magnet and the application of the magnetic compass for navigation was the interaction between two magnets. He explained declination, the difference between true north and magnetic north, by recognizing that the magnetic poles of the Earth are not perfectly coincident with the geographic poles. To facilitate his understanding of the Earth as a magnet, Gilbert constructed a spherical lodestone he called a "terrella." He also developed the "versorium" consisting of a metal needle suspended in such a way that it could align with either electric or magnetic field lines (using current terminology). One assumes the needle was made of a magnetic material (indeed, a polarized magnet) because he used it to explain the phenomenon of inclination or dip and understand how inclination varies around the world.

The common belief at that time was that a compass was attracted to the North Star or to a giant magnetic island somewhere near the North Pole. Using his terrella, Gilbert was able to provide a more credible theory.

The fundamentals of cosmology had not yet been settled in the 16<sup>th</sup> century. There were those who believed the Earth stood still as the celestial sphere rotated around it, while others understood that the Earth did the rotating and, in some fashion, revolved around the Sun.



William Gilbert's terrella 'Earth' magnet. Page from *De Magnete* ('On the Magnet, 1600). The diagram shows Gilbert's terrella ('little Earth'), a magnetised sphere he used to model the Earth and its magnetic field.

Gilbert was firmly in the latter camp and appears to have some thoughts that perhaps magnetism was instrumental in holding the whole system together. He couldn't be right all the time.

Clearly, there are many similarities between electric and magnetic phenomena, and some believed they were manifestations of the same effect. Gilbert conducted extensive experiments and concluded that they are not the same. He noted that while water destroys electric attraction, it does not affect magnetism. He also observed that the magnetic and electric effects were different when he inserted various materials between two attracting or repelling bodies. He also classified materials as electric or non-electric or magnetic or non-magnetic. It was some 300 years later when Oersted showed that when the variable of time is included, electricity and magnetism are indeed related.

Not all of Gilbert's theories were correct. For instance, he believed that the light spots on the moon were water

and the dark spots were land. He also theorized that quartz crystals are some special crystalline form of water, created under extraordinary conditions of temperature and pressure. Of course, he had no concept of gravity (Newton was many decades in the future) and felt that tides were somehow related to magnetism.

When Queen Victoria died in March of 1603, Gilbert continued as personal physician to King James I. It was a brief arrangement, however, because Gilbert died a few months later, on December 10, 1603; he never married.

Gilbert is a colossal figure in the history of science. He helped to establish the notion of experiment as a method of exploring and understanding nature. He explored both electricity and magnetism and, at the time of his death undoubtedly knew more about those phenomena than anyone else in the world. And that's why we call a gilbert a gilbert.

# BRAIN TICKLERS



## Results From Summer

### Perfect Scores

Gerken, Gary M.	CA	H	'11
*Gibbs, Kenneth P.	MO	Γ	'76
*Kuhn, Walter A.	OH	A	'81
*Norris, Thomas G.	OK	A	'56
*Wilkinson, Timothy S.	WA	A	'84

### Other

Alexander, Jay A.	IL	Γ	'86
*Bannister, Kenneth A.	PA	B	'82
Bertrand, Richard M.	WI	B	'73
Budd, Christopher M.	AZ	B	'94
Bukowski, Justin D.	OH	A	'90
Cooper, Russell A.	AZ	A	'73
*Couillard, J. Gregory	IL	A	'89
Dickson, Charles T.	GA	A	'84
*Gee, Albert	CA	A	'79
Golemme, Steven S.	IL	A	'20
*Goodrich, Robert W.	CA	B	'81
Grewal, Kalwant S.	TX	H	'73
*Griggs Jr., James L.	OH	A	'56
*Kimsey, David B.	AL	A	'71
Mitchell, Mike K.	AZ	A	'75
Parks, Christopher J.	NY	Γ	'82
*Rabinovitch, Kevin L.	IN	A	'98
Rabinovitch, Noah	Son of member		
*Riedesel, Jeremy M.	OH	B	'96
*Roediger, Robert R.	MO	Γ	'71
*Stegel, Timothy J.	PA	A	'80
Spring, Gary S.	MA	Z	'82
Spring, Mitchell G.	Son of member		
Stone Jr., Laurence D.	MA	Θ	'86
*Strong, Michael D.	PA	A	'84
Summerfield, Steven L.	MO	Γ	'85
Tellechea, Gabriel	TX	A	'87
Tso, Robert	CA	E	'80
Van Shaar, Steven R.	UT	Γ	'80
Wallbridge, Peter	non-member		(age 11)

\*Denotes correct bonus solution

## Summer Review

Problems 4 (Twin Days) and 5 (Escape from the Tower) were the most difficult, with slightly more than 1/2 of the answers for Ticker #4 being correct and only a little more than 1/3 of the answers for #5. A common mistake with incorrect answers to #5 was that the minimum total number of the descents (36) was correctly found, but the combined number of prisoner descents needed was more than the minimum of 4.

## Summer Review *Continued*

While the Double Bonus is not scored and has no right answer, the judges were particularly impressed by the enthusiasm of those who chose to accept the challenge. Six readers submitted original solutions that exceeded a score of 100. Notably, **Russell Cooper, AZ A '73**, sent a grid that scored 127, which was greater than any response in the problem's original source. His answer:

C H D O R  
W A T A K  
I R U N S  
I S O I A  
S M C L L

includes the states **ALASKA, ARKANSAS, COLORADO, HAWAII, ILLINOIS, KANSAS, LOUISIANA, MISSOURI, MONTANA, NORTH CAROLINA, NORTH DAKOTA, SOUTH CAROLINA, SOUTH DAKOTA, UTAH, and WISCONSIN.**

## Fall Answers

**1:** The order of merit for Ruthlessness (from 1<sup>st</sup> to 5<sup>th</sup>) is **Bert, Ernie, Alf, Charlie, Duggie**. If Charlie's statements were true, then by his first comment, at least one of Ernie, Bert, and Charlie must be in 3<sup>rd</sup> place, which contradicts his second comment. So, Charlie must be lying and is one place ahead of Duggie. Keeping this last point in mind, Duggie's first statement indicates there are 3 possibilities. First, Ernie, Alf, and Charlie were 1<sup>st</sup> through 3<sup>rd</sup>, respectively. This would force Duggie 4<sup>th</sup> and Bert 5<sup>th</sup>, which contradicts Duggie's second statement. Second, Charlie, Alf, and Ernie are 1<sup>st</sup>, 3<sup>rd</sup>, and 5<sup>th</sup>, respectively. This would force Duggie 2<sup>nd</sup> and Bert 4<sup>th</sup>, again contradicting Duggie's second statement. Therefore, Ernie, Alf, and Charlie were 2<sup>nd</sup> through

4<sup>th</sup>, respectively. This forces Duggie 5<sup>th</sup> and Bert 1<sup>st</sup>, and we have a consistent solution.

**2:** The earliest date Jane could have been born was **1896**. For John to have lived the same number of days as his sister (in her  $x^{\text{th}}$  year at death) while still being in his  $(x - 1)^{\text{th}}$  year upon his death, he must have experienced one more leap year in his lifetime than his sister did in hers. For John to have lived *more* days than his sister, he must have experienced *two* more leap years than his sister. Because John could not have died beyond his 8<sup>th</sup> year, he could have at most experienced two leap years, so Jane must have experienced none. The only way this can be reconciled is by recalling century years like 1800 or 1900 (not divisible by 400) are not leap years. If Jane's lifespan straddled such a date, she could go more than 7 years without experiencing a single one. With any number of several judicious starting points, John's lifespan of such a length could very easily experience 2 leap years that are 4 years apart; note he would have to have been in his 5<sup>th</sup> year at death at a minimum. This fact precludes Jane from being born in 1800, so she must have straddled the year 1900 in her life. To avoid any leap year, the earliest she could have been born was therefore just after the leap day in 1896.

**3:** There must have been **83 pennies**. First, remove from consideration the 16 coins (totaling \$1.64), which are stated to be present in the problem. This leaves 84 coins with a value of \$1.09. If another quarter were present, we'd have 83 coins remaining worth 84¢, an impossibility. If there were no dimes present, it must be only nickels and

pennies remaining and we would have the relationship that  $84 - n = 109 - 5n$  which does not have an integer solution for the number of nickels  $n$ . So, there must be at least one dime, which when removed leaves 83 coins worth 99¢. Another dime present would leave 82 coins worth 89¢, but no amount of nickels will provide a valid solution here. So only nickels and pennies must be left, and we have a relationship  $83 - n = 99 - 5n$  which gives  $n = 4$ . At this point, we have 79 coins left worth 79¢ and of course they are all pennies. Added to the original four we removed at the start, we have our solution:  $79 + 4 = 83$ .

**4:** The altitude of the pyramid is  $50(2)^{1/4} \approx 59.46\text{m}$ . Call the angle of Phil's ascent  $\phi$ , and that of Quentin's ascent  $\theta$ .

If we denote the altitude as  $h$ , then  $\phi = \tan^{-1}\left(\frac{h}{50}\right)$  and

$$\theta = \tan^{-1}\left(\frac{h}{50\sqrt{2}}\right), \text{ so}$$

$$\phi - \theta = \tan^{-1}\left(\frac{h}{50}\right) - \tan^{-1}\left(\frac{h}{50\sqrt{2}}\right)$$

$$\text{and } \frac{d(\phi - \theta)}{dh} = \frac{\frac{1}{50}}{1 + \left(\frac{h}{50}\right)^2} - \frac{\frac{1}{50\sqrt{2}}}{1 + \left(\frac{h}{50\sqrt{2}}\right)^2}$$

To maximize the angle difference, we set the derivative equal to zero and isolate  $h$ . After some Algebra, we have

$$h^2 = 50^2 \left( \frac{1 - \frac{1}{\sqrt{2}}}{\frac{1}{\sqrt{2}} - \frac{1}{2}} \right) \text{ and}$$

$$h = 50 \sqrt{\frac{2 - \sqrt{2}}{\sqrt{2} - 1}} = 50 \sqrt{\sqrt{2}}$$

**5:** Scores less than 171 that are impossible to achieve are **159, 162, 163, 165, 166, 168, and 169**. The most likely score achievable is **46**, with a **2.181%** chance of occurrence; this can occur **1183** different ways. The score which can be achieved in the most ways is **62**, with a **1.479%** chance of occurrence; this can occur **1381** different ways. The complexity of this problem precludes a manual approach; here a computer simulation was used with careful attention to the various (translated) radii derived from the problem's given geometries.

**BONUS:** One family has ages **10, 15, 25**; a second family has ages **1, 7, 18, 24**; a third family has ages **3, 4, 21, 22**. This problem is a form of the famous (third-degree) Prouhet-Tarry-Escott problem, where it has been proven that at least four terms (ages) are required. Note, that it is possible in this PTE problem that one of the resulting terms may turn out to be zero, which just indicates the family has one less member than the others. The parametric solution for the third degree PTE problem requires terms of the form  $[a_1, a_2, -a_1, -a_2]$ ,  $[b_1, b_2, -b_1, -b_2]$ , and  $[c_1, c_2, -c_1, -c_2]$  for the three families.

Note the symmetry about 0 for each group. We can apply an affine transformation in the form of  $Mx + B$  for each term  $x$  without destroying the required relationships for the various sums. Since we want these terms to be non-negative, integer-valued, and as small as possible, we choose  $M = 0$  and  $B = \max\{a_1, a_2, b_1, b_2, c_1, c_2\}$ . There are two possibilities to consider, one where  $\{a_1, a_2, b_1, b_2, c_1, c_2\}$  are all even multiples of  $1/2$  (i.e. integers), and one where they are all odd multiples of  $1/2$ . In either case, it can be shown that  $a_1^2 + a_2^2 = b_1^2 + b_2^2 = c_1^2 + c_2^2$ . In the first case, we need to find the smallest integer which can be expressed as the sum of 2 squares in three different ways. This number is 325 and results in the values  $\{a_1, a_2, b_1, b_2, c_1, c_2\} = \{1, 18, 6, 17, 10, 15\}$ , so here  $B = 18$  and the ages would range up to 36, with a sum of ages of 72 for each family. However, it turns out we can do better by considering the second case: Let  $\{a_1, a_2, b_1, b_2, c_1, c_2\} = \{\alpha_1/2, \alpha_2/2, \beta_1/2, \beta_2/2, \gamma_1/2, \gamma_2/2\}$  where the Greek variables are all odd integers. Then  $(\alpha_1/2)^2 + (\alpha_2/2)^2 = (\beta_1/2)^2 + (\beta_2/2)^2 = (\gamma_1/2)^2 + (\gamma_2/2)^2 = \delta$ . We can observe that  $4\delta$  must be even, so we now seek the smallest even integer which can be expressed as the sum of 2 squares in three different ways.

This number is 650 and results in values of  $\{a_1, a_2, b_1, b_2, c_1, c_2\} = \{2.5, 12.5, 5.5, 11.5, 8.5, 9.5\}$ , so here  $B = 12.5$  and the ages only range up to 25, a much more promising situation.

The first family will have ages 0, 10, 15, 25 (corresponding to a family of three with ages 10, 15, and 25).

The second family will have ages 1, 7, 18, 24. The third family will have ages 3, 4, 21, 22. The sum of the ages for each family is therefore a more optimal value of 50. It can be determined that larger families, while still providing solutions that meet the constraints for the various sums, do not satisfy the age uniqueness requirement.

## COMPUTER BONUS:

The largest such prime is **73,939,133**. It turns out there are exactly 5 primes with 8 digits, but none is larger than the one stated above.

## New Winter Problems

### 1: Find the Value

Let  $f(n) = \sum_{i=1}^n i$ , and let  $d(n)$  represent the last digit of  $f(n)$  when the latter is expressed as a decimal integer. Now let  $g(m) = \sum_{i=1}^m d(i)$ . What is the value of  $g(2000)$ ?

—Thomas R. Diaz-Davilla, PR A '96

### 2: Fearsome Clans

It was a fearsome Hogmanay, attended by 11 McSporrans, 11 McTavishes, 11 MacKinnons, and 11 MacHendries. Mind you, that makes it sound worse than it was. The total number was smaller, each person being a member of exactly two of the clans. Especially numerous were those who belonged jointly to the McSporrans and McTavishes. There was no other group outnumbering them, and they outnumbered the McSporrans-MacKinnons by two to one. How many were MacKinnons-MacHendries?

—Tantalizers  
by Martin Hollis

BTs continue on page 43.

# 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 257 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 TBP. 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, <https://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](mailto:s.jennings-king@tbp.org).



## Newly Received Gifts & Pledges

**Daniel M. Brandt, IN Δ '74**  
INDIANA DELTA — \$20,000  
Valparaiso University

**James B. Planeaux, Ph.D., IN Γ '82**  
MINNESOTA ALPHA — \$20,000  
University of Minnesota-Twin Cities

**James R. Biasco, FL Δ '78**  
FLORIDA ALPHA — \$10,000  
University of Florida

**Larry L. Coates, MI Γ '78**  
KENTUCKY ALPHA — \$5,000  
University of Kentucky

**Christine & Smith E. Howland, OH Γ '69**  
TEXAS ZETA — \$5,000  
Lamar University

**Russell O. Jansen, MD B '74**  
ALABAMA GAMMA — \$5,000  
University of Alabama at Birmingham

**Frederick "Larry" Stiles, TN A '71**  
TENNESSEE ALPHA — \$5,000  
University of Tennessee

**Willis S. White III, VA B '72**  
VIRGINIA BETA — \$5,000  
Virginia Polytechnic Institute & State Univ.

## Endowed Chapters (33) 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, LA — \$100,000

**CALIFORNIA UPSILON**  
CA 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

**MISSOURI GAMMA**  
Washington Univ. — \$100,000

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

**NEW JERSEY DELTA**  
Princeton Univ. — \$100,000

**NEW YORK GAMMA**  
Rensselaer Polytechnic Inst. — \$110,000

**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 — \$105,000

**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

The goal of the Chapter Endowment Initiative is to endow all collegiate chapters to provide permanent funding for the activities that benefit the students of those chapters. Chapters with support above \$80,000 are eligible to receive grants to support their activities; Headquarters will contact the chapters once funding is available.

<b>ALABAMA ALPHA</b> \$5,000	<b>COLORADO BETA</b> \$20,000	<b>MARYLAND ALPHA</b> \$5,000	<b>NEW YORK RHO</b> \$5,725	<b>TEXAS GAMMA</b> \$5,000
<b>ALABAMA GAMMA</b> \$40,000	<b>CONNECTICUT BETA</b> \$5,000	<b>MARYLAND GAMMA</b> \$10,000	<b>NORTH CAROLINA EPSILON</b> \$5,000	<b>TEXAS DELTA</b> \$30,000
<b>ALABAMA DELTA</b> \$5,000	<b>DELAWARE ALPHA</b> \$10,000	<b>MARYLAND EPSILON</b> \$5,000	<b>OHIO DELTA</b> \$35,000	<b>TEXAS EPSILON</b> \$45,389
<b>ALABAMA EPSILON</b> \$5,000	<b>D.C. ALPHA</b> \$5,000	<b>MASSACHUSETTS EPSILON</b> \$5,000	<b>OHIO IOTA</b> \$5,000	<b>TEXAS ZETA</b> \$15,000
<b>ARIZONA BETA</b> \$10,000	<b>FLORIDA ALPHA</b> \$15,000	<b>MICHIGAN ALPHA</b> \$50,000	<b>OHIO MU</b> \$10,000	<b>TEXAS ETA</b> \$15,000
<b>ARKANSAS ALPHA</b> \$5,000	<b>FLORIDA EPSILON</b> \$14,659	<b>MICHIGAN ETA</b> \$5,075	<b>OKLAHOMA GAMMA</b> \$5,000	<b>TEXAS THETA</b> \$5,000
<b>CALIFORNIA ALPHA</b> \$50,000	<b>FLORIDA ZETA</b> \$8,000	<b>MICHIGAN IOTA</b> \$8,040	<b>OREGON ALPHA</b> \$10,000	<b>TEXAS IOTA</b> \$5,000
<b>CALIFORNIA BETA</b> \$45,084	<b>GEORGIA ALPHA</b> \$55,886	<b>MICHIGAN LAMBDA</b> \$10,000	<b>PENNSYLVANIA BETA</b> \$45,301	<b>TEXAS KAPPA</b> \$5,000
<b>CALIFORNIA GAMMA</b> \$72,000	<b>ILLINOIS BETA</b> \$5,000	<b>MINNESOTA ALPHA</b> \$45,000	<b>PENNSYLVANIA GAMMA</b> \$5,000	<b>TEXAS NU</b> \$40,031
<b>CALIFORNIA ZETA</b> \$74,000	<b>ILLINOIS GAMMA</b> \$30,857	<b>MONTANA ALPHA</b> \$5,000	<b>PENNSYLVANIA DELTA</b> \$5,000	<b>VERMONT ALPHA</b> \$10,000
<b>CALIFORNIA ETA</b> \$35,000	<b>INDIANA ALPHA</b> \$50,000	<b>NEBRASKA ALPHA</b> \$50,000	<b>PENNSYLVANIA ZETA</b> \$10,000	<b>VERMONT BETA</b> \$30,000
<b>CALIFORNIA THETA</b> \$5,000	<b>INDIANA BETA</b> \$10,000	<b>NEW HAMPSHIRE BETA</b> \$10,200	<b>PENNSYLVANIA ETA</b> \$10,000	<b>VIRGINIA BETA</b> \$80,069
<b>CALIFORNIA LAMBDA</b> \$5,000	<b>INDIANA DELTA</b> \$25,000	<b>NEW MEXICO BETA</b> \$20,000	<b>PENNSYLVANIA THETA</b> \$50,000	<b>VIRGINIA EPSILON</b> \$20,000
<b>CALIFORNIA MU</b> \$5,000	<b>INDIANA EPSILON</b> \$30,000	<b>NEW YORK BETA</b> \$78,707	<b>PENNSYLVANIA LAMBDA</b> \$30,000	<b>WASHINGTON ALPHA</b> \$20,000
<b>CALIFORNIA NU</b> \$5,000	<b>IOWA BETA</b> \$35,000	<b>NEW YORK ETA</b> \$5,000	<b>PUERTO RICO ALPHA</b> \$10,000	<b>WISCONSIN ALPHA</b> \$53,120
<b>CALIFORNIA SIGMA</b> \$10,000	<b>KANSAS BETA</b> \$5,000	<b>NEW YORK THETA</b> \$20,000	<b>RHODE ISLAND ALPHA</b> \$20,000	<b>WISCONSIN BETA</b> \$5,000
<b>CALIFORNIA TAU</b> \$5,000	<b>KENTUCKY ALPHA</b> \$30,000	<b>NEW YORK KAPPA</b> \$27,571	<b>RHODE ISLAND BETA</b> \$20,000	<b>WISCONSIN GAMMA</b> \$5,000
<b>CALIFORNIA PSI</b> \$35,000	<b>LOUISIANA BETA</b> \$10,000	<b>NEW YORK MU</b> \$15,000	<b>TENNESSEE BETA</b> \$10,000	<b>WISCONSIN EPSILON</b> \$5,000
<b>COLORADO ALPHA</b> \$60,000	<b>LOUISIANA EPSILON</b> \$15,000	<b>NEW YORK NU</b> \$5,000	<b>TEXAS ALPHA</b> \$80,240	<b>ANY CHAPTER</b> \$55,000

### Open Challenge Matches (minimum \$5,000 gift)

- Tau Beta Pi received a bequest from the estate of **Charles F. Chatfield, Ph.D.**, NY B '32, of which \$20,000 was earmarked as a challenge match in support of the New York Beta Chapter at Syracuse University. To date, no matches have been received — four are needed to complete this challenge.
- **Nick A. Farmer**, MD B '68, set up a challenge match of \$20,000 toward the endowment of the Kentucky Alpha Chapter at the University of Kentucky. To date, we've received two matches of \$5,000 — two more are needed to complete this challenge.
- **Robert H. Tolson**, VA B '58, initiated a challenge match of \$25,000 toward the endowment of the Virginia Beta Chapter at Virginia Tech. To date, one match has been received — four more are needed to complete this challenge.
- **Robert "Dudley" White**, VA A '76, launched a challenge match of \$20,000 toward the endowment of the Virginia Epsilon Chapter at Virginia Commonwealth University. Four gifts of \$5,000 are needed to complete this challenge.

# Alumni Spotlight

## Gifford L. Courtney, LA G '23

I am originally from New Orleans, LA. For my bachelor's degree in biomedical engineering, I attended Louisiana Tech University earning a six sigma black belt certification with a concentration in industrial engineering, while gaining experience in 3D CAD software and statistical analysis.

I joined Tau Beta Pi my junior year of college and quickly became very involved. I served as LA Gamma Chapter president for the 2022 academic year and had the pleasure of attending that year's Convention in Knoxville. At Convention, I connected with many Tau Bates and learned about the Student Advisory Board (SAB), which I decided to join after graduation. During my time on the SAB, I served as outreach chair for two years spreading awareness of the services offered to collegiate chapters. In addition, I had the opportunity to attend my second Convention, 2023 in Atlanta, as an SAB representative.

Before entering the workforce, I decided to work as a physical therapy tech, for two summers, to follow my passion for patient care. While I thoroughly enjoyed the direct patient care aspect of this job, I missed applying the engineering I was learning in school. Through networking with a Tau Bate alum from my university, I found out about my current job and knew it was the perfect fit.

I now work for Johnson & Johnson MedTech Electrophysiology as a clinical account specialist in Jensen Beach, FL. I'm thankful for the many workshops on resumes and interviewing at TBP Conventions that helped me get my dream job. I love what I do – using my engineering mind, but also working more directly with patients and the newest medical technology.

A key component of my work is training physicians and lab staff on our technology and how to operate the mapping system used for cardiac ablation procedures to treat cardiac arrhythmias. Afib and other cardiac arrhythmias are common, and I find it rewarding when a patient comes in for a procedure and leaves feeling better and healthier.

My job also requires a lot of "people skills," which I excel at in large part due to my efforts as a LA Gamma Chapter officer and SAB member. These roles taught me leadership and collaboration skills that I frequently use while working with my team of clinicals, physicians, and hospital staff.

I encourage others to follow in the footsteps of alumni, classmates, and professors on your campus by taking advantage of the growth opportunities offered by this Association.



### GET TO KNOW GIFFORD:

- Lives in beautiful South Florida where she likes to kayak, take her dog to the beach, and has swum with manatees.
- Enjoyed the LA Gamma Chapter tradition of hosting an Engineering & Science Ball at the end of the school year to recognize and celebrate members.
- Is passionate about service to the community and actively supports St. Jude Children's Research Hospital.

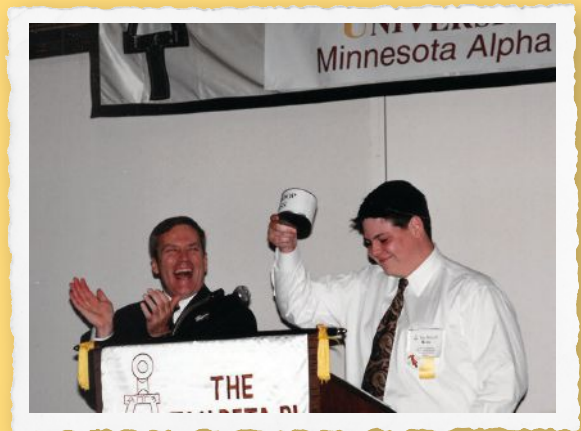
# The STORY BEHIND The PHOTO

## Announcing the Winter 2026 “Caption This Photo” Contest!

At the 1997 Convention in Minneapolis, MN, Convention Chair Steve Pierre Jr., *AL E '90*, was given a can of “whup ass” by Burr Zimmerman, *OH Z '98*, chair of the Resolutions Committee. It was presented to Steve because they thought he was a little heavy-handed with the gavel! Burr also helped create the first Convention skit as part of the committee’s report, a tradition that continues today.

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

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



**DEADLINE: MONDAY,  
FEBRUARY 2 AT 5 P.M. [ET]**

Questions? Contact [d.lane@tbp.org](mailto:d.lane@tbp.org)

## WINNERS of the Fall 2025 “Caption This Photo” Contest:

The judges reviewed 28 imaginative captions devised by 21 Tau Bates. You can read all entries, including captions and results from recent contests, at <https://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](mailto:d.lane@tbp.org).**

### 1st PLACE:

**“My name is Mark,  
Question Mark.”**

Mark S. Finkelstein, *MO G '90*

### 3rd PLACE:

**“I have no mouth and  
I must ask.”**

Tyler A. Johnson, *MI K '24*

### 2nd PLACE:

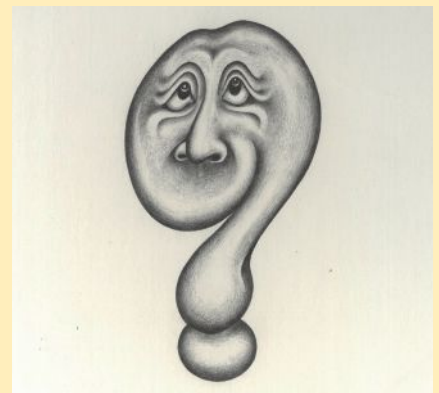
**“The look on my face when  
my Advanced Calculus  
professor is explaining the  
answer to a problem and  
says, ‘From this point on the  
answer is obvious.’ Well, it’s  
not obvious to me!”**

Walter K. Brown, *SC A '74*

### 4th PLACE:

**“Mark’s parents were  
thrilled at his birth,  
safe in the knowledge  
that there are no dumb  
questions.”**

Mark S. Finkelstein, *MO G '90*



▲ This artist creation first appeared in the Winter 1979 issue and was named “Brain Tickler’s head.” It was used to attract more entries for Brain Tickler problems and did just that.

**CONGRATULATIONS TO OUR  
WINNERS!**

# IN THE COLLEGES

Tau Bates having an impact at institutions of higher learning

## Viola L. Acoff Ph.D.

*Alabama Gamma '91*

Viola is the new University of Mississippi Dean of Engineering and mechanical eng'g professor. She joined Ole Miss from the Univ. of Alabama, where she served as associate dean for undergraduate and graduate programs since 2014. Viola earned B.S., M.S., and doctoral degrees in materials eng'g from the Univ. of Alabama at Birmingham and has published 80+ peer-reviewed papers.



## James A. Ankrum Ph.D.

*Iowa Beta '07*

James has been promoted to the rank of full professor of biomedical eng'g at the University of Iowa. A researcher at the Iowa Diabetes Research Center, he's also a Fulbright Scholar and spent 2023 in Ireland developing tissue engineered solutions for wound healing. James is a past IA Beta Chapter president and earned his Ph.D. through Harvard-MIT's Health Science & Tech Program.



## Eric T. Baumgartner Ph.D.

*Ohio Iota '88*

Eric has been named the next president of the Milwaukee School of Engineering. He's served as MSOE's Executive Vice President of Academics since 2017 and will begin his new role Jan. 1, 2026. Previously, Eric was Ohio Northern University's COE Dean, senior member of the engineering staff at NASA's Jet Propulsion Lab, taught at UCLA, and earned a Ph.D. in MechE from Notre Dame.



### SPOTLIGHT: University of Massachusetts at Amherst Engineering Gift

— In 2025, Dan Riccio, a former key leader and innovator at Apple, committed \$50 million to support immediate and long-term initiatives to fuel innovative research, strengthen academic excellence, and expand access and opportunity for generations of UMass Amherst engineering students. It is the largest gift in campus history and in recognition the university established the Daniel J. Riccio Jr. College of Engineering. **Sanjay Raman, Ph.D., GA Alpha '87**, UMass Amherst Dean of Engineering, says Dan's generosity will change the trajectory of the college's future through fellowships & scholarships, the creation of a chair in biomedical engineering, and professorships for eight distinguished faculty members.

### The College of New Jersey Scholarship

— TCNJ School of Engineering (SOE) recently celebrated academic excellence at the Fall Scholarship & Awards Ceremony. This year, the School proudly launched the inaugural Dr. Allen Katz Endowed Engineering Scholarship, recently endowed through the generous commitment of the Katz Family combined with the support of alumni, parents, and friends. The scholarship supports a full-time engineering student who demonstrates both financial need and academic merit, with preference given to electrical or computer eng'g majors, IEEE members, and amateur radio enthusiasts. Having passed away June 20, 2024, **Dr. Katz's, DS.c., NJ G '64**, impact at TCNJ is profound, helping to launch the SOE and mentoring students.

## Steven W. McLaughlin Ph.D.

*Illinois Gamma '85*

Steven became president of The Cooper Union for the Advancement of Science and Art on July 1. Previously, he spent nearly 30 years at Georgia Tech, most recently as Provost and Executive Vice President for Academic Affairs. In 2011, Steven was awarded the Knight of the French National Order of Merit and has research interests in communications & information theory, with 36 U.S. patents in areas of forward error correction.



## Adebayo Ogundipe Ph.D.

*Michigan Lambda '99*

Adebayo has been appointed dean of the College of Engineering at Grand Valley State University (MI), beginning March 1. A native of Nigeria, he has extensive experience in chemical & environmental eng'g, higher education – including 14 years at James Madison Univ., most recently as professor and dept. head of engineering – and has M.S. and Ph.D. eng'g degrees from Stevens Institute of Technology.



## Georgia Papavasiliou Ph.D.

*Illinois Beta '96*

Georgia was selected as chair of the Illinois Tech Department of Chemical and Biological Engineering, effective at the start of the fall 2025 semester. An IIT alumna, she earned B.S. and Ph.D. degrees in chemical eng'g and joined the faculty in 2004. An IAspire Leadership Academy fellow, her research centers on the rational design of hydrogel biomaterials for regenerative medicine & drug delivery.



## Miguel A. Perez Ph.D.

*Puerto Rico Alpha '96*

Miguel is now head of the department of biomedical engineering and mechanics at Virginia Tech. An associate professor, he also serves as dept. associate head for research & graduate studies. Miguel currently leads several research efforts related to the efficient and effective collection and use of naturalistic driving data, has a B.S. in industrial eng'g, and two degrees from VT.



## William H. Sanders Ph.D.

*Illinois Alpha '83*

Bill was inaugurated as the 11<sup>th</sup> president of the Rochester Institute of Technology at a ceremony in late September. He's spent the last five years at Carnegie Mellon Univ. as Dean, College of Engineering and 25+ years on the faculty at UIUC founding the Information Trust Institute. Bill is widely recognized for his influential work in secure and resilient computing systems.



## Mark E. Schafer Ph.D.

*Washington Alpha '86*

Mark was elected to the IEEE Board of Directors as Division II Director-Elect (comprising 7 Societies and Councils) by the IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society (UFFC-S). A past UFFC president, Mark recently became the Director, Ultrasound Engineering for Neuro-modulation, at the Rockefeller Neuroscience Inst. at WVU.



### **FACILITIES: Bioindustrial advancement in Iowa —**

BioMADE, a U.S. Department of Defense Manufacturing Innovation Institute, has announced a partnership with ISU Research Park and Iowa State University on a collaborative initiative for a new bioindustrial manufacturing scale-up facility. With the goal of advancing innovative biobased solutions and developing products from the lab to commercialization, the multi-use fermentation facility will be installed at ISU's BioCentury Research Farm. In selecting Iowa for this initiative, BioMADE is committing up to \$20 million to the facility, to be matched by \$10 million in funding from Iowa Economic Development Authority's Strategic Infrastructure Program, and up to \$10 million in cost-sharing contributions from ISU.

### **Honoring a UT Petroleum Engineer with New Building —**

The third new engineering facility in the past decade at the University of Texas at Austin will be named the Autry C. Stephens Engineering Discovery Building (ACS). The 210,000-square-foot facility, set to open in 2026, will house the Cockrell School's Hildebrand Department of Petroleum and Geosystems Engineering and McKetta Department of Chemical Engineering. ACS is being named in honor of **Autry C. Stephens, TX A '61**, following an undisclosed gift from his family's Stephens-Greth Foundation. It features lipped classrooms, flexible study areas, and modern lecture halls. Autry was known as the "Pioneer of the Permian Basin," an oilman, pillar of his community, and for pioneering new methods for drilling wells.

## Elaina J. Sutley Ph.D.

*Alabama Beta '10*

Elaina is the winner of the 2025 Blavatnik National Award for Young Scientists in the Physical Sciences and Engineering category and as a laureate she will receive an unrestricted award of \$250,000. Elaina is a University of Kansas associate professor of civil, environmental & architectural eng'g and engineering associate dean for impact & belonging. Her research focuses on disasters, community resilience, and long-term housing recovery.



## William A. Tarpeh Ph.D.

*California Gamma '12*

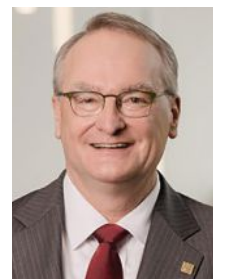
William was awarded a 2025 MacArthur Fellowship in recognition of developing energy-efficient, scalable methods for recovering valuable molecules from wastewater. An assistant professor of chemical engineering at Stanford University, with a Ph.D. in environmental eng'g from UC Berkeley, he envisions a future in which the concept of wastewater is obsolete, thanks to advances in recycling.



## John Y. Walz Jr. Ph.D.

*Louisiana Beta '82*

John recently announced his retirement and transition from Milwaukee School of Engineering (MSOE) President to President Emeritus, effective Jan. 1, 2026. As the fifth president in MSOE's 122-year history, he's guided the university since 2016. In this new role, he'll focus on fundraising and external outreach to support long-term strategic priorities. John has three chemical eng'g degrees and is past UK COE Dean.



# CHAPTER ETERNAL

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

The condensed style of these notices is made necessary by the Association's large membership and space limitations in *The Bent*. You may contact the Editor for additional facts (if available) concerning the following deceased members. The assistance of all is earnestly sought in reporting the deaths of Tau Bates, including full name and date of death. You may report the death of a member by sending an email to [tbp.memberupdate@tbp.org](mailto:tbp.memberupdate@tbp.org). Members that were 100+ years when passing are identified with "Cent."

## ALABAMA

### ALPHA AL A

Parker, Wesley Alonzo, '55, February 7, 2020.  
Pearce, Charlie R., '75, August 30, 2025.

### BETA AL B

King, Alton Butler, '47, November 2, 2021.  
Blackwell, James Charles, '49, Nov. 28, 2023.  
Killian, Charles Russell, '51, Nov. 1, 2010.  
Mosley, Talmadge Mordant, '65, July 6, 2023.

## ARIZONA

### BETA AZ B

Schroeder, Jerry N., '70, August 14, 2024.

## ARKANSAS

### ALPHA AR A

Highfill, Richard Eugene, '53, Oct. 20, 2024.

## CALIFORNIA

### ALPHA CA A

Harlander, Donald Charles, '51, Nov. 4, 2020.  
Landram, Charles S., '62, August 12, 2025.

### DELTA CA Δ

Horton, William Dean, '53, January 16, 2025.

### THETA CA Θ

Carpenter, Gordon Lee, '49, January 6, 2024.

### OMICRON CA O

Hoye, Walker William, '59, January 17, 2025.

## COLORADO

### ALPHA CO A

Tindall, Jack Logan, '54, November 10, 2020.

### BETA CO B

Benson, Paul Robert, '53, February 10, 2022.  
George, James Richard, '55, May 9, 2020.

## CONNECTICUT

### ALPHA CT A

Feinman, David M., '49, June 27, 2025. *Cent.*  
Wood, Brison Robert, '54, December 1, 2025.  
Sheppard, Alan Theodore, '55, Aug. 27, 2022.  
Kmetz, Allan Robert, '61, August 9, 2025.

## DISTRICT OF COLUMBIA

### BETA DC B

Wilding, James Anthony, '59, Feb. 24, 2023.

## FLORIDA

### ALPHA FL A

Wicks, Larry F., '73, July 23, 2024.  
Tang, Vincent, '13, August 28, 2025.

## GEORGIA

### ALPHA GA A

Buchanan, James Oswald, '50, April 5, 2020.  
Duke, Donald A., '52, March 25, 2017.

Franklet, Duane LeRoy, '52, August 15, 2016.

Hawkins, Walter Rex, '53, March 8, 2023.  
Fuss III, LeRoy, '54, February 23, 2024.  
Durstine, John W., '56, February 20, 2025.  
Hardie Jr., Newton Gary, '56, May 5, 2018.  
Lowrance, Lawton Henry, '56, July 28, 2025.  
Smith, Stanley Cooper, '56, May 30, 2021.  
Dejarnette, Fred Roark, '57, May 2, 2022.  
Todd, Jack Dodson, '90, September 6, 2025.

## ILLINOIS

### ALPHA IL A

Pounds, Robert Lee, '52, October 1, 2013.  
Fosnaugh, Robert Austin, '54, March 19, 2024.  
Konneker, Peter Albert, '54, August 13, 2025.  
Funkhouser, Terry Dale, '56, June 23, 2017.  
Gabbard, Curtis Sears, '56, January 12, 2024.  
Brinkmann, Dale Charles, '60, July 18, 2025.  
Lappin, Terry Allen, '61, November 16, 2014.  
Wiseman, Richard Allen, '63, June 1, 2024.

### BETA IL B

Peltzman, Morton, '50, November 28, 2019.  
Hudik, Martin Francis, '71, August 9, 2024.

### GAMMA IL Γ

Grounds Jr., Preston W., '51, Nov. 1, 2012.  
Tabar, Ronald J., '72, April 13, 2025.

### EPSILON IL E

McCullum, Cory DeAndre, '01, July 21, 2025.

## INDIANA

### ALPHA IN A

Scharlach, Richard M., '49, July 24, 2019.  
Stillman, Irving Leon, '50, August 14, 2021.  
Grace, Richard Edward, '51, no details.  
Swanlund Jr., Clifford A., '53, March 12, 2024.  
Snodgrass, Charles L., '56, Nov. 2, 2014.  
Masteller, Bill Lee, '57, September 5, 2025.  
Fetter, Lawrence Joseph, '59, June 29, 2025.  
Haselby, Kenneth Aaron, '64, Sept. 17, 2025.  
Spanjer, Clayton P., '70, August 30, 2025.

### GAMMA IN Γ

Green, James William, '63, Sept. 5, 2018.  
Siddons Jr., William D., '65, August 18, 2025.

## IOWA

### ALPHA IA A

Jaycox, Richard Lee, '50, October 30, 2013.  
Wiegman, John Hauck, '50, May 23, 2012.  
Wissler, Eugene Harley, '50, June 26, 2018.  
Burford, Lowell Preston, '55, April 9, 2016.  
Sley, Ronald Kenneth, '56, August 1, 2025.  
Miller, Maurice Dean, '58, July 31, 2025.

### BETA IA B

Jacobs, Harry W., '57, February 23, 2025.

## KANSAS

### ALPHA KS A

Autenrieth, John Russell, '48, May 29, 2007.  
McKeage Jr., Leroy, '54, October 3, 2023.  
Engle, Joe H., '55, July 10, 2024.  
Popejoy, Donald Glen, '62, February 8, 2017.

## KENTUCKY

### ALPHA KY A

Owens Jr., Carlyle Browins, '60, July 14, 2022.

### BETA KY B

Fiala, Charles J., '53, June 7, 2025.  
Tripp, Robert Glenn, '56, August 20, 2021.

## LOUISIANA

### ALPHA LA A

Hull, Jack Thomas, '48, January 31, 2001.  
Finney Jr., Alexander G., '49, May 18, 2011.  
Katz, Gerald Lee, '49, January 31, 2016.  
Bell Jr., William Rivers, '50, June 7, 2016.  
Evans Jr., Alfred Woodson, '51, Oct. 4, 2024.  
Brubaker, Philip Earl, '53, Sept. 23, 2021.  
Singleton, Louie Edward, '53, Nov. 3, 2024.  
Rhoades, Donald Eugene, '55, July 7, 2013.  
Payne, Howell Burnett, '56, Feb. 28, 2024.

### GAMMA LA Γ

Shamp, Francis Furman, '49, Feb. 24, 2021.  
Davis Jr., John Fletcher, '50, August 1, 2017.  
Cunningham, Gerald Clark, '51, Nov. 25, 2016.  
Harlan, Donald Pryor, '51, February 7, 2024.  
Ivy, Rowland David, '56, May 27, 2022.

## MARYLAND

### BETA MD B

Waldo, John Eaton, '57, September 1, 2025.

## MASSACHUSETTS

### ALPHA MA A

Weikman, Donald, '49, September 8, 2008.  
Calzone, Joseph Andrew, '61, Feb. 20, 2023.

### BETA MA B

Galan, Louis, '51, April 14, 2017.  
Hall, Henry Parsons, '51, July 17, 2023.  
Christy, Thomas Fox, '60, December 29, 2021.  
Rowe, Roger Mayes, '62, August 18, 2025.  
Doragh, Robert Andrew, '63, July 27, 2020.  
Rogers, James Wilson, '63, May 22, 2019.

### EPSILON MA E

Curtis, Harold Woodward, '47, Nov. 24, 2006.  
Brackett, Richard Harold, '53, Nov. 7, 2013.

### THETA MA Θ

Vasilos, Thomas, '50, December 8, 2022.  
Cowburn, Scott L., '85, June 5, 2019.



Connecticut Alpha '61  
**Allan R. Kmetz, DEN**  
 August 9, 2025

*A pioneer in liquid crystal display technology, he held 16 U.S. patents, 45 foreign patents, and served as president of the Society for Information Display (2002-04). His work helped lay the groundwork for flat-panel displays used in today's computer monitors and televisions.*



Georgia Alpha '56  
**John W. Durstine**  
 February 20, 2025

*Worked as chief engineer for the Ford truck division and his \$100 million bequest to the Georgia Institute of Technology is the largest single gift in the school's history. It will support faculty and academic excellence in the Tech School of Mechanical Engineering.*

**MICHIGAN**

**ALPHA MI A**

Schouten, Tunis Herman, '58, April 17, 2021.  
 Prey, Norman William, '60, Feb. 22, 2024.

**GAMMA MI I**

Koinis, John, '50, December 24, 2019.  
 Service Jr., Willis James, '50, Aug. 20, 2009.  
 Giardini, William A., '51, Sept. 23, 2009.  
 Williamson III, Warren Pyatt, '53, Oct. 4, 2022.  
 Pehlke, Robert D., '55, October 22, 2019.  
 Blair, David John, '57, October 14, 2024.  
 Oswald Jr., Robert Bernard, '57, May 18, 2015.  
 Downing, Edward Kent, '58, Dec. 8, 2023.  
 Foulke, James Alan, '59, August 26, 2025.  
 Frock, Roger Joseph, '59, December 30, 2016.  
 Wehring, Bernard William, '59, Sept. 3, 2021.  
 Bihun, Robert Gregory, '61, March 13, 2023.  
 Elders, Alvin Jay, '63, January 23, 2022.  
 Vandenberg, Willard J., '63, August 24, 2021.  
 Waugh, Charles B., '75, August 2, 2024.

**DELTA MI Δ**

Bonacuse, Thomas, '57, May 25, 2022.

**EPSILON MI E**

Timmins, William Dean, '62, Feb. 28, 2018.  
 Pittors, Allen Etienne, '97, April 27, 2021.

**ZETA MI Z**

Wiles, Frank Marion, '60, June 13, 2022.

**ETA MI H**

Bowden, George F., '48, November 3, 2022.

**MINNESOTA**

**ALPHA MN A**

Wengler, Roman Peter, '52, August 8, 2022.  
 Bowman, Robert David, '56, Nov. 2, 2016.  
 Oss, Donald Gordon, '58, September 6, 2025.

**MISSISSIPPI**

**ALPHA MS A**

Bowers, Emile Jackson, '57, August 14, 2025.  
 Corbell, Charles Dean, '57, August 3, 2020.  
 Singletary, William A., '58, March 21, 2024.

**MISSOURI**

**BETA MO B**

Schneider, Richard A., '49, April 19, 2006.  
 Coolbaugh, William E., '50, May 19, 2018.  
 Filer, Earle Howard, '50, December 31, 2021.  
 Mace, Charles Edward, '50, January 7, 2022.  
 Salvaggi, John, '50, September 11, 2022.  
 Zeid, Marvin C., '51, July 20, 2021.  
 Creamer, Edward L., '53, January 8, 2024.  
 Holland, Richard Oscar, '53, March 10, 2023.  
 Strohbeck, Eugene E., '53, January 14, 2018.  
 Kendrick, Jerry Carlyle, '59, May 14, 2021.  
 Kauffman, James Frank, '60, Dec. 12, 2005.

**NEBRASKA**

**ALPHA NE A**

Scott, Stanley S., '53, March 5, 2023.

**NEW JERSEY**

**ALPHA NJ A**

Hess, Edwin John, '55, March 25, 2023.

**GAMMA NJ I**

Irving, Edward Muir, '55, January 2, 2022.  
 Halle, Roy Thomas, '57, August 30, 2021.  
 Gyula, John Ronald, '70, August 1, 2025.  
 Richardson III, Frederick J., '75, Sept. 5, 2021.

**NEW YORK**

**ALPHA NY A**

Schlotterbeck, Donald R., '54, Nov. 11, 2019.

**BETA NY B**

Beall, William J., '60, September 22, 2025.  
 Cooper, Edward T., '69, August 23, 2025.

**GAMMA NY I**

Custer, John Courtright, '51, March 2, 2021.  
 Miller, Allen, '52, April 6, 2025.  
 Euler III, Franz, '58, no details.  
 Weiler, David William, '60, August 3, 2017.

**EPSILON NY E**

Grace, John Thomas, '55, May 1, 2025.  
 Bitello, John C., '60, August 19, 2025.

**ZETA NY Z**

Gendron, George Joseph, '56, Nov. 1, 2006.

**THETA NY Θ**

Bagdan, Sanders, '51, February 15, 1991.

**IOTA NY I**

Buchsbaum, Norbert N., '53, June 23, 2022.

**KAPPA NY K**

Janes, Edward Francis, '55, January 7, 2022.

**NU NY N**

Barnes, Robert Edward, '84, Nov. 21, 2024.

**NORTH CAROLINA**

**ALPHA NC A**

Stewart, John Bruton, '51, January 30, 2023.  
 Motsinger, Fuller Thomas, '56, Aug. 6, 2024.  
 Welfare, Fred Griffith, '57, April 25, 2018.  
 Myers Jr., Guy Arnold, '58, August 11, 2022.  
 Pilkington, Theodore Clyde, '58, Jan. 6, 1993.  
 Crumpler, Alton Braxton, '60, Jan. 6, 2011.  
 Monteith, Larry King, '60, November 2, 2023.

**GAMMA NC I**

Lloyd, Kenneth Earl Cooper, '52, July 17, 2022.  
 Chesson, Leslie Foy, '54, December 5, 2020.  
 George Jr., Rhett T., '55, December 14, 2020.  
 Ragsdale, William Lemuel, '55, Feb. 27, 2023.  
 Martin Jr., Robert Stancil, '56, Oct. 26, 2019.  
 Kennedy, James A., '62, July 31, 2025.

**NORTH DAKOTA**

**ALPHA ND A**

Stockman, Gene Wallace, '58, April 4, 2024.  
 Gunderson, Paul E., '62, August 28, 2025.

**BETA ND B**

Binde, Scott C., '84, June 1, 2024.

**OHIO**

**ALPHA OH A**

Kaplan, Irving Leonard, '49, January 22, 2021.  
 Brewster, Jerome, '60, April 6, 2018.

**BETA OH B**

Muckerheide, Donald J., '59, Oct. 12, 2022.

**GAMMA OH I**

Golden, Charles Ernest, '56, May 29, 2019.  
 Cox, Roger William, '57, October 30, 2022.  
 Hall, Thomas J., '66, November 28, 2023.

**ETA OH H**

Richard Jr., Charles W., '52, August 20, 2024.

**IOTA OH I**

Macklin, Timothy E., '76, January 28, 2025.

**KAPPA OH K**

Kashkari, Chaman N., '57, May 23, 2017.

**OKLAHOMA**

**ALPHA OK A**

Ellis, George Olen, '50, January 26, 2023.  
 Watkins, Earl Graham, '51, Nov. 8, 2023.

**PENNSYLVANIA**

**ALPHA PA A**

Lasser, Howard Gilbert, '50, June 3, 2025.  
 Laub, William Harold, '54, March 16, 2019.

**BETA PA B**

Myers, Calvin Kenneth, '53, August 25, 2025.  
 Weisel, David Ross, '58, August 15, 2025.

**ZETA PA Z**

Fasolo, Peter, '85, August 24, 2025.

**ETA PA H**

Ahlfeld, Leonard Hughes, '53, Jan. 13, 2025.  
 Gorman, John Eugene, '54, October 9, 2012.

**THETA PA Θ**

Battista, Gabriel Anthony, '66, Jan. 27, 2020.

**RHODE ISLAND**

**ALPHA RI A**

Webster Jr., Earle Roberts, '58, Nov. 7, 2017.  
 Johnson, Ronald Albert, '65, April 20, 2025.

**SOUTH CAROLINA**

**ALPHA SC A**

Deem, David Anderson, '67, Sept. 14, 2025.

**BETA SC B**

Overton Jr., John Hane, '59, Oct. 25, 2021.  
 Mack, Francis M., '70, December 13, 2023.



# CHAPTER ETERNAL

Continued from page 33

## **GAMMA SC I**

Baciocco Jr., Albert Joseph, '53, May 22, 2015.  
Evans, Lovick Claiborne, '81, June 23, 2025.

## **TENNESSEE**

### **ALPHA TN A**

Kelso Jr., Johnston Lynton, '49, June 23, 2006.  
Stanley, Robert Sterling, '52, Feb. 7, 2020.  
Snyder, William T., '54, September 23, 2025.  
Koger, Robert Keith, '58, November 15, 2022.  
Rohrbaugh, Frederick D., '59, Nov. 5, 2009.

### **BETA TN B**

Denman, Eugene Dale, '51, August 30, 2013.  
Castner, Henry Walker, '55, Nov. 19, 2021.

## **TEXAS**

### **ALPHA TX A**

Groppe Jr., Ernest Henry, '46, March 26, 2024.  
Gambrell, John Newton, '49, Dec. 14, 2021.  
Muller, Edgar Lee, '49, June 18, 2022.  
O'Brien, David Warren, '49, Dec. 5, 2007.  
Pfennig, Clarence William, '49, Nov. 1, 2018.  
Dishman, Elsby Earl, '50, March 31, 2012.  
Hall Jr., Ernest Marlin, '50, August 14, 2023.  
Massey, James Frederick, '50, Oct. 3, 2017.  
Brown, Royce Nolan, '52, November 20, 2020.  
Emge, Leonard Edward, '52, March 10, 2019.  
Walker, Jack Wesley, '52, January 21, 2021.  
Fritsch Jr., John Joe, '53, November 9, 2019.  
Moor Jr., Leslie Millard, '53, August 31, 2018.  
Crossman, Ronald C., '55, Feb. 21, 2025.  
Eversole, Charles Leslie, '57, Feb. 9, 2020.  
Fisher, Gary Duane, '57, December 7, 2016.  
Granberry, William R., '65, July 27, 2025.

### **BETA TX B**

Akers, William Walter, '43, November 5, 2017.  
Perkins, Franklin Terry, '49, October 8, 2021.  
Parker, Harry William, '53, February 16, 2020.  
Tomlinson Jr., Allan John, '54, Feb. 10, 2025.

## **GAMMA TX I**

McKinley, Robert Hunt, '49, January 16, 2022.  
Davis Jr., Sam H., '53, December 25, 2022.  
Wheeler, Joseph Darr, '53, August 18, 1995.  
Gibbs, Fred Ernest, '54, February 21, 2021.  
Robinson, Robin James, '55, Dec. 25, 2011.  
Wildman, James R., '55, October 15, 2010.  
Larkins, Robert Pruet, '56, June 24, 2024.  
Weidler Jr., Jay Benoit, '56, Nov. 17, 2019.  
Crutchfield, Jack Dean, '57, Sept. 18, 2009.

Driskill, Franklin Eugene, '58, no details.  
Schmidt, William Robert, '59, Dec. 24, 2016.

## **DELTA TX A**

Ammons, Archie Bridge, '47, July 26, 2013.  
Locke, Charles Blakey, '48, May 31, 2024.  
Babin, Maury Anthony, '49, January 23, 2019.  
Canon Jr., Olin Buz, '49, September 6, 2014.  
Eberspacher, Nelson E., '49, Dec. 6, 2012.  
Fisbeck, Marvin Charles, '49, Jan. 31, 2014.  
Jacquin, Jules John, '49, September 5, 2020.  
McGhee, Edwin, '49, October 4, 2014.  
Ryman, William Paine, '49, January 28, 2011.  
Turner, Everett Burton, '49, June 28, 2022.  
Betts, Gerald, '50, June 11, 2020.  
Fontenot, Joseph Garland, '50, Nov. 21, 2014.  
Hoobler, David Edward, '50, July 19, 2015.  
Lee Jr., Roy, '50, August 4, 2017.  
Ransom, William Roger, '50, Sept. 23, 2014.  
Thayer, Keith Bayard, '50, February 14, 2023.  
Harrison, James Burr, '51, August 16, 2012.  
Mills, Herbert Gordon, '51, Nov. 22, 2016.  
Taylor, Carroll Cole, '51, March 22, 2019.  
Gay, Ralph Horace, '52, June 8, 2007.  
McDuffie, Norton Graham, '52, Sept. 10, 2019.  
Neely, William Joseph, '52, August 30, 2022.  
Balke, Bennie Kuno, '53, September 21, 2021.  
Berner, George Watson, '53, April 5, 2014.  
Coolidge, John Wilson, '53, January 13, 2017.  
Engel, David Jonathan, '53, July 6, 2013.  
Giesecke, Robert L., '53, August 30, 2015.  
McCreary, Charles K., '53, August 17, 2010.  
Read, James McPherson, '53, March 13, 2020.  
Cunningham, Allen Baxter, '54, Nov. 29, 2014.  
Wilson Jr., Carl Weldon, '54, January 5, 2016.  
Campbell, Thomas Mellor, '55, June 13, 2023.  
Homeyer, Howard Charles, '55, Sept. 18, 2013.  
Jongeward, James Marvin, '55, Feb. 15, 2015.  
Kimmey, Bill Wayne, '55, May 2, 2016.  
McCasland, William R., '55, July 29, 2023.  
Pittman, Robert Wayne, '55, Nov. 21, 2024.  
Spell, Jack Edgar, '55, April 14, 2019.  
Wunderlich, Travis Gerald, '55, Feb. 8, 2016.  
Kennon, Paul Atherton, '56, January 8, 1990.  
Lippman, Jack Henry, '56, June 13, 2014.  
Rowell, Rex Laverat, '56, August 5, 2016.  
Walton, Edgar Charles, '56, Dec. 5, 2023.  
Young, Robert Wayne, '56, January 26, 2013.  
Curtis, Harold Elmo, '57, December 2, 2022.  
Baskin, Leland Burleson, '74, Nov. 20, 2024.

## **ZETA TX Z**

Cannon, Oldin Foster, '54, March 8, 2022.  
Pace, Thomas Lane, '54, August 20, 2020.

## **ETA TX H**

Fairchild, Jack Elmer, '53, March 12, 2024.  
Liles, Donald Harold, '70, January 7, 2022.  
Kearny, Henry Joseph, '71, February 8, 2023.

## **THETA TX O**

Alvarado, Ruben Armando, '72, Feb. 4, 2025.

## **KAPPA TX K**

Francis, Luther V., '50, June 10, 2024. *Cent.*

## **VIRGINIA**

### **ALPHA VA A**

Kerr III, Charles, '51, November 22, 2021.

### **BETA VA B**

Collie, Joseph Haslett, '50, May 27, 2025.  
Lastovica, John Eugene, '51, Dec. 1, 2024.  
Bucklen, Ellis Paxton, '54, July 14, 2009.  
Lockett, Donald Ernest, '57, May 23, 2025.  
Chung, Taiwoong Y., '62, Sept. 21, 2025.  
Des Champs, Nicholas H., '62, Sept. 22, 2025.

### **DELTA VA D**

Niess, Richard C., '44, September 21, 2020.

## **WASHINGTON**

### **ALPHA WA A**

Semke, Leon Kirkland, '58, May 21, 2025.  
Anderson, Donald M., '65, Nov. 18, 2025.

### **BETA WA B**

Ray, Edworth Lillard, '48, August 29, 2025.

## **WISCONSIN**

### **ALPHA WI A**

Stueber, Laverne Anthony, '52, Sept. 26, 2022.  
Balash, Francis Joseph, '53, Jan. 29, 2025.  
Binning, Jack Edward, '54, July 31, 2025.  
Engel, Robert Forrest, '56, April 26, 2014.

### **BETA WI B**

Ishii, Thomas K., '50, December 27, 2021.  
O'Keefe, Ronald William, '57, May 3, 2018.  
Augustine, Robert L., '59, February 26, 2017.  
Auchter, Robert Martin, '60, April 20, 2020.  
Floersch, Eugene Aloysius, '61, Jan. 13, 2024.

## **WYOMING**

### **ALPHA WY A**

Mai, Russell E., '49, September 9, 2012.



Tennessee Alpha '54  
**William "Bill" T. Snyder, Ph.D.**  
September 23, 2025

*Served as a professor, dean of engineering, and chancellor at the University of Tennessee. Well-known as the volunteer house organist at the Tennessee Theatre, he played the Mighty Wurlitzer organ from 1970-2018 and was named a 1998 TBP Distinguished Alumnus.*

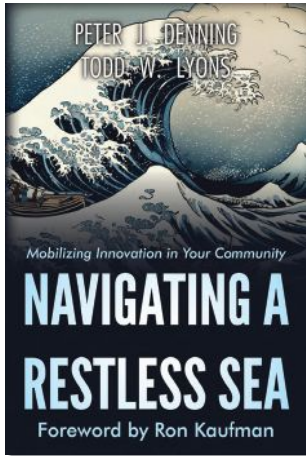


Texas Beta '54  
**Allan J. Tomlinson Jr.,**  
February 10, 2025

*He was a U.S. Air Force Korean War veteran and selected as a Texas Tech Univ. Distinguished Engineer. His chemical engineering (B.S.) and business (Harvard MBA) abilities led to his meteoric rise to president and COO of Diamond Shamrock Chemical Company in 1980.*

# Authors

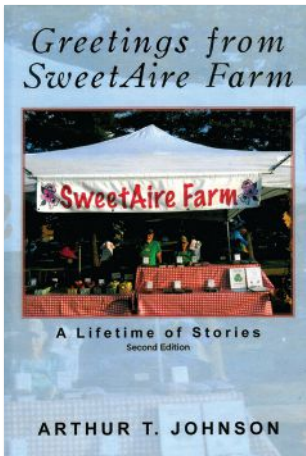
Recently published a book? If so, we would like to recognize you! Send details and a cover image to [d.lane@tbp.org](mailto:d.lane@tbp.org).  
 Note: Due to the popularity of this section, submissions are first come, first served, as room allows. Thanks!



**Peter J. Denning, Ph.D.**  
 New York Xi '64

**Navigating a Restless Sea**

A Distinguished Professor, author of 13 books, and past Association for Computing Machinery president, Dr. Denning's book aims to demystify innovation, human communication, and coordination. Innovation is an elusive mystery for many who seek change in their communities. Starting from the notion that innovation is adoption, not invention, it teaches the eight practices of skill for navigating in unpredictable, sometimes chaotic, human social spaces to reach agreements on making change.



**Arthur T. Johnson, Ph.D., P.E.**  
 Maryland Beta '64

**Greetings from SweetAire Farm: A Lifetime of Stories**

Arthur's book is a collection of human interest stories from a family living on a small farm and engaging in related activities. It includes humorous, philosophical, or otherwise interesting descriptions of incidents encountered over the years. From run-ins with belligerent ducks to touching reflections on raising children, navigating marriage, and finding joy in the chaos of farm life, it's nostalgic storytelling for everyone.



**Laurie A. Johnson**  
 North Dakota Alpha '83

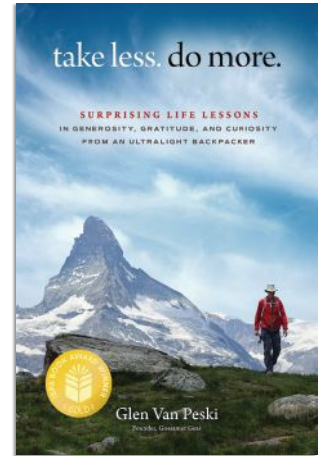
**Is Small Business Ownership for You?**

After retiring as a principal owner and firm president for 25+ years, *Business Expert Press* published Laurie's first book in November. It provides questions to contemplate as you consider owning your own business. Readers will also gain a real-life look into business ownership as the author presents perspectives from 16 other small business owners gained through an interview process and shares personal experiences as well.

**Glen K. Van Peski, P.E., PLS**  
 California Kappa '83

**take less. do more. - Surprising Life Lessons in Generosity, Gratitude, and Curiosity from an Ultralight Backpacker**

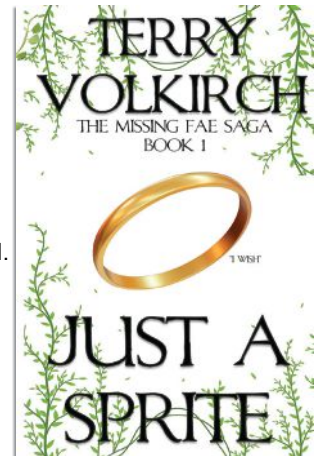
Glen applies backpacking wisdom to unlock greater fulfillment in the rest of life. Through wilderness anecdotes and lessons in generosity, gratitude, and curiosity, he reveals how shedding burdens can foster a life characterized by more purpose, meaning, and joy. Glen is founder of Gossamer Gear and all book profits are donated to the Pacific Crest Trail Association.



**Terrence "Terry" J. Volkirch**  
 Washington Alpha '84

**Just a Sprite**

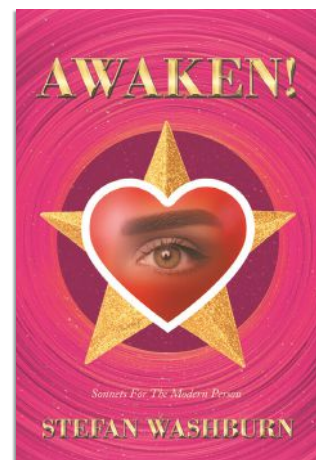
This is the first book in a seven-book urban fantasy series called *The Missing Fae Saga*. *Just a Sprite* tells the story of the fae, who've been missing from our lives because they've been cursed. The book has some adult themes but it's written for a broad audience and has been enjoyed by readers from ages 8 to 80. Terry is a retired software developer with a B.S. degree in electrical engineering.



**Stephen J. Washburn, P.E.**  
 Kentucky Beta '88

**Awaken! Sonnets for the Modern Person**

Writing under the pen name Stefan Washburn, he has published four volumes of sonnets. The title derives from J.S. Bach's Cantata BWV 140 "Wachet Auf, Ruft Uns die Stimme" (Wake up, a voice calls to us). The subjects range from the traditional topic of love to commentary on life in the contemporary world. Sometimes insightful and sometimes humorous, they include "Love Expressed in Chemical Engineering Terms" (Sonnet CLXXXV).



# EXPLORING LIFE & ENGINEERING WITH HU

## THE VIOLA, THE STIRRUP BAR, AND THE ETHICS OF BACKFILLING SYSTEMS

*Oliver has a B.S. in civil eng'g from Auburn University, an M.S. in civil & environmental eng'g from UCLA, and is pursuing a Ph.D. in engineering resilience at Texas A&M University.*



**By: Hu "Oliver" Zhao,**  
*Alabama Alpha '21*

The rehearsal hall felt chilly, the fluorescent lights washing every corner while a fine mist of rosin drifted in the beams. My bow rested on the string. I could hear the faint rasp of horsehair on wood, but the gentle vibration that should stabilize the midrange never came. At that instant, I thought of a concrete beam missing a single stirrup bar, invisible to a passer-by, but every engineer knows the whole span will tremble in the wind if that bar is gone. I had always been an amateur violinist, squarely beneath the spotlight where most people expect the melody to live. Yet, in early 2018 our orchestra simply could not find a violist. The conductor asked the entire violin section if anyone would switch. No one moved. I understood why: the viola's tone is dark, it rarely shines, and its music is written in the stubborn alto clef. Most listeners will never notice its voice at all. After thirty seconds of silence and a pause sharper than any fermata, I raised my hand and said, "let me try." From the orchestra's angle it was like picking up an unclaimed bolt on a worksite – not because it gleams, but because the structure cannot spare it.

### **This became the master metaphor of my engineering philosophy.**

Later when debugging a system, I would recall not the spotlight but that quiet, forgotten bolt that held the whole span together. In music, it was the viola. In structural mechanics, it's the stirrup bar. In consulting, it's the ignored interface. Across disciplines, the logic is the same: what no one claims, the system cannot lose. From my own angle it was curiosity, pure and simple. I had played violin for years, yet had never truly met the viola. The question — What is this instrument, really? — was louder than any reluctance.

The first night after trading instruments shattered every easy assumption. I could not manage a single clean scale. My fingers wandered across wider string spacing, the sound was as muffled as thunder behind rain clouds. It felt like weightlessness, all my violin muscle memory forcibly erased while a new language refused to load into my nervous system. At two in the morning, I found myself marking arrows and sketching diagrams across the full score, bracing each measure the way you shore up a leaning truss. Some called that stubbornness "love of music;" to me it was "engineering integrity instinct."

My cognitive map had a hole and everything in me insisted on sealing it.

A month later we returned to Shostakovich's *Second Waltz*. The string fabric regained its fullness; the brass climaxes no longer collapsed through the floor. When the conductor lowered his baton, I felt none of a soloist's triumph, only the quiet exhale of an engineer after a load test: forces closed, residual vibration acceptable. In November 2018, facing 60+ collegiate orchestras at Beijing's University Music Festival, we took home two silver medals — my first artistic honors.



*Oliver performs with the Beijing Univ. Student Symphony Orchestra.*

“The viola section leader is back,” my conductor said afterwards. I heard something different: **Not applause, but a system message: structure secured, mission complete.**

Those two brief years of symphonic detour became an irreversible memory and my first course in “structural backfilling.” The viola left me with three rules:

1. Framework before fireworks. If the underlying structure is weak, the loudest melody is brittle.
2. Working beats flashy. Intonation outranks showmanship, just as a converged model outranks a beautiful plot.
3. Ignite and light up others. One viola is quiet, yet it expands the orchestra’s dynamic range; one well-designed script that saves a data team an all-nighter is louder than any demo.

I wrote those three lines into the comments of my urban-resilience code: when mapping hurricane outages, I start with the overlooked medium-voltage nodes; in consulting projects I claim the interfaces no one wants to touch. Shoring up the shaded corners is harder than polishing the sunny ones, and it lasts longer.

Music teaches me to hear absence; engineering teaches me absence can destroy a system. Tau Beta Pi urges us to “use our talents to benefit society,” but if we cannot even keep a single movement from sagging, how can we hope to serve the public?

.....

To be honest, in the past I never planned to write a column. I intended to finish my Ph.D., publish papers on urban resilience, and move on. But the past few years kept pulling me back to a fact no theory can smooth over, engineers do not only solve problems, but we also survive them. Like collapse, repair, and unlikely endurance are the raw material of design.

I grew up in China and later transferred to the United States midway through undergrad. The switch was not graceful as I had to rebuild study habits, language, and confidence. In Los Angeles, I collapsed with a head injury that left me without half of my skull for months (image right). Recovery was slow and humble.

Like Europe after the plague in history, where the Renaissance forced new ways of seeing and building, I learned that survival itself can become a workshop. You start from days when the body fails and still discover principles that outlast pain.

That detour, not an elective, brought me to research on systems that hold when cities stumble: a grid knocked out by a storm, a dataset riddled with gaps, a plan shaken by human limits. Urban resilience is not an abstraction to me. It is the echo of rebuilding my own functions when nothing elegant was left, only what still worked.

This column exists to make that link visible, like life as the rehearsal room for engineering. I am not here to deliver universal truths. I am here to unpack lived moments and ask what they teach about designing, running, and repairing systems.

I’ve come to believe that genuine change is driven by voices no audience applauds: the mid-pressure water mains, the graveyard-shift harbor dispatcher, and the graduate student debugging code at 3 a.m.

Engineering is not only about innovation, but also about responsibility for the unseen. To me, that begins not in invention, but in reinforcement. Not in the spotlight, but in structure. After the last rehearsal, I packed my viola and looked across the empty stage. The house lights died, the seats were vacant, yet the wooden floor still hummed a low after-sound, like a bridge gently ringing after a proof load. A small voice in my head said, “Don’t rush for the front line; patch the hole in the rear first. When a gap appears in the system, step into it. Do not ask whether you’ll be the star; first make the structure stand.” That short orchestral episode imprinted an engineering lesson on me, note by rotating note, and years later, miles away in the United States, it reminds me what Tau Beta Pi ultimately means to me: framework before brilliance, function before flourish, and ignition of others before celebration of self. It is much like SpaceX rockets, once mocked as “metal barrels,” that now land upright like colossal chopsticks catching fire and shocking the world.



Oliver, in 2023, after a running accident led to a traumatic brain injury.

# PRESIDENT'S REPORT

CONTINUED FROM PAGE 12

Five laureates were selected as part of the 42<sup>nd</sup> year of the Laureate Program to recognize gifted engineering students who have excelled in areas beyond their technical majors.

## RATIFICATION BALLOT

The four amendments approved by the 2024 Convention were:

- Clarify the requirements for a collegiate chapter of Tau Beta Pi.
- Update the language for collegiate chapters regarding inactive member status, chapter action on communications, and the Advisory Board.
- Revise the requirements for an alumni chapter to allow for a provisional status.
- Add Acts of Convention to the Executive Council's responsibilities.

Unfortunately, not enough ballots were submitted by the April deadline, nor after the June extension. From the chapters that did respond, an overwhelming vote was to ratify the amendments.

Tau Beta Pi is a student-directed organization. We strongly encourage all chapters to vote on these amendments, so the Executive Council doesn't have to act for you. That being said, all the amendments from the 2024 Convention were approved by the EC.

## CELEBRATION

We have much to commemorate as many of our chapters are celebrating anniversaries this year, including: OH Alpha (Case Western Reserve Univ.) - **125 years**  
GA Alpha (Georgia Inst. of Technology) - **100 years**  
NC Alpha (North Carolina State Univ.) - **100 years**

## ACCOMPLISHMENTS

One of the EC's accomplishments was to reconcile the committees formed within.

We reviewed all committees and task forces. The EC committees impacted were combining the Student Advisory Board and Chapter Development, organizing the three finance committees into one, enhancing Image and Marketing, and forming a Strategic Planning Committee. We also reconstituted the membership committee to help with the strategic plan.

The Association's Engineering Futures (EF) and K-12 MindSET ([www.tbp.org/k12-mindset.cfm](http://www.tbp.org/k12-mindset.cfm)) programs continue to offer professional development and STEM outreach, respectively. Remember to offer an EF session on your campus this year. ([www.tbp.org/engineering-futures.cfm](http://www.tbp.org/engineering-futures.cfm))

The New Engineering Solutions for Tomorrow (NEST) Program will be reviewed by a committee at Convention to determine if this program will continue.

While we know many people value mentoring, we ended our partnership with Ambition in Motion's mentoring program due to numerous issues with the quality of the program.

We have recently established a new partnership with Farmers Insurance to provide automotive, homeowner, and bundled packages at discounts to our members. Be on the lookout for more information as this member benefit will go live in January 2026.

The targeted email initiative is underway to determine what could impact our growth. We have circulated it, but plan for additional pilots with schools that will gather additional data on reasons eligible members join or choose not to join.

## NEW COLLEGIATE CHAPTERS

Petitions for new chapters of Tau Beta Pi at Campbell University and the Wentworth Institute of Technology were received. Both schools were visited by inspection teams and reports were submitted to the EC for action. I am pleased to say both schools are here to present their final petitions to the Convention. In addition, Weber State University in Ogden, UT, has submitted a preliminary petition and an inspection is planned.

## STRATEGIC PLAN

As stated in my introduction, donors' generosity and dedicated members have brought us to this moment, but it is growth – in membership, impact, and innovation – that will carry us forward. A Strategic Planning Committee was established to drive TBPI's strategic plan, measure it, and make sure the organization is moving in the right direction. Our future as an organization is based on the premise that all Tau Bates, and HQ employees, rally around one common goal that we all must contribute to – a common goal around growth.

The overarching, long-term goal is to increase the number of new members per year from 8,250 (2024-25) to 15,000+ new members per year by July 31, 2035. This includes moving member experience from unmeasured in 2025 to a quantified member experience/engagement index with sustained improvement beginning in 2026 and continuing through 2035.

This one overarching goal on growth will provide focus for all areas of the organization, such as:

- Uniting the organization in working toward one goal
- Contributing to the value of the membership experience and continuously improving it.
- Measuring our accomplishments tied to the goal.
- Providing an overarching vector allowing autonomy to impact the goal tactically.



# ASSOCIATION BRIEFS

## 2025 CONVENTION IMAGES



Image left: Recipients of a Chapter Excellence Award, members of the IL Alpha Chapter pose with District 8 Directors Teresa Hutton (second left), Milwaukee Area Alumni Chapter president, and Lisa Matta (far right), Chicago Alumni Chapter president.

Image middle below:  
2025 Convention swag.  
Photo credit: Alexis G. Vallier, NYG '27



Sean Aiton presents the Most Outstanding Alumni Chapter Award to Bayaan Odeh, *MI E '23*, Southeastern Michigan AC vice president.



Executive Councillor Rachel Alexander, *CA U '15*, speaks to Convention attendees.

## ANNUAL ALUMNI CHAPTER AWARDS: 2025 CONVENTION

At Saturday's Chapter Awards Banquet, Sean Aiton, *NC A '22*, Director of Alumni Affairs, presented the Alumni Chapter Awards for 2024-25.

- *Most Outstanding Alumni Chapter*  
**Southeastern Michigan Alumni Chapter**
- *Most Improved Alumni Chapter*  
**West Michigan Alumni Chapter**
- *Engagement with their Community*  
**Mid-South (TN) Alumni Chapter**
- *Collaboration with Collegiate Chapters*  
**Sacramento Valley (CA) Alumni Chapter**
- Honorable Mentions:  
Ohio North Coast and Southeastern Michigan Alumni Chapters
- *Participation by Members*  
**None (standard not met)**

# ASSOCIATION NEWS

## Editorial Board Members

In July, **Avi Majumdar**, *PA Z '23*, joined the Editorial Board for this magazine.

We are excited to have him working alongside our current members (shown here) as we continuously strive to make improvements to the magazine and publish content that appeals to our entire membership.

Additionally, two board members rolled off, and were recognized for their years of commitment to the magazine with the Association's Distinguished Service Award. Short career profiles of each appear below.



**Avi Majumdar**  
*PA Z '23*



**Jim Froula**  
*TN A '67*



**Alison Hu**  
*CA I '96*



**Bridget Moorman**  
*AZ B '85*

### **Lyle D. Feisel, Ph.D., P.E., IA A '61,**



was the founding dean of engineering at SUNY Binghamton and served for 23+ years on the Editorial Board. He has published two series of popular columns for this magazine: "Lyles Laws" and

"Why Do We Call it A ...," the former of which was published as a book in 2013 by Brooklyn River Press. Lyle has been involved with the American Society of Engineering Education in several capacities, including VP for finance and president. His contributions to the *Journal of Engineering Education* as a reviewer for "The Academic Bookshelf" extended from 1993-97. Lyle was instrumental in chartering the Association's NY Tau Chapter and was recognized for his influence on the engineering profession as a Distinguished Alumnus in 2002.

### **John Prados, Ph.D., P.E., TN A '54,**



is vice president and University Professor Emeritus at the University of Tennessee (UTK), where he spent 50+ years. An Editorial Board member for 21 years, he's held roles at UTK, including chemical

engineering department head, associate dean of engineering, acting Chancellor of the Knoxville and Martin campuses, and Vice President for Academic Affairs of the Statewide University System. A consultant for industry, government, and higher education, he was also senior education associate in the National Science Foundation Engineering Directorate. His volunteer professional service includes ABET president, Sigma Xi president, editor of the *Journal of Engineering Education*, and as a TBP Executive Councillor (1986-90).

# ASSOCIATION BRIEFS



Above image: Trivia attendees from IL Alpha together with the IL Zeta Bent monument.

Above image top right: Team Electrifying with their trophies. Members (from left to right): Liliia Shanina, *IL B '26*, Rev. Rich R. Andre, *NY K '96*, Rayen Ben Amar, *IL B '25*, and Lucas Chen, *IL Z candidate*. Renata P. Revelo, Ph.D., *IL Z '09*, (*IL Z Chapter Advisor*, not pictured).



## ALUMNI ACTIVITY: CHICAGO (IL) ALUMNI CHAPTER

On September 27, the Chicago Alumni Chapter hosted an epic back to school trivia mixer with 12 alumni (including 2 chapter advisors) and 25 collegiate students from the IL Alpha, Beta, Gamma, and Zeta chapters. It was a competitive and collaborative night full of laughs. Congratulations to team *Electrifying* (image above) for taking home the coveted first place trophy.

A huge shout out to our guests from IL Alpha (Univ. of Illinois at Urbana-Champaign), who drove 2.5 hours to join us, wrote the trivia questions, and **Megan Harrison, IL A '25**, for serving as our trivia master. We couldn't have done it without them.

Thanks to Lisa A. Matta for posting the images & info to social media. Contact the chapter at: [chicagoalumni@tbp.org](mailto:chicagoalumni@tbp.org) and visit [sites.google.com/tbp.org/chicagoalumnichapter/home](https://sites.google.com/tbp.org/chicagoalumnichapter/home)

## ALUMNI ACTIVITY: NEW YORK CITY ALUMNI CHAPTER

**Kevin Qualters, NH A '85**, director of mechanical engineering & validation at AMD hosted a private tour of AMD's Engineering Services Building in Secaucus, New Jersey.

The tour included AMD's state-of-the-art labs for: mechanical / shock & vibration, thermal / reliability testing, electromagnetic compatibility / ESD system scale testing, quality analysis, and more.

Whether a hardware enthusiast, systems thinker, or curious about what powers the world's fastest processors, those in attendance got the chance to explore behind-the-scenes of AMD's technologies.

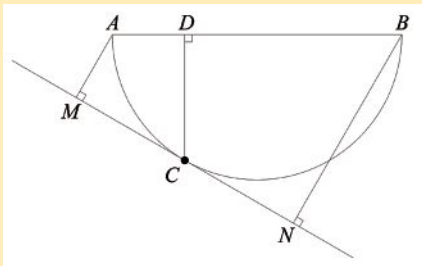


NYC Alumni, family, and friends at the AMD Building.

A special thanks to Jennifer Lui for organizing and providing this event summary via the NY Alumni Chapter newsletter. Follow them on LinkedIn and Facebook to find out what's next at: [www.linkedin.com/groups/4728160/](https://www.linkedin.com/groups/4728160/) and [www.facebook.com/tbpnycalumni#](https://www.facebook.com/tbpnycalumni#)

### 3: Semicircle Lengths

In the accompanying drawing below,  $C$  is a point on the semicircle with  $AB$  as diameter.  $MN$  is tangent to the semicircle at  $C$ .  $AM$  and  $BN$  are perpendicular to  $MN$ , and  $CD$  is perpendicular to  $AB$ . Find an expression for the length of the segment  $\overline{CD}$  as a function of the lengths of  $\overline{AM}$  and  $\overline{BN}$ .



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

### 4: Water Cryptarithm

Solve the following cryptarithm: PACIFIC + BALTIC + ARCTIC = CCCCCC. Standard rules apply: each different letter stands for a different digit and each different digit is always represented by the same letter; no leading zeros are allowed.

—*The Math Contest*

### 5: Game of Nuclei

One variant of the “Jeu de Noyaux,” once popular with the Indigenous people of North America, was played with 8 identical four-faced tokens with each face painted a different color. Player X throws the tokens while Player Y presumably observes attentively to prevent any chicanery on the part of her counterpart. If 4 unique colors are shown on the tokens, Player X pays Player Y  $B$  livre. If 3 unique colors are shown, Player X pays Player Y  $2A$  livre. If 2 unique colors are shown, Player X pays Player Y  $3B$  livre. Lastly, if there is only one unique color showing, Player X pays Player Y  $4B$  livre.

What is the exact ratio of  $A$  to  $B$  that makes this a fair game?

—Pierre de Montmort (1908)

### BONUS:

A vertical pole of length  $L$  and uniform mass per unit length falls on a horizontal plane. Assume the pole slides against the plane with a horizontal coefficient of friction of 0.25. If the top of the pole falls to the left, what angle will the pole make with the plane when the bottom of the pole begins sliding to the right? What angle will the

pole make with the plane when the bottom of the pole leaves the horizontal plane?

—John L. Bradshaw, *PA A '82*

### COMPUTER BONUS:

Find all integers  $n$  for which the total number of digits in  $n!$  is precisely 17 times the number of consecutive trailing zeros in  $n!$

—Jeffrey R. Stribling, *CA A '92*

Email your answers to any or all of the Winter Brain Ticklers to [BrainTicklers@tbp.org](mailto:BrainTicklers@tbp.org) or by postal mail to **Dylan Lane, Tau Beta Pi, P.O. Box 2697, Knoxville, TN 37901-2697**. The method of solution is not necessary. The Computer Bonus is not graded. Where possible, exact answers are preferable to approximations.

The cutoff date for entries to the Winter column is the appearance of the Spring *Bent* which typically arrives in late March (the digital distribution is several days earlier). We welcome any interesting problems that might be suitable for the column. Dylan will forward your entries to the judges who are **F.J. Tydeman, CA A '73**; **J.C. Rasbold, OH A '83**; **K.D. Berthold, TX B '04**; and the columnist for this issue,

— J.R. Stribling, *CA A '92*

## STAY CONNECTED

Follow us on social media and tag us in your Tau Beta Pi related images and videos at **#taubetapi**.



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Simon Hart with the Bent monument at the University of Connecticut.

## IN TRIBUTE: A TAU BATE LOST TOO SOON

### SIMON HART'S LEGACY AND THE SILENT THREAT OF DIABETIC KETOACIDOSIS

*By: Ted Hart - Simon's father and  
President of Friends of Simon Hart*

I'd like to pause and honor one of Tau Beta Pi's vibrant and dedicated fellow engineers, **Simon Hart, NC G '24**. Simon, a mechanical engineering student at the University of North Carolina at Charlotte, embodied the Society's ideals of scholarly excellence, integrity, and selfless service. Invited to join his sophomore year, he wore his bent key with profound pride, often sharing stories of its symbolism with classmates and professors alike.

Tragically, Simon passed away on September 22, 2022, at just 21 years of age, from diabetic ketoacidosis (DKA), a preventable complication of undiagnosed Type 1 diabetes. **His story is not one of loss alone, but a clarion call for awareness, especially among engineers who, like Simon, push through fatigue and discomfort in pursuit of innovation.**

In his memory, his family founded Friends of Simon Hart, a nonprofit dedicated to educating young adults about DKA's insidious signs.

Simon was a force of curiosity and creativity, raised on a farm in Mebane, North Carolina. From an early age, he chased adventure with the tenacity of an engineer. A treasure hunter at heart, he scoured streams for crystals, wielded metal detectors on beaches, and piloted drones to capture the world from new angles.

His passion spanned the spectrum: forging knives from railroad spikes while watching *Forged in Fire* with his father, hiking peaks like Virginia's Dragon's Tooth, and surfing coastal waves. Music was another outlet; as woodwind captain of his high school jazz, concert, and marching bands, Simon's tenor saxophone filled fundraisers and stadiums with soul. He even dreamt of competing on *The Amazing Race* with his sister, Allegra.

In high school, Simon graduated summa cum laude and founded/captained the school's ultimate frisbee team, played varsity tennis, and volunteered with Habitat for Humanity. His intellectual drive shone through dual-enrollment courses, propelling him into UNC Charlotte as a second-semester freshman. While pursuing a mechanical engineering degree with a math minor, Simon maintained a 4.0 GPA. His professors often marveled at his problem-solving prowess; as one teacher noted, "Simon communicates his thoughts and ideas exceedingly well. He demonstrates diligence and perseverance and always wants to be certain he understands the concepts." Self-taught in welding and 3D printing, he crafted functional art from scrap and even repaired farming equipment.

An active member of UNC Charlotte's Archery Club, Simon not only competed but mentored peers, passing on techniques with the same generosity he showed in band.

Tau Beta Pi was more than an accolade for Simon; it was a badge of the engineering ethos he lived daily. Despite a packed schedule, he was frequently tapped to serve as a teaching assistant, embodying the Society's call to "light a candle" for others. UNC Charlotte awarded him his degree posthumously, a fitting tribute to a scholar whose life was cut short.

Simon's final days underscore a harsh engineering lesson: **even the most resilient systems can fail without early diagnostics**. On Sept. 22, two months after turning 21, he texted his father from his Charlotte apartment, citing extreme fatigue. The next day, he had gone silent. His father, with police assistance, found him unresponsive; the coroner's report later revealed DKA, triggered by undiagnosed Type 1 diabetes and a bout of pneumonia. With no family history of the disease, the signs — intense thirst, frequent urination, and exhaustion — were dismissed as the toll of his active lifestyle.

## “A brilliant young man one day with no symptoms, he was taken from his loved ones the next.”

Diabetes, a chronic condition where the body struggles to regulate blood sugar (glucose), affects over 38 million Americans, with Type 1 — an autoimmune attack on insulin-producing cells — striking unpredictably, often in youth. Type 2, more common, develops from insulin resistance. Early signs overlap and can mimic stress or over-exertion, a trap for driven professionals such as engineers.

If unchecked, hyperglycemia can spiral into DKA, a life-threatening emergency where the body, lacking insulin, burns fat for fuel, producing toxic acids called ketones. Common triggers include illness (like Simon’s pneumonia), missed insulin doses, or stress. Symptoms escalate rapidly: abdominal pain, nausea, vomiting, rapid breathing (to expel ketones, imparting a fruity breath odor), confusion, and coma. DKA strikes hardest in undiagnosed cases, claiming lives before symptoms register as urgent. Treatment — intravenous fluids, electrolyte replacement, and insulin — can reverse it if caught early, but delays prove fatal.

Simon’s family channels their grief into action through Friends of Simon Hart (found online at: [friendsofsimonhart.org](http://friendsofsimonhart.org)), which amplifies DKA education for students and families. “Knowledge of DKA and its symptoms could have saved Simon’s life.” The organization urges ketone testing during illness and routine blood sugar checks, simple

diagnostics akin to debugging code before a crash. In addition, they host archery tournaments in his honor and are pushing for a UNC Charlotte Scholarship.

As Tau Bates, we innovate to solve problems others overlook. Simon’s legacy challenges us to apply that ingenuity inward: monitor your metrics, heed the warnings, and support one another. Visit the website to learn more or share his story. Light a candle for Simon — wear your Bent key and let’s bend the curve on diabetes together. In the words of someone who forged beauty from scrap, “Make do, persevere, and never stop exploring.”

Symptom	Description
Increased thirst	Excessive dry mouth and fluid intake, as the body tries to flush excess sugar.
Frequent urination	Kidneys work overtime, leading to trips to the bathroom every hour or more.
Unexplained weight loss	Despite eating, the body breaks down fat and muscle for energy.
Fatigue and weakness	Cells starved of glucose leave you drained, even after rest.
Blurry vision	High blood sugar swells eye lenses, distorting sight.
Increased hunger	Paradoxically ravenous, as glucose can’t reach cells.
Slow-healing sores	Poor circulation delays recovery from cuts or infections.



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[www.tbp.org/hp-request.cfm](http://www.tbp.org/hp-request.cfm)

## CONVENTION HALLOWEEN HIGHLIGHTS



Image left: This year’s Convention took place over Halloween weekend.

Members like those in this picture from Alabama Alpha at Auburn University, brought costumes and enjoyed an evening social with games and snacks.

In addition, there was a Haunt the Halls: District Showdown with representatives from each of the Association’s 16 Districts decorating a hotel door for fun prizes.

# ALUMNI NOTES

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



## ALABAMA EPSILON '17

### Noel E. Berry P.E.

Noel was recently appointed as utilities engineer for the City of Fairhope (AL). He brings nearly 20 years of experience in water, wastewater, and civil infrastructure, with a strong background in operations, engineering, and project management. Noel is also president-elect of the ASCE Mobile Branch.



## ARIZONA ALPHA '10

### Christopher Stemple

Chris has joined Day & Zimmermann as director of business development (for munitions) with a focus on electronic fire control. Having previously worked as an EE senior manager at Raytheon, he has M.S. and MBA degrees from the Univ. of Arizona and serves as AZ Alpha Chapter Chief Advisor and a District 13 Director.



## CALIFORNIA ETA '99

### Ramak Asgari

Ramak was recognized with a Spark Award from SWE. She received the award at the WE25 Conference in New Orleans in late October. Ramak is a machine learning engineer at Lockheed Martin, TBP Outstanding Advisor (CA Eta and Upsilon Chapters), and a San Francisco Alumni Chapter officer.



## MARYLAND GAMMA '01

### CAPT Bill M. Dull

Bill recently took command of Submarine Base Kings Bay located in Kings Bay, GA. It is the U.S. East Coast home of 8 ballistic missile (SSBN) and guided missile (SSGN) submarines. He previously commanded USS ALASKA (SSBN 732) Blue Crew and has a B.S. degree in mechanical eng'g from the U.S. Naval Academy.



## MONTANA ALPHA '77

### Robert J. Morrison

Bob was recently inducted into the Montana Professional Engineers Hall of Fame for his expertise in process design for water and wastewater treatment, pumping stations, pipeline, and sludge-handling facilities. He oversaw a 40-year effort to bring clean drinking water to the Oglala Sioux Reservation.



## NEW JERSEY ZETA '18

### Amulya Veldanda Vadali

Amulya is a biomedical scientist, speaker, and author. Her book *I'll Be Your Friend Forever* has been awarded the Gold Medal in the 2025 International Readers' Favorite Awards in the category of children's non-fiction. A TBP Scholar (2017), she served as NJ Zeta Chapter recording secretary during her time as an undergrad.



## NEW YORK DELTA '94

### Kathleen M. Vaeth Ph.D.

Kathleen has started a new position as director of technology and platform at Qualitrol Corp. She also recently gave a talk at her alma mater entitled, "A Series of Fortunate Events: My Journey as a Cornell Chemical Engineer." Kathleen shared her diverse career journey that's led to 20+ publications and 30 U.S. patents.



## OHIO ALPHA '19

### Wyatt R. SaintClair

Wyatt recently founded Seventh Holdings LLC, a company focused on acquiring and operating residential service businesses and announced its formation following a successful capital raise. He brings a blend of strategic and operational experience leveraging his materials science & eng'g education along with work as a consultant.



## PENNSYLVANIA ZETA '23

### Gaurav Pandey

Gaurav, a manufacturing equipment engineer at Tesla, was honored as a 2025 SME "30 Under 30" for distinguished contributions to scalable equipment systems and advanced manufacturing. He's led cross-functional efforts supporting the Cybertruck launch and contributes through SME, ASME, IEEE-RAS, advancing robotics and eng'g education.



## WASHINGTON DELTA '10

### George K. Miyata

George announced that he has co-founded Soresu LLC, a company delivering software solutions in distributed connectivity, low-earth operations, and data science. Most recently, George was director of innovation and technology at DeNOVO Solutions, LLC. A TBP Scholar, he's served as a collegiate chapter advisor & president, and as a Pikes Peak Alumni Chapter member.

Send news about promotions, honors, civic activities, weddings, etc. to Tau Beta Pi, P.O. Box 2697, Knoxville, TN 37901-2697 or to [d.lane@tbp.org](mailto:d.lane@tbp.org). Deadlines: February 1 for **Spring** issue and May 1 for **Summer** issue. Include a recent headshot, name, address, chapter/class year, and email address or phone number. We cannot accept graduation announcements. Thank you!

## CALIFORNIA GAMMA '26

### Sydney E. Barta

The United States Olympic & Paralympic Committee has announced that Sydney Barta has joined the USOPC Collegiate Advisory Council this fall, as a Paralympic athlete representative, at the council's annual meeting during the Women Leaders in Sports national convention.

Sydney, the first Paralympian on the Stanford University track and field roster, focuses on short distance sprints (100m and 200m). She is also a Paralympic representative on the Team USA Athletes' Commission and brings first-hand experience to the council as a current NCAA student-athlete in USA Track & Field's Tiered athlete program.

A 2024 World Para Athletics Championships silver medalist and a six-time Parapan American Games medalist, Sydney is the American record-holder at 200m for Paralympians in the T64 classification at 26.87 seconds.

At Stanford, she's majoring in bioengineering (pre-med), serves as CA Gamma Chapter vice president, and was recently named a Rhodes Scholar. Sydney is conducting research on assessing balance in athletic populations, a Digital Athlete Moonshot project within the Wu Tsai Human Performance Alliance at Stanford.

"I'm proud to represent the athlete voice on the Collegiate Advisory Council and help strengthen the pathway from campus to Team USA," said Barta. "As a current collegiate student-athlete, I'm committed to ensuring that future Olympians and Paralympians are supported, empowered, and valued at every stage of their journey."

The council's mission is to identify and implement strategies that will sustain and grow broad-based sport sponsorship and investment across NCAA Divisions I, II, and III. The council's work is rooted in three priority areas: broad-based advocacy, financial sustainability, and audience development.



In April, Sydney competed in the 200 meters at the Payton Jordan Invitational, officially becoming the first amputee to compete as a Stanford varsity athletics team member.

Sydney Barta celebrates a win at the 2023 Parapan American Games.

Photo credit:  
Joe Kusumoto/USOPC



Left to right: Carmen, Kelli Richardson, and Mark C. Harrison (TNA '98)

## TENNESSEE ZETA '22

### Carmen N. Harvey

Carmen was awarded the 2025 TSPE State Outstanding Engineer of the Year Award by the TN Society of Professional Engineers State Chapter. She earned a B.S. in civil engineering from the University of Tennessee at Chattanooga and works as a senior transportation engineer at Arcadis U.S., Inc. Carmen focuses on TDOT projects and municipal transportation design, has 25 years of engineering experience, and served as city transportation engineer for the City of Chattanooga (2023-25).

# 2026 DISTRICT CONFERENCE SCHEDULE

**District 1:** April 18-19  
MA Kappa – North Andover

**District 2:** April 11-12  
NY Tau – Binghamton

**District 3:** April 10-11  
PA Eta – Lewisburg

**District 4:** TBD  
DC Alpha – Washington, DC

**District 5:** Feb. 28 - March 1  
GA Delta – Athens

**District 6:** March 27-28  
AL Alpha – Auburn

**District 7:** March 27-28  
OH Alpha – Cleveland

**District 8:** April 11-12  
WI Beta – Milwaukee

**District 9:** February 20-22  
KS Gamma – Manhattan

**District 10:** April 10-11  
TX Alpha – Austin

**District 11:** April 17-18  
MN Alpha – Minneapolis

**District 12 (E):** March 6-7  
WY Alpha – Laramie

**District 12 (W):** March 6-7  
UT Alpha – Salt Lake City

**District 13:** April 17-19  
AZ Alpha – Tucson

**District 14:** TBD  
WA Alpha – Seattle

**District 15:** February 28  
CA Eta – San Jose

**District 16:** February 21-22  
CA Xi – San Diego

**Note: Conference dates are subject to change.**  
**For the latest information, check our website at:**  
[www.tbp.org/districts.cfm#conf-schedule](https://www.tbp.org/districts.cfm#conf-schedule)

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# COLLEGIATE CHAPTERS

264 COLLEGIATE CHAPTERS  
257 ACTIVE — 649,681 MEMBERS

7 Inactive chapters shown in **BLUE**

A = ALPHA  
B = BETA  
Γ = GAMMA

Δ = DELTA  
E = EPSILON  
Z = ZETA

H = ETA  
Θ = THETA  
I = IOTA

K = KAPPA  
Λ = LAMBDA  
M = MU

N = NU  
Ξ = XI  
O = OMICRON

Π = PI  
P = RHO  
Σ = SIGMA

T = TAU  
Υ = UPSILON  
Φ = PHI

X = CHI  
Ψ = PSI  
Ω = OMEGA

**AL ALPHA** Auburn University  
**BETA** University of Alabama  
**GAMMA** Univ. of Ala. at Birmingham  
**DELTA** Univ. of Ala. in Huntsville  
**EPSILON** Univ. of South Alabama  
**AK ALPHA** Univ. of Alaska Fairbanks  
**AZ ALPHA** University of Arizona  
**BETA** Arizona State University  
**GAMMA** Northern Arizona University  
**DELTA** Embry-Riddle Univ., Prescott  
**AR ALPHA** University of Arkansas  
**BETA** Univ. of Ark. at Little Rock  
**CA ALPHA** UC Berkeley  
**BETA** Calif. Institute of Technology  
**GAMMA** Stanford University  
**DELTA** University of Southern Calif.  
**EPSILON** UC Los Angeles  
**ZETA** Santa Clara University  
**ETA** San Jose State University  
**THETA** Calif. State Univ., Long Beach  
**IOTA** Calif. State Univ., Los Angeles  
**KAPPA** Calif. State Univ., Northridge  
**LAMBDA** UC Davis  
**MU** Calif. Poly St. Univ., San Luis Obispo  
**NU** Calif. State Poly Univ., Pomona  
**XI** San Diego State University  
**OMICRON** Loyola Marymount Univ.  
**PI** *Northrop University (inactive)*  
**RHO** California State Univ., Fresno  
**SIGMA** UC Santa Barbara  
**TAU** University of California, Irvine  
**UPSILON** Calif. St. Univ., Sacramento  
**PHI** University of the Pacific  
**CHI** California State Univ., Fullerton  
**PSI** UC San Diego  
**OMEGA** Harvey Mudd College  
**ALPHA ALPHA** Calif. St. Univ., Chico  
**ALPHA BETA** UC Riverside  
**ALPHA GAMMA** San Francisco St. Univ.  
**ALPHA DELTA** UC Santa Cruz  
**ALPHA EPSILON** Univ. of San Diego  
**CO ALPHA** Colorado School of Mines  
**BETA** Univ. of Colorado 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** University of Wisconsin-Madison  
**BETA** Marquette University  
**GAMMA** Univ. of Wisconsin-Milwaukee  
**DELTA** Milwaukee School of Eng'g.  
**EPSILON** Univ. of Wisconsin-Platteville  
**WY ALPHA** University of Wyoming

# 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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