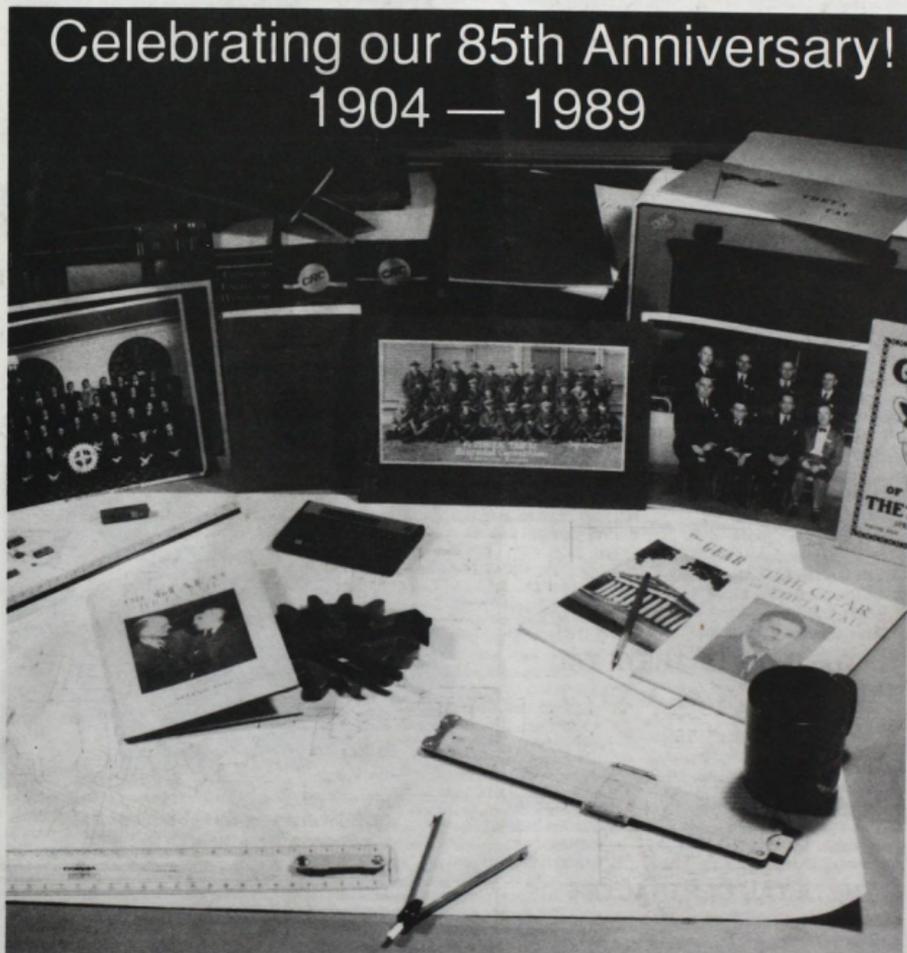


# The GEAR of Theta Tau

Volume LXXIII, No. 1

Winter, 1989-90

Celebrating our 85th Anniversary!  
1904 — 1989





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**Photographs:**



Graffiti Wall at The Ohio University, decorated in Fraternity colors for the PB installation.

*The Gear of Theta Tau* is the official publication of Theta Tau National Engineering Fraternity and is published in the fall and spring. The magazine is an educational journal devoted to matters of fraternity interest and is sent at no cost to alumni whose addresses are on record. Send change of address to Theta Tau Central Office, 9974 Old Olive Street Road, St. Louis, MO 63141-5984. Special third class postage has been paid at Syracuse, New York.



# Letter from the Grand Regent



## Randall J. Scheetz, Omicron '79

Throughout our 85 year history, Theta Tau has experienced good times and hard times. The good times are much more pleasant, but obstacles help us to understand ourselves, both as individuals and as a fraternity. We grow as we gain a deeper understanding of our values.

This 85th Anniversary also marks the 80th anniversary of The GEAR of Theta Tau. This issue will highlight some of the rich heritage of Theta Tau. Not only did the fraternity grow from four young men with a fresh idea into an organization of 25,000 brothers; we also changed in many meaningful ways. We survived both world wars and the Great Depression. We evolved from primarily a geology and mining fraternity to involve nearly all engineering disciplines. Our membership diversified from exclusively white males to include males and females of all ethnic backgrounds.

Theta Tau has lost many chapters over the years for a variety of reasons. Although we have installed 40 chapters to date, only 30 have been active at any one time. The drop from 30 Chapters in 1970 to 21 just a few years ago was the result of many things. It began with the anti-establishment feelings prevalent during the late 60's and early 70's. These sentiments made it more difficult to convince excellent candidates to become members. Even though the U.S. Military left Vietnam nearly 17 years ago, the anti-establishment sentiments on campuses have just begun to turn around in the last six or seven years. The debate over women membership split our fraternity internally throughout the 70's. At first, we lost chapters because we did not admit women. Then HEW Title IX forced the issue. If we were to maintain our status as a Professional Engineering Fraternity, we had to change our laws. We changed our laws, and we subsequently lost a few more chapters because of this. The Fraternity had not had that large of an internal struggle since changes opening membership to all races occurred in 1958.

During each change, we were forced to face ourselves and reflect on the true values of Theta Tau. The changes have not come without pain, or even the alienation of some, but they have helped us focus on the important aspects of our fraternity. The key to Theta Tau is the fraternal bond that unites us. Without this fraternal fellowship, we have nothing. An important principle that has remained clear is that Theta Tau is a Professional Engineering Fraternity. Limiting membership to engineering students provides an additional common interest

and experience. Professionalism makes us unique from general fraternities. It means more than just the sharing of a college major, but is evidenced by an organized program of professional development events. The combination of brotherhood and professionalism (within engineering) is what makes Theta Tau unique and worthy of our membership.

It has taken many years to understand that personal background or physical traits play no role in the value of an individual and therefore have no business in a true fraternity. Worthiness of any individual must be determined on an independent basis. The homogeneous demographics of membership in the early days was not necessarily as great of a benefit as was once thought. We have found that diversity in membership has been an asset in the personal development of our members. It provides us with the opportunity to understand people from different backgrounds and cultures. More importantly, it teaches us how to work with, and enjoy the company of, all types of people.

Balanced programs and current growth are great for Theta Tau as an organization and for our student members, but what do they mean for the vast majority of our membership, namely the alumni? Alumni that take an active part in Theta Tau are generally interested in some current activities of our fraternity and certainly have an interest in our future, but the real reason that they get together is to share the brotherhood, meet new people and gain contacts that could be beneficial in their personal or professional lives.

We have had periods of both strong and weak alumni associations. Alumni organizations are on the upswing at present. Brothers (primarily from the same chapter) are gathering to remember old times and catch up with friends about what is new in each others lives. Since most are from the same chapter, they have the additional purpose of keeping tabs on the active chapter, and some groups have even adopted the goal of establishing a new chapter in their area. As these clubs grow, we expect that many alumni of all ages and chapters will join the fellowship. The Chicagoland Alumni Association, which meets monthly (except summers), includes members from several chapters, whose graduations span five decades. The one thing that I have found, with any group of Theta Tau alumni, is that they are interesting people; they get along extremely well and they will continue to enjoy each others' company over the years. The difficult part is to form an

initial gathering for the purpose of introducing members to each other.

Theta Tau has had an 85 year history for which we can be proud. We are still not as strong today as we were at our peak 20 years ago, but a more unified base and the beginning of an incredible growth period positions us to be our best ever within the next five years.

The following are a few things that I believe will occur in the future.

- Our chapters, once at harmony with each other, will tend to stay that way (There will be disputes like there are in every family, but we had better understand what is important now more than ever!)
- More alumni and students will become actively involved in the operations of our fraternity. This will not only increase our size by 3 or 4 chapters per year, but also will improve our programs and the way that we perform our business.
- Alumni clubs will make a comeback and even proliferate. We will find a winning combination that will introduce our alumni and help them understand the benefits of life long membership. (Much the same way that we found a method for establishing local groups to become strong chapters.)
- A network of retired alumni will unite. The number of Theta Taus that are retired is at an all time high. Imagine how many alumni currently live in places like Sun City or Green Valley Arizona. How many more travel from home to Florida, Texas or other popular places with mild winter climates? Imagine the benefit of a brother showing you the area so that you can make an informed decision that is right for you when considering relocation.
- Theta Tau will become actively involved with junior high and high school students. We will become not only counselors steering our youth toward technical education, but we will educate the public, especially school kids, counsellors and administrators about the engineering profession. I would not be surprised to see Theta Tau take an equal role with NSPE in leading this effort.
- Theta Tau will become prominent nationally. The Theta Tau name will regularly appear in the public eye. (A visible public relations plan will capitalize on the publicity received from the National Rube Goldberg Contest.)

*Continued on page 5, column 3*



## ROBERT E. POPE HONORED

At the Rho Beta installation banquet, Robert E. Pope, Z'52, was surprised when, on behalf of the fraternity, Grand Marshal Halbert D. Church, Jr., X '80, presented him with an engraved plaque and commemorative clock honoring his 30 years of employment by Theta Tau.



## THETA TAU STAFF POSITION OPEN

Applications are sought from alumnus or student members for the Central Office position of Staff Assistant/Staff Associate. Self-motivated member with energy, enthusiasm, and excellent communication skills, available for at least six months, is needed for position requiring some travel, providing limited salary and great personal satisfaction. Position which is now open needs to be filled continuously in order to maintain services demanded of our growing fraternity. Interested members should send resume emphasizing Theta Tau experience to Bob Pope in the Central Office.

## 1990 NATIONAL DIRECTORY TO BE PUBLISHED

Theta Tau is grateful to the more than 2,200 members who contributed to the



Executive Council members relax while en route to Ohio U for the PB installation.

Directory Project making possible the publication later this spring of Theta Tau's first membership directory since 1985. All who participated in this project will receive copies as soon as the volume is published.

## RUBE GOLDBERG

The brothers of Phi Chapter, organizers of the National Rube Goldberg Machine Contest, have scheduled the contest final competition on March 17, 1990, in the Hall of Music at Purdue University.

The challenge for this year's contest is to build a functioning machine capable of sealing a Ball™ canning jar in 25 steps or more within a five minute span. The organizers are expecting machine entries from across the country, with participants travelling from Arizona, Indiana, Michigan, Mississippi, and Wisconsin.

The regional contest is held each year during Engineers Week; winners from regional contests enter the national competition. This year's regional contest, held February 17 at Purdue, was successful in capturing a nationwide audience on the Cable News Network the following morning. Ball Corporation has been instrumental as a financial sponsor of the contest.

## CHAPTERS AGAIN VIE FOR VISA AWARD

April 15 is the deadline for the Second Annual Visa Card Application Competition among chapters. Last year, Upsilon Chapter won the \$250 award. So far this year, Beta and Iota Beta Chapters are leading in number of student member applications submitted for the Theta Tau Classic Visa Card, but the award is based on percentage of student members submitting applications, so all chapters still have an equal opportunity to win. All members submitting applications are reminded that it is essential to show an income figure regardless of its source (employment, parents,

scholarship, investment income, or whatever) in order for the issuing bank to consider credit worthiness of the applicant.

Additional application forms are available from the Central Office.

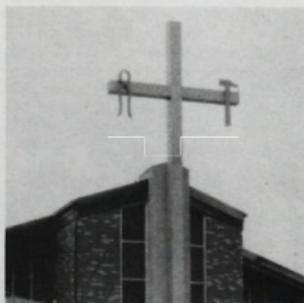
## HAMMER AND TONGS

On the large cross in front of Our Lady of LaSalette Catholic Church in Oak Park, Michigan, can be found a hammer and a pair of tongs.

The monument is devoted to the story of Our Lady of LaSalette, or more specifically, the apparition of the Blessed Virgin to two children in LaSalette, France, in 1846. This occurrence was officially recognized five years later by the Catholic Church, and devotion of Our Lady of LaSalette was therefore authorized.

The apparition was a penitential one, asking for the penance of Catholics for their sins, just as Christ paid penance on the cross. The hammer and tongs are symbolic of His crucifixion; the hammer was used to nail Christ to the cross, and the tongs were used to pull out the nails after the crucifixion.

—Richard D. Lagerstrom, OB '91



## Recent Extension Milestones

The George Washington  
University  
Washington, D.C.  
Gamma Beta Chapter Reinstalled  
September 23, 1989

The Ohio University  
Athens, Ohio  
Rho Beta Chapter Installed  
November 4, 1989

Old Dominion University  
Norfolk, Virginia  
Colony Certified  
November 18, 1989

University of  
Wisconsin-Milwaukee  
Sigma Beta Chapter Installed  
December 2, 1989

University of Toledo  
Toledo, Ohio  
Colony Certified  
January 20, 1990

# Letter from the Editors



Theta Tau turned 85 years old in 1989, and this issue of *The Gear* celebrates our anniversary with writings by alumni Joseph W. Skovholt, A '31, Charles W. Britzius, A '33, and George G. Dodd, Z '60, who describe their experiences as Theta Tau brothers in different eras.

As we celebrate our history, we also continue to look toward the future. Alumnus Dennis A. Bitz,  $\Omega$  '60, consultant on space and energy systems, writes about the U.S. Space Program and NASA's plans for the 1990's, and the next century.

Our report on the National Conference includes photos by the brother who has apparently become our unofficial 'Gear Photographer,' Kurt A. Selzle,  $\Omega$  '86 (thanks

Kurt). At the Conference, five honorees were inducted into the Alumni Hall of Fame; their profiles are in this issue.

The U.S. celebrated National Engineers Week February 18-24 this year; we present some interesting facts about the Week and some demographics on the engineering profession.

We've strived to include more information about alumni in *The Gear*; an Alumni Profiles section will appear regularly. It's interesting to all of us to learn about the life and career of a brother, whether we're finding out about a long lost friend or pledge brother, or drawing inspiration from an alumnus who is successful in his field. We want these profiles to continue, and this

depends on you. Please send us a profile of (or even an Alumni News item about) an alumnus, whether it be yourself, a friend, or just someone you've heard about.

This issue also commemorates the 80th anniversary of *The Gear of Theta Tau*. The photo below shows covers of various issues of *The Gear* from 1928 until now; to the lower left is a brief history of the magazine.

The history of *The Gear of Theta Tau* is, in effect, the history of Theta Tau Fraternity. The Fraternity's history is presented in the pages of *The Gear*; reading past issues lets one look at events of earlier days as 'current events,' just as one day someone may glance through this issue, and watch the story of Theta Tau unfold.

"The Fraternity's magazine began as an annual 'Chronicle of the Fraternity in General' titled 'Hammer and Tongs.' Published under the direction of Beta Chapter, the first issue was edited by Herman H. Hopkins, B '08. It consisted of 32 printed pages, plus cover, and measured about 4.5x6 inches. In 1909, the magazine was first titled 'The Gear.'"

We would like to remember the past Editors-in-Chief of *The Gear*; we are grateful to them for their legacy of 80 years chronicling Theta Tau Fraternity.

Charles B. Cameron, B '10 — 1909-1910  
Harry M. Turner, B '11 — 1911 (the first issue to bear the full name 'The Gear of Theta Tau.')

Theodore J. Welcker, B '11 — 1912  
Jack E. Haynes, A '08 — 1913-14  
Henry Matchett, A '13 — 1915  
Otto C. Budde,  $\Delta$  '12 — 1916-1920  
Frank E. Mooney, A '23 — 1921-1923  
Albert W. Morse, A '25 — 1924  
Donald D. Curtis, O Hon. '19 — 1926-28  
Joseph W. Howe, O '24, and  
Paul L. Mercer, O '21 — 1929-61  
William E. Franklin, Z '57 — 1961-1969.  
F. Garn Hatch, ZB '39 — 1969  
James M. Walter,  $\Phi$  '68 — 1970-1975  
Steven A. Williams, AB '73 — 1976  
Richard A. Rummelhart, O '76 — 1976-1980  
Arthur T. Petzelka, O '79 — 1981-1988

(Information obtained from *A History of Theta Tau Fraternity* by Theta Tau Historian Charles W. Britzius, A '33.)



*Lammie El-Hish. Sean Donnelly*





# Extension Update

## Southern Methodist University Dallas, Texas

In the fall of 1988, students in the School of Engineering and Applied Science at Southern Methodist University received a flyer in the mail from Theta Tau Central Office in St. Louis. The group that responded met with Michael T. Abraham, EB '90, when he came to Dallas a few weeks later. The fourteen member group soon established itself as Alpha Delta Tau.

In the spring of 1989, Alpha Delta Tau was involved in several activities that helped to prove to the school, and to Theta Tau, that the group was serious about becoming a chapter. The first successful rush brought to the group a pledge class of fourteen members. The group held social events, including mixers, a picnic, and the spring banquet. After completing the pledge period, the entire pledge class, including five women, was initiated, doubling the number of active members. The group participated in a service project, building and renovating homes in South Dallas. They also invited Mr. John Doyle of Doyle Associates, a recruiter of engineering and computer science professionals, to lecture on ways for an individual to find and obtain the right job. The group was also active in intramural sports, including volleyball, soccer, and softball.

On May 3, 1989, Alpha Delta Tau was officially certified as a Colony of Theta Tau. A banquet was held at the Colony Parke Hotel for National Officers, colony members, and alumni from the area. Some alumni in attendance were Karl A. Davenport, Z '56, Mark Gober, Φ '80, Ronald P. Komatz, Z '61, Duncan M. McIntosh, X '65, Jim Mentock, Φ '76, William R. Reed, Φ '69, Darcy Rocca, O '87, and Michael S. Sanders, Φ '83.

The members of the SMU Colony represent a wide range of engineering disciplines, including biomedical, mechanical, and electrical engineering, and computer science engineering. Of the twenty six active members, six are international students from India, Hong Kong, Taiwan, and Laos. One of the members of this fall's pledge class is from Spain.

Besides being active in Theta Tau, members are also active in the student government through the SMU Student Senate and the Student Engineers' Joint Council, and other on-campus organizations.

The Theta Tau Colony hosted two guest lecturers this fall: Dr. Charles Brodnax of E-Systems offered a profile of a large en-

gineering firm, and Dr. Bijan Mohraz, chairman of the Civil and Mechanical Engineering Department, lectured the group and answered questions about the future of the Engineering School.

Plans for this semester and the spring include a reception for Theta Tau alumni, a plant tour, and spring rush events.

The Theta Tau Colony plans an active and productive future at SMU.

## Gamma Beta Chapter Washington, D.C.

An outstanding turnout of alumni highlighted the reinstallation of Gamma Beta Chapter at George Washington University.

The Ceremony took place September 23, 1989 at the Best Western Rosslyn Westpark in Arlington, Virginia. The banquet featured an address by Delegate-at-Large, A. Thomas Brown, M '77. Chapter Advisor Dr. Douglas L. Jones, FB '63, was presented a citation for outstanding service from the Executive Council. Brother Jones played an instrumental role in reactivating the chapter at G.W.U. Grand Regent Randall J. Scheetz presented the chapter charter to Regent Bobby Makheja, FB '92.

More than 20 alumni were present, including Frank F. Atwood, FB '76, Dennis A. Bitz, Ω '60, David B. Ennis, T '80, Thomas G. Flanagan, Jr., FB '55, Edward A. Gold, FB '76, Calvin A. Johnson, T '84, Allan H. Kopp, T '67, Paul Kuzio, FB '55, Sean P. Walsh, FB '76 and William M. Zeman, FB '77.



Rho Beta Charter Members Todd Ebert (left), and Todd Althouse (right), display their new charter.

## Rho Beta Chapter Athens, Ohio

The installation of Rho Beta Chapter took place in Boyd Hall on The Ohio University campus November 4, 1989.

The Sportsman Restaurant in Athens, Ohio served as the setting for the ceremonial banquet which followed. In attendance for the weekend activities were various alumni, including Dr. William L. Adams, B '54, and Jon F. Gray, Δ '79.

"Since the installation we have been going strong," says current Regent, Glenn Babiak, PB '91. The chapter initiated 14 new brothers on February 10, bringing the size up to 40 members. With the greater



The Brothers of Gamma Beta Chapter after their installation ceremony.

size, the chapter was in desperate need of a headquarters on campus. They now have a permanent campus office in the Stocker Engineering Center, which is an improvement over last semester's situation.

"It is a tremendous help now that the brothers have a central location, providing constant communication among the members," says Brother Babiak.

The means for easier coordination has helped the chapter with its campus activities. The brothers of Rho Beta Chapter still maintain their recycling program. They have set up a system in the Stocker Center for fellow students to leave recyclable cans and bottles in collection bins throughout the building. The Brothers collect the material and return it to a recycling depot.



These Gamma Beta alumni were among the many Theta Tau alumni attending the Gamma Beta Chapter reinstatement.

### Old Dominion University Colony, Norfolk, Virginia

In the spring of 1988, the President of the Student Engineering Council, Richard Jenkins, received a letter from the Theta Tau Central Office. The letter stirred up much interest; roughly 40 students expressed an interest. Soon afterward, Bob Pope, Executive Director, and Art Partin, Grand Inner Guard, visited the campus to interview these students, and to hold an meeting at which 22 students organized the local, Theta Tau Omega, with the object of petitioning Theta Tau. Jenkins became its first President.

After operating as a local fraternity for one year, Theta Tau Omega's petition to the Executive Council for colony certification was approved. The certification ceremony and banquet took place on Sunday November 19, 1989, in the Webb Student Activities Center on the Old Dominion University campus. In attendance were Grand Vice-Regent Dean W. Bettinger, Grand Scribe and Executive Director Robert E. Pope, Grand Inner Guard Arthur M. Partin, as well as Southern Regional Director Lee C. Haas. Also present were David J. Jerozal, T '88, and Lt. Cmdr. Thomas C. Cooper, Σ '70, of the U.S. Navy, who is now an advisor to the colony. Dr. Gary Crossman, Associate Dean of Engineering Technology at ODU, also attended the ceremony and banquet.

The colony has been active and visible on and off the Old Dominion campus. Recently, the group travelled to Pi Chapter at the University of Virginia to attend the Southern Regional Conference. They found it to be quite an educational experience. In celebration of National Engineers' Week, the Colony organized a field trip to the local Anheuser-Busch brewery. The group has also been active on campus as participants in the Engineering School's Open House which functions as a recruiting tool for the school and local

employers. The exhibition style event is designed to generate interest in the engineering profession among high school students. The visibility of the colony has been demonstrated by their successful rushing of 14 pledges this semester.

### Sigma Beta Chapter Milwaukee, Wisconsin

Sigma Beta Chapter became the 40th chapter to be installed into Theta Tau Fraternity on December 2, 1989. The ceremony took place in the Engineering and Math Sciences Building on the University of Wisconsin-Milwaukee campus. Grand Regent Randall J. Schetz officiated at the event in which 29 new brothers were initiated into Theta Tau. A formal banquet in honor of the occasion took place at the Alonzo Cudworth Lakeview Dining Room on Lake Michigan in Milwaukee, Wisconsin.

In addition to the Executive Council members present, several other alumni were able to attend, including Chapter Advisor Verne C. Cutler, ΣB '50, Central Regional Director Anthony M. Hamilton, T '86, Fred L. Hanson, Σ '42, Arthur T. Petzelka, O '79, and Philip E. Vincent, O '82.

John Krueger and Vito J. Russo, ΣB '91, created the spark which resulted in a colony at the Milwaukee campus, and which ultimately became Sigma Beta Chapter. Both of them, along with high school friend Jessie Fuh, Ξ '90, started plans for the colony in the winter of 1988.

Sigma Beta Chapter, now under the leadership of Regent James J. Cornelius, ΣB '92, has been enjoying its first few months as a chapter. The brothers are looking for a home on campus, which will become their first chapter house. So far, they have had success with their on-campus office in the engineering building. The newly repainted room has served as a meeting place and campus headquarters for the

chapter. From there, they have been able to coordinate campus activities such as Engineers' Week, and also carry out rushing activities.

Other campus activities include projects related to Engineers' Week including their local sponsorship of the Rube Goldberg Machine Contest. Of the three teams which competed, Sigma Beta Chapter was the victor. They plan to compete at the national competition at Purdue University next month.

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## Grand Regent's Letter

*Continued from page 1*

- Through the visibility of the above trends, new programs will be adopted and existing programs embellished. Scholarships and educational programs for students and alumni will become prevalent. They will be made possible through alumni gifts and bequests and through corporations contributing to the existing Theta Tau Foundation.

Well that's what I see in the future for Theta Tau. Sure, there will be rough moments where we will have to return to our values, make the right decisions and press on. I am confident that we can do that — we have 85 years of experience proving that this can be accomplished.

How does Theta Tau fit into your future? I would hope that you will become interested in our operations, join other Theta Tau alumni in at least one or two events per year, and continue to enjoy the privileges of membership. I can't predict what the future holds for you — it is in your hands!



# Alumni Hall of Fame

At the 1989 National Conference held in Columbus, Ohio, five alumni were inducted into the Theta Tau Alumni Hall of Fame. The fourth class of honorees since the Hall of Fame's inception in 1986 brings the total number of inductees up to 19. Each new inductee receives a plaque and has his name engraved on a permanent plaque which is displayed in the Central Office and at every national meeting.



**Douglas E. Aldrich**

Omega '62

Brother Douglas Aldrich is an exemplary inductee to the Alumni Hall of Fame for his involvement with and contributions to college students, and his successful and challenging career at Dow Corning in Midland, Michigan.

Dow Corning is a manufacturer of high tech silicone and silicon materials. He has held 12 different technical and management jobs since his arrival at the company and is currently Director of Operations for Research, Development, Engineering and Support in Engineering. He attributes his success to a continual willingness to learn about new ideas and technologies as well as a determined professional work ethic. His motto is "never stop learning". His responsibilities include overseeing a research laboratory, computer facilities, and also training and safety programs. Prior to assuming the position of Director, Brother Aldrich was Manager of Research and Development Facilities. He was responsible for overseeing the planning, design and building of a 30 million dollar laboratory facility.

Aldrich has Recruited at South Dakota School of Mines and Technology for over

two decades, served on a chemical engineering advisory board, and developed job-hunting tools for students. He has orchestrated the technical communications curriculum there, and gives many talks on professional development and career guidance. His interaction with students and activities are "most stimulating".

Brother Aldrich's educational background includes a Bachelor's Degree in Chemical Engineering at S.D.S.M. and T. and an M.S. in Chemical Engineering in 1968. While an active brother at Omega Chapter, Aldrich was active with the chapter newsletter, public relations and fund-raising activities. As a student he also studied in the disciplines of forensics and music. Upon graduation he completed an Advanced R.O.T.C. program and served two years at Edgewood Arsenal in Maryland.

Currently Brother Aldrich lives in Midland, Michigan. He and his wife Karolyn have four children. Although his current position at Dow Corning keeps him busy, he finds time for involvement with professional societies. He has been a member and regional director for AIChE, and is now a member of the International Facilities Managers Association and Chairman of the Research and Development Council.



**Norman B. Ames**

Gamma Beta '17

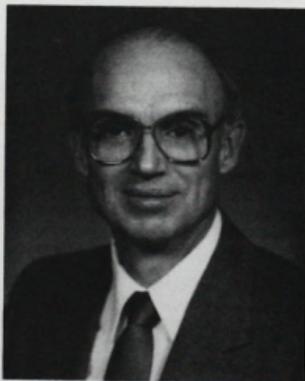
The late Brother Norman Ames, called the "Father" of Gamma Beta Chapter, was inducted into the Alumni Hall of Fame for his dedication to career and to Theta Tau Fraternity.

Brother Ames was a pioneering member of Theta Tau. While a faculty member

and student at The George Washington University in 1935 he became initiated as a charter member of Gamma Beta Chapter; roll number 1. It was Norman "Deacon" Ames who persuaded the members of Phi Theta Xi, the local engineering fraternity at G.W.U., to petition the Executive Council for a Charter.

In 1937 Brother Ames began his lengthy service at a national level when he was elected to the Executive Council as Grand Outer Guard. Over the following 19 years he held various national offices including Grand Regent, Grand Vice-Regent, and Delegate-at-Large. He succeeded Erich J. Schrader as Grand Scribe in 1954.

Brother Ames involvement with Theta Tau reflected his dedication to the engineering profession. From 1929 to 1960 he was Professor and head of the Department of Electrical Engineering at The George Washington University. He had attended many universities, earning degrees in electrical and mechanical engineering at G.W.U., Harvard University and M.I.T. as well as a Doctorate in Technical Sciences at the Swiss Federal Institute of Technology. He also had the distinction of being a Fullbright Lecturer at the University of Ceylon.



**George G. Dodd**

Zeta '60

Brother George G. Dodd is honored by the National Fraternity for his service on the Executive Council from 1966 to 1976 and his exemplary career at General Motors.

George Dodd reflected upon his experiences with Theta Tau as a series of "significant emotional events. It is some-

thing that definitely makes a difference in one's life". That is how Brother Dodd explains the change in his life since being initiated into Zeta Chapter.

"Joining Theta Tau as a student taught me leadership, communication skills and the ability to assume responsibility. Until then, my life as a student was rather hollow; textbooks and exams."

One significant event in Dodd's early years with Theta Tau was his participation as a delegate to the 1958 National Convention. He was voted Outstanding Delegate for his painstaking work in rewriting the Theta Tau Constitution to eliminate the 'white clause,' which had previously restricted membership to non-white students.

As Grand Outer Guard in 1968, Dodd developed the Theta Tau Ritual for Colony Installation. He continued with the Executive Council as Grand Regent (1972 to 1976), Grand Vice-Regent (1970 to 1972), and Grand Inner Guard (1968 to 1970). The decision to admit women in 1976 was a big milestone for Theta Tau Fraternity and George Dodd as Grand Regent.

George Dodd's successes and dedication with Theta Tau mirror his career achievements at General Motors. He is currently head of the Computer Sciences Department at G.M. Research Laboratories in Warren, Michigan. His responsibilities include overseeing computer research, operation of computer systems, and other technical support and development towards G.M. facilities. Brother Dodd has been involved with robotics and artificial intelligence implementation in the factory as well as automotive computer and electronics systems.

Brother Dodd joined G.M. in 1964 after receiving his Doctorate in Electrical Engineering at the University of Illinois. He earned his bachelor's degree at the University of Kansas in 1960. He and his wife Virginia now live in Rochester, Michigan.

## Russell G. Glass

Sigma '24

A successful businessman in the construction materials industry, the late Russell G. Glass was also a highly energetic brother.

While earning his degree in Civil Engineering at the Ohio State University, Brother Glass was active on campus as a Charter member of Sigma Chapter, roll number 16. At the 1989 National Conference, fellow founding member C. Ramond Hanes, Sigma '24, shared anecdotes about himself and Brother Glass as schoolmates and members of the Engineers Club. The Engineers Club later became Sigma Chapter.

Following graduation, Brother Glass worked as Sales Manager for Stoker

Division of Pocahontas Fuel Co. Soon afterward, he and two others formed their own company, Wheatcroft, McFadden, Glass, Inc., a construction materials supplier. After serving in the Mediterranean during World War II as Lieutenant Commander in the U.S. Naval Reserves, Brother Glass returned to serve as Vice President and Treasurer of Moore and Glass, Inc. After the purchase of Moore and Glass by Macomber, Inc., a subsidiary of Sharon Steel, he became Vice Chairman of Macomber and held this post until his retirement.



As an alumnus, Brother Glass was an enthusiastic member of the Executive Council for 16 consecutive years, starting in 1933. He served as Grand Regent from 1939 to 1946. In 1940 he made a historic nationwide tour, visiting nearly every Theta Tau chapter. During the years of World War II, activities with the national fraternity were at a stand still. Brother Glass assumed his post in the Mediterranean campaign with the U.S.N.R. In 1948, the Executive Council officially named, in his honor, the 17th Biennial Convention held in Chicago, Illinois.

Due to his demonstrated skills in business and activities with the Cleveland Engineering Society and the American Institute of Timber Construction, Brother Glass earned the Distinguished Alumnus Award at the 1969 Annual Conference for Engineers and Architects at Ohio State University.

## Howard C. Peterson

Omega '50

Beginning his career in geological engineering, Brother Howard C. Peterson eventually found happiness and success in the educational services field. For his dedication as Dean of Students at South Dakota School of Mines and Technology, and his service to the Fraternity, Theta Tau



has inducted him into the Alumni Hall of Fame.

In 1950, Howard Peterson left S.D.S.M. & T. for Wyoming to put his geological engineering degree to work. He worked for Mountain Geophysical Corporation on an oil exploration project for Sinclair Oil. One year later, he moved back to South Dakota to teach mathematics at Redfield High School. At the same time he entered a masters program at Northern State College in Aberdeen, S.D. He earned his M.S. in Education in 1955 and then returned to his alma mater to become the Assistant Dean of Students in 1957. While serving as Assistant Dean, he continued to study in the discipline of education. He also had to manage teaching, counseling and administrative responsibilities. In 1969, he received his Doctorate in Counseling and Educational Psychology and became Dean of Students. His responsibilities now include overseeing student housing, food services, student activities, admissions, financial aid, registration, and placement.

In addition to his position with the college, Brother Peterson is involved with Omega Chapter activities as well as the local Theta Tau Alumni Association, which owns the Omega Chapter house. Starting in 1958, he served as Secretary and Treasurer until 1967. Every five years there is an Alumni Reunion at S.D.S.M. and T. campus. Each time, Brother Peterson and other local alumni look forward to planning a Theta Tau alumni get together.

Brother Peterson has been married to his wife Lenatt for 40 years. They have three daughters and four grandchildren. Peterson commented, "I feel I have been blessed with a wonderful life and family. It has been a rewarding experience working with the students at S.D.S.M. and T. Being inducted into the Alumni Hall of Fame is an honor which I will forever cherish."



# 1989 National Conference



Five Past Grand Regents attended the awards dinner: (l. to r.) A. Thomas Brown, George G. Dodd, Randall J. Scheetz, Stephen J. Barth, C. Ramond Hanes.

The 1989 National Conference at Ohio State University last summer proved to be an educational experience. The nearly 100 brothers and colony members present at the four day affair attended numerous assembly meetings and instructional workshops. The Conference activities, held from August 17 through August 20, culminated with the annual awards ceremony and closing business meeting the following day.

Registration began Thursday afternoon, as student members and alumni gathered from across the country. Participants were housed in Nosker House in the North Area Residence Hall Complex on the O.S.U. campus. Prior to the opening dinner, in which guest speaker Barbie Tootle addressed the fraternity, the first official meeting took place in the Ohio Memorial Union. Grand Regent Randall J. Scheetz called the meeting to order, and greeted the brothers with a review of the week-end's schedule.

Much of the next two days were reserved for instructional workshops, providing information and inspiration for students on a whole range of topics. Friday morning began with an Officer's Workshop in which student members learned from national officers about the responsibilities and skills required of chapter Regents, Treasurers, Scribes and Corresponding Secretaries. Other instructional presentations included an informational video on obtaining the Professional Engineering License, running a successful Rush program, and a video on White Water Rafting presented by Eastern Regional Director Michael T. Abraham.

On Saturday, David A. Oliver,  $\Phi$  '90, Chairman of the National Rube Goldberg Machine Contest, conducted a workshop

on how to successfully develop a local contest. Instructional workshops on topics such as establishing good alumni relations, and creating successful newsletters, followed, as well as a seminar called "The Right Attitude for Success," delivered by Greg D. Spehar,  $\Phi$  '88.

As part of fraternity business, chapters and colonies delivered their annual reports. Four colonies were present at the conference including groups from The George Washington University, The Ohio University, the University of Milwaukee-Wisconsin, and the University of Houston. After a brief address to the National Conference, the colonies at U. of W-Milwaukee and Ohio U. received unanimous approval to accept their petition for chapter status.

One unpleasant decision made by the Conference was the revocation of Tau Chapter's charter, due among other things to dwindling chapter size. Plans are cur-

rently in the works to recolonize the chapter at Syracuse University.

After two days of conference activities, brothers were able to relax at the Sigma Chapter house for a Friday evening picnic and party. The evening was highlighted by the spirited inter-chapter/colony games coordinated by Student Member to the Executive Council Jerome Palardy. The brothers from Omega Chapter were victorious, while the team from Ohio University won the "most spirited" award.

At the awards banquet, past Grand Regent Dr. George G. Dodd, Z '60, addressed the fraternity as a new Inductee into the Alumni Hall of Fame. After being introduced by Hall of Fame Director Stephen J. Barth, AB '67, he shared some of his experiences as a student member and national officer. The conference was honored with the presence of four past Grand Regents, including Stephen Barth, A. Thomas Brown, M '77, and surprise guest C. Ramond Hanes,  $\Sigma$  '24, who also shared some anecdotes at the banquet.

Chapters receiving awards for best delegation from their respective region were Xi, Sigma, Mu, and Omega. Honored by his fellow delegates, Mike Benoit, EB '91, was voted Outstanding Delegate.



Brothers and Colony members relax at the Conference picnic at the Sigma Chapter house (upper right). Outstanding Delegate Michael Benoit (above, center) is joined by Past Outstanding Delegates (l. to r.) Dean W. Bettinger, George G. Dodd, Robert E. Pope, Michael T. Abraham, and A. Thomas Brown.

# Take Theta Tau Wherever You Go

## The Theta Tau Classic Visa

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Compare our low 16.5% Annual Percentage Rate with the APRs of cards you're carrying now. It is one of the lowest available. And, if you choose to pay your balance in full each month, you can avoid interest charges on purchases altogether.

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### The Card For Us.

We have a right to be proud of our fraternity, and every time you use your Theta Tau Card you'll be showing that pride.

And, of course, every time you make a purchase

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On October 15th, 1904, four students at the School of Mines at the University of Minnesota affixed their signatures to the Charter of the Society of Hammer and Tongs. This act was the beginning of Theta Tau Fraternity, and has been repeated by nearly 25,000 college men and women throughout the U.S.A. The heritage and traditions of Theta Tau are a direct outgrowth of that meeting in 1904. From the beginning, it was viewed with a solemnity which perhaps suggests that those men did indeed intend for the Fraternity to survive and become truly a National Fraternity.

Erich J. Schrader, the Primary Founder



Early home of Alpha Chapter.

felt that mining and engineering students should unite in professional fraternities similar to those then existing for lawyers, physicians, and dentists. Although professional engineering fraternities operated locally at numerous colleges and universities, none had really reached prominence. From the founding, this was a primary aim in Brother Schrader's mind.

In his senior year, the early fall of 1904, he met with his roommate Elwin L. Vinal, as well as William M. Lewis and Isaac B. Hanks, in order to formally organize the fraternity. They were all sophomores, and, therefore, able to continue after Schrader's graduation.

Our oldest fraternity records indicate that the Constitution and Bylaws were discussed in detail. Changes to this document were made although no known copies of that version exist today.

Many of the early meetings were held in Ike Hanks' home, or in a rented second

story room over a bookstore, just north of the University of Minnesota campus. The meeting room was often called the 'Hammer and Tong Room,' and served as the forerunner to today's constitutionally required chapter headquarters.

At the first National Convention held on February 11, 1911 in Minneapolis, the fraternity adopted its Ritual, Constitution and Bylaws, official badge, the Coat of Arms and Pledge Button. It was decided that all Brothers would address the fraternity as "Theta Tau," dropping the name "Hammer and Tongs". By this time there were two chapters in addition to Alpha. Beta and Gamma chapters had been installed at Michigan College of Mines and Colorado School of Mines, respectively.

By the Spring of 1916, seven more chapters had been established. There were Theta Tau Brothers on college campuses from New York to California. The founding fathers had realized their dream of a national engineering fraternity.

*Adapted from A History of Theta Tau Fraternity by Charles W. Britzius, A '33.*

## Joseph W. Skovholt, Alpha '31 Surviving the Depression

Thinking over the 60 years that I have been involved with Theta Tau, several events stand out. One significant time was the period of rapid decline in the health of Alpha Chapter during the depression days in the early thirties. The recovery was slow at first, followed by more rapid post World War II recovery.

As a 1931 graduate who was an active member, I witnessed the fall and rise again of Alpha's fortunes. The Chapter was doing very well in the late twenties. We had a group of quality members living in a rented house at 629 Washington Avenue S.E. in Minneapolis.

In both 1930 and 1931 there were large graduating classes. This left only four actives to initiate the fall pledge class. I lived one block away and soon became the Chapter Advisor. Fortunately, Jim Colvin, the Theta Tau Association Treasurer, purchased a small house at 324 Walnut street which was economical to operate. It had room for only 7 residents. In the early thirties, we experienced the greatest economic decline in our history. The university also suffered a decline in enrollment, particularly in the engineering department. Many students left school owing the chapter money. In the meantime the Chapter ran up charge accounts. It was a grueling experience for some of us to help attain new

members, collect from those with an obligation and to gradually reduce our outstanding debt. For several of those years we were fortunate to have an outstanding Chapter Treasurer, Herb Wilcox. With his efforts we were able to manage the delicate situation. By 1937, the situation had improved. Theta Tau's founding chapter and its house had survived.

I was fortunate to attend the 1954 Golden Anniversary Convention. There was a special feeling of pride having the Convention in Minneapolis, home of Alpha Chapter. The pride of Erich J. Schrader and fellow founders had remained in tact for over the fifty years.

## Charles W. Britzius, Alpha '33 Emergence of the Central Office

My involvement in Theta Tau as an alumnus began in 1954, at the Fraternity's 50th Anniversary National Convention in Minneapolis. At that time I was elected to the Executive Council as Grand Outer Guard. This was the beginning of many continuous years on the Executive Council, lasting until 1976. During that time I held various posts including Grand Regent, Grand Vice-Regent, and Grand Treasurer for 12 years.

Reflecting on my involvement with the National Fraternity, a number of events are worth recalling. One of the most important was the decision to provide for a full time Executive Secretary (now with the title Executive Director). In 1962, Robert E. Pope, Z '52, was appointed to this responsibility after having been employed as Traveling Secretary since 1959. This was very significant for Theta Tau. For the first time we had an official Central Office with which student members and alumni could communicate. Previously, coordination and communication within the National Fraternity was difficult. Executive Council members lived all over the country. For financial information one had to contact Paul L. Mercer, O '21, in Iowa, and contact Bob Pope in St. Louis for important records. Additionally, the fraternity was on the eve of expansion. New chapters were on the horizon at five schools across the country. With this degree of extension, there was a great need for a National Headquarters.

Thanks to the selflessness and dedication of Robert E. Pope, Theta Tau's first National Headquarters became established in his own home on Sona Lane in St. Louis. From this point on, expansion activity and other fraternity affairs could be directed from one central location.



Brother Skovholt addresses Theta Tau's 1954 Golden Anniversary Convention.

### George G. Dodd, Zeta '60 The Sixties and Seventies, A Period of Change

Between 1960 and 1982 I had the opportunity to be involved in the national operation of Theta Tau during a period of many, and sometimes rapid, changes. When inducted into the Alumni Hall of Fame at the 1989 National Conference, I discussed some of the history of our fraternity during that period. Following is a summary of my remarks.

In December, 1960, I traveled to Detroit for a job interview. By coincidence, the hotel where I stayed housed the 1960 Theta Tau National Convention. I remained in Detroit for the Convention; at its conclusion I was asked to head up an interim Committee on Ritual Revision and to report the Committee's findings to the 1962 Convention.

This was not my first experience with Theta Tau National Conventions. I had attended the 1958 Convention as the Zeta Chapter Delegate. The 1958 Convention was a turning point for our fraternity in two respects: (1) the "white clause" in our Constitution was removed, thus making Theta Tau one of the first national fraternities to take this step and; (2) for the purposes of extension, the position of a full time Traveling Secretary was established and offered to Robert E. Pope, Z '52. Thus we were entering the 1960's with a clear vision of growth and with no major membership problems. Our Ritual Revision Committee proposed many changes to clarify and modernize the Ritual. Over the years, most of these changes were adopted.

During the 1960's, seven new chapters were installed due to the efforts of Bob Pope, the other national officers, and a number of other brothers. These brothers epitomize our open motto, "Whatever thy hand findeth to do, do it with thy might." Without them several of these chapters would never have been formed.

Brother Jay N. Thorpe, A '57, who held several national officer positions, was instrumental in creating interest in Theta Tau at Utah State University and the University of Washington. Don Antonow, EB '63, and Jim Bay, B '54, a GMI faculty member, were instrumental in establishing MB Chapter, Al Mense, X '68, a graduate student at the University of Wisconsin, significantly aided Xi Chapter in the establishment of Nu Beta Chapter at UW-Platteville.

The 1960's also saw the establishment of our first colony at GMI; the idea of Theta Tau Colonies was established at the 1964 National Convention. This approach to expansion established the mechanism which is used in our current expansion efforts.

Late in the 60's, student unrest resulting from the war in Vietnam boiled over into Theta Tau. Students' concerns about traditionalism, and even the purpose of our fraternity, surfaced at the 1968 National Convention. One afternoon the students took over the Convention proceedings, evicted the national officers from the meeting room, asked past Grand Regent Russell G. Glass, Σ '24, to preside, and spent most of the afternoon debating these issues. The significant results from these deliberations was the addition of the Student Member of the Executive Council in 1970, and changes in the administrative style of the fraternity to better meet the students' needs and expectations. Charles E. Wales, EB '53, was elected Grand Regent, and through his tremendous efforts, and because of his management style of listening and reconciliation, only Theta Chapter became inactive as a fallout.

I was elected Grand Regent in 1972. By this time expansion had nearly stopped. Fraternities were generally unpopular on college campuses; membership was dropping, and chapters were becoming inactive. We lost a number of chapters during this period despite the expenditure of quite a bit of effort on the part of many officers and members.

Losing a chapter is like losing a close friend. Following are the chapters lost during the early 1970's following the growth period of the 1960's.

Despite attempts to revitalize Lambda Chapter it ceased operations in 1974 due to lack of members. Theta Beta Chapter was also unable to attract new members, and closed in 1971. Weakened by the issue of women membership, and by the general unpopularity of fraternities, Epsilon Chapter ceased operations in 1975, and Gamma Beta (reestablished in 1989) closed in 1979. Iota Chapter continued questioning the role and reason for a national organization. Despite intensive efforts on the part of a number of national officers to address this issue, Iota Chapter ceased paying dues, and illegally initiated several new members. Its charter was revoked in 1975.

Theta Tau membership for women was first mentioned at the 1970 National Convention. It was proposed by Pi Chapter, who had been encountering difficulty from the University of Virginia because of the exclusion of women from membership. The issue was raised again, more strongly, at the 1972 National Convention. By this time, Title IX of the Education amendments of 1972 had been enacted, denying federal funds to schools with organizations that discriminated on the basis of sex. Social fraternities and sororities were clearly exempted from the provisions of the Title IX amendments, but the applicability of this statute to professional fraternities and sororities was unclear.

By December, 1976, Pi Chapter had returned its charter under University pressure, and several other chapters were facing similar immediate action by their institutions. Still other chapters were concerned about facing this action within the next several years. Of the thirteen national conventions I have attended, the 1976 Convention was the most emotional and soul searching. The Convention had to consider the question of what we were, a social or a professional fraternity. How does a 'professional' fraternity differ from an 'engineering' fraternity? Would admitting women change the basic nature of our fraternity? What actions would satisfy university administrations? These and other issues were debated long and hard; agendas were blown, night sessions were held, informal discussions lasted all night.

My position was that women should be admitted. Our founders established a National and a Professional Engineering Fraternity. Not admitting women would significantly reduce the number of chapters and alter the way in which we operated. Women were becoming a significant part of the engineering student body. It made sense to take the lead and admit women.

*Continued on page 12, column 3*



# Chapter News & Special Events



**Sigma Chapter recently performed extensive renovations on their house, including building a new front deck.**

## CENTRAL REGIONAL CONFERENCE

The fall 1989 Central Regional Conference was held the weekend of September 22 in Iowa City. The event was hosted by Omicron Chapter at the University of Iowa. Representatives from Alpha, Zeta, Xi, Upsilon, Nu Beta, and the new charter-elect Sigma Beta (now installed as a chapter) were in attendance.

The conference kicked off Friday night with a party at the Omicron Chapter house in Iowa City. By 10:30 p.m. members from all the chapters had made it into town. The event marked the glorious return of Arnold D. Pig, the famous aluminum mascot of Omicron Chapter, who had been missing since the National Conference in August.

On Saturday morning, the seven chapters met in the Iowa Memorial Union, and gave their chapters' traditions reports. Each presentation told of strong, long-standing traditions, as well as some new ones that were just beginning to catch on.

Dr. Tom Boyd, pastor of a church in Iowa City, gave a leadership seminar, which proved to be entertaining, informative, and thought-provoking. At 5:00 the group met in City Park for an informal barbecue. Members enjoyed burgers and hot dogs, and played volleyball until dark.

Some members said goodbye, while others chose to go downtown and depart in the morning. Everyone expressed anticipation of the Spring '90 Regional Conference (to be hosted by Zeta Chapter on March 10), and pledged to get together again at that time. Arnold D. Pig managed to sneak out

of the Omicron house by Sunday morning; his whereabouts are currently unknown.

Overall, this conference proved that, under the guidance of Regional Director Anthony M. Hamilton, T '86, the chapters of the Central Region are strengthening the bond of fellowship that joins them. Probably the most important consequence of this conference was the marked improvement in communications among our chapters.

— Jerry E. Meierotto, O '89

## ACCEPTING THE CHALLENGE

Never doubt the ability of a small group of concerned people to bring about change. History has proven this time and time again.

As we enter the 1990's, the United States faces one of its greatest challenges. Foreign competition threatens American business everywhere and it appears the situation will only continue to escalate. Many U.S. companies have a problem transferring their technology from the laboratory to the end product. In many cases this is an engineering problem.

Where did this problem come from? Let us examine a few statistics provided by the U.S. News and World Report: "A Japanese high school student has accumulated as much classroom time as an American college graduate. College science, math and engineering programs have declined when they should have increased. We are graduating half as many Ph. D.s in the physical sciences as we did in the 1970's - and half of that smaller number are foreign students."

With an ever-increasing number of non-technically trained professionals making decisions for U.S. manufacturers, it is no wonder that our ability to compete with other industrial powers is on the decline. Indeed, this seems to be a major shortfall which contributes to America's current manufacturing dilemma.

America needs more engineers. What can we do about it? At the 1989 Theta Tau National Conference, Past Grand Regent George Dodd issued a challenge to each of the chapters of Theta Tau. The challenge was for the members of each chapter to visit the high schools in their area and to talk about and encourage students' interest in the field of engineering. With positive reinforcement, many bright students can be attracted to engineering school who might otherwise be whisked away into a business or pre-law curriculum.

I am happy to announce that the mem-

bers of Rho Chapter have voted unanimously to visit the high schools in the Raleigh, N.C. area. Let me encourage all of the other chapters of Theta Tau to give serious consideration to accepting the challenge. Furthermore, the alumni who see the merits of such a program should contact their chapters to show their support and encouragement. The support of our alumni means a great deal to those of us who are still student members, so let us know what you think.

—Tyler G. Cox, P '91

## Looking Back

*Continued from page 11*

Although emotions were strong, the recognition that we had to reach agreement at that Convention, and that we had to preserve the Fraternity, was even stronger. I give much credit to the Delegates at the 1976 Convention who put aside personal and chapter-directed positions for the common good. A compromise was reached to seek exemption for Theta Tau from the provisions of the Title IX amendments. The convention agreed to remove our limitation to male membership if the exemption could not be obtained. The exemption was not obtained, and the first woman was initiated by Delta Chapter in 1977.

We lost two chapters over the women membership issue. Despite our plans to resolve this issue at the National Convention in December, 1976, Pi Chapter had returned its charter earlier that year. It was not forgotten, however, and in 1988 the Pi Chapter charter was reissued to a new group at the University of Virginia.

Theta Tau was among the first professional fraternities to admit women, now almost all of them do. Our forward looking action on this issue has allowed the tremendous growth over the past few years and helped stem the tide of losing chapters.

My active career in Theta Tau ceased with the 1982 National Convention. Over the twenty-four years of my involvement in the national organization, we have seen significant changes in the fraternity: most chapters now have houses; a strong full-time Central Office was established; discrimination has been eliminated; great expansion is underway. Theta Tau has been a significant influence in my life. I am proud to have helped it toward its current position on leading university campuses, and in helping men and women move toward a promising professional career.

# National Engineers Week



The National Society of Professional Engineers (NSPE) first sponsored National Engineers' Week in February, 1951. Now Engineers Week is supported by a number of national organizations. Its purpose is to bring visibility to the profession.

National Engineers Week is always celebrated around George Washington's birthday. Our nation's first President was a military and agricultural engineer and a land surveyor. He founded the first U.S. engineering school at Valley Forge, Pennsylvania, which later became the U.S. Military Academy at West Point, New York.

Young people are an important part of the Week. Thousands of students in junior and senior high schools and colleges are introduced to many facets of the engineering profession. Engineers stage tours and exhibits in the nation's industrial and research facilities, award scholarships to deserving and needy young people, publish special sections in local newspapers calling attention to challenging careers in engineering, and conduct math competitions for 7th and 8th grade students, among other activities.

This year's theme is "Turning Ideas Into Reality." The theme is intended to highlight the image of the engineer as an innovator. Engineers are problem solvers. They use their knowledge of science and mathematics in creative ways to fulfill society's needs.

Where will we find future energy supplies? Will the world have enough clean water in the next century? How well will the U.S. compete in the world's technology marketplace? Many of the problems faced by this country require engineering solutions. It is through engineering that we will progress and prosper.

(Excerpted material from the National Engineers Week Committee.)

## FACTS, PREDICTIONS, AND STATISTICS ABOUT ENGINEERS

- By the year 2000, manufacturing engineers will have to be familiar with at least twice as many technologies as they know today, according to the Profile 21 survey of SME. Also, most manufacturing engineers of the 21st century will work in teams rather than individually.
- Next to teaching, engineering has the largest number of professional practitioners, and electrical engineering encompasses the largest number of engineers. (IEEE)

- According to the National Engineers Week committee's survey on Life in the 22nd Century, artificial body parts will become 'off-the-shelf' items to be purchased as needed; we will inhabit the Moon and manmade planets, but not Mars, or any other planets; we will not control the Earth's weather, and our most critical environmental problems will be hazardous waste disposal, lack of natural resources, clean air and water shortages; and nearly one-third of all respondents believe that new communications techniques will make newspapers obsolete.
- It is estimated that the number of science and engineering baccalaureates in 1996 will fall short of demand by 45,000. By the year 2010, the shortfall is predicted to be 700,000. (National Science Foundation)

## ENGINEERS



TURNING IDEAS  
INTO REALITY

NATIONAL ENGINEERS  
WEEK-FEBRUARY 18-24, 1990

- Women and minorities are severely under-represented in all disciplines of engineering. Women represent less than 3 percent of the engineering work force. African and Hispanic-Americans earn only a small fraction of the degrees awarded in engineering. In 1986, African-Americans received less than 3 percent of the engineering baccalaureates. Hispanics, while comprising about 7 percent of the U.S. population, received about 2 percent. (NSF)
- Nearly 80,000 bachelor's degrees were granted in engineering in the 1985-86 academic year, and over 5 percent went to minority students. The top five schools granting these degrees were Texas A&M,

Pennsylvania State, Purdue University West Lafayette, University of Illinois-Champaign, and the Georgia Institute of Technology. In 1986, over 11,000 engineering degrees were earned by women; 6,300 were earned by foreign nationals. (Engineering Manpower Commission)

- By 1995, engineering baccalaureates earned by foreign citizens may increase to 9,000, accounting for 13 percent of degrees awarded. (NSF)
- Employment of engineers rose substantially from 1972 to 1986, increasing from almost 900,000 to over 2.2 million (avg. growth rate of 7 percent per year). (NSF)
- Engineers and scientists make up only four percent of U.S. workers, but their skills are central to the nation's competitiveness and the world's quality of life. (Office of Technology Assessment)
- The median annual income earned by professional engineers, as of January 1, 1989, is \$53,000, a 4.7% increase from the previous year. (NSPE)

## UNITED PYRAMID WORKERS?

The construction of the pyramids of Egypt has long been recognized as a great feat of engineering; it must also have represented a formidable management challenge. Approximately 100,000 men had to be recruited, housed, and fed. Until recently, researchers believed that the job was accomplished with the use of slaves. However, recent findings by Mark Lehner of Yale University and Egyptian archaeologists suggest that the workers were not slaves, but citizens performing state labor for a few months out of the year instead of paying taxes or serving in the military. A 4,500-year-old granary and bakery capable of serving 100,000 workers has been uncovered in what may be a workers' village.

The research also suggests that working on the pyramids may not have been so bad after all. Inscriptions of some of the 2.5 ton limestone blocks bear the names of the crews that carried them, suggesting pride in their work, as well as tributes to their pharaoh and protector god. Worship did not preclude practicality, however. One block is inscribed with the instruction 'This end up.' (TWA Ambassador Magazine, December, 1989)



## New Space Initiatives, New Engineering Challenges

On the occasion of the 20th anniversary of Man's first landing on the Moon, President Bush called for a national commitment to a sustained program of manned exploration of the solar system and the permanent settlement of space. Such a bold initiative can benefit from, and build on, technologies developed and deployed in previous programs including Apollo\*, and bold new enterprises such as the Space Station Freedom, lunar bases, and the manned exploration of Mars. As we make progress in space, we learn that each new step confronts us with new, significant technological, engineering, and psychological challenges.

One clear example of these challenges is our long-term presence in space, which will require new understanding of the effects of micro or fractional gravity on human physiology and psychology. It demands developing and deploying safety and environmental technologies and systems which satisfy mission requirements under conditions quite different from those previously encountered.

New unmanned missions will also bring new challenges. Supporting Moon and Mars bases and their infrastructures will present unique and demanding problems. Just consider the science and engineering of control and landing systems for new, large and unmanned cargo vessels. But these kinds of challenges are neither new nor daunting to us. The engineering scope and process will draw upon rich experience in technological research and development, design, fabrication and assembly, testing and the deployment of components, systems and facilities. The familiar will blend with the new as we address the core areas of concentration:

- Assure safety of astronauts and operating ground crews;
- Provided reliable and durable components and systems;
- Design systems that intergrate well within total system; and
- Deliver a quality product which is affordable.

The new space initiatives, chosen from among many possible alternatives, will build upon our existing technology and ex-

perience. Bold leaps need a solid springboard. For example, in certain missions, transportation, communication and astronaut environment systems from the Apollo and Space Shuttle programs can make an important contribution to the establishment of criteria and mission requirements, and can help to identify further technical development needs. Also, Space Station Freedom will provide valuable experience for robotic assembly in space, and for the design and operation of working habitat modules. Lunar bases have the potential for producing critically important resources. A key benefit of their technologi-



**Underground assembly and maintenance facilities in an advanced lunar base would allow workers to service lunar landers in a pressurized, radiation-protected environment.**

cal development is to shorten the learning curve toward future Mars missions. Lunar base missions and associated technologies will not only come closer to the type of extended mission time experience needed for Mars, but also heighten our confidence in the support system technologies for future missions. The research and development process shown in these examples may provide new, attractive technological means for solving similar types of problems.

The basic dimensions of the problems to be addressed in manned Moon and Mars missions are known. Let's examine some types of technology, development work or

major advances in available technology which will be needed.

Mission planners must always address the problem of energy supply; energy must be among the first considerations. While lunar base missions can be supported by chemical propulsion systems of the type utilized earlier in the Apollo program, the U.S. does not currently have the capability of a Saturn V-sized primary launch vehicle. The Advanced Launch System (ALS) is in early stages of development, but its future is uncertain. As for manned Mars missions, the distance (at its closest, 100 times the distance to the Moon) and travel time factors (a few years instead of a few days) present significant problems in utilizing chemical propulsion systems. These problems relate to astronauts' health and safety, higher costs (higher mass penalties) and reduced flight and mission flexibility in comparison with alternative propulsion systems. While chemical rockets with aerodynamic braking remain an option for future manned Mars missions, considerable development and testing work remains to prove out the concept.

Another propulsion alternative is nuclear, i.e. direct nuclear or nuclear-electric propulsion. It is interesting to recall that in President Kennedy's 1961 speech calling for landing a man on the Moon, he also called for the accelerated development of the nuclear rocket. Unfortunately, while successful, the NERVA program and associated nuclear rocket projects came to an end in the early 1970's primarily as a result of not having immediate mission applications for relatively shorter travel-times from Earth orbit to distant planets. Because of possible requirements for manned Mars missions, direct nuclear propulsion technology may experience a resurrection, having become a future 'necessity.'

Direct nuclear propulsion has key advantages over chemical systems. Since it is a more concentrated energy source, a nuclear propulsion system can deliver about twice the specific impulse (a measure of its efficiency) at lower system mass. NASA has estimated significantly lower costs for the propulsion system and shorter trip times for the missions. Additionally, the lower system mass results in giving the designer greater freedom to provide enhanced operational flexibility for the overall manned system.

Nuclear-electric propulsion systems can be extremely efficient with very high specific impulse; however, electrically powered rockets produce very low thrusts. Consequently, where mission travel-time is

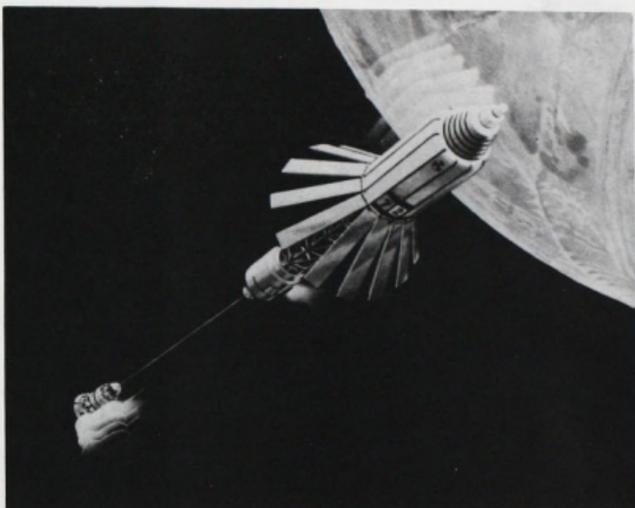
important, direct nuclear propulsion would continue to be more advantageous. Nuclear-electric propulsion systems show significant potential for unmanned cargo missions to the Moon and Mars. Other propulsion technologies with potential for use in future missions to Mars and beyond are laser and fusion propulsion. They are only at the concept stage, however. The point when these technologies will be proven, and available for application as propulsion systems, is likely to be well beyond the first Mars missions.

While electrical power requirements for space applications can continue to be met by solar energy, fuel cells, batteries or other sources, future lunar and Mars bases will require higher powered sources with the ability to sustain continuous high-power operation for long periods. The current prime candidate to satisfy this type of need is the SP-100 compact nuclear-electric reactor system currently being developed by the Department of Energy. As envisioned by NASA, this power supply would provide power at the level of one or more megawatts (electric) to support the lunar base infrastructure, including possible applications in mining and processing oxygen and other valuable resources. Because the Moon has a two-week 'dark period,' solar-electric systems with battery storage are at a distinct disadvantage in providing such higher levels of power on the continuous basis required. While solar-electric systems are likely to be needed as the initial power source in establishing the first lunar base, as well as a future emergency back-up source, the cost of more than 20 heavy lift launch vehicle systems (about Saturn V size) to lift and transport a megawatt class solar power battery system from the Earth would be prohibitive.

Power supply systems for these future missions will provide significant engineering challenges. Consider the following:

- Potential operational impacts of power systems on equipment and astronaut environments;
- System assembly in space and/or on lunar and Mars surface;
- Reliability and durability of equipment and systems; and
- Operation in micro or fractional gravity conditions.

Many other important types of engineering challenges will need to be recognized and addressed. Certainly, development of materials, and their incorporation into reliable and durable hardware, will be of primary importance in meeting unique and demanding operations conditions and mission requirements.



**Artist's conception of a manned Mars transport vehicle powered by a nuclear electric system. The vehicle achieves artificial gravity by rotation about its center.**

We can build upon proven experience when it comes to nuclear power for space missions, and the rewards are worth it.

Dr. Glenn Seaborg, then chairman of the Atomic Energy Commission, described the objective of the NERVA nuclear rocket project in the 1960's as,

"What we are attempting to make is a flyable compact reactor, not much bigger than an office desk, that can produce the power of Hoover Dam from a cold start in a matter of minutes."

The U.S. successfully met this objective. There was a national commitment to carry out such mission objectives to completion. To realize any new space initiatives and meet their new engineering challenges we will have to establish clearly defined goals. We must make a solid commitment to complete essential tasks in order to bring the overall manned space program to fruition. We will have to make the decision and provide the resources, as Captain Picard proclaims, "to boldly go where no one has gone before."

(Photos courtesy of NASA)

\* For those interested in reading an excellent account of the Apollo space program from the perspective of the engineers and managers involved, the article's author highly recommends Apollo, the Race to the Moon, by Charles Murray and Catherine Bly Cox, published by Simon and Schuster, 1989.



#### **About the Author:**

Dennis A. Bitz is an alumnus of Omega Chapter, with Bachelor of Science and Master of Science degrees from the South Dakota School of Mines and Technology. He is currently a consultant on space and energy systems and former Deputy Assistant Secretary for Space and Defense Power Systems in the Department of Energy. Prior to his assignment in the federal government, Brother Bitz was an executive with the Bechtel Group in San Francisco.



# Alumni News and Profiles



**WAYNE A. TRAFFAS, A '59**

Wayne H. Traffas, has been appointed Vice-President of Operations of Wagner Group, Inc., as announced by David Watson, President.

In his new position, Brother Traffas will be responsible for directing Wagner's engineering and production units, which include the mechanical, electrical, process, instrumentation and control, architectural, and specifications departments. Traffas has previous experience in service to the industrial, government, and utility industries.

Before joining WGI, Traffas held key management positions with leading architectural/engineering and professional service firms in New York, Eastern Pennsylvania, and Northern Virginia. His responsibilities have included domestic and international projects.

Traffas graduated from the University of Minnesota in 1959, earning a Bachelor of Science degree in mechanical engineering. He has also had post-graduate studies at Pennsylvania State University, the University of Idaho, and the University of Connecticut, and has attended the Wharton School Executive Development Program.

Traffas has actively participated in technical societies, serving as Subcommittee chairman of the Code Committee of the American Society of Mechanical Engineers (ASME), and is a past section chairman and regional officer. He also served as a U.S. representative to the International Atomic Energy Quality Assurance Committee, and is a member of the American Nuclear Society, American Management

Association, and the Technical Association of the Pulp and Paper Industry.

Wagner Group, a subsidiary of Day & Zimmermann, Inc., is headquartered in Reading, Pennsylvania. According to Engineering News Record, WGI is the 18th largest architectural/engineering firm in the United States.

Brother Traffas resides in Wyomissing, Pennsylvania with his wife, Morna, and two of their six children.

## **BORIS B. PETROFF, P '33**

Brother Boris Petroff has spent many years as a renowned professional in the field of highway engineering and traffic management. He was born in Russia in 1904, and he lived in Turkey and Czechoslovakia before coming to the U.S. in 1927.

Brother Petroff began his college career at Columbia University in New York City. His parents' dissatisfaction with a relationship he was pursuing impelled him out of the city, to North Carolina State, where he began his study of highway and traffic planning.

He received his bachelor's degree at NCSU, and worked for a time with the U.S. Resettlement Administration in Raleigh. He then received his Master's degree, and subsequently worked for several years with the North Carolina Highway Department.

During World War II Brother Petroff served in the U.S. Army. After the war he joined the Federal Bureau of Public Roads in Washington, D.C. He was given the task of consulting with 33 states on ways of utilizing his approach to traffic measurement, which took into account an appreciation of the psychological behavior of the human beings who contribute to traffic patterns. He published a series of articles which brought him recognition as a world authority in this field.

His work took him to 84 countries, "more than even Henry Kissinger visited," and he did consulting work for Australia, Norway, Sweden, West Germany, Holland, France, Switzerland, and Italy. Because of his consultation efforts in Italy, the director of the Transportation Department was able to reduce department spending 75 percent. This former director is now the head of Italy's Atomic Energy Commission, and he made a trip to Washington, D.C. to thank Brother Petroff for what he had helped to accomplish in that country.

Because of his extensive travels, Brother Petroff happened to be on the maiden flight of the Concorde supersonic transport.

Upon his retirement in 1966 he became the first recipient of the Bronze Medal of the U.S. Department of Commerce. Since his retirement, Brother Petroff has accepted invitations to lecture at several colleges including the University of London England; the University of New South Wales (Sydney), Australia; McGill University in Canada; and in the United States.

(Parts of this article were excerpted from NCSU alumni publications.)

## **DR. WILLIAM DITMER JORDAN, JR., M '42**

The University of Alabama College of Engineering honored long-time faculty member Dr. William D. Jordan recently, naming the Materials Testing Lab the W. D. Jordan Laboratory.

Brother Jordan, an Emeritus Professor and UA alumnus, was honored by UA President Dr. E. Roger Sayers and more than 150 friends and relatives during ceremonies on the UA campus.

"Bill Jordan was an inspiration to the College of Engineering, its faculty, its students and its alumni for many years, and he still is," said Dr. Robert F. Barfield, Dean of the College of Engineering. "Naming this laboratory for him is just a small token of our appreciation for his outstanding and dedicated service to the college, the University, and the Tuscaloosa community."

Brother Jordan, the son of the late Dr. and Mrs. John B. Jordan of Gordo and grandson of the late Mr. and Mrs. J. D. Sanders of Aliceville, was born in Selma, Alabama, and is a 1938 graduate of Sydney Lanier High School in Montgomery. He received a B.S. degree in mechanical engineering from UA in 1942 and an M.S. degree in civil engineering in 1949. He received a Ph.D. in theoretical and applied mechanics from the University of Illinois in 1952.

In 1946, Brother Jordan began his 40-year career with the UA College of Engineering as an instructor, and rose through the ranks of Assistant Professor, Associate Professor, and Professor of Engineering Mechanics. From 1961 until 1968, and again from 1981 until 1986, he served as Head of the Department of Engineering Mechanics, and from 1968 until 1981 he was Head of the Department of Aerospace Engineering, Mechanical Engineering, and Engineering Mechanics. He retired from the University in 1986.

Brother Jordan has received numerous honors and awards during his distinguished

career. He is a registered Professional Engineer in Alabama, and has been a member of the American Society of Engineering Education (ASEE) for more than 40 years. While an engineering student and member of Mu Chapter of Theta Tau at UA, he was also a member of Tau Beta Pi and the Kappa Alpha social fraternity.

Brother Jordan and his wife, Carolyn, reside in Tuscaloosa.

## MAJOR ALLAN H. KOPP, T '67

Major Allan H. Kopp, former Air Force Deputy Director of the Ada Joint Program Office (AJPO), has joined Telesoft as Director, Government Relations, located in Telesoft's new Washington, D.C. Operations Office. Telesoft is the leading supplier of second generation Ada\* software products and services. Brother Kopp will assume a wide range of duties which include monitoring the status of Ada programs at the Congressional and Government Department levels, as well as providing a strong focal point for Telesoft's Ada products and services to meet the needs of customers in the eastern region.

"We are extremely pleased to have Major Kopp join Telesoft to strengthen our position in the Ada government marketplace," stated Ben Goodwin, the company's President and Chief Executive Officer. "AI will be helping to insure that the needs of our clients in the Washington D.C. area are heard and acted upon."

While Deputy Director of the AJPO, Brother Kopp promoted the academic, commercial, government, and international investment in the Department of Defense's (DoD) Ada technology under the direction of the Deputy Secretary of Defense. His management activities included Congressional interaction, policy establishment, budget formulation, R&D oversight, program execution and public promotion for advanced technology development in computers and electronic devices.

Brother Kopp remains an active member in both the Association for Computing Machinery's Special Interest Group of Ada (SIGAda) and the AdaJOVIAL Users Group (AdaJUG) organizations. He also participates in several organizations involved in promoting and integrating the Ada language in government programs.

\*Ada is the Department of Defense standardized programming language designed to reduce software development and maintenance costs of real-time, mission-critical embedded systems applications over the long term.

GG(Information provided by Telesoft)

## ZETA

**Robert Bruce**, '55, is project director for Howard, Needles, Tammon and Bergendoff in Oklahoma City, Oklahoma.

**Ivan L. Henman**, PE, '56, is vice-president for Alyeska Pipeline Service Co., a crude oil transport business in Anchorage, Alaska.

**Ralph M. King**, '25, has recently moved to Lawrence, Kansas with his wife Ruth. They had lived in Arkansas and Tennessee for 62 years.

**Robert R. Rosander**, '67, works as the President of the Tulsa Innovation Center, a venture capital in Tulsa, Oklahoma.

**Paul J. Van Benthem**, '85, is associate nuclear engineer for Toledo Edison. He is working on a master's degree part-time at the University of Toledo, and received a commission as ensign in the U.S. Naval Reserves. He lives in Perrysburg, Ohio.

## IOTA

**R. Kent Comann**, '43, is still working full time for his executive search firm, Comann Associates, Inc. and his other company, Mining Placements, Inc.

## XI

**Timothy A. Sandoval**, '80, has recently been transferred to Southwestern Refining Company, a subsidiary of Kerr-McGee Corporation. He is a Senior Mechanical Engineer at the Corpus Christi, Texas facility. He is married with three children, including new arrival William born last July.

## TAU

**Steve Marrero**, '86, married Ursula Zimmerman, of Canton, Ohio, on Memorial Day, 1989. They now reside in Allentown, Pennsylvania. Steve is employed with Westinghouse as a Sales Engineer.

## OMEGA

**Robert L. Sandvig**, '44, retired in 1987 from his position as Head of the Chemistry/Chemical Engineering Dept. at SDSM&T. In his honor, the SDSM&T Foundation has recently established the Robert L. Sandvig Professorship in order to enrich the Chem/ChemE program by attracting eminent scholars who will contribute to the Department in significant ways. The first award will be made from the Professorship during the 1990-91 academic year. Dr. Sandvig has held every academic rank at SDSM&T, from Instructor through Professor Emeritus.

## GAMMA BETA

**Frank F. Atwood**, '76, is a customer representative to the U.S. Navy. He is officially working as a civilian employee at the Naval Ordnance Station in Indian

Head, Maryland. He has been spending much time with the Navy's customer at Hill Air Force Base, Ogden, Utah. He is working directly with the Air Force in the technical area of cartridge actuated devices utilized in aircraft pilot ejection systems.



**Douglas L. Jones**, '63, has been recognized by Theta Tau for his efforts toward the reinstallation of Gamma Beta Chapter.

## DELTA BETA

**Craig S. Huff**, '75, moved to McHenry, Illinois last year with his wife Pam and their two children. Craig is employed at Northrop Corporation as a Software Technical Manager. He is currently the Alumni Program Director for Theta Tau.

## McGee, continued from page 20

Kerlyn grasped a larger share of the industry, exploring sites throughout the central plains and Rocky Mountains.

As a maverick of the industry, McGee saw the enormous potential for offshore oil exploration in the Gulf of Mexico. At the time, offshore drilling technology did not exist, yet in 1946 Kerr-McGee Oil Industries Inc. took the initiative, under McGee's direction, to pursue this new area of exploration. After one year, his gamble paid off. Drilling the world's first commercial far-offshore oil well was a success. McGee had launched the offshore oil industry, and was a leader in drilling technology.

Brother McGee grew with the company, becoming Chief Executive Officer in 1954 and Chairman in 1963. Kerr-McGee had expanded greatly into the natural resources industry in conjunction with energy exploration. The company had interests in many areas including refining, uranium and coal mining and chemical manufacturing.

After stepping down from his position as Chairman in 1983, Brother McGee continued to serve on the Board of Directors until his death last year, at the age of 85.

Brother McGee was always a generous annual contributor to Theta Tau.

(Biographical information was provided by Kerr-McGee Corporation.)



# New Initiates

## ZETA

- 871 Raul Enrique Filardi, Jr., '89, Lenexa, KS  
872 Anthony Gerald Kempf, '90, Boonville, MO  
873 Pummy Lail, '90, Springfield, IL  
874 Todd Christopher Lawson, '90, Shawnee, KS  
875 John Laurence Rose, '90, Reston, VA

## XI

- 530 Colin Patrick Crowley, '90, Madison, WI  
531 Michael Andrew Lagergren, '90, Madison, WI  
532 Michelle Marie Maron, '92, Verona, WI  
533 Steven Lawrence McNaughton, '90, Mequon, WI  
534 David Christopher Rauch, '91, Delafield, WI  
535 Matthew James Corley, '91, Burnsville, MN  
536 Claire Catherine Diedrich, '91, Stevens Point, WI  
537 Tiffany Love Ferguson, '91, Cincinnati, OH  
538 Susan Ann Hnize, '90, Racine, WI  
539 Kristin Ann Kabat, '91, Greenleaf, WI  
540 Chad Joseph Koch, '91, La Crosse, WI  
541 Michelle Marie Parker, '90, Delavan, WI  
542 David Robert Stoffel, '91, Bloomer, WI  
543 Susan Ann Winnen, '91, Racine, WI  
544 Jennifer Sue Wood, '91, Mosinee, WI

## PI

- 899 Jeannette Lindley Wellons, '90, Charlottetown, VA  
900 Robert Andrew Charles, '92, Chapel Hill, NC  
901 Kimberly Michelle Herr, '92, West Chester, PA  
902 Young Kyoon Kim, '90, Alexandria, VA  
903 James Andrew Kornberger, '91, Linden, NJ  
904 Christopher James Krus, '92, Williston Park, NY  
905 Bernard Robert Lorenz, Jr., '92, Phoenix, MD  
906 Karen Ann Michell, '92, Wilmington, DE  
907 Ian Malcolm Munde, '91, New Orleans, LA  
908 Anna Marie Prusiti, '90, Waterloo, VA  
909 Robert Schettini, '92, Valley Stream, NY  
910 Sherry Tryee Shuler, '92, Elk Creek, MO  
911 Tatyana Snyderman, '92, Gaitersburg, MD

## RHO

- 994 Daniel A. Dorn, '91, Raleigh, NC  
995 Stephen Patrick Jackson, '92, Bahama, NC  
996 Dylan Isaac Kessler, '93, Durham, NC  
997 Ronald Sxa Nobles, '91, Tabor City, NC  
998 Jonathan Ramirez Saluta, '92, Winston-Salem, NC  
999 Jeffrey Dwayne Clagg, '92, Wilson, NC  
1000 Gregory Alan Pittman, '91, Lucama, NC  
1001 Bobby Ray West, Jr., '91, Wilson, NC

## TAU

- 846 Michael Anthony Norato, '91, Camp Hill, PA  
847 Salvatore R. Tuccitto II, '91, Newington, CT  
848 James Edward Czarnocki, '92, Erie, PA  
849 Robert Steven Hall, '92, Conesus, NY  
850 Donald Mark Wood, '92, Mechanicsburg, PA

## CHI

- 1012 Brian Christopher Benson, '92, Eugene, OR  
1013 Jeffrey Glenn Johnson, '91, Neenah, WI  
1014 George Omar Koury, '92, Lima, PERU  
1015 Barrett Charles Olson, '92, Madison, WI  
1016 Jose Luis Rojas, Jr., '92, Vincenza, ITALY  
1017 Scott William Sparrold, '92, Tucson, AZ

## OMEGA

- 977 Ricky Walter Brandner, '91, Dell Rapids, SD  
978 James Leroy Bruns, '92, Sioux Falls, SD  
979 Steven Paul Deeds, '90, Rapid City, SD  
980 Brent George Dell, '92, Aberdeen, SD  
981 Bradley Lyle Gall, '91, Pierre, SD  
982 David Richard Gildemester, '92, Dell Rapids, SD  
983 Erin Kyle Gruhn, '92, Gregory, SD  
984 Timothy James Hammers, '92, Tea, SD  
985 Scott Thomas Herboldt, '92, Scotland, SD  
986 Sherlock Van Hirming, Jr., '92, Eureka, SD  
987 Martin Jacob Jackley, '92, Sturgis, SD  
988 Donald Ernest Lapp, '92, Bloomington, MN

- 989 Thang Dac Van Le, '92, Watertown, SD  
990 Scott Conrad Overson, '92, Bloomington, MN  
991 David Joel Peterson, '93, McLaughlin, SD  
992 James Jay Peterson, '92, Wentworth, SD  
993 Timothy Edward Rabenberg, '92, Moberge, SD  
994 Craig Lee Randen, '92, Pierre, SD  
995 Bradley Michael Sale, '93, Ashton, SD  
996 Brad Lee Tieszen, '92, Sioux Falls, SD  
997 Steven Daniel Uttech, '92, Essex Junction, VT

## GAMMA BETA

- Charter Members:**  
558 Bobby Makheja, '92, McLean, VA  
561 Kelly Elizabeth Moran, '91, Chelmsford, MA  
562 Doreen Lynn Daskal, '91, Suffern, NY  
563 Mohab Fawzy Akhrouk, '91, Chevy Chase, MD  
564 Scott David Cherkofsky, '91, Wilmington, DE  
565 Jeffrey Lester Dion, '91, Springfield, MA  
566 Christopher Allen Goldsmith, '89, New York, NY  
567 Nelson Moyer Kee, '91, Rockville, MD  
568 Scott Alan McVey, '92, Pennsville, NJ  
569 Scott Parker Mackey, '91, Littleton, MA  
570 James Leo Nix, '91, Pittsburgh, PA  
571 Mario Enrique Pachajoa, '90, Potomac, MD  
573 Eric Kalani Takamura, '91, Washington, DC  
575 Timothy Allan Waire, Jr., '91, Baltimore, MD  
576 Patrick George Wamsley, '90, Alexandria, VA  
577 Roderick Hezekiah Gee, '91, Wheaton, MD  
578 Michael David Petrucci, '92, Glasstonbury, CT  
579 Glen Larry Popick, '91, Allentown, PA  
581 Jill Christine Schauer, '91, Bethesda, MD

## EPSILON BETA

- 364 Glen William Donelson, '92, Allen Park, CA  
365 Carl Edwin Sickles, '91, Dearborn, MI  
366 Roger Leon VanElslander, '91, Warren, MI

## KAPPA BETA

- 447 Jennifer Christine Goldman, '93, Marietta, GA  
448 James C. Lin, '92, Swansea, IL  
449 Angel Ysmael Luciano, '92, Rulerville, MS  
450 Paige Lee Martindale, '92, Monticello, MS  
451 Veeresh Kumar Michael, '92, Pearl, MS  
452 Tracy Dawn Moorehead, '93, Friendswood, TX  
453 Collin Edwin Pardue, '93, Escatawpa, MS  
454 Stephen Kimberly Raines, '92, Vicksburg, MS

## LAMBDA BETA

- 246 Roy Alex Pace, '93, Lansing, TN  
247 Jeffrey Shane Lovegrove, '92, Kingsport, TN  
248 Charles Edward Martin, '88, Munford, TN  
249 Randy Lane Simpkins, '91, White Bluff, TN  
250 Alan Deel Snyder, '93, Sodus, Daisy, TN  
251 Michael Anthony Stayrook, '91, Lovelville, TN  
252 Jimmy Russel Sutherland, '91, Mt. Juliet, TN  
253 Jonathan Eric Thompson, '91, Kingsport, TN

## NU BETA

- 202 Robert Scott Bakkestuen, '92, LaCrosse, WI  
203 Geri Ann Klein, '92, Milton, WI  
204 Daniel Robert Schneider, '91, E. Dubuque, IL  
205 Stacy Ann Stangler, '92, Harland, WI  
206 Allen Joseph Watry, '92, Saukville, WI  
207 William John Weissmann, '92, West Allis, WI

## XI BETA

- 43 John Henry Jahshan, '92, Livonia, MI  
44 Daniel Lee Ling, '90, Westland, MI  
45 Keith David Toro, '91, Allen Park, MI

## OMICRON BETA

- 59 Mark Robert Beaudoin, '91, Garden City, MI  
60 Richard Dennis Lagerstrom, '91, Garden Hts., MI  
61 Jay Alan Murdock, '91, Quincy, MI  
62 Thomas Matthew Peatea, '91, Dearborn City, MI  
63 Matthew Peter Pesis, '92, Alan Park, MI  
64 Jeffrey Wallace Stop, '91, Garden City, MI

## PI BETA

- Charter Members:**  
6 David Wayne Savage, '89, Frankenmuth, MI  
15 Stacy Ann Budzik, '90, Washington, MI  
17 Gary Allan Mahieu, '89, Oshtemo, MI

- Other Initiates:**  
26 Michael Harold Bates, '90, Warren, MI  
27 Amy Christena, '93, Flint, MI  
28 Richard Henry Deskovitz, '91, Woodhaven, MI  
29 Gregory Taylor Griffin, '92, Mt. Clemens, MI  
30 Monica Lee Nemecek, '91, Kalamazoo, MI  
31 John Jason Raffaele, '91, Cadillac, MI  
32 James William Troup, '91, Rochester, MI

## RHO BETA

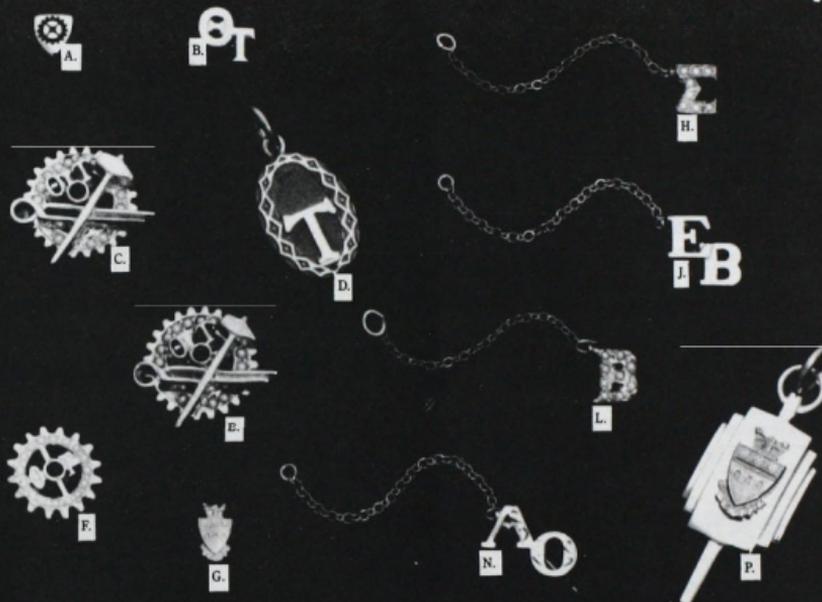
- Charter Members:**  
1 Todd Edward Ebert, '92, Ashland, OH  
2 Dale Charles Seaman, '92, Painesville, OH  
3 Henry Louis Tucker, Jr., '91, Cleveland, OH  
4 Todd Daniel Althouse, '91, Sidney, OH  
5 Kenneth Paul Dearing, '91, Jackson, OH  
6 Saqub Abdul-Latif, '90, Karachi, PAKISTAN  
7 Glenn Thomas Babiak, '91, Buffalo Grove, IL  
8 Derek Boyd Barrentine, '91, Hudson, OH  
9 John Bart Batties, '90, Fremont, OH  
10 Audra Celeste Burke, '91, Albany, OH  
11 Timothy Lawrence Cook, '91, Cincinnati, OH  
12 Trace Aaron Davis, '91, Waverly, OH  
13 Richard Alan Eichenberger, '93, Seville, OH  
14 James A. Fink, '91, Saltburg, PA  
15 Christopher Paul Hill, '92, W. Carrollton, OH  
16 Kevin Douglas Hooks, '92, Mansfield, OH  
17 Amiti Tiak Raj Magan, '90, Bombay, INDIA  
18 Michael B. Stevens, '92, Cincinnati, OH  
20 Angelo Sugay Tejada, '92, Woodmere, OH  
21 Eric Fan Zeo Tsang, '90, Kowloon, HONG KONG  
22 Raymond Lee West, '92, Westerville, OH  
23 James Edward Young, '92, Beaver Falls, PA

## SIGMA BETA

- Charter Members:**  
1 Vito John Russo, '91, Brookfield, WI  
3 James John Cornelius, '92, Greendale, WI  
4 Greg Alan Smith, '91, S. Milwaukee, WI  
5 Salvatore John Fott, '91, Brookfield, WI  
6 Anthony James Russo, '88, Brookfield, WI  
7 Paul Jerome Grosskreuz, '90, Tosa, WI  
8 Daniel E. Gruber, '91, S. Milwaukee, WI  
10 Roger Joseph Janquart, '91, Wauwatosa, WI  
12 Michael Robert Frey, '91, Greendale, WI  
13 Thomas John Yank, '90, Milwaukee, WI  
14 Richard James Ondrejicka, '90, Milwaukee, WI  
15 Suzanne Marie Levinson, '91, Oak Creek, WI  
16 Jeffrey Scott Henn, '91, Graton, WI  
17 Jo Ann Go Lao, '91, Bayside, WI  
18 Scott Laurence Christensen, '91, Greendale, WI  
19 Troy Richard Bestens, '92, Milwaukee, WI  
20 Wendy Elizabeth Davis, '90, Milwaukee, WI  
21 Christine Hron, '90, Milwaukee, WI  
22 Vida Novakovich, '90, Greenfield, WI

- Alumni Initiates:**  
23 Verne Clifton Culler, '50, Milwaukee, WI

- Other Initiates:**  
24 David H. Burdorf, '90, Milwaukee, WI  
25 Christofer Conan Case, '93, Wauwatosa, WI  
26 Bradley Jay Ohde, '94, Greendale, WI  
27 Maria Buenaventura Ortiz, '93, Milwaukee, WI  
28 Andrew Howard Shaffer, '93, Greenfield, WI  
29 Carrie Evelyn Skurzewski, '93, Milwaukee, WI  
30 Daniel Lee Weiskopf, '91, Franklin, WI



Qty.	Item	Description	Unit Price	Total
<b>Official Jewelry</b>				
	A.	#602 Official Recognition Pinnette, GEP	\$ 1.95	
	B.	#603 Monogram Recognition Pinnette, Gold Filled	2.50	
	C.	#102 Badge w/Close Set Pearls, 10K	30.50	
	D.	#501 Alumni Charm, 10K	30.50	
	E.	#103 Badge with Crown Set Pearls, 10K	39.75	
	F.	#100 Sister Pin w/Close Set Pearls, 10K	27.00	
	G.	#600 Coat-of-Arms Recognition Button, 10K	17.40	
<b>Accessory Jewelry</b>				
	H.	Close Set Pearl Single Letter Guard, 10K	27.00	
	I.	Close Set Pearl Double Letter Guard, 10K, not shown	36.00	
	J.	Double Letter Plain Guard, 10K	18.00	
	K.	Single Letter Plain Guard, 10K, not shown	12.50	
	L.	Crown Set Pearl Single Letter Guard, 10K	32.00	
	M.	Crown Set Pearl Double Letter Guard, 10K, not shown	46.00	
	N.	Etched (Engraved) Double Letter Guard, 10K	19.00	
	O.	Etched (Engraved) Single Letter Guard, 10K, not shown	14.00	
	P.	#500 Alumni Key, 10K	45.00	
	Q.	Identification Pin, not shown	6.00	
	R.	Conference/Convention Bar, not shown	5.00	
		Sub Total		
		Your State & Local Taxes		
		Shipping & Handling	3.00	
		Amount Due		

## Order Form

(Please Print)

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STREET \_\_\_\_\_

ROOM/APT. NO \_\_\_\_\_

CHAPTER NAME \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

All orders should be placed directly through Theta Tau National and paid in full. Copies of this order form are acceptable. Prices good thru 8/31/90

Theta Tau  
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# In Memoriam

## BETA

Thomas Patrick Clements, '44

## GAMMA

Louis Benedict Allen, '49, 1/6/90

E. Paul Evans, '26

Joseph Frease, '26, 6/8/88

## DELTA

David Henry Buerkel, '48

Cedric Paul Faubel, '22, 2/15/88

## EPSILON

Cecil Lee Barton, '28, 7/7/89

Joseph Ignatius Ehrhardt, '41, 6/21/89

Paul Clifford Perry, III, '52

## ZETA

Ralph Marsh King, '25, 8/89

Dean A. McGee, '26, 9/15/89

Heman Morrow Rosevear, '26, 9/15/89

August Edward Schanze, '22, 5/3/89

Harry Louis Snell, '30, 3/16/89

## ETA

Rockwell Hereford, '24, 11/26/88

## IOTA

Hanley H. Weiser, '19, 5/8/89

## KAPPA

Arthur Charles Nauman, '32, 1/29/89

Ellsworth J. Westcott, '21, 4/10/89

## LAMBDA

Alan Dabney Barber, '58, 5/14/88

## MU

James L. Shores, '25, 10/19/86

## NU

Henry Stephen Carr, Jr., '33, 6/13/89

Leon Jones Hartman, '29, 8/1/89

Edward Mettauer McGehee, '43, 12/7/89

## XI

James Harold Weyer, '67

Earnest Joseph Schrader, '21, 8/14/89

## OMICRON

LaVerne R. Grosskopf, '41, 4/23/89

Jens Norgaard, '41, 9/24/89

## PI

Joseph Kendall Betts, '43, 4/6/87

Edward Monroe Cooper, Jr., '30

George C. Cox, '17

Roy Marsh Currin, '26,

Thomas C. Farmer, '28

Dennis Milford Frame, '58, 9/22/88

Clarence Mortimer Hawkins, '31, 1/2/86

Walter Clark Leary, '28, 8/23/88

Homer DeWitt Long, '21

Jack Everitt McCormick, '52

Larry Brown McDade, '50

William Edward Moseley, '29

Michael William Nakoneczny, '40

Robert Charles O'Neal, '52

Thomas Cox Powell, Jr., '25

William Hayne Rivers, '41, 5/20/87

Frank Simmons Trantham, '24

Herbert Stuart Whitley, '38

Charles Vance York, '26

Earnest Jackson Oglesby, '16, 5/89

## RHO

J. Kendall Betts, '43, 4/6/87

## SIGMA

Raymond Joseph Ebner, '28, 3/31/89

Paul Louis St. John, '30, 11/6/88

## TAU

Earl Milton Olley, '32, 3/30/89

## UPSILON

George Gibson Farris, '33, 12/18/88

## OMEGA

Beala Byrl Neel, Jr., '42, 12/24/89

Arden Eric Swanson, '43, 2/24/89

Joseph Champlin Spencer, Sr., '35, 5/10/88

Arden Eric Swanson, '43, 2/24/89

## GAMMA BETA

Herbert Henry Murray, '48, 7/88

Bert Martin Randall, '40, 7/25/87

Arthur Willaim Schraitle, '50, 12/14/88

## IOTA BETA

Matthew Walter Plonsky, '68, 10/11/89

## Dean Anderson McGee, Z '26

Dean Anderson McGee, an innovative captain of the energy industry and former chairman of Kerr-McGee Corporation, died September 15, 1989 in Oklahoma City, Oklahoma.

Born in Humboldt, Kansas in 1904, the son of an oil wildcatter, Brother McGee led



an exemplary life as a businessman and civic leader. A true industry giant, he not only guided Kerr-McGee from its infancy as a small contract drilling company, but he helped shape the energy industry as well.

As a young student, Dean McGee had a compelling interest in engineering and geology. He satisfied both interests by studying mining engineering at the University of Kansas. Inspired, perhaps, by the four mining engineering students who founded our fraternity, he pledged and was initiated into Zeta Chapter of Theta Tau.

After earning his degree in 1926, Brother McGee worked for Phillips Petroleum as an on-site Geologist at their oil field in the Texas Panhandle. After much success in oil exploration he became the company's Chief Geologist, heading up all exploration projects.

With his successful career established, Brother McGee, the entrepreneur, decided to leave the security of his position with Phillips to work as Head Geologist for the fledgling Kerlyn Oil Co., co-founded by Robert S. Kerr. "I wanted to see if I could help build a company," said McGee in a later interview.

After a rough beginning, Brother McGee saw his dream of making an impact in the industry begin to become reality. With successful exploration the company grew steadily, and by 1943 he was Executive Vice-President. Because of joint exploration ventures with Phillips Petroleum,

*Continued on page 17, column 3*

# Chapter and Colony Addresses

<b>*Alpha</b>	515 Tenth Avenue, S.E.	<b>*Chi</b>	1614 East Speedway Boulevard	<b>Rho</b>	P.O. Box 5884
<b>**C</b>	Minneapolis, MN 55414 (612) 331-7932 & 7931	<b>W</b>	Tucson, AZ 85719 (602) 881-8264 (602) 326-8015 <i>Chapter Room</i>	<b>Beta</b>	Athens, OH 45701 (614) 594-2254
<b>*Beta</b>	Route #1, Box 119	<b>*Omega</b>	109 Kansas City Street	<b>E</b>	P.O. Box 784
<b>C</b>	Houghton, MI 49931 (906) 482-7259	<b>W</b>	Rapid City, SD 57701 (605) 343-7768	<b>Sigma</b>	Milwaukee, WI 53201 (414) 786-4695
<b>Delta</b>	c/o Student Activities	<b>Gamma</b>	Room 103, Tompkins Hall	<b>Beta</b>	229-5949 <i>Office</i>
<b>E</b>	11111 Euclid Avenue	<b>Beta</b>	The George Washington University	<b>Theta Tau</b>	49 Oakland Center
	Cleveland, OH 44106	<b>S</b>	Washington, DC 20052 (703) 442-8859	<b>Colony</b>	CIPO Office
<b>*Zeta</b>	1935 Heatherwood Drive	<b>*Epsilon</b>	478 West Alexandrine	<b>E</b>	Oakland University
<b>C</b>	Lawrence, KS 66044 (913) 841-0822 & 9867	<b>Beta</b>	Detroit, MI 48201 (313) 832-4042	<b>Colony</b>	Rochester, MI 48309-4401 (313) 247-4097
<b>*Mu</b>	10 Bryce Lawn	<b>E</b>	4026 West McNichols Road	<b>Theta Tau</b>	University of Windsor
<b>S</b>	P.O. Drawer AM	<b>*Iota</b>	Detroit, MI 48221 (313) 861-9683 & 9711	<b>Colony</b>	401 Sunset Avenue
	Tuscaloosa, AL 35486 (205) 348-4924	<b>E</b>	P.O. Box 2983	<b>E</b>	Windsor, ON N9B 3P4 CANADA (519) 945-4143
<b>*Xi</b>	1633 Monroe Street	<b>*Kappa</b>	Mississippi State, MS 39762	<b>Theta Tau</b>	Box 436
<b>C</b>	Madison, WI 53711 (608) 256-6752	<b>Beta</b>	(56 South Park Estates	<b>Colony</b>	Southern Methodist University
<b>*Omicron</b>	508 North Dubuque	<b>S</b>	Starkville, MS 39759) (601) 323-6184 & 6185	<b>W</b>	Dallas, TX 75275 (214) 680-3110& 368-5793
<b>C</b>	Iowa City, IA 52240 (319) 338-4008	<b>*Lambda</b>	513 North Walnut Avenue	<b>Theta Tau</b>	CA Box 120
<b>*Pi</b>	Thornton Hall	<b>Beta</b>	Cookeville, TN 38501 (615) 526-3823 & 528-2076	<b>Colony</b>	University of Houston
<b>S</b>	University of Virginia	<b>S</b>	160 North Hickory Street	<b>W</b>	4800 Calhoun
	Charlottesville, VA 22903 (740-A Madison Avenue	<b>*Nu Beta</b>	Platteville, WI 53818 (608) 348-4456 & 9639		Houston, TX 77204-3650 (713) 749-7469
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<b>*Sigma</b>	1946 Indianola Avenue	<b>*Omicron</b>	Room 226-ROC	<b>Theta Tau</b>	University of Toledo
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<b>*Upsilon</b>	1322 West Cleveland	<b>E</b>	4901 Evergreen Road	<b>W</b>	2239 University Hills Blvd.
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<b>*Phi</b>	416 North Chauncey	<b>Pi Beta</b>	c/o Jon T. Lea, Regent	<b>*</b>	Chapter House
<b>E</b>	West Lafayette, IN 47906 (317) 743-2461 & 2601 Annex: (317) 743-2623	<b>E</b>	3320 West Main, #303 Kalamazoo, MI 49007 (616) 342-1067	<b>**</b>	Each Unit's Region: C, Central; E, Eastern; S, Southern; or W, Western.

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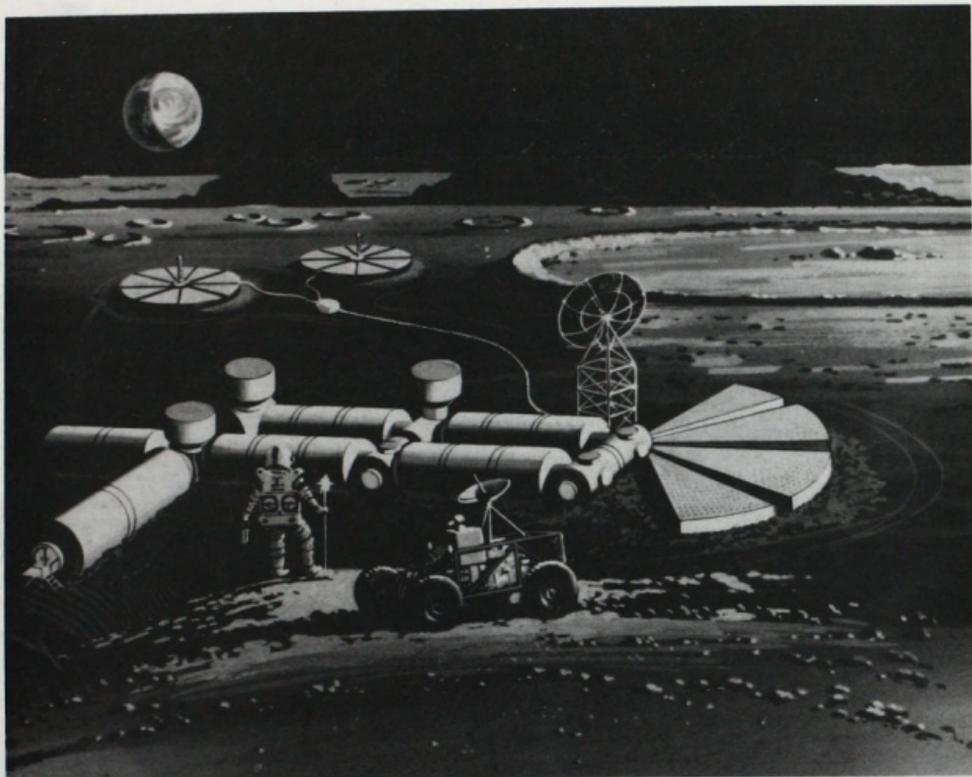
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NASA's artist concept of a lunar base with a nuclear power system. Alumnus Dennis A. Bitz, Omega '60, tells us what the space agency has planned for the 1990's, and beyond.

## Theta Tau

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