



Official Newsletter
of Keramos:
The National Professional
Ceramic Engineering Fraternity

Published by the Office
of the General Secretary:
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222 McNutt Hall
1400 N. Bishop
Rolla, MO 65409

THROUGH FIRE TO PERFECTION: The purpose of this Fraternity shall be to provide recognition, distinction and honor to those persons in ceramics whose scholarship and character qualify them for such recognition.

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President's Message

Hello KERAMOS members! I hope that this Keragram finds you doing well and gearing up for another exciting Materials Science & Technology (MS&T) conference. MS&T'14 will be held in Pittsburgh, PA from October 12 to 16, and Keramos will be very active, as usual. It is going to be tough to beat the excitement generated at MS&T'13, where we chartered a new Keramos Chapter at the University of Connecticut and held the inaugural Keramos Ceramic Disc Golf competition that drew a huge crowd on the exhibition floor. However, the Keramos Board of Directors is currently planning our activities for MS&T'14 and we hope that you will be there to participate, or at least stop by the disc golf and mug drop contests. In the sections below, I will let some of the other Board members fill you in on the details regarding the 2014 Keramos Convocation and other meetings, the state of our treasury, our big change in the Office of the Keramos General Secretary, and finally, what is going on with our Chapters and our most important resource, namely the Keramos students.

Speaking of those Chapters, let me just give you a brief update on the health of the Chapters. The aforementioned U-Conn. Chapter is still getting up and going, but they have elected their new officers for the coming year and we are looking forward to their return to Convocation. The Board has continued to hold monthly teleconferences with the Chapters where the sharing of 'best practices' amongst the Chapters has resulted in a better understanding of what Keramos means to the professional growth of our students, more excitement for Keramos events, more activity from the student members, and perhaps most importantly, Chapters that are fulfilling their goals and meeting their deadlines. We received a total of seven Chapter reports so far this year (University of Arizona, University of Connecticut, Iowa State University, University of Illinois, Missouri University of Science and Technology, Alfred University, and Penn State University). We are still hoping to receive reports from the rest of the Chapters, so if you get the opportunity, please encourage your Chapter to submit a report. Our goal is to have representation from each and every Chapter at the MS&T'14 Convocation in Pittsburgh.

Thanks again for your continued support of Keramos.

Dr. Greg Hilmas, President; ghilmas@mst.edu

2014 Convocation – MS&T 2014 in Pittsburgh, PA

The Keramos Board of Directors is busily preparing for our Annual Convocation and Business Meeting to be held in conjunction with the MS&T'14 Conference and Exhibition. This year's activities will be on Sunday, October 12 in Pittsburgh, Pennsylvania.

The meeting will open with the Student Chapter Business Meeting at 8 a.m. in the Westin Convention Center Hotel in the Westmoreland Room. The students will meet to discuss best practices at their Chapters and elect a new student representative to the Board of Directors. The full Keramos Convocation and Business Meeting will begin at 9 a.m. in the Westin Convention Center Hotel in the Westmoreland Room. All Keramos members are welcome and encouraged to attend. The Board will provide travel assistance to each Chapter's student delegate. We'll hear reports from each of the student Chapters, share ideas for successful activities, and discuss plans for the next year. We will also present the Greaves-Walker Roll of Honor, the fraternity's highest award for an individual, to Dr. Carlo Pantano, who is a Distinguished Professor of Materials Science and Engineering and Director of the Materials Research Institute at Pennsylvania State University. At 11 am, we'll feature a lecture by our Career Speaker, Dr. Dick Brow, who is the immediate past president of ACerS and Curators' Professor of Ceramic Engineering at Missouri University of Science and Technology. At 12 pm, the Board of Directors will meet with the Keramos Chapter Advisors over lunch at the Penn City Grille in the Westin Convention Center Hotel.



Dr. Carlo Pantano



Dr. Richard Brow

Keramos will hold its annual student contests, in association with Material Advantage (MA), on the morning of October 14 in the Exhibit Hall of the David L. Lawrence Convention Center. Participation in the mug drop has been increasing annually, with dozens of ceramic and glass mugs dropped from increasing heights. All MA students are invited to participate, and prizes will be given for the mug that survives from the highest drop height, as well as for the best looking mug.

And last but certainly not least, the Keramos Ceramic Disc Golf contest will return for its second year. This contest was introduced at the 2013 meeting after having been proposed and developed entirely by Keramos students. Come see the contest in action, also tentatively scheduled for the morning of October 14 in the Exhibit Hall. Students will fabricate ceramic discs and attempt to "putt" into a goal from increasing distances. Prizes will be awarded for longest putt and best looking disc, and all Material Advantage students are invited to participate. Rules for both of the contests are posted at <http://ceramics.org/classes/keramos>.

We hope that you'll join us in Pittsburgh!

Dr. Kevin Fox, Vice President; Kevin.Fox@srnl.doe.gov

The State of the Treasury

The Board of Directors has an aggressive goal in preparation for the annual MS&T meeting in Pittsburgh this October. We would like to raise our treasury to \$7,000 to account for the needed support of our student chapter delegates. Currently, our treasury stands at \$5,200 so we have very little time to raise the \$1,800 needed to meet our goal. Please join me, and the rest of the Board, in helping us attain this goal so that we can ensure a strong turnout at the Convocation in Pittsburgh. The best way to support these delegates is to donate above and beyond your annual dues. You can donate using one of two methods: (1) PayPal at <http://ceramics.org/classes/keramos>; or (2) by continuing to send your checks to our General Secretary, Dr. Jeff Smith. Late last fall, the Board also began to give Keramos more visibility on the web through a new LinkedIn group site (<http://www.linkedin.com/groups/Keramos-National-Professional-Ceramic-Engineering-3573516>). This is a closed site for Keramos members only. The site already boasts almost 300 members and is growing membership by the month! Please join the site and connect with your fellow Keramos members for technical discussions, job searching, networking, and to find out the latest information on upcoming Keramos events.

Dr. Brian Gilmore, Treasurer; bgilmore34@att.net

Outgoing General Secretary's Message

It was with mixed emotions that earlier this year I discussed with our President stepping down as General Secretary, a position that I have enjoyed serving in for the past six years. After some soul searching and coming to the realization that my schedule no longer permitted me to fulfill my obligations to the General Secretary position in the manner I felt it deserved, I asked President Hilmas to identify candidates to assume the responsibilities of this position. I couldn't be happier that Jeff Smith volunteered and I know he'll do a fantastic job. He brings an unparalleled dedication to the organization and some great ideas, which I'm sure you'll be hearing more about in the near future.

I've had the pleasure, and blessing, of serving Keramos in one capacity or other since 2000, when H. David Leigh at Clemson University nominated me for the National Board. While I'll miss putting together the Keragram, I'll miss even more seeing the many names that have become so familiar through the years when I receive your dues payments and notes. To all of you, THANK YOU for your enduring commitment to Keramos! You amaze and humble me with your generosity and your love and support of our organization. I very much appreciate the opportunity to have served Keramos. Feel free to drop me a line anytime and I look forward to seeing you at a future MS&T meeting.

Dr. Robert Schwartz, Outgoing General Secretary; rschwartz@umsystem.edu

Incoming General Secretary's Message

It was with mixed emotions that I accepted the role of General Secretary of Keramos as it meant that my good friend Bob Schwartz had stepped down from the position. His passion and commitment to Keramos have been obvious throughout the years and I very much hope that I too can do justice to the role. For those who don't already know me, I have been a faculty member at Missouri S&T for more than 20 years teaching courses on phase equilibria, refractory ceramics and engineering design. Most of my current graduate students are working in the area of oxide/metal interactions and inclusion engineering. I don't have a detailed vision for Keramos to share with you at this point but having been the faculty advisor of the Missouri Chapter for more than a decade I know well the importance of Keramos to our profession and I will do all I can to ensure that it continues to impact future generations of ceramic engineers. Look for the board to focus on making Keramos a real asset to our current members while remembering the things that have made this fraternity great for more than a century.



Dr. Jeffrey D. Smith, General Secretary; jsmith@mst.edu

Message From Your Student Representative

Hello fellow Keramos members. My name is Ivy Hasman and I am currently going into my fourth year at the University of Arizona (pictures to the right of Ivy at the Arizona Chapters' Liquid Nitrogen Break Stuff Night). I am honored and very excited to be this year's Student Representative to the National Board. My job is to correspond with the student chapters and act as a liaison between them and the National Keramos Board of Directors. The student chapters may inform me about ideas that they may have for Keramos, and in turn I report back to the Board, so that we may improve our fraternity to better suit the needs of the student members. Again, I'm very excited for this year and I hope to see you all in October at MS&T.



Ivy Hasman, Student Representative; ivyhasman@email.arizona.edu

News from the Arizona Chapter

At the University of Arizona, the Keramos student chapter has continued to make an impact on campus and to the local community through outreach events. By incorporating faculty into our approach, freshman students at the UA have become more attracted to our major, which has increased enrollment even more than last year. At the College of Engineering Open House night, students who visited the Materials Science and Engineering department were in for a treat—they had the opportunity to watch a superconductor in action and allowing students to interact with ferro-fluids was an inspiring experience for all.

Within the MSE department at the UA, Keramos teamed up with the UA Materials Advantage chapter to host the first ever “Liquid Nitrogen Break Stuff Night”. Just before finals, students were able to de-stress by flash-freezing objects followed by (safely) smashing them, making home-made liquid nitrogen ice cream, and socializing with fellow students. The event was a great success and will be carried out every semester as a new club tradition.

For the spring semester, we already have several events planned for the near future. In early February, Keramos members will be collaborating for the first time with the Society of Hispanic Profession Engineers (SHPE) for an all-day, on-campus outreach event reaching out to over 200 high school students to educate them about higher education and STEM fields. Additionally, Keramos and MA will continue fundraising by selling hand-blown borosilicate glass flowers on Valentine’s Day and slip casted ceramic mugs. Customers who want to paint their mug prior to glazing can do so for an additional fee.

Our webpage, keramos.arizona.edu, is an especially great way to learn more about the UA Keramos chapter. There are sections focusing on our travels to MS&T, outreach activities, a calendar of events, professional resources, and contacts of all our officers.

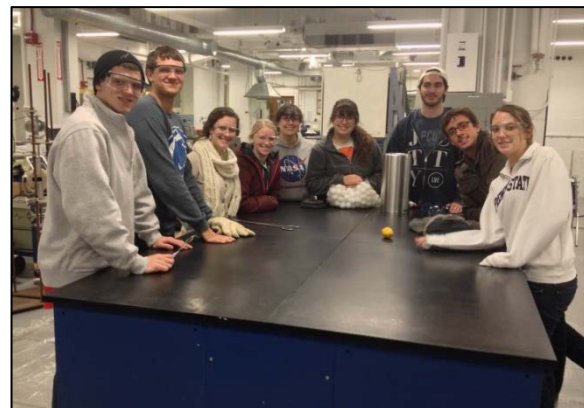


News from the Pennsylvania Chapter

The past year has been a transitional period for the Pennsylvania chapter. Our department’s building is being renovated and our chapter helped keep the community feeling of the materials science undergraduates during the move out of our familiar home. We were fortunate enough to initiate eighteen new members after they fulfilled their requirements for membership, which included a questionnaire on the history and importance of Keramos.

In our efforts for outreach, members of Keramos helped the department give tours and demonstrations during a visit from MMI Preparatory School. The students from MMI were interested to learn more about materials science and we were happy to teach them about ceramics. Our chapter also provided social and bonding events. We teamed up with our department for a holiday luncheon with undergraduate and graduate students, faculty, and staff. Our chapter required undergraduates to show up with a toy donation for the Marine Toys for Tots program, and we were recognized with a Commander’s Award for our donation efforts.

In fundraising, we put on our second glass flower sale with great success. Members of our chapter learned how to make glass flowers, and then were able to make over one hundred glass flowers for our sale. This fundraiser helped our chapter put on our annual spring golf outing. We also set up some professional development opportunities such as resume workshops, a graduate school panel, and company talks. Some highlights of these events were a talk from Corning Incorporated and a talk with a representative from MPIF (Metal Powder Industries Federation).



We were able to learn many new ideas from other chapters in Montreal, and look forward to doing so again at this year’s Student Chapter Convocation meetings.

News from the Missouri Chapter

This semester, the Missouri Chapter of Keramos has been as busy as ever; we have been focusing on professional development and outreach. Each month we have had “Lunch and Learn” seminars where students present on their work experiences during co-ops or internships. This is a good opportunity for the students to practice their public speaking. Younger students also receive practical advice from seniors for applying and interviewing for internships and co-ops. Keramos also continues its participation in several outreach events including a Boy Scout merit badge college, a science night for families at a local middle school, and has helped give demos to potential students, visitors from other universities, and anyone that is interested in materials science.

This semester we initiated twelve new members into our organization. That brings our yearly total to twenty six. As part of our initiation process we require each student to attend an etiquette dinner. This year Keramos was able to work in conjunction with Kohler who was kind enough to sponsor the event. We invited all members of the department to the event and feel it was a great networking opportunity for our students.

In addition to our typical activities Keramos has been given the task of running a booth for our university at the USA Science and Engineering Festival in Washington, D.C. in April. More than 350,000 people were in attendance during the three day festival. For this event we made 10,000 mini demo kits to give away to the kids, which required a very large time commitment as making 10,000 kits took more than 120 man-hours. We were very excited to do demos at the festival as it provided us a chance to share what we do as Ceramic Engineers with a broad audience. Organizers estimated that as many as 50,000 people passed by each booth and yes, we gave away all 10,000 demo kits.



News from the Iowa Chapter

This year, the ISU Keramos chapter succeeded at organizing more member activities. Several invited speakers discussed their research on ceramic materials, allowing students the opportunity to network with professors and professionals in the ceramics field. Several members attended the Annual Convocation meeting at MS&T. We also organized recreational events outside of the normal meeting times.

Students were invited to blow glass with the Iowa State Gaffer's Guild and to throw pottery at the ISU Workspace, helping students work with ceramics in a fun, social setting. These activities reinforced the idea of ceramics as an art form, introducing students to enthusiasts of many backgrounds.

The ISU chapter also sponsored various social events including a game night, a bowling party, and glass-candy making, in order to promote friendship between members. We see these activities as crucial to building a strong community within our Keramos Chapter. To this end, we also designed and ordered t-shirts specific to Keramos and Iowa State.

A Facebook page was created to increase awareness among members and alumni of current activities, meetings, and events. This has helped to increase and maintain active membership. It has also helped to keep track of alumni and maintain contact with them.



To prepare for initiation into Keramos, new students worked with the executive board to slip-cast their own plaques. Members of the executive board perfected firing and glazing techniques for Keramos plaques. In previous years, this work was neglected; by refining this process, we have enabled members to complete their plaques, allowing them to be more formally recognized as Keramos members.

News from the Connecticut Chapter

At sixth months old, our fledgling chapter is starting to get off the ground. As of now, we are all graduate students, so it has been a challenge for all of us to find time to organize the chapter. This spring, we began holding weekly meetings to coordinate recognition with the university, attracting new students to Keramos, and determining the local character of our chapter.

Early in the semester, we welcomed the Litchfield County 4H to the university's Center for Clean Energy Engineering to learn about fossil fuels, renewable energy, and cutting edge materials research. 4H'ers ages 7 to 70 viewed some scientific demos, saw how a hydrogen fuel cell worked, and took a tour of the Center. This was good practice in communicating our research experience: you really know your research if you can explain it to elementary school kids.

We also hosted an egg drop challenge to advertise our chapter within the department. Students were given a packet of office supplies and 45 minutes to build a device capable of protecting an egg from a two story fall. While students chowed down on pizza and built their devices (a double challenge), we told them about Keramos and our aspirations for our new chapter. When the moment of truth came, there was comedy, tragedy, and a fair amount of yolk.



News from the Illinois Chapter

The Keramos chapter at the University of Illinois is flourishing with over 70 active members. As a professional society, we are dedicated to enriching the academic lives of all our members. From a social aspect, we foster relationships throughout the college experience to create strong ties for alumni. As a result, we take pride in our alumni relations and the opportunities they provide for our members. By offering exclusive academic and professional opportunities for our members, we maintain a strong reputation of honor on campus.

This year, we hosted the non-Newtonian fluids exhibit that attracted a variety of people, from small children to professors and parents. It was a very interactive exhibit that taught many people about the different kinetic behaviors in liquids. Large batches of corn starch and water were prepared in plastic containers to provide an interactive experience to better understand the shear thickening.

In the fall, we held a Research Showcase that helped students learn about the different research groups within the Materials Science and Engineering department. The event featured 12 groups who presented posters and demos of their research and our students were able to learn in a fun, informal manner. Many of the students that attended were able to get involved with research groups in the department, and the graduate students that presented their group's work were able to practice their talks for future presentations.



One area where we wish to see greater improvement is active involvement in social events. The fall semester had a large turn-out for apple picking in the local orchard with over 30 members attending the event. Recently, a weekly "wing-night" event has started in an effort to create a stronger bond with members and encourage new members to meet and interact with other students.

Throughout the year, Keramos has also organized monthly professor lunches where students had the opportunity to meet and network with professors over an informal lunch. Each lunch featured professors from different concentrations and research areas to expose students to the various opportunities they will have with their degree. The lunch series was also a great way for professors to interact with various students across the department and consequently encouraged internal department interaction between students and professors.

News from the New York Chapter

Over the past year the participation of our members in The New York State Chapter of Keramos has changed for the better. Through the guidance of last year's executive board, we have been able to spark new life into our chapter and there is a promising bright future ahead for Alfred's chapter. Our newly appointed officers are more than suited to continue this great activity. Although we have lost two important members of our organization, we were able to identify two just as suited for the job.

We held an engineering barbeque this past spring. The BBQ consisted of grilling hotdogs and hamburgers with the additions of various side dishes. There was a large turnout and the hungry masses ate all of the food rapidly. It gave the students in the different engineering programs an opportunity to mingle with the Keramos Fraternity as a whole.

With the help of Jean Pilgrim we are becoming more active in demonstrations for students in grades K-12 in the local area. There have been several events that she has planned this spring semester alone. One specific event that our Keramos chapter assisted in was a camp designed to allow girl scouts to earn merit badges. This camp involved several basic demonstrations that the girl scouts could become involved in. These demos consisted of liquid nitrogen and other various fun engineering activities.

We continued with our play with clay events that were started last year. This event allowed our members to dabble in throwing on a wheel and experience the artistic side of ceramics with which they may not be as familiar with. The more artistically inclined members of Keramos were able to help teach the others how to throw on a wheel or improve their current skills. Overall this event receives great reviews and we always have a lot of members participate.

One of the highlights of this year was that we were able to start a new fundraiser by selling polo's designed for the engineering school. Within a three week period we received 47 orders for polo's. This is a promising opportunity for our chapter that we will continue to take advantage of and hopefully raise enough funds for more activities to become involved in.



Alumni Support

Our alumni play a crucial role in sustaining and enabling the fraternity to continue to advance and promote professional development for the students. We are very grateful for your continued support – it is making a significant impact for the future. Thank you to those who sent in their dues and special thanks to the alumni listed below who have contributed beyond their annual dues:

Neil N. Ault
Raymond L. Bertolotti
Delbert Day
John D. Drew
Jim Frederic
Bill F. Hammetter
M. Dean Houston
Jerome J. Krochmal
Jim McCauley
Robert B. Oberst
John C. Pulver
Norman W. Severin
Matthew R. Tangeman
Christina Youngers

Janet E. Bailey
John Crandall
Robert S. Degenkolb
Edward Duderstadt
Lynn E. Fussell
Greg Hilmas
Kenneth C. Juergens
Donald L. Kummer
Thomas D. McGee
Joseph Palko
Madison Reed, Jr.
John M. Shepherd
R. Francis Tatnall

Wate T. Bakker
William B. Crandell
Paul S. DeHoff
Robert Eagan
Irwin Gordon
David Hrinak
Amanda S. Kolehmainen
Daniel Larson
Mark Mitchell
Leigh F. Phillips
William H. Rhodes
Dorothy M. Smith
Robert D. Thorson

Maynard Bauleke
Donald D. Crosby
Charles R. Delott
Kevin M. Fox
John Grant
Lyle A. Holmes
Donald Kraft
Richard G. Lawrence
Carleton B. Moore
Chris & Audrey Prue
Laura Schell
Stephen D. Stoddard
Robert A. Verneti

Alumni Notes

We Want to Hear from You (Really! We do!)

Ralph Rose - Still see a few names I recognize, but not many. **Robert B. Oberst** – Still getting around, summers in Ohio, winters in Arizona. Regards to all. **Jim Frederic** – Keep up the good work! Thanks. **Matthew R. Tangeman** – Support small business. Go Buckeyes. **Janet E. Bailey** – Keep up the good work!! **Robert A. Verneti** – Keep up the funding for students to attend the annual meeting. **William B. Crandell** – Good to hear about former students. **Virgil (Sonny) Irick** – Keep the fire burning! **M. Dean Houston** – Always glad to see Iowa State alumni notes. Maybe members of classes from 40s and 50s can contribute en masse.

Jeffrey D. Smith
General Secretary
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Annual Dues

Annual Dues are \$10. Make check payable to “Keramos Fraternity”. If you have not paid your dues this year through ACerS or via PayPal (see link at (<http://ceramics.org/classes/keramos>), please fill in this coupon and mail to the address below. We were able to fund travel for eight students to attend the MS&T conference, thanks to your loyal support!

Keramos Dues and Comments:

Name: _____

Address: _____

City, State & Zip: _____

Email: _____

Annual Dues (\$10)_____ Donation: _____

Message: _____