See Salt Lake City!

The Utah Alpha, Beta, and Gamma Chapters are pleased to co-host the 100th annual Tau Beta Pi National Convention on October 6-8, 2005. The members, led by Arrangements Chair Michele L. Hollist, UT A ‘94, will enthusiastically welcome Tau Bates to Salt Lake City.

Breathtaking mountains and interesting activities make the Salt Lake City area a popular international tourist destination. Those who arrive by air will be greeted by hosting members at Salt Lake City International Airport. Transportation will be provided to the downtown Sheraton City Centre Hotel, where all conventioneers will stay. Business meetings, Engineering Futures and ICE sessions, and four meals will be held at the hotel.

Representatives from Applied Signal Technology, CH2M Hill, General Motors, L-3 Communications, NCEES, Raytheon, Sandia National Labs, Shell Oil Co., and graduate engineering programs at universities such as Columbia, Iowa State, Kansas State, Lehigh, Michigan, Oklahoma, and Virginia will be available at recruiting booths from 9 a.m. to 3 p.m. on Thursday, October 6. Be sure to bring copies of your résumé and the chapter’s résumé book!

A new Executive Council will be elected to serve the Society during 2006-10; the two slates are the Four Corners Slate and Foundation Slate.

The model initiation for three chapters will be held on the University of Utah campus, after which host students will lead tours through several engineering departments and additional areas of interest.

The expenses of one student delegate per chapter and the on-site expenses of chapter advisors will be paid by the Association. Non-voting delegates and alumni are welcome, encouraged, and invited to attend at their own expense.

Detailed information about the business of the Convention is on the following pages. Additional information is available on our website at www.tbp.org, and you may also register online at www.tbp.org/tpb-conv. You may contact Headquarters by email at convention@tbp.org. Our phone number is 865/546-4578 and our fax number is 865/546-4579.

This special national Convention promises to provide exciting memories, new friendships, and a fitting finale to Tau Beta Pi’s 100th Convention. Our hosts look forward to extending their hospitality.

We’ll see you in Salt Lake City!

Bechtel to Speak

Stephen D. Bechtel Jr., P.E., IN A ‘46, will be the featured speaker at this 100th Convention. He heads Bechtel Group, Inc., the nation’s largest, oldest, and perhaps most-innovative engineering construction firm and project management company.
Convention Business

The purpose of the annual meeting is to conduct Tau Beta Pi business. Delegates, who are often chapter presidents or officers, will begin their official duties on Thursday afternoon. They will oversee the Association’s fiscal and governmental policies, choose the major chapter award winners, prepare for District conferences, learn more about the Tau Beta Pi election and initiation process, receive leadership training, elect the 2006-10 Executive Council, and plan future Conventions. They are assisted in their duties by the Executive Council, chapter advisors, and national officers, who serve as committee advisors.

The delegates are the legislative, executive, and judicial body of this primarily student-run organization. Each delegate arrives ready to participate and has already been assigned to one of the Convention committees.

Each committee elects a student chair to conduct its internal affairs and represent the group on the Convention floor. Any Constitution or Bylaw changes brought forth from the committees are voted on by the Convention during the major business meetings.

This year seven standing committees will survey the Association, along with two ad hoc groups. The committees and their advisors are organized as follows.

Committees

Petitions
Dr. E.P. Garzinski, advisor
This group will consider and recommend action on a petition for a new chapter from Rowan University.

Constitution and Bylaws
D.A. Kamat, advisor
Three subjects have been assigned for direct consideration: 1) a proposal to modify Constitution Article XVII to revise the responsibilities of the trustee; 2) a proposal to modify Bylaw V to allow removal of chapter officers; and 3) a proposal to modify Bylaw V to delay the initiation-fee due date. Additional proposals may arise for consideration by this committee before and during the Convention.

Chapter & Association Financial Affairs
S. Jennings-King, advisor
Committee members will:
• Review the chapter accounts receivable to the national Headquarters,
• Review the annual reports of the Association’s auditor and Treasurer for 2004-05,
• Determine allowable delegate’s expenses for the 2006 Convention (and review unusual allowable delegates’ expenses for the 2005 Convention), and
• Conduct a financial analysis of the Secretary’s Commendation Award Program.

Constitution and Bylaws

Petitions
Dr. E.P. Garzinski, advisor
This group will consider and recommend action on a petition for a new chapter from Rowan University.

Constitution and Bylaws
D.A. Kamat, advisor
Three subjects have been assigned for direct consideration: 1) a proposal to modify Constitution Article XVII to revise the responsibilities of the trustee; 2) a proposal to modify Bylaw V to allow removal of chapter officers; and 3) a proposal to modify Bylaw V to delay the initiation-fee due date. Additional proposals may arise for consideration by this committee before and during the Convention.

Chapter & Association Financial Affairs
S. Jennings-King, advisor
Committee members will:
• Review the chapter accounts receivable to the national Headquarters,
• Review the annual reports of the Association’s auditor and Treasurer for 2004-05,
• Determine allowable delegate’s expenses for the 2006 Convention (and review unusual allowable delegates’ expenses for the 2005 Convention), and
• Conduct a financial analysis of the Secretary’s Commendation Award Program.

T-Shirt Design Contest

Both sides of the shirt may be printed using one or two colors
RULES: If the slanted Bent is used, the words “Tau Beta Pi” must appear nearby. Neither the slanted Bent nor the official logo may be used in combination with Greek letters or the motto symbolization. No design should cause embarrassment to TBP.
PRIZE: $100 and a special first-edition T-shirt
SUBMISSION: email a JPG to john@tbp.org by Sept. 25.
Convention Highlights
Engineering Futures
Dr. A.M. Brenner and Facilitators
Facilitators will introduce EF to delegates. Students will have the opportunity to explore ways to develop their own leadership skills to improve their chapters and to strengthen District ties while voting delegates conduct Convention business.
On Thursday and Friday, non-voting delegates will be involved in Engineering Futures training sessions, designed to teach them practical solution-oriented leadership techniques such as motivation, planning, delegation, and team building. Voting delegates who complete their committee assignments should join the sessions in progress.

District Directors
Directors will be meeting with delegates daily to assist them with organizing their local chapter activities and planning District conferences and other annual events.

Convention Extras
The Convention itself is organized to assist the delegates in their roles as chapter leaders. The opening orientation is a lesson in parliamentary procedure. Parliamentary James W. Johnson Jr. will act as a role model for delegates as they observe Robert’s Rules of Order in action. Convention Chair Ronald M. Hickling will lead the major meetings throughout the eventful three days.
Officers may familiarize themselves with chapter supplies and the newest insignia items that will be available at the Headquarters display in the hotel lobby.
On Thursday evening Stephen D. Bechtel Jr., P.E., will speak, and the Distinguished Alumnus Award will be presented. Saturday evening is traditionally the highlight of the Convention when the other annual Association awards will be presented. In addition to recognizing the R.C. Matthews Outstanding Chapter and the R.H. Nagel Most Improved Chapter, the 2005 Laureate and National Outstanding Advisor will be introduced.
The 100th National Convention could very well be the most enjoyable convention that you’ll ever attend. Please join us!

2006 Fellowships
Tau Beta Pi’s 73rd annual program of graduate fellowships for study in the 2006-07 academic year will close February 1, 2006, when applications must be in the possession of Director of Fellowships D. Stephen Pierre Jr., P.E.
Up to 20 cash awards will be given, each worth $10,000, made on the promise of future development in engineering or related fields, and financial need. Winners will be selected by the Fellowship Board and notified in April.
All members of Tau Beta Pi are eligible to apply. Students and alumni may download information pdf files from www.tbp.org. Applications will be accepted beginning November 1, 2005.

Bike Project keeps rolling
Tau Beta Pi’s signature project of refurbishing bicycles for needy children or homeless citizens is gaining momentum, and we need your chapter’s involvement. Officially introduced at the 2004 Convention, this project involves Tau Beta Pi members in collecting donated used bicycles, making repairs, and distributing them to the needy in the community through a local charity.
This is Tau Beta Pi’s first attempt to identify a national project. In selecting the actual project, the Executive Council saw a need to endorse an activity that would:
• Increase Tau Beta Pi’s visibility, not only on campuses, but in surrounding communities.
• Confirm our identity as being “more than an honor society.”
• Combine hands-on engineering know-how with community service.
• Spread to every size of community and appeal to local and corporate sponsors.

Illinois Epsilon was among a handful of chapters which adopted this project last fall and easily established a base to work from this year. The college of engineering donated a lab area, which the members cleaned for a workshop, and with a few flyers and by word of mouth, five bikes in need of repair were readily obtained from the community. A contact at a local women’s center agreed to distribute the finished products to truly deserving citizens of the community. This fall, Illinois Epsilon members hope to complete repairs on the bikes.
We have taken steps to make it painless for almost any chapter to start this project by publishing a Start Up Manual containing descriptions and samples of everything you’ll need. The manual is available on the web (under “Chapter Resources”). There are safety manuals to distribute to bike recipients, as well as logo stickers for the refurbished bikes. Best of all, we are available for any support that you may need (pat@tbp.org or ellen@tbp.org).
Fall is the time to start this project. Time invested at the beginning will ensure a program that is much easier in future semesters.

—P.B.M.
2005 Chapter Survey—

Do You Know They’re Not Aware?

A record 203 chapters completed this year’s annual Chapter Survey by providing basic information about chapter operations and answering specific questions to help Headquarters. Below is my annual summary of some of this information. Check it out, and see how your chapter compares.

How are you perceived on campus?
The survey presented two questions:

How would you rate the awareness of Tau Beta Pi in your engineering school?
- High 10%
- Medium 58%
- Low 32%

How would you rate the knowledge of Tau Beta Pi in your engineering school?
- High 16%
- Medium 64%
- Low 21%

Where do you think your chapter ranks? Not many chapter presidents thought fellow classmates were highly aware of Tau Beta Pi, nor did many have a high degree of knowledge of Tau Beta Pi. Most placed their chapter square in the middle—not the place to be if we are to achieve our vision:

**Tau Beta Pi will be universally recognized as the premier honor society.**

Neither is the middle the place you want to be to attract the brightest and best to become members.

“Lack of interest” remains the reason most-often given by an eligible candidate who declines membership. Why are they not interested? Most likely, they simply aren’t aware of Tau Beta Pi or don’t know what we do. Does your chapter publicize its activities? Does it tell all classmates the names of the latest group of initiates? Two survey questions addressed this:

How often are projects and programs of your chapter given public recognition?
- Always 9%
- Frequently 25%
- Sometimes 54%
- Never 12%

Are new initiates given public recognition?
- Always 8%
- Frequently 26%
- Sometimes 54%
- Never 12%

When your chapter works hard to improve your community, advance our profession, or support your *alma mater*, people should hear about it. New initiates should always be a source of pride for a chapter. Publicity is a good way to improve awareness of your chapter and the good things you are doing. A listing of new initiates combined with an article about Tau Beta Pi can go a long way to let others know about our high standards and who we are.

There are other ways to help move your chapter from medium to a high rank. Use posters and informative brochures that are available from Headquarters. Nearly two thirds (65%) of chapters reported using an average of two different posters last year. Introductory brochures were used by 60% and electee brochures by 58%.

Do you invite those students who are academically eligible but are not yet members to an orientation meeting? Headquarters has sample letters and an invitation used by 43% of chapters. To assist chapters, an orientation PowerPoint presentation that may be customized is available on the Chapter website. However, only 30% of chapters used this resource last year.

An important step in the invitation process is the follow-up. While 64% of scholastically eligible students were rejected and not elected, nearly all of them (90%) were rejected for lack of interest—three quarters were listed as not responding to the chapter’s invitation! Did you follow up to see if the invitation was lost? Emails often bounce back or just don’t arrive where they’re sent. Did you follow up to find out why they chose not to respond? Doing so could help you move from medium to high.

How does your chapter stack up? Is it performing with excellence? Good. Then encourage your chapter to keep up the good work. Or better yet, jump in and lend a hand.

—R.E.H.
Constitutional Amendment Ratified
The 2004 Convention approved one amendment to the Constitution and Bylaws and sent it to the chapters for ratification. With 229 chapters eligible to vote, 172 or more affirmative chapter votes are required to ratify an amendment, and 58 or more negative votes would defeat the amendment.

Headquarters received 170 valid ballots (plus 10 invalid for lack of a chapter quorum). The Council acted on the proposed amendments on June 4 and voted on behalf of those chapters submitting an invalid or no ballot.

Amendment
1. Revise Membership Eligibility of Undergraduates and Graduate Students. (Const. Art. VIII, Sec. 2 and 3)

Outcome
1. Unresolved by chapter vote; 162 affirmative, 8 negative. Ratified by Council vote for invalid and missing chapters.

Bylaw Requirement
Because of the ratification of amendments passed by the 2002 Convention, all Tau Beta Pi chapters are required to list all eligible curricula for both undergraduate and graduate membership in their chapter bylaws.

The Convention established April 1, 2004, as the compliance date, and a total of 177 chapter bylaws with approved curricula have been received. Fines will be levied on non-complying chapters as required. If you need assistance, contact Roger Hawks at the national Headquarters in Knoxville, TN, roger@tbp.org.

Initiation Fees
On August 1, 2004, the Tau Beta Pi initiation fee increased by $5, from 1994’s $27 to $32, and the Convention assessment increased from $3 to $5. Because initiates also pay the one-time Convention assessment, the total amount of national fees to be collected by chapters is $37. The 2003 Convention approved the increase, the first in 10 years.

2005 Distinguished Alumnus
Dr. H. Vincent Poor

For his outstanding achievements in teaching and his advancement of professional engineering, Dr. H. Vincent Poor, Alabama Alpha ’72, is Tau Beta Pi’s 2005 Distinguished Alumnus. He is currently the George Van Ness Lothrop professor in engineering at Princeton University and is the founding director of the school’s center for innovation in engineering education. He received his B.E.E. at Auburn University and earned the M.A. and Ph.D. in EECS from Princeton. He taught for a time at the University of Illinois at Urbana-Champaign.

He has excelled at teaching engineering subject matter and the technical, social, economic, and political aspects of technology, specifically, the dramatically expanding field of wireless communications, to students in the liberal arts.

Dr. Poor’s popular undergraduate survey course titled “The Wireless Revolution” explained implications of wireless technology. Other schools developed similar courses, catering to students from diverse academic fields. His graduate-level textbook, “An Introduction to Signal Detection and Estimation,” is considered the definitive reference in this field.

Colleagues have lauded him for his immense technical breadth and depth. His contributions as founder of the center for innovation in engineering education have been recognized by the IEEE education medal, the university’s SEAS distinguished teacher award, and numerous other awards. He received the National Science Foundation’s director’s award for distinguished teaching scholars and was selected to be a Guggenheim fellow. The 26 doctoral students he has supervised comprise a who’s who of authorities in corporate and academic communications research.

He is recognized worldwide for his landmark research in the fields of robust statistical signal processing, multi-user detection, and non-Gaussian signal processing, which have opened new horizons in wireless communications and related fields.

His current research involves developing novel signal reception techniques for emerging wireless communication systems. Challenges include overcoming such impairments as dispersion, fading, impulsive noise, changing consumer demands, and numerous technical complications. User security concerns further complicate the search for solutions. Although methods for dealing with these issues separately have been examined, procedures must be developed to jointly accomplish these tasks, which is the ultimate goal of Dr. Poor’s current research efforts.

He is a leading activist in professional societies, having held high offices in both the IEEE and the NAE. He has edited more than a dozen scientific and technical journals, including a number of Asian and European journals. He has helped organize more than 30 conferences and symposia throughout the world. He is the editor of IEEE Transactions on Information Theory.

Dr. Poor’s career exemplifies the ideals of Tau Beta Pi. He has fostered a spirit of liberal culture through his extraordinary accomplishments in research, in service to the profession, and in education.
2005 Laureate

Clara C. Shih

CLARA C. SHIH, California Gamma ’05, graduate of Stanford University, is the 2005 Tau Beta Pi Laureate for her ongoing commitment to personal excellence, community improvement, and global outreach.

As a first-generation immigrant to the United States from Hong Kong, she experienced the formidable barriers of a bewildering language, diverse cultures, and unfamiliar attitudes.

Accepted into one of the nation’s top high schools, Clara and her diverse interests and drive toward excellence soon became apparent. She became captain in women’s varsity tennis, concert mistress in the orchestra, and editor of the school newspaper. Yet even as she rose to become valedictorian, she continued giving English lessons to newer immigrants.

Using technology to empower developing and marginalized communities is essential to Clara’s ongoing efforts. She co-founded the Stanford engineering public-service center, which is intended to bridge service initiatives between the school of engineering and the university’s Hass center for public service. She co-organized the Bay Area community technology nonprofit conference in 2004, which helped 400 nonprofit community leaders identify, create, and adapt technologies that might better serve their constituents.

As part of her global outreach, Clara founded and now directs Camp Amelia, a nonprofit organization that develops open-source educational software and offers free summer and afterschool computer camps for at-risk youth all around the world. It started with dozens of after-school and summer programs across America and Canada. An international pilot program in Ghana was started in 2003.

Throughout her school years, she proved herself to be an energetic worker and an accomplished leader. When Clara became president of the campus chapter of the Institute of Electrical and Electronic Engineers, the membership hovered below 100 students. That number surpassed 500 after she instituted new programs such as faculty dinners, upperclass student panels, and industrial mentorship programs. While chairing the campus Society of Women Engineers, she coordinated a networking banquet for 300 female engineering students.

Clara has won various awards for violin, poetry, prose, and tennis. One of her dreams is running in the San Francisco marathon. She is a Microsoft women’s scholar, a Mayfield fellow, a Google Anita Borg scholar, a United States President’s scholar, and a Merage Foundation for the American Dream fellow. She is a member of Tau Beta Pi and Mu Alpha Theta honor societies.

After completing her bachelor’s degree in economics and co-terminal degrees in computer science (B.S., M.S.), Clara will be attending the University of Oxford in the United Kingdom to pursue an M.Sc. in educational studies.

40-70 TBPI Scholarships!

The Tau Beta Pi Association Scholarship Program for senior-year study during the 2006-07 academic year will close March 1, 2006, when applications must be in the hands of Director of Fellowships D. Stephen Pierre Jr., P.E., Alabama Power Company, P.O. Box 2247, Mobile, AL 36652-2247.

Depending on our trust dividends, a total of 40 to 70 cash awards, each worth $2,000, could be given in our fantastic, expanding program. They will be made on the basis of high scholarship, strong recommendations, extracurricular activities, and financial need. Winners will be selected and notified in early April. Junior members of Tau Beta Pi are eligible to apply after November 1 online at www.tbpi.org.

Educational Loan Fund

Since 1935,Tau Beta Pi has assisted student members with their financial needs while in school or with payment of their initiation fees through our Student Loan Fund. We are pleased to offer this service for student members in amounts up to $2,500 per member.

Repayment is required after three years, and a simple interest rate of 6% is charged from the day the loan is received.

Interested students can obtain promissory notes and loan applications from their chapter presidents, the website, or directly from Secretary-Treasurer Jim Froula at the national Headquarters in Knoxville, TN.

Student Assistance Fund

The Tau Beta Pi Student Assistance Fund was endowed in 1992 through the interest and generosity of C.C. Young, Illinois Alpha ’24. Its purpose is to make funds available to student members of his and other chapters who would otherwise be without sufficient financial resources to remain in college. Repayment is not required, no interest is charged, and grantees are requested to help others in need should they become financially secure.

Interested students should write directly to Secretary-Treasurer Jim Froula at the national Headquarters in Knoxville, TN.
Safe and Secure Email

Last issue, we discussed measures that TBI takes to make email more safe and secure. For instance, we confirmed that TBI does not send unsolicited attachments. Now, here are some ways to make your own email more secure.

Email carries most of the viruses, worms, trojans, spyware, adware, and other nefarious bugs that do impolite things to computers. These destructive programs are spread by such simple things as new jokes or interesting images forwarded to us from our friends.

You should set your email client to never download any images, but to display a place holder instead. Opening an image—even as small as a single pixel—can alert outsiders that your email address is valid and mark you as a possible target for later intrusions.

A better approach is to read email in “text format” only with no HTML or rich text formatting (RTF); check your email program for this option. Please note, this can make some legitimate emails difficult to read.

Never click on any hyperlink in an email. Why? Consider these links:

WWW.DISCOVERCARD.COM
WWW.DISCOVERCARD.COM

Which one is valid? There’s a chance you noticed the difference between the 0 (zero) and the O. But did you catch that the letter “I” was really a lower-case “L”? Such trickery can be difficult to detect, so the safest strategy is to simply type the browser link yourself.

How do you know that TBI email is really from TBI? You cannot be 100% sure—our address can be forged like any other. You should manually type imbedded links from TBI emails rather than clicking on them. It’s a good habit.

If you get an email from TBI stating that your account is being suspended for violation of rules, this is definitely a false email. Messages sometime arrive at headquarters from phony addresses like security@tbp.org. We have no such address, nor do we suspend accounts for security reasons. Were there ever such a need, we would directly contact the person involved by phone.

Using these common-sense steps will help keep unwelcomed viral visitors from your computer:

—Raymond H. Thompson
Systems Administrator

---

2005 National Outstanding Advisor

Dr. Sally G. Steadman

R. SALL Y G. STEADMAN, Wyoming Alpha ’69, is the Tau Beta Pi 2005 Outstanding Advisor. Her tireless dedication to improving communications and striving toward excellence have made her a role model among numerous students, faculty, and advisory peers alike.

The first time she served as Tau Beta Pi Advisor was at Wyoming Alpha. She helped officers generate a list of potential members and, soon, the number of initiates more than doubled. Meetings became more regular, timely reports were filed, and new projects flourished. Wyoming Alpha not only rose to the top of its District, but won the R.C. Matthews Most Outstanding Chapter award in 2001 and 2004 and honorable mention in 2002.

In 2003, she became Chief Advisor to Alabama Epsilon which was languishing. After her arrival, report filings increased, funds were raised, bills were paid, and chapter officers became more active. She and the officers pulled together to increase attendance and participation. Her regular attendance impressed students, who themselves began to attend more regularly. Under her direction, initiations doubled, and membership increased dramatically.

The Alabama Epsilon Chapter hosted the 2005 District 6 Conference, and Dr. Steadman held a seminar on how to get and keep an effective advisor, including ways chapters could identify potential advisors at their schools. While at that conference, she made sure students had the opportunity to experience the lively Mardi Gras parades going on in nearby Mobile. That same year, Alabama Epsilon was an active presence at the national Convention in Orlando.

On the University of South Alabama campus, the Bent monument was moved from its location on a lawn to a more prominent location near the steps of the college of engineering’s administrative building. The move was more than symbolic; the chapter has earned increasing support and participation from the engineering department and dean. Through a widening circle of communication and encouragement, the visibility and stature of the Alabama Epsilon Chapter are rising. This year, the members are eyeing the Most Improved Chapter award.

Dr. Steadman holds a B.S. in civil engineering from the University of Wyoming and a M.A. in mathematics from the University of Denver. She earned a Ph.D. in mechanical engineering from the University of Wyoming and currently teaches at the University of South Alabama’s college of engineering.

In recognition of her talent for creating and maintaining vibrant chapters, Tau Beta Pi recognizes Dr. Sally Steadman as the 2005 National Outstanding Advisor.

Undergraduate membership reporting is all-electronic, and all chapters must use the online system. The fully automated system helps chapters receive timely responses through email. For information on how to use the system, see: www.tbp.org/chapters, or call Headquarters. All other chapter reports not requiring signatures should also be submitted online.
Important Deadlines

- February 1  
  Fellowship Application
- March 1  
  Scholarship Application
- April 1  
  Laureate Nomination  
  Distinguished Alumnus Nomination  
  Outstanding Advisor Nomination
- June 1  
  GIG Project Proposal  
  Convention Bid for 2009

Benefits of Membership in Tau Beta Pi

These member services may be accessed through www.tbp.org/members:

- AlumNet—online mentoring service.
- AnswerFinancial—find the best rates for many types of insurance through this free quoting service.
- Engineering Futures—sessions on people skills for engineering students.
- Fellowships/Scholarships.
- MonsterTrak—student-oriented job service.
- MyHome Benefits—real estate and moving services.
- Student Loans—for educational and initiation-fee assistance.
- The Best People Job Connection—employment service connecting top people with top companies.
- Women for Hire—job fairs and networking for women.