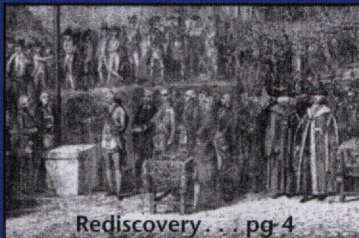


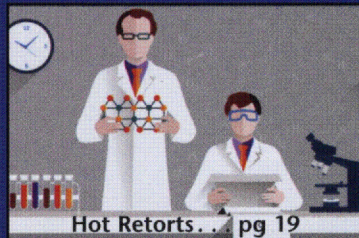
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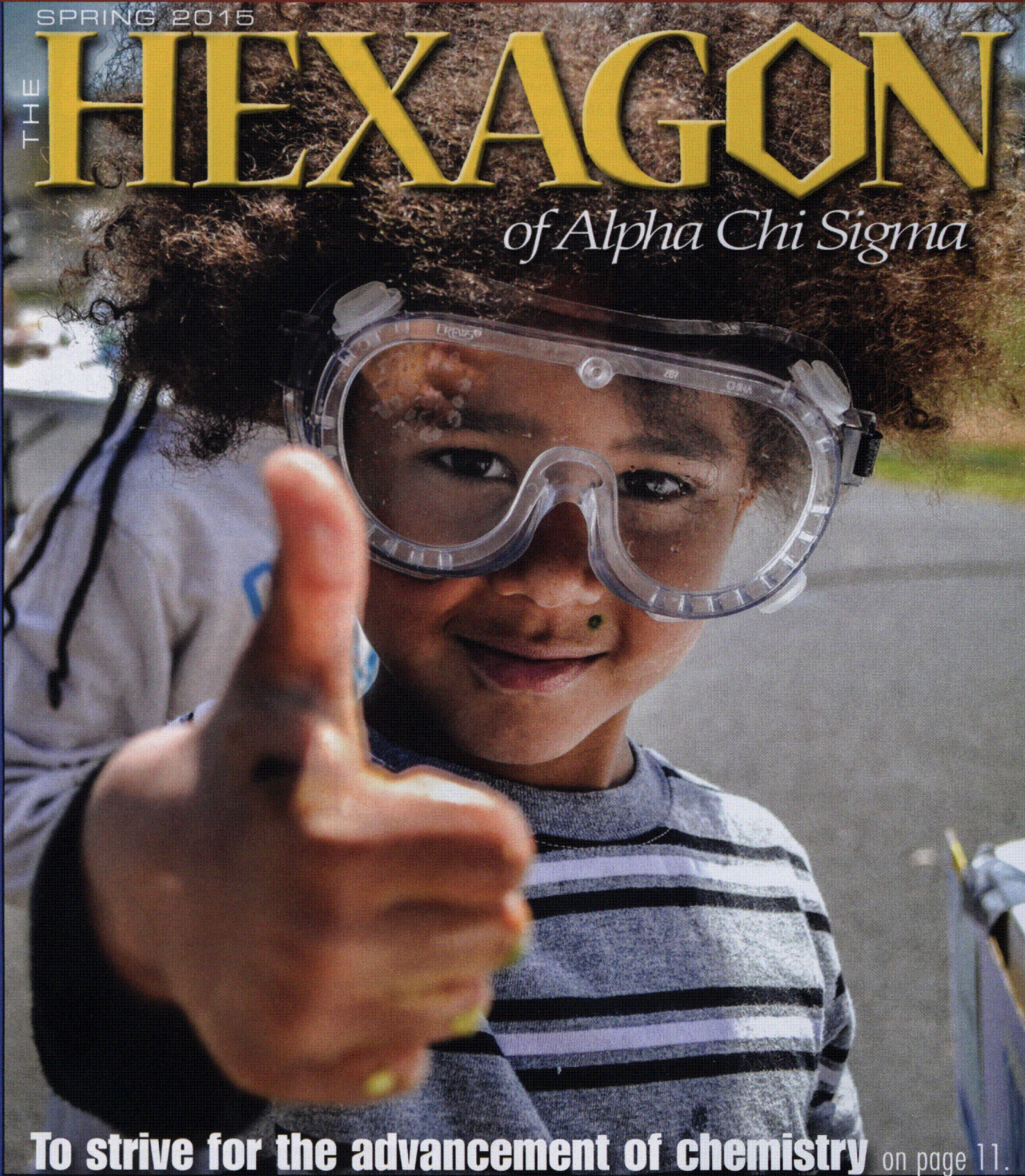
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SPRING 2015

THE

HEXAGON

of Alpha Chi Sigma



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EDITORIAL OFFICE

Mail: 930 North University Avenue
Department of Chemistry
The University of Michigan
Ann Arbor, MI 48109-1055
(734) 764-7329; FAX (734) 615-5524
bcoppola@umich.edu

Grand Editor: Dr. Brian P. Coppola, *Alpha Beta 1988*

Graphic Design: Jody Toth

FEATURES EDITORS

ACS Presidents—AXΣ Brothers

Dr. George B. Kauffman, *Beta Iota 1953*
(559) 323-9123; georgek@mail.fresnostate.edu

Rediscovery of the Elements

Dr. James L. Marshall, *Beta Eta 1971*
University of North Texas; jimmm@unt.edu

Looking Back

Mr. D. Mitchell Levings, *Beta Delta 1975*
(979) 297-8897; mitch.levings@nrgenergy.com

EDITORS EMERITUS

Mr. Donald R. Cassady, *Beta Nu 1954*

Dr. Gerard R. Dobson, *Beta Eta 1970*

NATIONAL OFFICE

6296 Rucker Road, Suite B
Indianapolis, IN 46220
(800) ALCHEMY
email: national@alphachisigma.org
http: //www.AlphaChiSigma.org

SUBMISSION DEADLINES

Spring (March)	January 1
Summer (June)	April 1
Fall (September)	July 1
Winter (December)	October 1

Chapters and groups: Send stories of events, and don't forget photos. Send contact information as well.

Alumni: Personal and professional news is always welcome.

The *HEXAGON* of Alpha Chi Sigma (USPS 0013-795) is published quarterly by Alpha Chi Sigma Fraternity, 6296 Rucker Road, Suite B, Indianapolis, IN 46220. The annual subscription fee is \$5. Periodical Postage paid at Indianapolis, IN, and at additional mailing offices. POSTMASTER: Send changes and notifications of the deaths of members to Alpha Chi Sigma Fraternity, 6296 Rucker Road, Suite B, Indianapolis, IN 46220.



The inks used to print the body of this publication contain a minimum of 20% by weight, renewable resources.

What's in a Brand?

In the business world, "branding" is a term given to how a product or service is promoted that distinguishes it from others. It can be a slogan, an icon, or even just the company's name. If you think of a cola, does the brand "Coke" or "Pepsi" immediately jump to mind? Driving down the highway, seeing a large yellow "m" in the sky, one immediately recognizes the McDonald's brand. These are just two examples.

So what happens when a company is said to "Rebrand"? Why would you do it? To the world, are you trying to completely change your image, or maybe trying to reach out to a larger market. To the organization, maybe you are trying to help better identify yourself to what you do. Successful examples of rebranding are KFC, Old Spice, and most recently Domino's dropping their moniker "Pizza."

What is Alpha Chi Sigma's brand? What distinguishes this Fraternity from all others? I think we would consider the phrase "Professional in Chemistry" as our brand. In most of our official correspondence, this phrase comes immediately after our name. It describes, in three short words, who we are, what we do, and why we do it. We can look at it and say, "Yes, I am."

Or can we? What do we consider Chemistry now? If we look at our membership, and those of us who are material scientists, microbiologists, forensic scientists, industrial hygienists, food scientists . . . do you consider yourself part of the Chemistry brand? Do individuals in these fields look at our brand and think they might not belong because they are not pure Chemistry? Maybe, just maybe, it is time for us to rebrand ourselves. It doesn't have to be a big change, but some of the most successful rebrandings are hardly noticed. You will see it first on our new website fairly shortly. See what you think; I think in the 21st century, we can look and say, "Yes, we are":

Alpha Chi Sigma Fraternity
Professional in the Chemical Sciences

Yours in the Double Bond,
Mark Evaniak, GMA



Mark Evaniak, GMA,
Beta Sigma 1980



On the Cover

A young chemist revels in chemistry at Alpha Kappa's CHEMFEST. See page 11 for the full story. CHEMFEST images (cover, pp 11-12) courtesy of Liuzhi Zhang Photography.

The Objects of Alpha Chi Sigma

1. To bind its members with a tie of true and lasting friendship.
2. To strive for the advancement of chemistry both as a science and as a profession.
3. To aid its members by every honorable means in the attainment of their ambitions as chemists throughout their mortal lives.

Tiffany Lynne BULLER-SCHUSSLER, *Epsilon 1991*, and her husband adopted their second daughter, Tatum Elizabeth Schussler, on March 20, 2014.

Ishwinder S. CHATTHA, *Kappa 1995*, and his wife welcomed a baby girl, Khushkirath Kaur Chattha, on Nov. 19, 2014.

Patricia L. EICHHORN, *Epsilon 1998*, was inducted as a fellow of the American College of Surgeons.

Jon Erickson, son of Ted A. ERICKSON, *Alpha Psi 1951*, passed away July 28, 2014. Recently inducted into the Swimming Hall of Fame in Ft. Lauderdale, Florida., Jon was 60 years old when he passed away.

William L. KOHN, *Beta Gamma 1968*, retired after spending 35 years as a pediatrician in Grants Pass, Oregon. He fondly thinks of his years at UCLA where he met his wife as she entered the Department of Chemistry in 1969.

Howard G. LASSER, *Alpha Pi 1966*, was named a fellow of the National Association of Watch & Clock Collectors to honor him for transferring intellectual property in the form of a half dozen articles and a book on the production of watches made by the Hamilton Watch

A Note for Contributors

We certainly appreciate the added appeal of pictures in *The HEXAGON*. When taking photos for submission, please:

- Always use a flash indoors.
- Do not edit or alter your images. *The HEXAGON* production staff can and will determine if an image needs color correcting or additional processing.
- Set your digital camera quality to its highest setting with the least compression. Photos that are less than 8 inches wide at 72 dpi, or that have a file size of under 1 megabyte, may be too small for print production.
- Please send us the image file that is directly from the camera. Photos that are extracted from iPhoto albums, Facebook pages or Word documents have file sizes that have been compromised.
- Print photos are welcome!

Company in Lancaster, Pennsylvania. The latest article, published in the association's national journal in August 2014, featured The Hamilton Watch Company and Light Rail timepieces. This year, Lasser and his family also welcomed two great-grandsons.

Ernest MASSERMAN, *Beta Gamma 1966*, recently retired. He was a clinical chemistry senior specialist at the UCLA Department of Pathology and Lab Medicine.

Michael R. MCGATH, *Beta Delta 1970*, retired from Elementis Specialties, Inc. in April 2014.

Edward W. O'GRADY, *Beta Sigma 1969*, recently retired after working for 25 years at Wheaton Industries in Millville, New Jersey.

Leroy B. WEINBRENNER, *Alpha 1960*, is retired. He previously taught in various places and at various levels.

LEADERSHIP FILE 001

Tiffany Lee, MA, *Beta Pi 2013*

By far, one of the most rewarding experiences of joining Alpha Chi Sigma has been my position as Master Alchemist. Leading a group of such motivated, dedicated brothers taught me that leadership is about delegation and communication. Before Alpha Chi Sigma, I was a perfectionist who hogged way too many tasks, resulting in a stressed mess. Trusting my brothers with our vision and strategically assigning tasks that highlight their unique strengths was an instrumental part in improving the chapter. When assigned projects they are good at or enjoy doing, the brothers input their thought and effort of much higher quality. With delegation also comes clear communication. The role of Master Alchemist has definitely honed my communication skills. Open interactions and clear descriptions of what I want done created a more productive and comfortable environment, as the brothers know they can always ask me questions or input their own ideas.

I couldn't be more proud to end my last semester of undergrad as the Master Alchemist of the *Beta Pi* Chapter. I have full faith in my chapter and am excited to see what the rest of this year will bring!



GE NOTE: What does it mean to be a leader and how do you learn to lead? What makes a good leader? We have asked some of the leaders in our organization at all levels to let you know what it is like to lead in this great Fraternity. Throughout this edition of *The HEXAGON*, you will hear from several of our Master Alchemists of our collegiate chapters.

Rediscovery of the Elements

Daniel Rutherford, Nitrogen, and the Demise of Phlogiston



James L. Marshall, *Beta Eta* 1971, and Virginia R. Marshall, *Beta Eta* 2003, Department of Chemistry, University of North Texas, Denton, TX 76203-5070, jimm@unt.edu

In the previous *HEXAGON* "Rediscovery" article, the life and work of Joseph Black (1728–1799) was introduced.¹⁶ As a graduate student at the University of Edinburgh, Scotland, Black discovered fixed air (carbon dioxide) and characterized magnesium as a substance separate from calcium, and thus may be considered the discoverer of that calcareous element. Afterwards he became professor at the University of Glasgow, where he developed the concept of latent heat. He returned to the University of Edinburgh in 1766 as the head of chemistry. (Figure 1).

Black as a professor at Edinburgh. Upon his return to Edinburgh (Figure 2), Black turned away from fundamental research and instead concentrated on industry and teaching. An active participant in the Scottish Enlightenment, he was sought out by scientists throughout Europe for guidance in chemical curricula and industrial research.²³ He mentored several graduate students, one of whom succeeded him as chair of chemistry,^{2b} Thomas Charles Hope (1766–1844), who first fully characterized strontium, discovered in a mine in northwest



Figure 2. Map of Edinburgh, Scotland. The chemical discoveries of Black and Rutherford were performed at the "Old College" in Edinburgh, which is not identified on this modern map, because it was demolished and replaced by buildings of the "New College," on South Bridge (N55° 56.85 W03° 11.17). Rutherford, later a professor of botany at the University of Edinburgh, maintained the Botanic Gardens at "Leith Walk" (see Figures 4,5); today's Royal Gardens are located 2 km west. The locations of the homes of Black and Rutherford are known, but they no longer exist. The modern campus is 2.7 km south of the "New Campus."

Scotland.^{1a} Other students of Black attained prominent positions at Oxford University.^{2b} Another of his students was Daniel Rutherford (1749–1819), (Figure 3) who was the son of John Rutherford (1695–1779), one of the founders of the Medical Institute at Edinburgh.¹⁶ Daniel later became professor of botany at the University of Edinburgh (Figures 4–6), but never rose to the prominence of his father John or of Joseph Black. However, while a student of Black, he found his mark as the discoverer of "malignant air," later to be known as nitrogen.

The characterization of "malignant air." Daniel Rutherford described the discovery of this new air in his 1772 M.D. dissertation ("Inaugural dissertation on the air called fixed or mephitic").³ In his dissertation research, Rutherford "destroyed" ordinary air (i.e., removed the oxygen) by burning charcoal, candle, or phosphorus, or by respiration with a living mouse. In the cases where mephitic air (fixed air, or carbon dioxide) was produced, he removed this with alkali, following the procedure of his mentor Joseph Black.¹⁶ Rutherford concluded that the remaining "malignant air"³

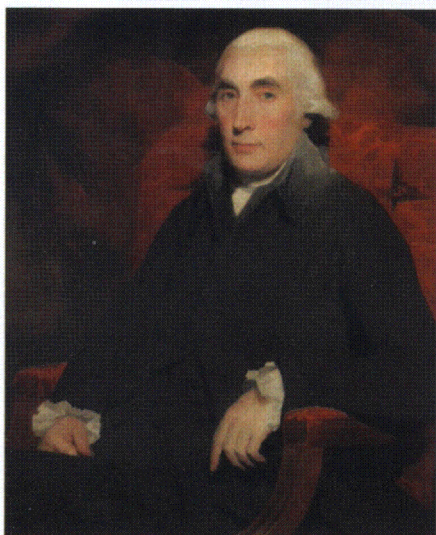


Figure 1. Joseph Black's original painting, from which most black and white engravings are reproduced. It was painted (ca. 1790) by Sir Henry Raeburn, titled "Professor Joseph Black (1728–1799)." Courtesy, Hunterian Museum and Art Gallery, University of Glasgow.

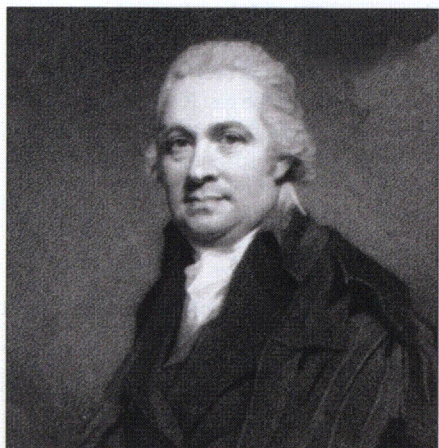


Figure 3. Engraving of Daniel Rutherford, after a painting by Sir Henry Raeburn, from ref 6.

must be "atmospheric air saturated with phlogiston" since it "cannot be converted into mephitic air by combustion."³ Rutherford never gave his air a specific name, but did speculate that it was "pure phlogiston united to common air" seeming to "form another species of air" [authors' italics].

Rutherford was impressed with the "poisonous" nature of mephitic air, which lay low in caverns and asphyxiated small animals on the cave floor.¹⁶ He was puzzled by malignant air, because when "all mephitic air had been removed by caustic lixivium [alkali], what remains does not become in any way more wholesome."³ In another experiment, Rutherford noted that air "which has been blown through ignited coals, and then purified

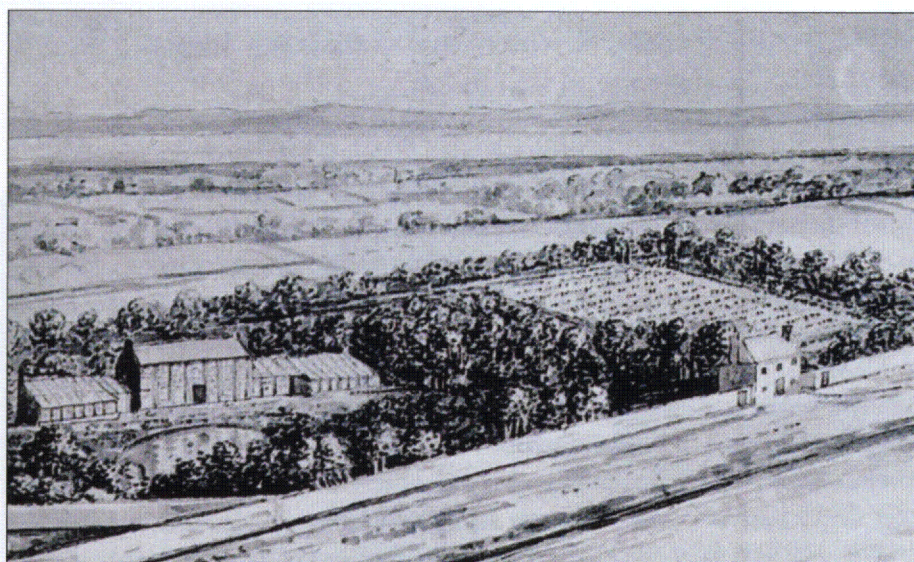


Figure 4. This is a north view of the Leith Walk Gardens at the time of Rutherford, who maintained them when he became professor of botany in 1786 at the University of Edinburgh.¹⁸ The road in the foreground (left–right) is Leith Walk, which exists today (see map, Figure 2). The field to the right has rows of rhubarb, grown for medicinal purposes; the seeds were obtained from St. Petersburg, Russia. Only a tiny remnant of the original garden exists today (see next figure). Courtesy, Royal Botanic Garden, Edinburgh, Scotland.



Figure 5. Leith Walk today: Hopetoun Crescent, an arc extending from Leith Walk (road) of a grassy grove of trees with benches for resting (N55° 57.69 W03° 11.05). Inset: Sign on fence.

from all mephitic air, is nevertheless still found to be malignant and quite similar to that which is spoiled by respiration."³ Hearing of Priestley's experiments, where plants became invigorated (and not "poisoned") by fixed air,⁹ Rutherford realized that the "malignancy" induced by respiration, combustion, or calcining was a separate phenomenon from the "mephitic" nature of fixed air. Unfortunately, Rutherford never

resolved the issue of "mephitic air" vs. "malignant" air.

It is not known where Daniel Rutherford conducted his research.⁴⁶ Quite possibly it was in one of the buildings on the north side of the Physic Gardens (see map of previous *HEXAGON* publication¹⁸) which included the original laboratories set up by John Rutherford's medical group.^{46,5} These buildings were later used by



Figure 6. The Rutherford Building in the modern University of Edinburgh (N55° 55.33 W03° 10.25) is named after Daniel Rutherford, professor of botany and keeper of the Royal Gardens at Edinburgh. Rutherford is also known for inventing the maximum-minimum thermometer; he was also the uncle of Sir Walter Scott (1771–1832).



Figure 7. The cornerstone of the New College was laid on November 16, 1789, by George III. The view is northward on North Bridge. The observer's viewpoint is close to the original location of John Rutherford's Medical buildings on the north side of the Physic Gardens, i.e., where the son Daniel Rutherford probably performed his research on "malignant air." See the next figure for the modern appearance of this site. (Drawing 1789, David Allan.)

Joseph Black (starting in 1766) for his teaching and laboratory procedures, before he moved into the new chemistry building which was constructed in the Old University Quadrangle

in 1781. This building was the one where Hope performed his research on strontium,^{1a,4a} and was removed during the later construction of the New Campus at the same site (Figures 7,8).

Cavendish's parallel research. William Ramsay, the discoverer of the inert gases,^{1f} believed that since Rutherford recognized that "malignant air" was a new substance, he "may well be credited" with the discovery of nitrogen.⁶ However, Henry Cavendish (1731–1810; the discoverer of hydrogen)^{1f} performed some work which anticipated Rutherford's research. Six months before Rutherford's thesis was published, Joseph Priestley (1733–1804)^{1c} read a paper⁷ to the Royal Society relaying private information furnished by Cavendish. In his research, Cavendish gave a more quantitative, but less general, description of Rutherford's gas. Cavendish passed ordinary air through a red-hot tube of charcoal, with subsequent removal of fixed air by caustic alkali. Cavendish repeated this procedure repeatedly, until no more diminution of the air was observed. Thus, he observed a reduction of 180 to 162 ounces,^{8c} and he noticed that the density "differed little from ordinary air, perhaps somewhat lighter."^{8c} It is not clear what interpretation he gave of these observations, but it appears that he, like Rutherford, considered the residual gas to be the consequence of the "destruction of common air." His work was never formally published, and he has not been generally viewed as a co-discoverer of the gas. (Cavendish later isolated a small quantity of inert gaseous residue from nitrogen by sparking, but he did not understand it was a new separate substance, later recognized as a new element—argon—by Ramsay and Raleigh.^{1f})

Scheele's discovery of "spoiled air." Carl Wilhelm Scheele (1742–1786)^{1b} may be considered to be a co-discoverer of nitrogen. He described two kinds of air, viz., "spoiled air" and "fire air" (German "verdorbene Luft" and "Feuerluft" or Swedish "skamd luft" and "elds luft," respectively.)^{8b} His work was performed at the same time as Rutherford's, but it was not published until five years later.⁹ (Similarly, oxygen was discovered by Scheele before Priestley, but the opportunistic Priestley published first.^{1b,c})

Scheele's understanding of nitrogen was advanced beyond that of Rutherford. Instead of viewing the gas to be the product of some vague "destruction" of air, Scheele believed that "air must be composed of two different kinds of elastic fluids."⁹ If he had published promptly, there is no doubt he would be considered the discoverer of nitrogen. In fact, in the German Wikipedia, Scheele is considered the lone discoverer of nitrogen; Rutherford is not mentioned.¹⁰

What should the new gas be called? After Rutherford's announcement³ of 1772, the designation "phlogisticated air" or "malignant air"



Figure 8. This is the Edinburgh "New College," South Bridge, built in 1827–1831, on the site of the Old College where Black and Rutherford worked, but is now actually the "Old College," because of the New Campus further south. It presently houses the library complex of the university (Playfair Library Hall).

was commonly used for the portion of the atmosphere remaining after ordinary air had been "destroyed" by combustion and fixed air had been removed.^{8b} But it was not clear whether (a) the diminution of the atmosphere during combustion was a fundamental transformation of air, a "consequence of the atmosphere becoming overcharged with phlogiston,"^{8b} or perhaps, (b) as Scheele suggested, the atmosphere was composed of two distinct parts that were separable. During the next two decades, various names were proposed for the "phlogisticated air," including:

- (a) "mofette"—the gas escaping from a volcanic vent—used earlier by Lavoisier;^{8d}
- (b) "azote"—"without life"—proposed by Guyton de Morveau, 1737–1816, who introduced the New Chemical Nomenclature (*Méthode de Nomenclature Chimique*);^{8d}
- (c) "azotic gas"—used by Cavendish;¹¹
- (d) "nitrogène" or "nitrogen"—"niter generator," created by sparking the atmosphere—proposed in 1790 by Jean-Antoine Chaptal (1756–1832),^{8e} a French industrialist and popular author of science texts; and George Pearson (1751–1828), a student of Joseph Black who translated *Méthode de Nomenclature Chimique*^{8e} into English⁸ⁱ in 1794.

In Lavoisier's 1789 *Traité*,¹² nitrogen was recognized as an element for the first time; he listed it as "azote." The French chemical literature has retained "azote"; but with Pearson's translation of *Nomenclature Chimique*, "nitrogen" passed into the English vocabulary. The

Germans use "Stickstoff" ("suffocating substance") and the Swedes "kväve" ("asphyxiate") since the 1790s. The Russians transliterated the French name and call the substance "азот."

Just what exactly is this new gas? Lavoisier's identification of *azote* as an element¹² did not immediately settle the issue of exactly what this substance was. William Higgins (1763–1825), an Irish chemist who in 1784 was one of the earliest antiphlogistonists and an early advocate of the atomic theory, proposed that the atmosphere was indeed a mixture of gases, but was unclear whether oxygen and nitrogen in the atmosphere were separate substances or were combined.^{8j} John Dalton (1766–1844) proposed a clearer description of the atmosphere,^{1d} which he declared consisted of discrete particles.^{8k} In 1803 he hypothesized^{8k} that each element consisted of atoms of a specific weight, and he gave each element its own special symbol (e.g., \odot for oxygen, \ominus for nitrogen).^{8k} Dalton was formalizing these ideas on the atmosphere and its constituent elements during Priestley's twilight years as Priestley continued to preach that phlogisticated air (nitrogen) was an undefinable substance containing dephlogisticated air (oxygen), possibly even a compound of dephlogisticated air and inflammable air (hydrogen).¹³ But Priestley was now virtually alone with his antiquated philosophy, and when he died (1804) there were no remaining significant adherents to the philosophy of phlogiston.¹³ Nitrogen had joined the ranks of the true elements and was included as

an authentic member of the elements in Dalton's grand philosophy of 1808.¹⁴

But the story is not yet finished. A major source of confusion was the large inventory of nitrogen oxides that had been described principally by Priestley and Cavendish. Jöns Jakob Berzelius (1779–1848), the Swedish chemical giant who seemed to be at the "center of nearly every significant scientific discovery in chemistry,"¹⁵ thought nitrogen was a compound of oxygen with an "ammonium" radical, analogous to his idea that chlorine was a compound of oxygen with a muriatic radical.¹⁶ However, by 1823 Berzelius had accepted chlorine¹⁶ and nitrogen as bona fide elements.¹⁶ But it was not until the final acceptance of Avogadro's hypothesis and the application of Gay-Lussac's Law of Combining Volumes, when Stanislao Cannizzaro (1826–1910) prepared his famous pamphlet of 1858,¹⁷ that the true nature of atmospheric nitrogen was understood. This pamphlet—which was distributed to members of the Karlsruhe Chemical Congress of 1860 and which inspired a German and a Russian (Lothar Meyer and Dmitri Mendeleev) to formulate the Periodic Table several years later^{1d}—finally established the true nature of atmospheric nitrogen: a diatomic element, N_2 .

The legacy of Joseph Black. The scientific thinking of Joseph Black was so advanced that often he is regarded as one of the first in Great Britain to accept Lavoisier's New Chemistry.¹⁹ James R. Partington (1886–1965), the author of the comprehensive *A History of Chemistry*, implies^{8l} that Black was endorsing Lavoisier's views in Edinburgh even before 1784. However, a closer study of Black's life shows a more conservative approach. It was actually one of his students, Richard Lubbock (1759–1808),^{8m} who first vigorously advocated Lavoisier's ideas. Lubbock called the vital portion of the atmosphere *principium sorbile* (absorbable principle; called by Lavoisier *principe oxigène*) and he devoted his entire Dissertation in Edinburgh (1784) to this subject.⁸ⁿ (After graduation Lubbock became a practicing physician in Norwich, in Norfolk County, England). The first professor in Scotland to advocate exclusively Lavoisier's chemistry¹⁹ actually was Black's student, Thomas Charles Hope, who became professor at Glasgow in 1787, later at Edinburgh.

The cautious Black believed there were too many unanswered questions—with a "scheme so dependent upon a few key experiments. . ." he was worried that "should these experiments be overturned the entire structure was undermined."¹⁹ With the backdrop of the Scottish Enlightenment, the role of Black was to create the cultural environment at Edinburgh which allowed free debate, tolerating all views.

“REDISCOVERY” ARTICLES ARE NOW ON-LINE

All *HEXAGON* issues that include “Rediscovery” articles—a series which began in 2000—are now on-line at: <http://digital.library.unt.edu/explore/collections/HEXA/>

These *HEXAGON* issues, as a group, are fully searchable and thus are amenable to scholarly research. One can search either for words, Boolean “OR” combinations, or for full phrases (by placing in quotation marks). Not only the original “Rediscovery” articles may be accessed, but also cover photographs by the authors and other auxiliary articles connected with the “Rediscovery” project.

Additionally, the UNT Digital Library has separated out all these individual articles and placed them in the “Scholarly Works” section. These articles may be located and perused at: <http://digital.library.unt.edu>. At the top of the webpage, search for “James L. Marshall” as “creator” and for convenience, “sort” by “Date Created (Oldest).” The “Scholarly Works” articles are not searchable as a group, but only within each individual article.

Student societies flourished that nurtured this intellectual freedom, giving rise to “one of the earliest sustained debates over the new chemistry outside Paris.”¹⁹ The conversion of Black was gradual. In the end, he was convinced not by the students’ youthful exuberance which he fostered, but ultimately by the wealth of their data and cogent arguments. In 1790 he finally proclaimed his endorsement of the New Chemistry in a letter to Lavoisier,¹⁹ which was published in the French journal *Annales de Chimie*.²⁰ ○

Acknowledgments.

The assistance of Robert G. W. Anderson, Emeritus Fellow, Clare Hall, Cambridge University, and author of refs 2 and 4b, is gratefully acknowledged.

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Steve Houtschilt, MA, Alpha Beta 2013

The most valuable lesson I have gained as Master Alchemist of the *Alpha Beta* Chapter is the importance of getting our brothers to ask the "why" of what we do. So often, organizations become content with the "what" they do, passively going through the traditional events and customs, doing just enough to make sure that they continue. They miss areas for improvement, members lose passion and enthusiasm, and things become stagnant. Constantly reflecting on our Objects, our shared desire to really make a positive impact on our community, and our resources allow us to execute chapter activities eagerly and foster improvement.

For example, our main philanthropy we raise money for each year has been Relay For Life, a donation event for the American Cancer Society. Most of our members aspire to apply chemistry to the medical field, so this charity has made sense. While the Cancer Society is an amazing cause, I wanted us as a chapter to think more critically about the unique resources we have compared to the many other student organizations that already raise money for it. Also, many of our professional events include doing science demonstrations for elementary and high school students, but we felt that a one-time event may not have as big of an impact as we may think.

At our officer meetings, we discuss other ways we could use the money from our fundraising and the time our brothers are willing to spend. I'm pleased to say we are now working with underprivileged middle school students in the neighboring Ypsilanti school district with the goal of increasing interest in STEM fields and helping to make a college education seem more in reach. We plan to establish mentor programs with our brothers, tutors, fundraisers for lab equipment and textbooks, and help with college applications.

We are also starting a new project, a chemistry department appreciation luncheon, where we'll showcase research being conducted by brothers at the university as a result of discussing our ties with the chemistry department. These projects have definitely energized our brothers' desire to participate in all activities of our chapter, since they are truly reflections of the reasons why we are in Alpha Chi Sigma in the first place. Our passion for science and community outreach permeates through everything we do, and it is this passion that I hope to embody everyday as a leader of *Alpha Beta*.

LEADERSHIP FILE 003

Alexandra Danielle Tamerius, MA, Alpha 2013

Although I have only served as MA of *Alpha* Chapter for three months, I have found it to be very rewarding in particular due to our growing chapter and the hard work of our previous officers, who made them our brothers. This semester we have a remarkable 65 active members with a large number of them being new initiates. This presents some unique opportunities and challenges. I have a great responsibility to ensure that all elected positions are well understood and successful, and we have a greater opportunity to learn from our new brothers and improve our chapter in all endeavors.

I find myself encouraging our three Objects. First, I hope to bring us closer by encouraging brothers to spend time together and to approach all conflicts with an open mind and an open heart. Second, I chose to serve as MA while being both an outreach chair and a Professional Committee chair. This has helped me guide the chapter toward the community and the chemistry department by encouraging attendance to science outreach with kids, fundraising for local high school chemistry programs, and exploration of chemistry via scientific journal club and department seminar attendance. Last, I make myself always available to give advice, and I send out weekly emails with opportunities for career advancement, such as jobs, internships, scholarships, and conferences.

My aim this semester is to lead by example and create momentum for progress and improvement in *Alpha* Chapter. After my term as MA, I plan to help our next MA maintain that momentum, while finishing my last year as an undergraduate at the University of Wisconsin-Madison and a proud member of the *Alpha* Chapter of the Alpha Chi Sigma Fraternity.



Professional Representative Election Results

These members were elected to be PRs for the 2015–2016 term:

- Jason Ellis, *Delta* 1997
- Sandra D. Lukaszewski-Rose, *Alpha Theta* 1995
- Mike Raffay, *Iota* 2000
- Laura L. Walkup, *Beta Psi* 2005

Large Initiation held at Gamma Chi

Submitted by Jessica LaFevre, MA, *Gamma Chi* 2013

The *Gamma Chi* Chapter of Alpha Chi Sigma hosted their fall initiation on November 8, 2014. Eleven brothers were initiated, one of the larger initiations *Gamma Chi* has had in a few years. This event was filled with excitement not only because of the new brothers being added to the chapter, but the presence of two other chapters and our District Counselor, Claudia Brodtkin, being present at the ceremony itself. Both *Gamma Iota* and *Gamma Kappa* had one initiate who went through the ceremony. Each chapter brought their MA and several other brothers, which created a small conclave atmosphere!

The day started at 10 a.m. with a breakfast buffet in front of Stubbs, a dormitory at Longwood University, followed by lawn games with the entire *Gamma Chi* Chapter. By mid-afternoon, everyone was a bit tired and hunger was setting in. Using five cars, fellow brothers carpooled to Dr. Rhoten's house, the chapter's advisor, for a cookout before initiation. *Gamma Iota* met the chapter there to join in on the free food and exchange greetings amongst the brothers. It was a wonderful experience to be able to laugh and eat with brothers from a different chapter, and to share the day. Pledge books were passed around, points were given out, and excitement rose as initiation came closer and closer.

By 4 p.m., everyone was back at Longwood, and *Gamma Kappa* arrived. The night went well. A brother who had just been recently initiated said this about working behind the scenes: "It is fun watching the pledges go through initiation like I did. Seeing them react to everything is kind of surreal because the whole time I was wondering if I was as confused and bewildered during my pledging. It is amazing to share such a crazy experience with someone and made me feel like all of the brothers, especially the new ones, were closer because of it." The combined initiation wrapped up around midnight. During the actual event, the three chapters intertwined, swapping stories and traditions. Afterward, I asked one of the newly initiated brothers her thoughts on initiation. She said, "At first I was



A group of initiates pose with District Counselor Claudia Brodtkin just before initiation.



Gamma Chi Chapter brothers pose with advisor Dr. Melissa Rhoten (black tee-shirt).



Newly initiated brothers pose with members of Gamma Chi, Gamma Iota, and Gamma Kappa.



Boy Scout merit badge session at Iota Chapter.

nervous, but after a while I relaxed because I knew I was becoming a part of something that would stick with me for life."

The *Gamma Chi* Chapter is looking forward to holding another initiation in the spring of 2015. The chapter itself was quite active throughout the semester. Longwood University hosted a Science Day on campus and allowed Prince Edward Middle School to come and participate in four of the major sciences. The brothers of *Gamma Chi* volunteered with the chemistry section along with Dr. Rhoten. In early 2015, the chapter is looking forward to creating an interactive demo show and volunteering in the town of Farmville.

Iota Chapter Wyvern to Kathryn Westbrook

Submitted by: Kathryn Westbrook, *Iota* 2011

The *Iota* Chapter of Alpha Chi Sigma hosts Boy Scout merit badge sessions throughout the year at Rose-Hulman Institute of Technology. The sessions are six hours, usually with lectures in the morning and hands-on applications in the afternoon, to allow the Boy Scouts to earn a merit badge during the day of activities. On October 25, 2014, the Chemistry Merit Badge session was held. The morning session included various lectures.

The presentations began with a PowerPoint on safety requirements in a general chemistry laboratory, such as personal protective equipment, safety data sheets, and chemical storage. We also included an interactive quiz at the end to ensure the Scouts understood the concepts and requirements before entering the lab that afternoon. Next, Cartesian divers were explained, along with how gases in general

behave under different pressures and different temperatures. Classical divisions of chemistry, including analytical, physical, organic, and inorganic, were introduced to the Scouts with real world applications included in each description. Afterward, the chemical similarities of toothpaste and cleaners were discussed between the Scouts. It is always interesting to hear what they think before and after the information is presented. A professor spoke to the group about his experiences in research as well as additional career opportunities that are possible in the field of chemistry. The final activity in the morning session was the chemistry behind cooking. The Scouts had to taste an onion before, during, and after being cooked and explain why the taste goes from bitter to sweet. This was new for most of them, and while initially they may have known that there was indeed a change in taste when cooking, they were excited to learn why. It was then possible to relate the idea to baking and how most flavors change before and after cooking.

After lunch, the Scouts listened to one more lecture of Government Agencies Pollution from fertilizers, and then they were finally able to enter the lab for the hands-on experience. During the lab segment, the Scouts learned firsthand about titrations and how indicators react differently depending on the pH of the solution. The Scouts are always energetic for the hands-on session, and they appreciate applying their new knowledge from the morning to real life situations.

Overall, it was a fun and informative day for both the Alpha Chi Sigma brothers and the Boy Scouts. It is always rewarding to see the interest in science from those who are willing to continue learning, especially about chemistry. It is

important to stay involved in spreading the passion for and understanding of chemistry. No one is ever too young or too old to learn something new and exciting about the world while having fun at the same time.

Students and parents participate in experiments at CHEMFEST 2014

Submitted by: Brian Li, *Alpha Kappa* 2012

Alpha Kappa Chapter hosted its annual CHEMFEST event on April 12, 2014, from early morning to mid-afternoon. On this sunny spring day, the recess area behind Venable Elementary School was filled with young children as well as various science experiments and demonstrations.

The event featured the usual experiments and demonstrations used in previous CHEMFESTs, such as bouncy balls, Boo Bubbles and freezing (and smashing!) objects with dry ice and isopropyl alcohol. We continued the tradition of the magic show to showcase exciting demonstrations, such as elephant toothpaste and gummy bear torture. Children tie-dyed their own T-shirts, which were provided at no cost. This year, we incorporated new experiments, such as sodium acetate crystallization and strawberry DNA extraction. All of these experiments received abundant interest and praise.

Children and parents alike were captivated by the colorful informational posters and exciting experiments. Furthermore, they even par-



Children and parents were captivated by Alpha Kappa's magic show at CHEMFEST 2014.

ticipated in most experiments (those safe to handle, of course), such as preparing their own batch of slime and bouncy balls, triggering the sodium acetate crystallization and extracting strawberry DNA. This gave participants a unique opportunity for direct involvement in the demonstration, sparking curiosity in many children and parents that resulted in curious and insightful follow-up questions, such as, "Could you use sodium acetate crystallization as a part of a security system?" and "Why do these ingredients work so well for making bouncy balls?"

After a lengthy soccer game on the adjacent field, many players and their parents came over to see what was going on and even stayed for a while to learn about experiments at each station. Overall, CHEMFEST 2014 was extremely successful as it attracted and educated an estimated 80 to 100 people. Furthermore, this event has given us insight and inspiration as to how we can further expand our variety of experiments for future CHEMFESTs.

We would like to thank our sponsors (Alpha Chi Sigma National Office, University of Virginia Chemistry Department and the Virginia section of the American Chemical Society) for their generous support that made CHEMFEST possible.

If you are interested in checking out CHEMFEST firsthand, contact Alpha Kappa Chapter. greek-axe@virginia.edu

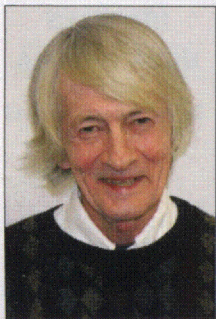
Alpha Kappa's 2014 CHEMFEST was extremely successful. All brothers are invited to check out CHEMFEST firsthand!



IN MEMORIAM

BABB, Daniel P., *Gamma Eta* 1997
 BACKER, Paul E., *Zeta* 1929
 BATINA, Raymond T., *Alpha Psi* 1943
 BERGER, Charles A., *Tau* 1954
 BURTON, Clark R., *Sigma* 1943
 CHAMBERLAND, Bertrand L., *Alpha Iota* 1958
 CHAMBERLIN, Leland E., *Tau* 1954
 DAVIS, Albert I., *Beta Beta* 1969
 DE HALAS, Don R., *Sigma* 1950
 DOUGLASS, James E., *Beta Theta* 1957
 DRENCHKO, Peter, *Alpha Gamma* 1954
 DUBOIS, Louis F., *Alpha Zeta* 1935
 EARLE, Thomas E., *Alpha Gamma* 1943
 GRIMES, Gregory Sharon, *Beta Nu* 1970
 JOHNSTON, George F., *Eta* 1942
 JONES, Sharon L., *Alpha Sigma* 1994
 KNITTEL, Richard R., *Tau* 1954
 NEWMAN, Henry F., *Alpha Psi* 1939
 PFLUGER, Richard A., *Beta Alpha* 1949
 RUBINI, Salvatore V., *Beta Kappa* 1954
 SEALE, Virgil L., *Alpha Eta* 1944
 SEVEN, Raymond P., *Zeta* 1946
 VAN PILSUM, John F., *Alpha Theta* 1943
 VIAL, Theodore M., *Alpha Rho* 1940
 WILKIE, Peter M., *Alpha Omicron* 1937

BABB, Daniel P. "Doc," *Gamma Eta* 1997, passed away Nov. 18, 2014. Dr. Babb was born Aug. 1,



1939, in Red Wing, Minnesota. He studied chemistry at Mankato State University, earning a bachelor's degree in 1963. He obtained a doctorate degree in chemistry from the University of Idaho in 1968 under the direction of Jean'ne

Shreeve, studying the synthesis of novel fluorine compounds. He then studied nitrogen-sulfur-fluorine compounds with Herbert Roesky at the Anorganisch Chemisches Institut at the University of Göttingen in Germany. He joined the faculty at Marshall University in 1972. His research interests included investigations into the chemistry of $(CF_3)_2C=NLi$ and similar molecules. Dr. Babb recently retired after 42 years of teaching, research and service at Marshall University. At the time of his retirement, it was estimated he had taught and mentored more than 15,000 students. Even after his retirement, he maintained professor emeritus status and continued to be a fixture on the Marshall campus. He also established the Paul and Catherine Babb Scholarship, awarded to a student majoring in chemistry. Throughout his tenure at Marshall, his involvement with the university extended beyond the classroom. He was appointed associate dean of the College of Science in 1986 and chair of the department in

1990, serving for 14 years. He also was instrumental in developing the original curriculum for the university's Society of Yeager Scholars as well as the development of the Marshall Faculty Senate. He served on the Faculty Senate as well as the senate's Athletic and Student Conduct & Welfare committees. He was a recipient of the 2005–2006 Marshall University Distinguished Service Award. He also was a Thundering Herd football fan and often could be seen on the sidelines.

BURTON, Clark R., *Sigma* 1943, passed away March 2, 2013. Burton served during World War II and returned to the University of California-Berkeley in the fall of 1946. He lived in the Alpha Chi Sigma house until he graduated in June 1947. He spent seven years with Shell Chemical, Martins-Chaugel careers and graduated from the University of California-San Francisco Dental School in 1958.

DOUGLASS, James E., *Beta Theta* 1957, passed away Nov. 7, 2014. Douglass was born in Corpus Christi, Texas. He attended schools in Corpus Christi and then graduated from Rice University. After three years in the United States Navy as a communications officer, he returned to school at the University of Texas and earned his doctorate degree. He conducted post-doctoral work with William Doering at Hickrill Foundation in New York. Douglass taught organic chemistry at the University of Kentucky and Marshall University, where he also served as chairman of the department. His spare lab time was spent creating new compounds and sending them off for cancer research. Douglass was a member of Sigma Xi and a 50-year member of the American Chemical Society. While in Huntington, West Virginia, Douglass was an active member of Johnson Memorial Church, serving as usher and Sunday School teacher and working on the church's centennial history. He loved travel, symphony and opera. After moving to Sarasota, Florida, in 2002, he had the leisure to enjoy all three. He was a loyal member of the First Methodist Church.

EARLE, Jr., Thomas Evans, *Alpha Gamma* 1943, passed away March 14, 2014. Born in North East, Pennsylvania, in 1925, Earle moved at age 9 to Lexington, Kentucky, following the accidental death of his father. Earle graduated from the University of Kentucky in 1945 and three days later began working in Whiting, Indiana, as a research chemist for Standard Oil of Indiana. Later he moved to the patent department in downtown Chicago and retired from Amoco after 46 years with the company.

VAN PILSUM, John Franklin, *Alpha Theta* 1943, passed way Nov. 21, 2014. Van Pilsum was

born in Prairie City, Iowa, in 1922. A farmer's son with a scientist's mind, he received his bachelor's degree in chemistry and his doctorate degree in biochemistry from the University of Iowa. He served in the Navy and was stationed in the South Pacific during World War II. Van Pilsum taught biochemistry to medical and dental students at the University of Minnesota for more than 30 years, where he also conducted research on kidney and pancreas enzymes. Over the past seven years, he painted prolifically, hosting a one-man art show at the Campus Club at the University of Minnesota. He loved his family, hard work and good food.

VIAL, Sr., Theodore M., *Alpha Rho* 1940, passed away Sept. 17, 2014. Born in Ware, Iowa, Vial went to the University of Maryland-College Park, received a



Distinguished Flying Cross and Air Medal as part of a glider unit in the Army Air Corps in World War II, and earned his doctorate degree in organic chemistry at the University of Illinois. He spent the bulk of his career in the rubber chemicals division of American Cyanamid in Bound Brook, New Jersey. Vial's concern for his community was founded in his strong faith and developed through his association with Nassau Presbyterian Church where he served as both treasurer and elder, sang in the choir and taught Sunday School. An advocate for affordable housing in Princeton, New Jersey, since the early 1970s, Vial was co-recipient of the Leslie "Bud" Vivian Memorial Award for community service in 2000 for his work with Princeton Community Housing. He was a longtime volunteer for Recording for the Blind and Dyslexic. As a Boy Scout, he earned the rank of Eagle Scout and the Quartermaster Award, the highest award in Sea Scouting. Vial's interest in the world around him was boundless. He was a sailor, a pilot, a woodworker, an amateur photographer and mechanic, a bread baker, a gardener and a fan of any baby who crossed his path. His children cherish his weekly letters that were filled with both his love of language and his devotion to them.

We want your news!

Be sure to send any news and newsworthy information you have about yourself or your chapter. Send to: national@alphachisigma.org.

NEW INITIATES

ALPHA

Elliott Thomas Brabant
 Michael Christian Chemello
 Trevor Charles Christenson
 Austin Jeffrey Farber
 Thandi Ganya
 Jenni Kathleen Geurink
 Jonathan Stewart Glasgow
 Sydney Elizabeth Graham
 Timothy Darren Hall
 Mark Donald Hanley
 Ellen Paris Klosterman
 James William Knuth
 Alexander Bon Koo
 Alexander Derrick Krause
 Shelby Taylor Kuenzli
 Courtney L. McCourt
 Owen Samuel Miller
 Efrey Alex Noten
 Annie Marie Novak
 Kelly Leanne Shannon
 Alex James Steiner
 Nadia Lui Tabbal
 James Stuart Tyler
 Matthew Edwin Van Boxtel
 Allison Miriam Winek

BETA

Stefanie Louise Foreman
 Tuo Gao
 Charles Goshey
 Claire Jennifer Hauswirth
 Alexander Ryo Hendricks
 Reilly Elizabeth Hostager
 Alexandra Natasha Nierlich
 Ryan Christopher O'Connor
 Baijie Peng
 Hemant Kumar Sethi
 Hongzhao Shao
 Anthony Quillan Stvartak
 Sarah Sachiko Takenaka
 Trenton James Wolter
 Cassandra Megan Yee

GAMMA

Nicholas Alexander Ayoub
 Patrick William Cosgrove
 Tyler Stephen Jenkins
 Jonathan David Krauss
 Jessica Nicole LaLonde
 Daniel Mendez
 Drew Alan Meyer
 Samuel Zachary Musilli

DELTA

Alexandra Lynn Callier
 Olivia Kathryn Cunio
 Elena Victoria Figueroa
 Colleen Renee Kennedy
 Matthew D. Molengraft
 Andrew William Muellemann
 Nicole Rae Odom

EPSILON

Mary Elizabeth Angstadt
 Sofia Ada Bertoloni Meli
 Sonia Dmello
 Anna Marie Farlow
 Nicholas John Fisher
 Mark Joseph Gaughan
 Charles Robert Hankins
 Samuel James Higgins
 Jonathan Yi-En Man
 Adrianna Nichole Masterson
 Ashton Nycrole Moody
 Cecilia Marie Nelson
 Michael Peng
 Petr Sliva
 Kristen Marie Swanson
 Anna Chen Tam
 Vija Mara Veinbergs
 Charlotte Rose Vernia
 Bohao Zhang

ZETA

Sarah Elizabeth Ackenhusen
 Reahman Atta Afshar
 Vandana Ashtakala
 Pak Wing Chen
 Samantha Jo DiCaro
 Vinisha Virkumar Doshi
 Saksham Dhingra
 Albert Scott Halbing
 Quentin Harvell
 Sarah Kats
 Oleksiy Kyrychenko
 Tiffany Li
 Gabriele Noreikaite
 Reema Patel
 Sisto Andrea Perciballe
 Francinet Perez
 Lawrence Alexei Piton
 Ahmed Radwan
 Velvizhi Rathinavelu
 Vamshi G. Renduchintala
 Nainika Roy
 Mia Jade Sales
 Justin Smith
 Aleksas Valaitis
 Yuanyuan Wei
 Dalton Lee Werries

IOTA

Jas Colton Brummer
 Melinda Louise Buckrop
 Lindsey Michelle Busch
 Brooke Ashley Butler
 Fallon Nicole Craddock
 Alessandro Adarve Cuellar
 Taylor Elaine Downs
 Nicholas Ryan Edwards
 Andrew Jack Fowler
 Yukun Gong
 Philip Richard Horstmeyer
 Daniel Cole Johnson
 Stephen Ian Koos
 Natalie Lemek
 Ashlee Nicole Noland
 Katelyn Marie Race
 Connor Thomas Schaller
 Rebecca Joy Stanley
 Rebecca Brooke Swertfeger
 Samantha Ruth Taylor
 Allen Ray White

MU

Sarah Lorraine Blanchette
 Kirsten Elke Enegren
 Conor Nicholas Hayward
 Tyler Joseph Kaleta
 Roy Alden Newell
 Daniel Joseph Schloesser
 Elizabeth Victoria Schweitzer
 Ian Michael Smith
 Amanda Marie Tellier
 Briana Lee Van Verdeghe

PI

Mariam Mazhar Bhatti
 Kora Ashley Davis
 Tatiana Del-Solar
 Svetleen Guerrier
 Lauren Gene Hannah
 Matthew Lawrence Hayden
 Leah Mapp
 Elen Safarian
 Robert Swanda

RHO

Danielle Victoria Gasparik
 Nick E. Grosseohme
 Katja Adean Hall
 Bria Genee Jones
 Brianna Rose Milks
 Danielle Lee Thibault
 Boya Wang
 Jessica M. Zinna

SIGMA

Bader Abdalameed AlMubarak
 Alfonso Murrillo Banderas
 Samantha Adriana Botros
 Sorinna Davravy Buo
 Anyun Chatterjee
 Ellison Yanru Chen
 Chris Chiu
 Shivaani Sanjay Gandhi
 Brian Giang
 Haonan Jing
 Brandon Jiho Kim
 Sophia P. Lam
 Gregory Malcolm Moore
 Eleanor Ruth Mudica
 Esteban Daniel Rodas
 Angelique Marie Scheuermann
 Laura C. Strong
 Justin James Wang
 Yuchen Yang
 Nanxia Zhao
 Steven Zheng

TAU

Ryan Eric Baal
 Cecilia Chanceline Berrouet
 Nupur Bhatt
 Shivansh Chawla
 Elizabeth Ann Curley
 Yining Dai
 Annie Elizabeth Dyatel
 Julia Dobson
 Elaine A. Fletcher
 Anay Hindupur
 Ilana Beth Kotliar
 Brant Lai
 Nicholas Martin Livezey
 Patrick Loi
 Monica Patrice Moore

Eugene Yin Ng
 Joseph Austin Parisi
 Skyler Sam Reinhardt
 Adam Rettig
 Tiffany Page Tate
 Jonathan Lok-ching Wong

ALPHA BETA

Shouvik Dey
 Roxanne Christine Ford
 Devin James Gallagher
 Claire Elizabeth Johnson
 Roxanne Kathryn Kirwin
 Kimberly Ann Kyanka
 Connor Anne LaPres
 Corbin Kelsay Livingston
 Rachel Lynn Lombardi
 Stephanie Mecham
 Branden Earl Miller
 Christine Phuong Nguyen
 Stephanie Lynn Norwood
 Alyssa Leann Obert
 Daisy Jasmine Orellana
 Caitlin Rose Priest
 Peter Michael Quigley
 Lauren Vick Rasmussen
 Emily Elise Rizzi
 Caila Ann Ryan
 Julie Schatz
 Grace Ann Talaski
 Alexandra Rose Washabaugh
 Mathew Fraser Wiesman
 Andrew Richard Zimmer
 Eleni Katherine Zotos

ALPHA THETA

Cory Allen Christensen
 Kara Marie Gourley
 Christian Daniel Haas
 Neal Patrick Hausmann
 Kegee Limbe
 Alyssa Taylor Ray
 Olivia A. Ray
 Alexandra Marie Vick
 Nathan Hunter Witmer

ALPHA KAPPA

Malcolm Akid Almuntazar-Harris
 Sarah Catherine Dietz
 Claire Mara Frank
 Amir Chandra Gurung

ALPHA PI

Acacia Lee Ackles
 Paul Botolin
 Christine Marie Czintos
 Mary Kate Ryan Dwyer
 Jacqueline Elizabeth Dyer
 Adey Haile Fentaw
 Melanie Lee Judice
 Nikkita Khattar
 Kavya K. Samudrala
 Jenna Leigh Sartucci
 Joshua Louis Shapiro
 Jocelyn Emily Shworak
 Amar G. Sra
 David Ross Sullivan
 Katherine Vesta Walker
 Kara Zielinski

ALPHA RHO

Ian Rubin Anderson
 Sebastian Aberto Bohorquez
 Nicholas Brazones
 Joseph Houck
 Benjamin David Levitas
 Victoria Ellen Notaro
 Xhulio Shyti
 Andrew Peter Vinton
 Amy L. Zhou

ALPHA UPSILON

Patricia Gannon Glover
 Sang Ha Kim

ALPHA OMEGA

David Cheng
 Zachary Taylor Foltz
 Mihier Gore
 Caleb Jarriel
 Lisa Jin
 Amber Jones
 Robert Frederick Memmer
 Nina Mohebbi
 Drew Padilla
 Sager Pattani
 Aravind Ramachandran
 Mathew Samuel
 Rucha Shrotriya
 Nathaniel Joseph Tan
 Maya Tome
 Agnes Tristao
 Nicolas Villa-Roel
 Aaron Zahoran

BETA GAMMA

Yuri Cho
 Zachary Albert Cornwell
 Juliana Q. Dam
 Steven Du
 Sarah Kim
 Michelle Ko
 Judy Li Luu
 Dellvin Nguonly
 Chayanid Ongpipattanukul
 Prima Pisuttisarun
 Arabi Seshappan
 Terence Tolentino

BETA DELTA

Alexander Dean Ayres
 Abigail A. Buchheit
 Alexander Robert Capalupo
 Amanda Anne Koebbe
 Robert Hendry Leach Clark
 Tammy Louis Martin
 Justin Joseph Schletzbau
 Allison Christina Stroup
 Ellen Angela Tuxbury
 Price Keith Weakley
 Erin Fern Wharton
 William B. Whelan

BETA ETA

Gwendolyn Blanco
 Elic Michael Cuellar
 Brittani Jones
 Grace E. Little
 Andrew Lowell Pierce
 Lila Pipersburgh
 Nick Ross
 Hunter Singleton

BETA NU

Abdul Faiz Bin Haji Abdullah
Anna Noel Dorner
Alissa Christine Franklin
Martin J. Gomez
Lucas Wayne Henderson
Erica Lee Kennedy
Brendan Law
Nina Wei-Lin Zing

BETA RHO

Patrick Gillespie
Olivia Haney
Chelsea Hanks
Martyn Craig Henry
Bemnet Kebede
Spencer Martin
Trevor Miley
McKenna Parker
Sarah Price
Emily Roggenkamp
Jamal Samo
Melanie Annette Sowards
Emily Wedeman
Luke Zahner

BETA SIGMA

Zoe Rose Edelman-Brier
Ishita Jalan
Reginald Evon Rogers
Darren M. Smith
Anne Marie Sweeney-Jones

BETA CHI

Andrew R.W. Adams
Michael Darius Bouldin
Reilly Austin Carlton
Jamshaid R. Chaudhry
David Linford Foulke
Kyle B. Grierson

BETA PSI

Brandi Dennia Bogan
Timothy A. DeKoster
Mirea Flores
Raven D. Gougis
Kanza Kaleem
Donald Scott Larsen
Rachel Mackenzie Malecek
Angelique M. McClain
Evan A. McDermott
Grace Cynthia Oliver
Kristina Terese Roepke
Kristin Rachele Schellhardt
Dalton James Shaffer
Lorie Beth Trexler
Kelly Shea Williams

GAMMA BETA

William Sumner Crump
Andrew Joseph Janeczek
Paula Lynne Kennedy
Marius Kostelic
Camille Joana Pierce
George Robert Santos
Ira Michael Stecher
Tammi Lynne Van Neel

GAMMA DELTA

Ezinne Agim
Paige Marie Bippus

Aliya Dumas
Lauren Rose Fanning
Isaac Etan Gould
Richard A. Himes
Eveline Hok
Lucien Phineas Jay
Savannah Jones
Samantha Elizabeth Nicolau
Bailey Nikkole Pierson
Caitlin Gabrielle Purvis
Carson Walker Reed
Miranda Renae Roesing
Nicholas Grey Taylor

GAMMA ETA

Tani Elizabeth Berzins
Emma Lane Bostic
Joshua Nathaniel Botkin
Ryanne Taylor Brown
Courtney Brooke Christian
Gianna Angelina Covelli
Ashley Nichole Halsey
Emily Dannielle Hendricks
Shane Richards Kagen
Nicholas Ryan Kegley
Eric Thomas Mendenhall
Shad Anthony Mitchell
Shelley Rene Naylor
Ryan Christopher O'Dell
Chelsea Nicole Smith
Reagan Michelle Stafford
Cassandra Gabrielle Tharp
Thomas Anthony Trupo
CherylAnne Vanscoy

GAMMA THETA

Gene R. Cline
Jacob Charles Jones
Lindsey Michelle Lafal
Trey A. Lewis
Thomas L. Morrison
Easton W. Noble
Alycia Rae Shepherd
Chad Timothy Stohlmann

GAMMA IOTA

Yered Palemon Arias-Machain
Joshua Francis Behrens
Abigail Elizabeth Bent
Adrian Chiodo
Lindsey Jean Chippendale
Darybelle Ison Collins
Deaton Earl Conner
Lena Kama Didas
Luke Dillard
Erich Thomas Ellsworth
Nathaniel Araia Fessehaie
Evan Dean Frazier
Zahra Jane Gallagher
Aaron Gardner
Yuchen Gao
Ziyun Guo
Constanza Hawkins
Valerie Louise Hennessee
Caleb Zane Houghton
Ashley Elizabeth Irons
Nicole Alexandria Kaminski
Chloe Kim
Christina Kim
Andrew Jacob Kleinfelder
Aaron Kwok

Dong Gyu Lee

Jyee Lee
Yichen Li
Kuan-Ling Liu
Nathaniel March
Rachel Emily Martin
Kaitlyn Marie Maynard
Rebecca Kelly McDewitt
Charles Ever Milanes
Gregory Miller
Thomas Mitrev
Kristin Mogelinski
Courtney Gail Morris
Elizabeth Rose Nerdig
Conner Overfelt
Clarkson Gilliss Payne
Amanda Katherine Pierce
Alyssa Taylor Purdy
Summer Richardson
Daniel Robert Rieder
Meredith Rose Ruggiero
Donald Richard Savacool
Tetyana Fedorivna Senchyshyn
Nikeer Shah
Muna Sigdel
Colin Lloyd Stephenson
Brendan Patrick Tobin
Robert Bguyen Ulrich
Adrianna Nicole Wilson
Sarah Wollman

GAMMA KAPPA

Wil Joseph Andahazy
Benjamin Ashamole
Saieh Bijani
Bradley Todd Brown
Kevin Linn Burns
Christian Anthony Cabino
Samuel Cashin
Samantha Blair Chinn
Daniel Andreas Corbin
Aaron Davis
Alyssa Jewel dela Paz Floro
Chunyi Guo
Christopher Alexander Hudson
Hee Jeon
Nicolas Johnson
Maira Lauer
Bruce William Liberi
Ashleigh Lovelace
James Michael Mattila
Austin Riley Miller
Miranda Moore
William Tyler Price
Kevin Michael Pyszka
Samantha Ortega Rauer
Kenna Layne Salvatore
Devon Marie Shircliff
Lindsey Kay Thompson
Dillon Torppey
Aidan Marie Willey

GAMMA NU

Abigail Allen
Robert Patrick Auber
Alexis Benedis
Jamari Bradshaw
Zachary Daniel Hall
Joseph Richard Paterson
Nicholas Shane Spencer

GAMMA OMICRON

Camille Hardy Abeloo
Daniel George Enny
Kayla Ashley Jang
Jessica Ashley Lloyd
Krupa J. Patel
Jordy Salcedo

GAMMA TAU

Michael Belko
Karlye Gentyzel
Aschleigh Graham
Deena Hauze
Marcus Hewitt
Joanna Mielke
Bryce Nicholson
Elizabeth Stackhouse

GAMMA UPSILON

Kathryn Jade Bandi
Nisha Satish Mallya
Rezwane Bin Sarker
Sarah Rae Sweger

GAMMA PHI

Sarah Ann Fullington
Daniel Langan Goergen
Nhu Quynh Nguyen-Dudziak
Patrick Schneider
Joshua Aaron Sugg
Ashley Marie Zych

GAMMA CHI

Bridget Lyn Bergquist
Alexandra Rachael Elliot
William Gibson Hawk
Samantha Nikole Jocelyn
Adam Nadeem Lynch
Samuel Vezinhlanhla McClain
Tanya Danielle Roach
Benjamin John Topham
Keaton Andrew Unroe

GAMMA OMEGA

Ciana C. Anthony
Brooke Erin Avellino
Shijo Benjamin
Felicia Anne Branagan
Loren E. Hall
Emily Grace Lindemuth
Shawn Patrick Malia
Shane McFoy
James Patrick Rockefeller
Arielle Schock
Michael Vergara
Alana M. Waters

DELTA ALPHA

Katarina Alexandria Bernice
Erica Lynn Carson
Elizabeth F. Kofsky

DELTA BETA

Tamara Laurnetta Noble Bell
Shakyra A. Cooper
Alexis Lorraine Haynes
Bryanna Larenn LeBeaux
Jacariah L. Parker
Arie' Patricia Walker
Ka'Nissa K. Walker

DELTA GAMMA

S'Dravius Arkius DeVeaux
Emily Taylor Dodd
Temi Judy Fariyike
Kelly Elaine Griffin
Kamaree Jon Ross Harris
Mila Karina Joyeau-Flores
Ann Marie McCullough
Jonathan Laddie Mitchell
Zarana Jagidsh Patel
Alexandro Ramirez
Domonique Ramon Winder

DELTA DELTA

Allyson Kate Digmann
Rachael Elizabeth Garretts
Tegan Renee Mazurek
Cassandra Lynn Park

**BOSTON UNIV.
COLONY OF MU**

Alison Lynn Knasin
Caitlin Yeching Kwan
Alix Christa Rubio

**BETA IOTA COLONY
OF ALPHA OMEGA**

Antonio Rafael Birk
Herbert Andres Cuevas
Justin Davis Hochberg
Courtney Deborah Ligon
Michael Boyer Sims

**UC-IRVINE COLONY
OF BETA GAMMA**

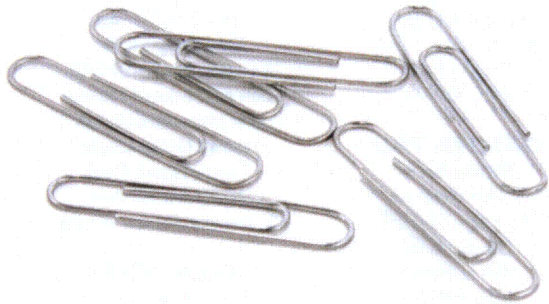
Vicky Nguyen
Vanessa Yau

**UNIV. OF TAMPA
COLONY OF
GAMMA DELTA**

Louis Michael Carastro
Julianna Belle Davis
Ashlie M. Fisch
Jessica Eileen Frank
Yadenis Jimenez
Emily Elizabeth Laidler
Mary-Helen Elizabeth Moran
Electra Fire Scott
Elise M. Servi
Alexis Danielle Ventoso

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ORLEANS COLONY
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LEADERSHIP FILE 004

Victoria Czabafy, MA, Pi 2013

As the Master Alchemist of the Pi Chapter of Alpha Chi Sigma, located at Syracuse University and SUNY Environmental Science and Forestry, I have been given a blank canvas to paint whatever portrait our imaginations can create. This opportunity has led me to learn and experiment with different management techniques to ensure a legacy of excellence that we can pass on to future brothers. To create this legacy, I recognized that the approach to leadership had to be modified, instilling a vision for our Brotherhood to pursue. To successfully implement this, I knew I had to recruit all the brothers to take ownership of the vision, allowing us to work toward one set goal. To execute this idea, I had to become more of a people person than ever before, allowing me to interface with the brothers, to rely on their input, and to maximize our assets as a brotherhood. Solicitation of all the brothers for the direction that the chapter should take along with any ideas to get to that goal are crucial to the implementation of change. These positive transformations of increased brotherhood input made for a semester of progress and opportunities to allow the chapter to embellish our three aims to the best of our ability.

To conclude this process, remember that every chapter has a board of dedicated and willing brothers. The success of any chapter is due to the input of all its members, not necessarily to any individual. Alpha Chi Sigma promises every brother that they will bind them with lifelong friends, to strive alongside them to better our field, and to aid us in becoming the best chemists we can be, which is too much for one brother to take on alone. I will be forever grateful to those who served with me and helped this year be full of service, opportunities, and life. Here is to another successful semester!



Lauren Phillips, MA, Gamma 2012

Before I start, I want to say that the MA who served the full academic year for which we received our 3-star chapter award was Ava Kotvas, while I served as VMA for that. Ava really helped bring our chapter back last year after we lost a large number of active brothers due to graduation. Her work ethic and love for the chapter is what allowed us to attain 3-star chapter status, a status I hope to make the norm for the *Gamma* Chapter here on out.

After serving as both MA and VMA, I have learned many things about effective leadership. I have learned how to conduct meetings, how to keep my team members on executive board on track, and I have learned how to organize large events.

However, the most important lesson I have learned is that it doesn't matter how good your leadership skills are unless your team members are qualified and enthusiastic about their jobs. The success of *Gamma* Chapter does not come from its MA, but rather from all of its other executive board members. We could not have received 3-star chapter status unless we had a team of people willing to work together toward success, even if it meant the Alumni Secretary had to help the VMA or the Treasurer had to help out the Reporter to complete tasks on time and with high quality.

So when I talk about leadership and how it has influenced the chapter, I think that the MA is not the person who acts alone. As MA of *Gamma*, I do not do all of the important tasks for the chapter—my executive board does. Since all of my team members are highly qualified to do their jobs, I can trust them to get what needs to be done on time. I merely serve as the lubrication for the machine, and a mechanic when needed. I help coordinate everyone on my team and ensure communication, and if someone is having trouble or is overloaded, I step in and help.

Overall, being in the position of MA is almost unfair in that when things go well, all credit is given to me, but I don't deserve any of it—my executive board does.

In terms of how I have used my position to influence the chapter, I think I have made subtle changes. I have created a more efficient communication system between executive board members (we did not have executive board meetings until this year). I have also worked with my MC to improve the efficiency of our Initiation Ceremony, worked with my Alumni Secretary to bring back regular alumni newsletters and updating our chapter website, worked with my VMA to increase our presence on campus through improved rush advertising and rush events, and I have worked with my Recorder to update and clean up our Chapter Bylaws.

But honestly, I feel that leadership is a distributed activity, and I only acted as the push in the right direction, where all of the real credit for these successful changes is deserved by the respective officers.

Elizabeth G. Willard, MA, Rho 2013

As MA of *Rho* Chapter, I have learned a lot about what it means to be a leader. In such a large group of diverse and highly driven individuals, there are often conflicting views about how things should be done. The most important thing I have learned is to remind the brothers that we all have the same end goal: we want the Fraternity to flourish and to promote the Objects of Alpha Chi Sigma through all of our actions. By keeping this in mind, I have learned how to facilitate compromise to do what is best for the Fraternity as a whole.

Enthusiasm is contagious. When a brother comes to me with an idea that they are excited about, I want to do whatever I can to help them turn their idea into action so that other brothers will also be excited to join them with their project.



100 years ago... Spring 1915

On March 1, the Supreme Council voted 5-0 to abandon the Fraternity's incorporation under the state laws of Wisconsin. After consideration, deliberation and investigation by the Supreme Council, they determined that there were no advantages to incorporation and that being incorporated placed many restrictions on how business could be conducted and the way financial activities had to be reported. Since few other national fraternities were incorporated, and an investigation of other state's incorporation laws turned up no advantages, the SC determined the best course of action was to not continue as a registered corporation. (The Fraternity did later incorporate as an Indiana non-profit entity on September 15, 1936).

Zeta Chapter held their annual spring banquet at the Beardsley Hotel in Champaign. More than 60 brothers enjoyed a fine meal, cigars and socializing. Zeta Chapter was recognized as having the highest grade point average of all social and professional fraternities at Illinois.

Twelve brothers braved the coldest April that New Orleans had seen in 34 years to continue the traditional American Chemical Society Meeting/Alpha Chi Sigma Dinner. Antoine's Restaurant provided the venue for a very pleasant noontime meal and meeting.

75 years ago... Spring 1940

A total of 274 people attended the Alpha Chi Sigma dinner at the Cincinnati meeting of the American Chemical Society. Toastmaster for the evening was Penn State Dean, F. C. "Doc" Whitmore. Each diner found a number of gifts at their plates, including a hexagon-shaped bar of Proctor & Gamble soap, stamped with the Fraternity logo. Other favors included a carton of six 30cc bottles of Coca Cola, a thermometer, toothpaste, a Formica ruler and a bottle of indicator for universal end points.

To facilitate travel to the upcoming Conclave in Berkeley, the Fraternity secured several air-conditioned Pullman cars for the exclusive use of Conclave attendees. The Pullman cars are to be added to the Union Pacific Challenger route from Chicago to Berkeley. The train was scheduled to leave Chicago at 10:30 p.m. on Tuesday, June 18, with arrival in Berkeley around 7:30 Friday morning, just in time for registration. The train was scheduled to stop along the way in Cedar Rapids, Iowa; Ames, Iowa; Omaha, Nebraska; Cheyenne, Wyoming; and Ogden, Utah, before reaching its California destination.

To raise the money to send their delegation to Conclave, the Cleveland Professional Chapter was selling ash trays. These iron trays, coated with blue enamel, came with two yellow designs, one with the coat of arms, the other with the badge. The trays sold for 50 cents each, \$5 for a dozen and for \$15 you could have a hundred.

In addition to initiating their own pledges, Beta Delta (Missouri-Rolla) also initiated four



D. Mitch Levings, OA, Grand Historian
Beta Delta 1975

Kappa (Kansas) pledges and two Delta (Missouri-Columbia) pledges. Several members of the St. Louis Professional Chapter were on hand to help out with the ceremony. The initiation banquet was held that evening in nearby Newberg and the next day was spent playing softball, roasting hot dogs and enjoying a beautiful spring day.

50 years ago... Spring 1965

The Rochester Professional Chapter had been working with the Supreme Council, Eastern District Counselor and Expansion Chairman Eldon Bauer and the chemistry faculty and students at the Rochester Institute of Technology to start an Alpha Chi Sigma chapter at RIT. The head of the RIT Chemistry Department and the dean of science were both brothers and were very supportive of getting a chapter. The effort took a major leap forward when Pi Chapter at Syracuse agreed to sponsor a RIT colony. A group of 17 students and one faculty member was pledged by the Rochester Professional Chapter on behalf of Pi Chapter. On April 10, the RIT pledges traveled to Syracuse to be initiated. Also attending the initiation were GMA Tiffany, GPA Miller, Expansion Chair Bauer and several members of the Rochester Professional Chapter. After the initiation, a banquet was held on campus to welcome the new brothers into the Fraternity. After the banquet, the colony held its first business meeting. They held an election for officers and adopted the name Alpha Chi Club.

The Supreme Council approved the Grand Recorder's request to hire additional temporary staff for the National Office. The extra help was needed to comply with the U.S. Postal Service requirements coming out of the recently enacted Zone Improvement Plan. Effective January 1, 1967, all bulk mail must include a ZIP code and the items must be presorted by ZIP code. Failure to comply with this requirement would increase the cost of mailing *The HEXAGON* substantially. The amount of effort required to presort ZIP codes to *The HEXAGON* mailing lists, couldn't be

achieved without temporary additions to the National Office staff.

East Central District Counselor Stephen Hoynak moved out of the district, so the Supreme Council appointed H. E. Minnerly to fill the position for the rest of the biennium.

The Detroit Professional Chapter held a steak fry at the home of Brother Gene Hill. With 50 active members, Detroit has the Fraternity's largest Professional Chapter.

25 years ago... Spring 1990

The test phase of using a personal computer for managing membership records was considered a success, so the process of converting the mainframe data from Data Science Corporation was undertaken. Using the facilities at North Texas State University, GCA Paul Jones obtained a Fraternity account on the University's mainframe and wrote the conversion routines to put the data into the format required by the FundMaster software.

After a number of disputes over ownership, content and licensing of the Laboratory for Leadership[™] Program, GPA and program creator Don Coyne informed the Fraternity that it was no longer permitted to use the Laboratory for Leadership[™] name or materials.

The National Office ran out of cloisonné Wyvern pins. Conceived as a limited edition piece of jewelry, the pins were designed and purchased in 1985 by then GCA Arden Dugan. The plan was that once the inventory of 200 Wyvern pins was depleted, a second limited edition cloisonné pin depicting another Fraternal symbol would be made available for sale. With the supply of Wyvern pins exhausted, and no new design ready to take its place, the National Office offered the chapters an opportunity to design the next pin in the series.

10 years ago... Spring 2005

The petition for charter from Alpha Omega's colony at Loyola University received unanimous approval from the subordinate chapters. Effective April 26, Gamma Rho Chapter became the latest addition to the chapter roll. An official installation was planned for October 15 in New Orleans.

The Alpha Chi Sigma Dinner during the San Diego meeting of the American Chemical Society was held at the Napa Valley Grille atop the Horton Plaza. The dinner was organized by Beta Gamma's Lynda Jones, who served as toastmaster for the dinner. Brief remarks were made by GMA Gary Anderson and GPA Howard McLean.

Gamma Eta Chapter celebrated their 20th anniversary with a banquet and reception on April 16 in the John Marshall Room of the Marshall University Memorial Student Center.

The Supreme Council authorized the Grand Recorder to renew the Fraternity's trademarks. They also endorsed Brother Scott Wilson's proposal to register the official Alpha Chi Sigma tartan. ○

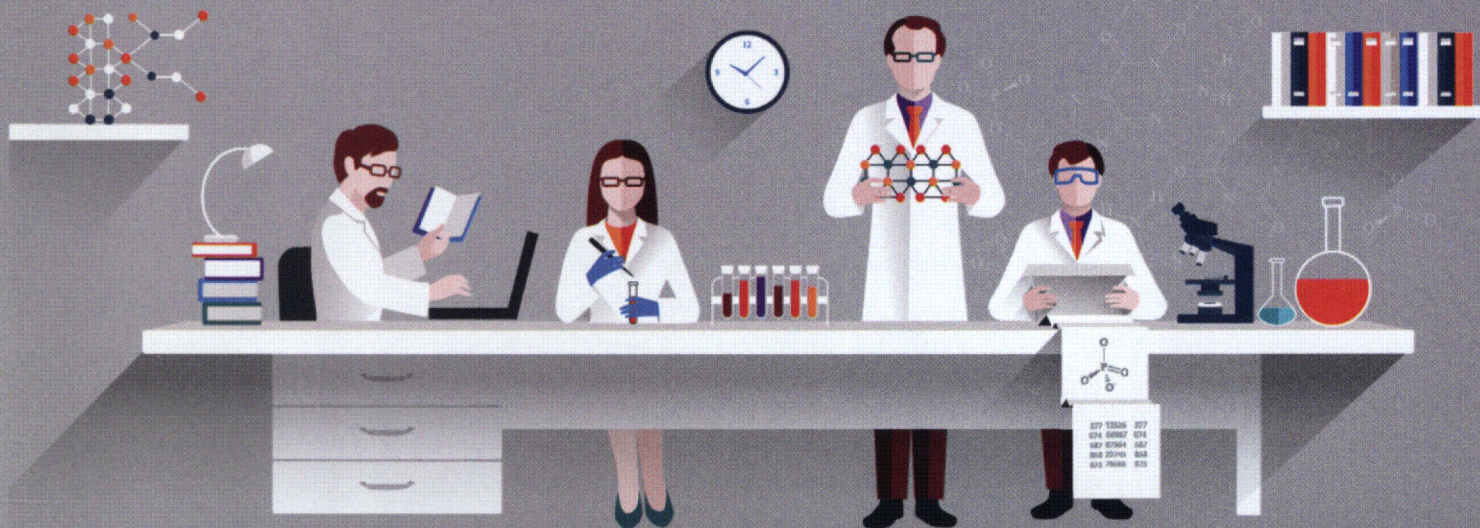


You know you worked too long in the lab when . . .

GE Note: Passed along from GR Pat Johanns (I think), not that we believe that any of our readers could possibly identify with any of these!

- You use the word "aliquot" in regular sentences.
- You've never worn a clean lab coat.
- You don't fear rodents . . . rodents fear you.
- You say "orders of magnitude" in regular sentences.
- You've used Kimwipes as Kleenex.
- You are very (very) good at diluting things.
- You are also exceptionally good at transferring small amounts of liquid between containers.
- No one in your family has any idea what you do.
- You have suffered carpal tunnel from the pipetman.
- A timer clipped to the hip is not only practical, but dead-on sexy.
- The scent of latex reminds you of work, not play.
- You cannot watch CSI without cursing at least one scientific inaccuracy.
- You use acronyms for absolutely everything and never stop to elaborate.
- You've wondered why you cannot drink distilled water in the lab—shouldn't it be clean?
- You have, at least once, leaned into toward a reaction flask and sweet-talked it.
- You have, at least once, given a piece of lab equipment a pep talk . . . something on the order of "Work for me today or I'll reprogram you with a fire axe."

- You have to check the web to find out what the weather is outside.
- Although the holiday party clearly reveals that scientists cannot dance, a formula for the movement of hands and feet, combined with beats per minute, is found scrawled on a napkin by the wait staff the next day.
- You have a growing stack of those canvas satchels with the imprints from every conference and trade show you have ever attended.
- At last half of those satchels are still stuffed with the must-have swag you collected from the vendors.
- You have used dry ice to cool down any number of beverages.
- You look up sodium in the dictionary under "N".
- You are perhaps a little too fond of the smell of (select one or many): xylene . . . agar . . . ethanol . . . undergraduates . . .
- You are all finishing up dessert and no one has yet noticed that everyone at the table is still wearing their huge conference nametags, swinging oh-so stylishly from the lanyards around your necks.
- You have bent down to pick something up off the floor only to scatter the contents of your top pocket over a 10-foot radius.
- You want to have parafilm at home, too.
- You rejoice when grabbing a handful of, well, just about anything, and it turns out to be the exact number you needed. (GE Note: this happens to me all the time!)





Alpha Chi Sigma
6296 Rucker Road, Suite B
Indianapolis, IN 46220
(800) ALCHEMY
national@alphachisigma.org

DIRECTORY

NATIONAL OFFICERS

GRAND MASTER ALCHEMIST

Mark N. Evaniak, *Beta Sigma '80*
4903 Mountain Top Ct, Columbia, MO 65202
(252) 360-6691, gma@alphachisigma.org

GRAND PROFESSIONAL ALCHEMIST (1st VP)

Dr. Jonathan E. Wenzel, *Delta '96*
Kettering U, Dept. of Chemical Engineering,
1700 University Ave., Flint, MI 48504
(573) 999-1753, gpa@alphachisigma.org

GRAND COLLEGIATE ALCHEMIST (2nd VP)

Helen M. M. Webster, *Alpha Rho '94*
19948 Lake Park Dr, Germantown, MD 20874
(301) 467-7882, gca@alphachisigma.org

GRAND MASTER OF CEREMONIES (3rd VP)

Dr. Kip A. Nalley, *Alpha Sigma '90*
9962 Lake Landing Rd.
Montgomery Village, MD 20886
(240) 205-5581, gmc@alphachisigma.org

GRAND RECORDER (Secretary-Treasurer)

Dr. Patrick Johans, *Alpha Theta '81*
675 Black Bear Bend, North Liberty, IA 52317
(319) 459-1290, gr@alphachisigma.org

NATIONAL OFFICE

Marena Humphress, Asst. Grand Recorder
6296 Rucker Road, Suite B
Indianapolis, IN 46220
(800) ALCHEMY, marena@alphachisigma.org

GRAND HISTORIAN

D. Mitchell Levings, *Beta Delta '75*
103 Huckleberry Dr, Lake Jackson, TX 77566
(979) 297-8897, Mitch.Levings@nrenergy.com

DISTRICT COUNSELORS

Atlantic Central- Mary (Katie) Riley,
Alpha Rho '04, acdc@alphachisigma.org,
(443) 996-6961

Bluegrass- Merryn Cole, *Alpha Theta '03*
bgdc@alphachisigma.org, (812) 251-7437

Central- Sarah Pickett, *Gamma Theta '00*
cdc@alphachisigma.org, (816) 830-9350

Central Coast- Mark Sahara, *Alpha Omega '04*
ccdc@alphachisigma.org, (404) 889-0455

East Central- Claudia Brodtkin, *Gamma Iota '02*
ecdc@alphachisigma.org, (540) 257-3226

Empire- Eilish (Elizabeth) Mitchell, *Pi '09*
emdc@alphachisigma.org, (315) 663-4414

Gateway- Rachel Palasky, *Beta Delta '07*
gdc@alphachisigma.org, (314) 488-5277

Great Lakes- Scott Wilson, *Alpha Zeta '78*
glcd@alphachisigma.org, (419) 944-1792

Great Plains- Oliver Penrose, *Gamma Theta '03*
gpdc@alphachisigma.org, (217) 617-2851

New England- Taylor Perkins, *Delta Alpha '09*
nedc@alphachisigma.org, (774) 261-0607

North Central- Josh Stenger, *Epsilon '02*
ncdc@alphachisigma.org, (317) 201-1261

Northern- Melissa Ward, *Alpha Theta '98*
ndc@alphachisigma.org, (319) 621-6684

Northwestern- Roxana Farjadi, *Sigma '10*
nwdc@alphachisigma.org, (805) 796-0928

South Central- Daniel Znidarsic, *Alpha Epsilon '03*
scdc@alphachisigma.org, (502) 523-3249

Southeastern- Matt Schnippert, *Gamma Beta '03*
sedc@alphachisigma.org, (904) 233-6332

Southwestern- Derek Marin, *Gamma Zeta '98*
swdc@alphachisigma.org, (805) 459-6046

Steel- Sean Pawlowski, *Gamma Upsilon '06*
sdc@alphachisigma.org, (412) 916-4088

PROFESSIONAL REPRESENTATIVES

Term expires in 2015

Dr. Kathryn Cavanaugh, *Alpha Theta '03*
cavankr@yahoo.com, (319) 325-8416

Michael R. Clager, *Gamma Iota '89*
mrclager@fuse.net, (513) 229-0893

Dr. Timothy O. Deschaines, *Mu '02*
tdeschaines@yahoo.com, (863) 368-0325

Cassandra Watson, *Alpha '00*
cjsplinter@uvalumni.com, (815) 529-4625

Term expires in 2016

Dr. Jason Ellis, *Delta '97*
JasonEllis@alphachisigma.com, (573) 673-2262

Dr. Sandra Lukaszewski-Rose, *Alpha Theta '95*
srose99@hotmail.com, (414) 687-6238

Michael A. Raffay, *Iota '00*
theVXman+PR@gmail.com, (361) 331-0337

Dr. Laura L. Walkup, *Beta Psi '05*
laurawalkup@gmail.com, (618) 534-7047

COLLEGIATE CHAPTERS

*House Chapter

ALPHA*-University of Wisconsin
Madison, WI

BETA*-University of Minnesota
Minneapolis, MN

GAMMA-Case Western Reserve University
Cleveland, OH

DELTA-University of Missouri
Columbia, MO

EPSILON-Indiana University
Bloomington, IN

ZETA-University of Illinois
Urbana, IL

IOTA-Rose-Hulman Institute of Technology
Terre Haute, IN

MU-University of New Hampshire
Durham, NH

PI-Syracuse University
Syracuse, NY

RHO-University of North Carolina
Chapel Hill, NC

SIGMA*-University of California-Berkeley
Berkeley, CA

TAU*-Cornell University
Ithaca, NY

ALPHA ALPHA-Stanford University
Stanford, CA

ALPHA BETA*-University of Michigan
Ann Arbor, MI

ALPHA EPSILON-Washington University
Saint Louis, MO

ALPHA THETA*-University of Iowa
Iowa City, IA

ALPHA KAPPA*-University of Virginia
Charlottesville, VA

ALPHA PI-George Washington University
Washington, DC

ALPHA RHO-University of Maryland
College Park, MD

ALPHA SIGMA-University of Arkansas
Fayetteville, AR

ALPHA UPSILON-Michigan State Univ.
East Lansing, MI

ALPHA OMEGA-Georgia Institute of Tech
Atlanta, GA

BETA GAMMA-Univ. of California-LA
Los Angeles, CA

BETA DELTA-Missouri University of Science & Technology
Rolla, MO

BETA ETA-University of North Texas
Denton, TX

BETA MU-Occidental College
Los Angeles, CA

BETA NU*-Purdue University
West Lafayette, IN

BETA PI-University of the Pacific
Stockton, CA

BETA RHO-Kansas State University
Manhattan, KS

BETA SIGMA-Rochester Institute of Tech.
Rochester, NY

BETA TAU-University of Arizona
Tucson, AZ

BETA PHI-South Dakota School of Mines & Tech
Rapid City, SD

BETA CHI*-Hampden-Sydney College
Hampden-Sydney, VA

BETA PSI-Southern Illinois University
Carbondale, IL

GAMMA BETA-Florida State University
Tallahassee, FL

GAMMA DELTA-The College of Charleston
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GAMMA ZETA-California Polytechnic State University
San Luis Obispo, CA

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Huntington, WV

GAMMA THETA-Truman State University
Kirksville, MO

GAMMA IOTA-Virginia Polytechnic
Blacksburg, VA

GAMMA KAPPA-James Madison Univ.
Harrisonburg, VA

GAMMA NU-Ohio University
Athens, OH

GAMMA XI-North Carolina State Univ.
Raleigh, NC

GAMMA OMICRON-Lehigh University
Bethlehem, PA

GAMMA TAU-Indiana University of Pennsylvania
Indiana, PA

GAMMA UPSILON-Duquesne University
Pittsburgh, PA

GAMMA PHI-University of Buffalo
Buffalo, NY

GAMMA CHI-Longwood University
Farmville, VA

GAMMA PSI-University of Toledo
Toledo, OH

GAMMA OMEGA-Widener University
Chester, PA

DELTA ALPHA-Univ. of Rhode Island
Kingston, RI

DELTA BETA-Alcorn State University
Alcorn State, MS

DELTA GAMMA-Georgia Southern University
Statesboro, GA

DELTA DELTA-Southeast Missouri State University
Cape Girardeau, MO

COLONIES

COLONY OF MU-Boston University
Boston, MA

ALBION COLLEGE COLONY OF ALPHA BETA-Albion College
Albion, MI

BETA IOTA COLONY OF ALPHA OMEGA-University of Florida
Gainesville, FL

UC-IRVINE COLONY OF BETA GAMMA-University of California-Irvine
Irvine, CA

COLONY OF GAMMA DELTA-University of Tampa
Tampa, FL

COLONY OF DELTA BETA-University of New Orleans
New Orleans, LA

PROFESSIONAL CHAPTERS

(Presidents)

Boston- Trevor Bland,
trevor.bland@craftbrew.com

Chicago- Michael Pizarek,
mrpizarek@gmail.com

Delaware Valley- Allison Moore,
Allison.moore@mindspring.com

Indianapolis- Keith Goldstein,
keithyg257@gmail.com

Los Angeles- Julio Ramos,
jramos86@gmail.com

New Jersey- Eric Haas,
alphachisigmanjpro@gmail.com

Research Triangle Park- Wendy Robinette,
wendy.robinette@aapharma.com

St. Louis- Sandy Sansing,
sandy.sansing@gmail.com

Washington, D.C.- Stephanie Bates,
axsigmadcpro@gmail.com

PROFESSIONAL GROUPS (Contacts)

Bluegrass- Don Cole, jdcote1978@gmail.com

Cincinnati- Anthony Vallance,
av524806@ohio.edu

Detroit- Sarah Hudson, scavins@umich.edu

Kansas City- Oliver Penrose,
oliver_penrose@hotmail.com

Mid-Missouri- Jason Ellis,
ellisj@health.missouri.edu

North Florida- Matt Schnippert,
mschnippert@alphachisigma.com

Southern Indiana- Brendan Mayhugh,
brendan@brensrealm.com

Southwest Virginia- Katie D. Davis,
hokiegirl@vt.edu

Twin Cities- Susan Krzmarczak,
smkrzma@gmail.com

Wisconsin- Hannah Bowman,
hbowman@wisc.edu

Last update: 4/6/2015