

PENNSTATE



The Pennsylvania Chapter of Keramos

Annual Report

April 15, 2013



April 17, 2013

National Keramos Officers:

It has been my pleasure to advise The Pennsylvania Chapter of Keramos during the academic year 2012-2013. Over the past year the Penn State chapter has made great strides in re-invigorating the student population involvement in Keramos.

We began the year with our third annual Keramos Industry Tour. We took 20 students, by coach, on a 4 day trip to Carpenter Technologies, Arkema and Air Products. The trip took place the week before the start of the fall semester. The chapter took 36 students to MS&T in Pittsburgh in the fall. Due to tight budgets within the department, the students took on the challenge of raising the monies to cover the cost of the trip. In total, over \$4000 was raised through fundraising efforts and students individually applying for funding from external sources. The big event, in my opinion, was the re-birth of the Duffer's Golf Outing. This golf outing had been dormant for about 6 years and the current leadership decided to revive the tournament as a networking event. For two years in a row now, they have secured three industry sponsors and six faculty sponsors such that undergraduate and graduate students were able to golf and have a catered reception afterwards for only \$30. The event was a huge success and received praise from faculty and industry sponsors. We are already looking forward to next year.

In closing, I hold the achievement of the past year of The Pennsylvania Chapter of Keramos in highest regard. The officer/leadership core is getting younger and as a consequence, participation and enthusiasm are growing. I look forward to working with the new officers in the coming year.

Sincerely,



R. Allen Kimel, Assistant Professor and
Associate Head for Undergraduate Studies
Materials Science and Engineering

Annual Plan for the Upcoming Year

It is the aim of the newly elected executive board to plan events that will increase the involvement of Keramos members and to meet more frequently than in previous years.

The new exec board for the 2013-2014 academic year plans to continue the tradition of the Industry Trip over the summer and bringing members from Penn State to the Keramos events at MS&T this coming year in Montreal. The board will also seek to plan events like the Duffers Golf Outing to facilitate corporate interaction with students and gain corporate sponsorship. Lastly, this year the Penn State Chapter has made it a point to bring a social nature back to the Chapter to increase the sense of community and brotherhood through meetings, socials, and events outside of the academic/corporate environment. It is the plan of the next exec board to continue this tradition and increase the sense of camaraderie between members.

The past Keramos executive board made accentuated the necessity of networking with companies and growing the skills and confidence of members in speaking to representatives, interviewing, and writing resumes for finding a job. The previous exec board also made it a point to provide guidance for students interested in grad school.

The executive board of The Penn State Chapter of Keramos is very optimistic and ambitious about the upcoming 2013-2014 academic year and hopes to achieve and exceed the goals of chapter camaraderie and corporate networking.

List of Officers

Officers for the 2012-2013 Academic Year

President

Michael Hinman




Vice President

Madeline Bess Boyer



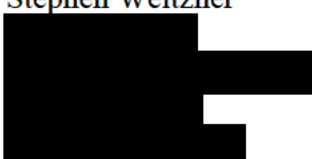
Secretary

Andrew Paul



Treasurer

Stephen Weitzner



Herald

Angela Leone



Officers for the 2013-2014 Academic Year

President

Neal Lewis



Vice President

Nicole Sitler



Secretary

Cody Kalinoski



Treasurer

Caleb Young



Herald

Peter Robinson



Delegates for the 2012 Annual Meeting

Neal Lewis and Nicole Sitler

Alternate Delegates for the 2012 Annual Meeting

Cody Kalinoski, Caleb Young

Membership

2012-2013 Inductees

Adam Fink
Brittany Bartel
Chidi Chukwunenye
Jennifer Distefano
Christopher Erdely
Rachel Guarriello
Carloine Hallowell
Lorraine Hossain
Cody Kalinoski
Christopher Kee
Erika Kohlhaas
Kuan-Po Lee
Neal Lewis
Ethan Lucas
Frank McGrogan
Tyler Merica
Peter Robinson
Rebecca Rugh
William Salem
Nicole Sitler
Andrew Stotler
Richard Swanson
Zhembal Turgunbayev
Beecher Watson
Yingwei Wu
Yihuang Xiong
Hansheng Ye
Caleb Young
Tianjiao Zhang
Don Leuthe
Joe Fignar
Erik Taylor

Undergraduates

Ali Aljama
Jonathan Florence
Kendra Gagliano
Michael Hinman
Jason Lapano
Angela Leone
Kevin Ninehouser

John Petrunis
Chyi-Huey Yeh
Martin Antensteiner
Madeline Boyer
Ryan Brousseau
Henry Guth
Elizabeth High
Andrew Paul
Lauren Skrabski
Stephen Weitzner

Graduate

Frederick Lia
Charles Brooks
Sarah Eichfeld
Jane Howell
Stephen Poterala
Brandon Ribic
Jen Rygel
Arkapol Saengdeejing
Dennis Shay
Nevin Sherlock
Amra Tabakovic
Chelsey Zacherl

Faculty

James Adair
Paul Brown
Long-Qing Chen
L. Eric Cross
Venkatraman Gopalan
John Hellmann
R. Allen Kimel
Zi-Kui Liu
Gary Messing
Suzanne Mohney
Paul Painter
Carlo Pantano
Clive Randall
James Runt
David Shelleman
Karl Spear
Susan Trolier-McKinstry

Honorary Member
Dr. Douglas Weirach

Treasurer's Report

During the 2011-2012 academic year, The Pennsylvania Chapter of Keramos raised \$20,168.26 from various sources. We are very fortunate to have an extremely supportive department and student activities fee allocation board. We received \$2,476.66 and \$11,613.60 from the department and student activities fee allocation board respectively. The university recognition we received last year really helped the Chapter.

Overall programs sponsored by the Chapter totaled \$19,855.47. These programs included the Industry Trip, Dinner with Faculty, Etiquette Dinner, MS&T, Duffers Golf Outing, and Pig Roast.

The final balance of the Chapter stands at \$839.89.

Costs	
Industry Trip	\$ 5,943.25
Dinner with Faculty	\$ 363.35
Etiquette Dinner	\$ 63.52
MS&T	\$ 7,625.60
Duffers Golf Outing	\$ 4,876.43
Pig Roast	\$ 983.32
Soda and Snack Sale Initial Cost	\$ 453.00
Total	\$ 20,308.47

Income	
Beginning Balance	\$ 980.10
Industry Trip – Department Support	\$ 1,125.00
Industry Trip – Student Activities Fee Support	\$ 4,818.25
Dues	\$ 380.00
MS&T – Department Support	\$ 830.25
MS&T – Student Activities Fee Support	\$ 6795.35
Duffers Golf Outing – Corporate Sponsorship	\$ 2,240.00
Duffers Golf Outing – Faculty/Student Donation + Payment	\$ 2,155.00
Duffers Golf Outing – Department Support	\$ 521.41
Pig Roast Donations	\$ 500.00
Soda and Snack Sale	\$ 803.00
Total	\$ 21,148.36

Final Balance	\$ 839.89
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Chapter Activities

Education and Outreach

Millennium Science Complex (MSC) Tours

Ongoing

Since the opening of the MSC on campus last year, there has been great interest from alumni as well as prospective students and parents in the facilities for Materials Research in the MSC. Keramos aided in getting several of its members trained in providing tours for groups that wanted to visit it. These Keramos members offered their time throughout the year and on special occasions like EMEX, the Pig Roast, and Parent's Weekend to provide tours and talk to people about Materials Research at Penn State.

Nuclear Reactor

December 6, 2012 and March 6, 2013

On campus, Penn State has the Brezeale Nuclear Reactor which gives out tours for groups interested in the science behind nuclear science. A group of Keramos members signed up to the tour the reactor and had the opportunity to engage in a demo regarding the effects of gamma radiation on NaCl. NaCl turns into a thermoluminescent phosphor meaning that when exposed to heat releases photons. The NaCl was an orange color and when put on a hotplate released photons at energies in the nearing the frequency of orange color. Members also had the opportunity to witness the reactor "pulse," a process only lasting about 17 microseconds. By taking the control rod from the core fast enough to cause blue Cerenkov radiation to emit through the coolant water, the reactor is able to operate at nearly 2000 times its maximum power from the transient increase in fuel temperature.



The overall tour provided students with great demos and the ability to ask any question. The event was very informative and led to the organization of a second tour in the spring for those who missed out on the opportunity in the fall.



Glass Flower Fundraiser

February 11-14, 2013

This year, several members of Keramos worked to produce glass flowers in the Penn State Glassblowing Lab. Members were taught the basics of the art of glassblowing and given the opportunity to handle molten glass. Most of the flowers were made using recycled colored glass, but few were made using donated colored glass frit. The frit, molten glass, and studio time were donated to Keramos by Professor Carlo Pantano. Each flower made

was grouped into one of three categories: short stem, long stem with recycled color, or colored flower made with glass frit. The flowers in each category were sold for three dollars, five dollars, or ten dollars each, respectively. Members of Keramos volunteered each day during the week leading up to Valentine's Day to manage a table set up in the College of Earth and Minerals Sciences building. It proved to be a very successful fundraiser; the flowers sold out by Valentine's Day, awarding Keramos a five hundred dollar profit.

The glass fundraiser also offered the chance for Keramos to branch out and share our understanding of materials and glass blowing with other students, faculty, staff, and members of the Penn State community. We also had the chance to speak with high school students touring the campus and explain materials engineering at Penn State as well as being part of a professional fraternity.

Joel Reed Visit and Talk

March 13, 2013

Joel Reed earned his Bachelors at Penn State in Ceramic Science and his Master's in Business at the University of North Carolina. He then went on to have a dynamic career working at IBM, Mereo, Sterling Commerce, Northern Telecom, and then started his own consulting group. Keramos hosted a talk with Joel and students in MatSE to discuss his unique career path, how he got to where he is, and unique experiences in industry. Joel shared experiences of engineering that go beyond just understanding theory, science, and technology behind manufacturing and selling a product.

Professional Development

Industry Visit

August 21-24, 2012

The Keramos Executive Board organized the second annual industry trip to give students an industrial perspective on the material learned in class. This year's trip headed east from State College toward the Philadelphia area.

The first stop was to Carpenter Technology Corporation, where Russ Reber, a member of the Materials Science and Engineering External Advisory Board, greeted the group and introduced us to the company. The specialty steel manufacturing company presented students with an opportunity to see three melting procedures - , bar forging, and bar finishing operations.



Arkema is a specialty chemical company that specializes in a commercial polyvinylidene fluoride polymer, Kynar. The polymer has shown promising applications in water treatment and fuel cells and fiber spinning was demonstrated in the labs for students. A brief trip outside of the research and development facilities led the group to a poly(methyl methacrylate) pellet production facility. The trip showed the utility and diversity of polymer products.



The last visit on the trip was in Allentown at Air Products. Air Products is a company that focuses on the production of atmospheric and specialty gases. Adsorption plays a key role in filtering gases and is a main research topic. The development team also does research for companies like IBM in the recycling of specialty gases used in the manufacturing of silicon wafers. The company helped bridge the gap between different material systems through sustainability.



Pratt & Whitney Alumni Visit

September 10, 2012

On Monday, September 10, 2012, Material Advantage and Keramos arranged an information session with Pratt & Whitney representative, Penn State alumni, and Keramos member Ryan Noraas. Ryan recently graduated from the Penn State Materials Science and Engineering Department and was more than happy to share his experience of the college to industry transition. Current students also gained insight into the process of making aircraft engines as well as the internship application process for Pratt & Whitney. Students were given souvenir Pratt & Whitney pens after the information session ended.





Reverse Career Fair

September 11, 2012

Our Chapter got the opportunity to have a table at the first “Reverse Career Fair” at Penn State. This event was meant to have student groups be the recruiters while companies come to talk to us about getting involved with our group and networking with members. We spoke to over fifteen companies that are interested in recruiting Materials Science and Engineering students. This event helped to get company sponsorship for our events that are linked to professional development and spread knowledge of the Materials Engineering Professional Fraternity. This year we had fruitful connections with a few companies that resulted in several information sessions in our department for undergraduates and graduates. This was also a good opportunity for younger students to get comfortable speaking to industry professionals while being on the recruiting side of the conversation.. The club represented with senior members, junior and sophomore class representatives.

U.S. Steel Company Rollaball Team Building Workshop

September 19, 2012

US Steel representative Jeff Peters visited the materials science department for an info session and team building exercise. After a brief introduction to the company and description of available opportunities the team building exercise began. This team building exercise consisted of three groups with a final goal of moving a ping pong ball three meters. Each group created a one meter section of the track with paper cards, rubber bands, scissors, paper clips, and tape. The teams each had unique constraints to their part of the track and intercommunication between groups was pertinent to the success of the project.



Saint-Gobain Company Visit

January 10, 2013

The vice president of development and recruitment for Saint-Gobain North America, Valerie Gervais, came to Penn State to discuss Saint-Gobain’s goals as a company. Her presentation covered the different businesses of Saint-Gobain and introduced their leadership development program which gives highly talented individuals the opportunity to experience many different facets of the company while being on the fast track to management. During the visit, students were able to discuss Saint-Gobain’s internship process, the culture of Saint-Gobain, what Saint-Gobain looks for in students. The visit was an excellent way for students to prepare for Penn State’s Engineering Career Fair which took place about a month after Saint-Gobain’s visit. The visit proved to be successful as a few students received interviews from Saint-Gobain at the career fair. Sampath Kethavarapu, a Penn State alumni and Keramos member also visited PSU several times with Saint-Gobain and talked to new members about the company culture.



Resume Workshop

January 23, 2013

Keramos President and Vice President Michael Hinman and Madeline Boyer hosted an informal workshop for students in Keramos and the MatSE Department to get together to share tips and tricks for interviewing with companies and writing resumes. Mike and Maddie shared personal experiences as well as tips learned throughout all writing courses with underclassmen students who attended the workshop. The students then broke into pairs and practiced interviewing each other and reading over resumes to help critique their peer's papers, as well as get feedback for themselves. The workshop was very successful and greatly helped students who were nervous about attending the upcoming Engineering Career Fair.

Corning Inc. Visit

January 30, 2013

Two Corning representatives came to talk to members of Keramos and the MatSE Department about Corning and to answer any questions that we had. Penn State alumni Jelena Langensiepen represented the metals group at Corning and the other representative was the head of the ceramics group. They showed how Corning was a world leader in different areas and how they are a leader in the ceramics industry. It was an informative talk and it allowed students in materials science to interact with two professional engineers from such a distinguished company.



Students were able to make valuable relationships from the Corning visit that aided in attending career fairs because they already had their “foot in the door”. This also gave a chance for Corning to get to see interested Materials students and students to meet the recruiters in a less formal setting.

Materials Science and Technology (MS&T) Conference

October 7-9, 2012

This year Penn State Keramos and the Material Advantage had an exceptional showing at the Materials Science and Technology conference, with 22 undergraduates to MS&T 2012 in Pittsburgh, PA. Members of Keramos and students in MatSE got to attend lectures under a wide variety of disciplines and topics, attend the Expo Event to network with recruiters. Special events for the students from Penn State and the Penn State Chapter of Keramos included a dinner hosted by Nucor at a local restaurant in downtown Pittsburgh and the Penn State Alumni Reception. Penn State MatSE student and upcoming inductee to Keramos Emily Fucinato made it to the final round of the Student Speaking Competition held at the conference.

Officers Michael Hinman and Andrew Paul attended the Keramos Convocation and got to share recent improvements and ideas for networking with companies as well as receiving ideas for a glass flower sale and intern/graduate panels. All events that were suggested were achieved

throughout the year through the glass flower fundraiser, company visits with intern testimonials, and a graduate poster hosted by the Keramos Treasurer, Stephen Weitzner.

Service

Food Bank Volunteering

December 1, 2012

Members of Keramos had the opportunity to volunteer at the local food bank in State College. We made a connection to the organization that runs the soup kitchen and food bank for the community in our efforts to bring more philanthropy to our activities. Members spent most of the day shelving, boxing, and organizing food donated for the needy during the holiday season. The officers felt that Keramos should get involved more with the community to further give back and help out where we can. Though our volunteering was limited this year we built a good connection that will hopefully yield more opportunities for the coming years.



Department Materials Science and Engineering Awards Banquet

April 12, 2013

The Annual Spring Banquet for the Material Science and Engineering Department was held Thursday, April 12 at the Nittany Lion Inn. The purpose of this event is to recognize the outstanding students for their accomplishments. This year the Keramos executive board volunteered at the registration table to help signing guests in, and Herald Angie Leone also served as a Master of Ceremony.

We are proud to announce that several Keramos execs and members won awards this year at the Annual MatSE Banquet: Keramos President Michael Hinman received the Materials Science and Engineering Service and Leadership Award, as well as second place in the Undergraduate Poster Competition; Keramos Secretary Andrew Paul won third place in the Undergraduate Poster Competition; Martin Artensteiner received the Michael M. & Mary Jane Coleman Undergraduate Award in Polymer Science and Engineering; Beecher Watson received the George W. Brindley Award in Nonmetallic Crystal Chemistry; and Frank McGrogan won the Guy and Rae Rindone Award for Academic Excellence in Materials Science & Engineering.

Alumni Relationships



Annual Pig Roast

April 20, 2013

The annual event is held every year during Penn State's Blue and White Weekend, which is a weekend that many alumni come back to visit. This year the

pig roast will be held on Saturday, April 20th, 2013 and the students plan to roast a whole pig and will hold a tailgate from 10am to 4pm. The faculty, staff, students and alumni of the department are invited to this event. Food is provided free of charge to all who attend. There will be pork, hamburgers, hot dogs, vegetarian options, potato and pasta salads and various other tail gate foods. This event is cosponsored by the department who help defray cost to the chapter. However, it is up to the student leaders in Keramos and Material Advantage to handle the planning, reservations, invitations, roasting, and serving food at the event. It is a large commitment that student members take on during the end of the semester, but it is very rewarding to have the department meet and mingle in a non-academic/formal setting.

Interchapter Activities

Break-Stuff Night

December 14, 2012

This year Keramos hosted Break-Stuff Night prior to finals week to provide a little break to the students. At this event, students get to dip any objects they want into liquid nitrogen and then smash it in the Ceramics Processing Lab. This is a great chance for students to relieve some stress during finals preparation time and learn about the glass transition temperatures of various materials at the same time. In the fall we had about 20 students attend and hope to hold another Break Stuff Night towards the end of the Spring Semester.

New Initiation Ceremony

Ongoing

An ongoing project for this academic year has been to develop a creative ceremony whereby we initiate our members by having them make some kind of ceramic. Due to the large influence of 3D printing here on campus, we have been working to design a 3D printable Keramos shield that can be imprinted into a slip cast mold. This mold could be used by members to create a ceramic crest that they would be responsible for mixing, casting, and firing as their initiation into the chapter. Special thanks to Joe Fignar, a new inductee to Keramos, for all of his help with designing the drawing for the shield and Ryan Mannino for his work with the 3D printers.

Pumpkin Carving

October 26, 2012

This past fall, members of Keramos and others in the MatSE department got together to carve pumpkins in the spirit of Halloween. It was a great chance to get together outside of class and test our artistic capabilities for carving pumpkins.

Socials

November 23, 2012 and April 13, 2013

This year, Keramos was able to hold two socials at one of the member's apartment. These were great opportunities for members to meet each other and grow friendships that surpass those forged in a classroom. At these events, members hang out, play games, dance to music, and get to know each other better. Networking between members is just as necessary as any other networking with companies or professors as it promotes the sense of brotherhood and camaraderie.



Summary

The Pennsylvania Chapter of Keramos, currently comprised of 80 members, is dedicated to serving the local materials community, as well as society at large. Each year, programming is focused on five main areas: Education and Outreach, Professional Development, outreach, Service, Alumni Engagement, and Interchapter Activities. This year, while corporate relations remained very strong, an emphasis has been placed growing connections with members of the community as well as growing our members' knowledge of their campus and chosen field through Service and Education. Also, an emphasis was placed on growing camaraderie and brotherhood between members through social activities outside of the classroom.

Education and Outreach

Chapter members were able to get involved in many of the department and college activities like doing demos at Parent's Weekend and providing tours of the MSC, while learning more about our chosen field as engineers through talks with industry and touring the nuclear reactor on campus.



Professional Development

This year, Keramos was able to further expand on its progress from last year's efforts to emphasize corporate relationships and networking. The Chapter offered a large number of info sessions, workshops, seminars, and talks to members as well as other students in MatSE to better prepare them for interviewing for internships and full time jobs.

Service

The largest service event of the year is participating in the Earth and Mineral Sciences Exposition (EMEX). Members of the Chapter conducted demonstration of various materials and as well as conducted a series of tours of the newly constructed Millennium Science Complex as an effort for undergraduate recruitment. Keramos members' participation was critical to the success of the event.



Alumni Relations

While we did have to cancel the Duffers Golf Outing this year due to poor weather conditions, we were still able to facilitate alumni relations through other avenues: many corporate representatives who visited Penn State were alumni and Keramos members. Our largest alumni event for the year will surely be the Pig Roast, where we gather alumni, students, and faculty to enjoy a nice afternoon of food and football.



Interchapter Activities

The tradition of Break Stuff Night has begun with great support and will surely continue due to its popularity. A great initiative was taken this year by the exec board to facilitate a more social atmosphere for the chapter to promote lasting friendships to form. As a result, we saw greater attendance in all meetings and events due to these bonds that were formed and events became time with friends rather than obligations.

Letter from the President

Dear National Keramos Officers,

As the President and Representative of the Executive Board for 2012-2013, Greetings from the Pennsylvania Chapter of Keramos at Penn State University!

As my senior year draws to a close, so does my term as President of the Penn State Chapter of Keramos. I am extremely satisfied with the accomplishments of our chapter for this academic year of 2012-2013. We have achieved so much and grown as a chapter in what seems like such a short time. For this, I have mostly to thank my outstanding executive board, who has helped so much throughout the year: Maddie Boyer, Andrew Paul, Steve Weitzner, Angie Leone, Neal Lewis, Cody Kalinoski, and Dr. Allen Kimel.

For this academic year, we have managed to find 30 aspiring and worthy candidates to initiate into Keramos. It seems that our Chapter is never lacking in quality students to induct into our chapter and welcome into our brotherhood. I am impressed by the new members that were inducted this year and have all confidence that they will continue the traditions of our Chapter here in Happy Valley.

This year, we were able to continue our momentum in Professional Development by continuing our industry trip as well as having a variety of corporate visits for networking and info sessions. However, we were able to expand further into Penn State Culture and the State College Community this year through our volunteering and fundraiser events. This gave us great visibility and interaction with many different groups as well. Lastly, our Chapter has made great strides in improving the social atmosphere of the chapter and helped forge friendships that will last far beyond our college years.

The members of The Pennsylvania Chapter of Keramos are not only excellent students who succeed in their chosen field of study, but great citizens, teachers, leaders, and friends. Our Chapter members add a sense of community to the Materials Engineering Department at Penn State that is surely hard to come by in other colleges or universities.

I am sincerely proud of the accomplishments of our chapter throughout this academic year. It is my privilege to present the Annual Chapter Report for the Pennsylvania Chapter of Keramos. If you have any questions or suggestions, please contact me at mphinman91@gmail.com

Fraternally yours,



Michael P. Hinman