

# Full Membership Opens Way To Leadership Roles

by Tricia E. Gomulinski, South Dakota Alpha '98

**F**OLLOWING THE SUCCESSFUL ratification of the Constitutional amendment in December 1968, the first women were initiated into Tau Beta Pi. At the 1969 Convention, a chapter president from Minnesota Alpha and a chapter vice president from Illinois Beta were the first women to serve as voting delegates at Convention, pictured below with then Secretary Emeritus R.C. Matthews: Margaret L. Marsden, *MN A '70*, left, and Margaret J. Domyeny, *IL B '70*. (Read Q&A interview with Domyeny: [www.tbp.org/pubs/Features/Su19Carpenter.pdf](http://www.tbp.org/pubs/Features/Su19Carpenter.pdf))

In 1986, the first woman was elected to the Executive Council. Martha A. Martin (now Polston), *TN A '79*, served as President of the Association for four years and was re-elected to serve on the Executive Council for four more years.

Molly K. Brennan, *MI A '82*, was the second woman to serve on the Executive Council (1994-98) and was the first woman to be named a Tau Beta Pi Laureate when that program started in 1982. Forty-six women have followed her as Laureates: Lori S. Bocklund, *SD B '83*; Ellen S. Styles, *AL A '85*; Lisa A. Cramer, *IA A '86*; K. Lisa Stroud, *NY A '86*; Jill K. Groff, *NY B '87*; Margaret C. Lin, *IN A '87*; Kathleen L. McLaughlin,

THANK YOU to those who helped with the Women's Project during the past year:

Jill Tietjen, *VA A '76*  
Allen Erickson, *NM A '14*  
Ashley Begley, *CO A '10*  
Josuan Hilerio Sanchez, *PR A '07*  
Sue Holl, *CA A '76*  
Jenna Carpenter, *IN A '83*  
Stefani Kocevka, *NJ A '17*  
Dylan Lane, Headquarters  
Pat McDaniel, Headquarters  
David Roberts, Headquarters  
Tricia Gomulinski, *SD A '98*  
Ron Ames, *MD B '69*  
Rebecca Amorese, *NY K '17*  
Jessica Arble, *VA E '14*  
Bruce Barrow, *PA A '50*  
Jill Craven, *AZ A '07*  
Helene Finger, *CA M '88*  
Deb Grubbe, *IN A '77*  
Jessica Isaacs, *PA A '06*  
Amy Kurr, *IA A '18*  
Judy May, *IA A '58*  
Siba Mousa, *TX A '16*  
Pearly Pandya, *GA A '18*  
Martha Polston, *TN A '79*  
Sally Steadman, *WY A '69*  
Menna Youssef, *VA A '04*

*MA H '87*; Arianna Kalian, *NY I '88*; Christina M. Alvord, *MA B '90*; Susan E. Lawser, *RI A '91*; Catherine M. Charlton, *NY A '95*; Nina Wokhlu, *NJ A '95*; Robin W. McCall, *OH A '95*; Lia S. Pierson, *IA A '95*; Jennifer M. Vail, *OH A '95*; Sara I. Espinoza-Toro, *KS A '96*; Alison L. Hu, *CA A '96*; Michelle G. Palmisano, *TN B '97*; Heather D. Schafroth, *IA A '96*; Tracey C. Ho, *MA B '99*; Rikke U. Pedersen, *AZ A '99*; Laura S. Miyakawa, *PA A '01*; Sarah T. Bauer, *IA A '03*; Erin E. McIntyre, *NJ B '03*; Clara C. Shih, *CA A '05*; Melanie R. Vedvei, *SD A '08*; Kathryn C. Kellogg, *SD A '09*; Uchechukwuka D. Monu, *DC A '09*; Samantha van der Drift, *TX B '10*; Christina L. Bonnington, *MS B '10*; Jaclyn R. Kondratko, *IN A '10*; Elisabeth Linton, *UT A '08*; Stephanie N. Zastrow, *MN A '11*; Rosary C.T. Abot, *IN A '11*; Ann M. Gleason, *IA A '11*; Jennifer A. Johnson, *SC A '11*; Lisa N. Garret, *IA A '14*; Erika M. Pliner, *WI A '14*; Tonya J. Whitehead, *MI E '17*; Ashley A. Armstrong, *IN A '15*; Megan M. Waytashek, *SD B '15*; Kiersten K. Wang, *FL A '16*; Kasey M. Cooper, *AL A '18*; Simone

M.M. Stanley, *DC A '17*; Amy C. Kurr, *IA A '18*; and Krista L. Stribling, *IN A '18*.

In 1993, The Tau Beta Pi Distinguished Alumnus Award was inaugurated to recognize alumni who have continued to live up to the ideals of TBP and foster a spirit of liberal culture after their college graduation. Jill S. Tietjen, *VA A '76*, was the first woman to receive this award in 2004, followed by Michelle D. Johnson, *CO Z '81*; N. Jan Davis, *AL A '77*; Lilia A. Abron, *DC A '78*; Terry D. Olberding, *TN A '78*; and Aprille J. Ericsson, *DC A '86*.

The Outstanding Advisor Award was established at the 1996 Convention and honors an outstanding chapter advisor every year. Four women have received this award: Sally J. Steadman, *WY A '69*; Abigail M. Richards, *WA B '99*; Elizabeth A. Stephan, *OH K '93*; and Sandra B. Pitzak, *CO B '00*.

Starting in 2006, the Tau Beta Pi-McDonald Mentor Award was given to a Tau Beta Pi who has consistently supported the personal and professional development of their students and colleagues as excellent mentors. Two women have received this recognition since the pro-



Tennessee Alpha Tau Bates wear their stoles at a 2012 graduation.



Join us in honoring our Women's Badge recipients and our first class of women members at Convention October 10-12, 2019, in Columbus, OH. For more info and to register to attend, visit <https://www.tbp.org/conv/2019/conv.cfm>

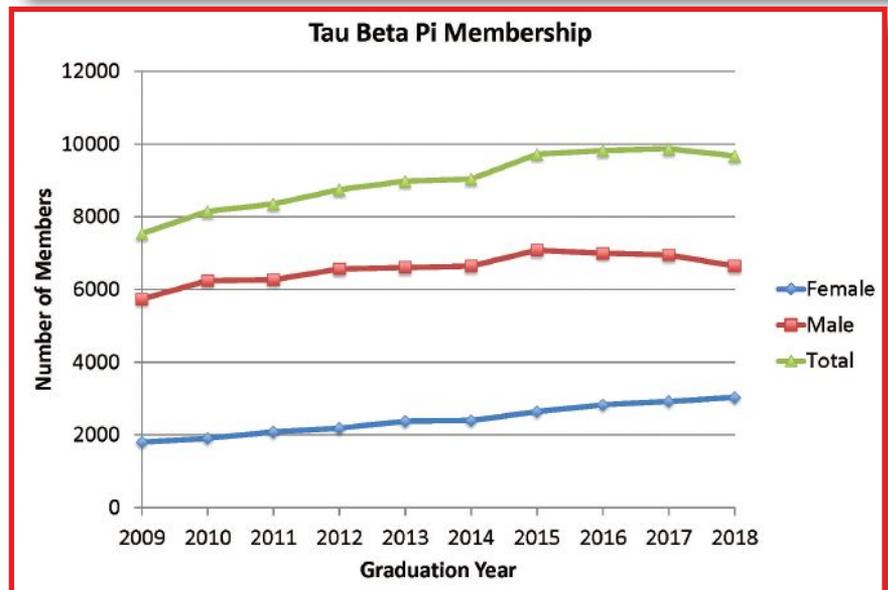
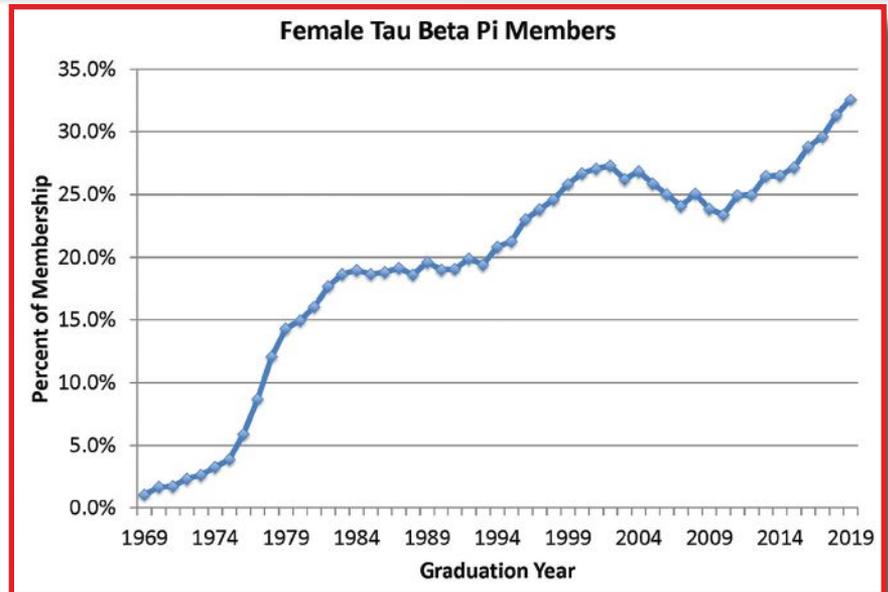
A list of the Women's Badge recipients can be found at <https://www.tbp.org/about/Dist/WomensBadge.cfm>

gram began: Donna S. Reese, *MS A '79*; and Antonette M. Logar, *SD A '78*.

Susan L.R. Holl, *CA A '76*, was only the second female President of Tau Beta Pi (2018). Other women who have served the Association on the Executive Council include Catherine M. Rice, *MD B '83*, Ellen S. Styles, Alison L. Hu, Solange D. Fantozzi, *FL A '95*, Menna M. Youssef, *VA Γ '04*, and Rachel K. Alexander, *CA Y '15*.

According to Brian L. Yoder's "Engineering By the Numbers" article published in 2018 for the American Society for Engineering Education, "The proportion of women among students receiving a bachelor's degree increased by 1% in 2016 over the previous year, to 20.9%. The representation of women among bachelor's degree recipients has risen from 18.1% in 2007 to 20.9% in 2016." During that same period, TBPI showed a slightly higher increase; women being initiated into Tau Beta Pi from 24.1% of the members who graduated in 2007 rose to 28.8% of those who graduated in 2016. The upper graph shows the percentage of female members for each graduation year. The lower graph compares the number of male and female members for the past ten years. The number of women in Tau Beta Pi continues to increase. As of March 2019, the Association had 598,563 members with 91,223 of them female (15.2%).

New undergraduates are in good company. Distinguished TBPI women include winner of the 2018 Nobel Prize in Chemistry, Frances H. Arnold, Ph.D., *NJ Δ '79*; CEO of General Motors, Mary T. Barra, *MI Z '85*; President of Harvey Mudd College, Maria M. Klawe, *CA Ω '73*, and several astronauts including Judith A. Resnik, *PA Γ '70*; Kathryn C. Thornton, *VA A '74*; Janice E. Voss, *IN A '76*; N. Jan Davis, *AL A '77*; Mary L. Cleave, *UT Γ '79*; Bonnie J. Dunbar, *TX E '83*; and Karen L. Nyberg, *ND B '94*.



## SPORTS GAVE THIS ENGINEER A GOAL

**MOLLY K. BRENNAN**, *Michigan Alpha '82*, has never found a problem doing what she wants with those of similar interests. Growing up, that meant playing sports on boys' teams and in college, majoring in a field with few women. She believes that sports give one mental toughness, discipline, and confidence. They also teach focus on a single goal and how to work as part of a team. Her initial love for math was supplanted by a book that her father brought home with engineering career details. Both of her parents were English/History majors and this has had a lasting influence on her.

As an All-American high school sprinter, Brennan was looking for a university that was top in the country in both track and computers. She liked the combined coding and hardware program at Michigan State University (MSU) and was ready to compete for a top Div. I track team. While at MSU, she realized that with an engineering curriculum and running track at a competitive level, she would not add the liberal arts courses unless she made a commitment to them as a double major. "I believe that an undergraduate degree is meant to educate you as a total person, not just a professional in one area," said Brennan.

Brennan was a two-time All-American in track and MSU Sportswoman of the Year in 1982. She was captain of the track team her senior year as they won the Big 10 championships. The Michigan State Legislature passed Resolution 514, making February 24, "Molly Brennan Day."

She graduated with degrees in computer science and in humanities and was recognized as one of the top two students academically. Before leaving for England, to complete a bachelor's in literature from Oxford University as a Rhodes Scholar, she was named as the first Tau Beta Pi Laureate, in athletics.

Molly's professional career began at General Motors with



Chevrolet Engineering. Her contributions included marketing, planning, and engineering for mid and full-sized cars present and future. She also proposed a concept to reduce build combinations to reduce costs and increase quality.

Before retiring in 1996, she won the first World Solar Challenge, setting four solar and electric land speed records in the *Guinness Book of World Records* as a GM Sunracer engineer and driver in Australia.

"It combined all of my interests and expertise: engineering, being on a team, competing, and racing," said Brennan. "It was a phenomenal experience and the race itself in Australia was unbelievable. The experience afterward was also really great because I got to speak to a lot of school

children about engineering as a career and hopefully inspire many to think of that profession."

In 1993, Brennan joined a group from the Midwest that was elected to be the Executive Council. Their platform was focused on growing the Engineering Futures program, promoting continued excellence, and modernizing Headquarters operations.

"The work of the Executive Council really is not glamorous or momentous! The staff and the Executive Director made our job easy," said Brennan, Executive Councillor, 1994-98.

Molly Brennan's accomplishments as an athlete and engineer, together with her contributions to the Association, do well to define the importance of recognizing 50 years of women in Tau Beta Pi. In her words: "I wish it didn't have to be a separate milestone from the founding of TBP, but that is much of history. TBP is better off for having added women and I cannot think of the organization without seeing many faces and names of women who have helped shape it these past 50 years."

—Dylan Lane, *HQ Communications Specialist*

## VISION OF THE FIRST WOMAN TBP PRESIDENT

**Martha A. Polston, P.E.**, *Tennessee Alpha '79*, graduated from the University of Tennessee Knoxville with a bachelor's degree in electrical engineering. Martha was elected to the Executive Council and served as the first female President of Tau Beta Pi from 1986-1990.

She served a second term as an Executive Councillor from 1990-94. Observing that the current engineering curriculum did not include training for teamwork and soft skills, Martha and her fellow Councillors identified the need to incorporate these skills into a new initiative. Thus, the Engineering Futures (EF) program was born. Launched in 1989, EF has been a defining program for the Association. Martha saw it as an opportunity to engage students in TBPI as well as advance their careers with essential skills. This also gave volunteer Engineering Futures Facilitators the opportunity to remain active and interact with the students, imparting their expertise and guidance. She recalls when the EF program started, top quality students from around the country eagerly volunteered to become EF Facilitators and that the EF program's benefits were wide-ranging.

The program received national recognition as winner of the American Society for Engineering Education Corporate Member Council's 2007 Excellence in Engineering Education Collaboration Award. Today, Engineering Futures modules have adapted to include current relevant topics and continue to be a



popular program that students request for their chapters.

Martha's belief that an organization should be constantly proactive and responsive to the environment led to many ideas growing out of the Council. While on the EC, she was part of a team that instituted a significant shift in the financial management of the organization. The "radical" changes of the time included investing in the stock market, creating endowments for the organization, and using a Trust Advisory Committee to creatively manage the funds. They discussed growing the organization internationally, remaining viable, and tapping into new ideas.

After leaving the Executive Council, Martha continues to volunteer with the Association. She served as an EF Facilitator

from 1994-2000, has written articles for *The Bent*, and currently mentors Kentucky Alpha Chapter with her husband **Steve A. Polston**, *KY A '70*. They host the annual TBPI Officers Retreat to train leaders and develop chapter operations. Martha has stayed active in the organization because of the quality of people who volunteer and work for the Association, and she believes their talents and high level of professionalism are what propel the organization to attract the best of the best.

Martha is currently retired after working as an engineering specialist with BWXT Y-12 in Oak Ridge, TN, for 27 years.

—Menna Youssef, *VA Γ '04*

## SPUTNIK SPARKED CAREER THAT LED TO NASA

**ANITA COBLITZ BRENNER**, Badge #609 and later Ohio Beta '70, was 10 years old when the world's first artificial satellite—Sputnik I—was launched into orbit. This marked the start of the space age, inspiring many technological and scientific developments. It also sparked Anita's interest in satellites and space. She excelled at math and science and chose to study aerospace engineering at the University of Cincinnati. When she started, Anita was the only female in a class of 45, with no female professors to look up to. She says that most of the faculty were supportive, but Anita still felt she needed to work hard to prove her worth.

During her time at the University of Cincinnati, Anita became a member of Sigma Gamma Tau, the national aerospace engineering honor society and Pi Chi Epsilon, a local women's honor society. Anita also completed seven cooperative work assignments: six at the Wright-Patterson Air Force Base in Dayton, OH, and one at the Finkenwerken Airplane Factory in Hamburg, Germany. She was always the only female on the team and credits her coworkers for being very supportive. Anita enjoyed her time on the assignments and decided to enter industry upon graduation.

In the beginning of her junior year, she was awarded TBIT Women's Badge #609 as part of the final cohort of the Women's Badges recognition program. Anita felt disappointed that she was not inducted as a full member. During this time, amendments to admit women to membership were approved. So Anita was initiated as a full member by the end of her junior year.

Upon graduation, Anita moved to Maryland and worked for the Navy for three years, designing guided projectiles during the Vietnam War. The work was challenging, but Anita had trouble working so directly with the war. During this time, Anita started a family. Seeking new opportunities, she enrolled in graduate



school at the University of Maryland, College Park to study electrical engineering, with a focus in biomedical engineering and control theory.

Anita received a Master's degree in 1975. She became involved in satellite altimetry the following year, marking the start of her many contributions to this field. Throughout her career, she has worked on developing algorithms to map the oceans, land, ice sheets, and river changes using radar and laser altimetry. Her pioneering work in the field of satellite altimetry applications for polar ice analysis has resulted in over 20 refereed publications.

She has been a member of the algorithm development teams and calibration

and validation teams for NASA and ESA laser and radar altimeters, most recently playing a major role in developing the signal finding algorithms for the Advanced Topographic Laser Altimeter System on the new ICESat-2 mission. She received NASA Group Achievement Awards for supporting the TOPEX, Geosat, and ICESat missions.

Anita is very fond of her time working with leading earth scientists to advance our understanding of scientific phenomena. Her proudest career accomplishment is that she was able to use her education to make a difference in her field and in the world.

She recently retired from her role at Sigma Space Corporation, where she managed programs at the NASA/Goddard Space Flight Center in support of earth science. She looks forward to spending time with her family and plans to continue mentoring STEM students. Her advice to young engineers is to make sure they do something they enjoy to have a fulfilling career and life!

—Stefani Kocavska, NJ '17

## FEMALE ROLE MODELS WERE IN SHORT SUPPLY

**ALICE C. PARKER**, Ph.D., North Carolina Alpha '70, waffled between a major in chemistry or physics. She wanted to do biomedical research, like her dad, but her physics teacher convinced her to apply for a scholarship in electrical engineering at North Carolina State University, which she won. In her sophomore engineering class of 120 students, there was only one other woman. Alice wondered if she had made the wrong decision. She persisted, however, not only because of her scholarship, but because she found electrical engineering both challenging and fun.

Alice was initiated in 1969, the first year women were admitted as members. She is very proud of her Tau Beta Pi membership since it was THE recognition of accomplishment. It never crossed her mind that Tau Beta Pi hadn't historically admitted women.

After graduating with a B.S. in electrical engineering from NC State in 1970, Alice received an M.S. in 1971 from Stanford and a Ph.D. from NC State in 1975, both in EE. She started as an assistant professor of electrical engineering at Carnegie Mellon, then moved to the University of Southern California when her husband graduated. She has been a faculty member for over forty-four years. Alice's original research focused on integrated circuit design automation. Around age 58, she decided to make an abrupt change and study neuroscience. It was difficult mastering a new field late in her career! She now builds electronic neurons to model aspects of the brain, such as learning, memory, disorders like OCD and treatments for Parkinson's disease. She



was the only woman faculty member in electrical engineering at USC at times, but in 2017 the incoming class of engineering majors at USC was 44% female, with a number of women faculty, as well.

Alice's role model was her father. It didn't occur to her that she was different or limited because she was a girl. This viewpoint insulated her throughout much of her career. It wasn't until she started working that she began to realize other people viewed her differently because of her gender. She noted that female role models (there weren't many—Jane Goodall, Marie Curie) helped her courageously push forward. Alice also benefited from male advocates who worked to make her pathway smoother. Without them, she recalled, she wouldn't have made it as far.

It wasn't until she mastered a new research area on her own, late in her career, that Alice realized she really did deserve and earn everything all those years. It wasn't luck or because people were kind and helpful. She reflected, "When people say you are only here because you are a woman, it increases your doubts and makes it challenging to move forward. The more you understand what you are capable of, the smoother the pathway is and the less fraught it is with anxiety and concerns. Women need confidence so they can face adversity in a healthy way, without feeling inadequate or incapable."

—Jenna P. Carpenter, Ph.D., IN A '83