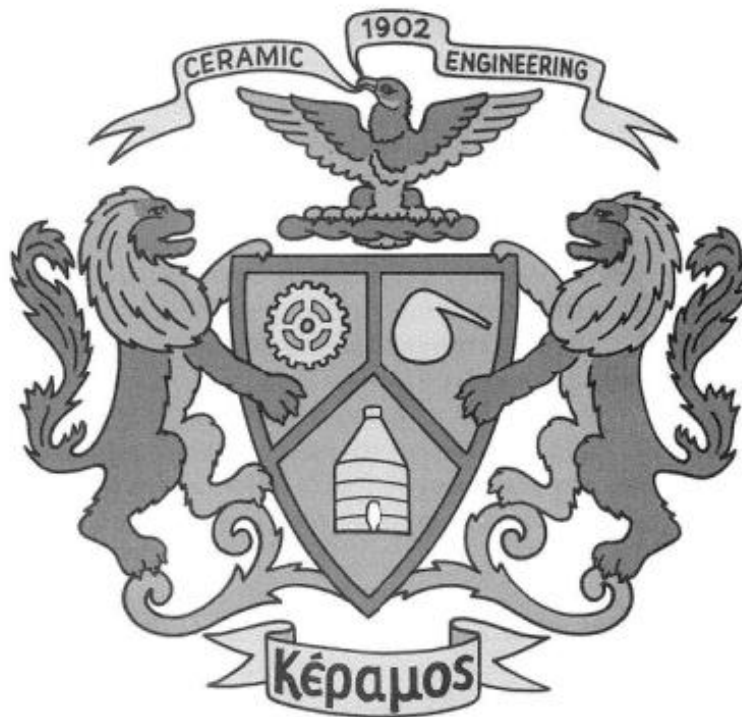




The University of Arizona Chapter of Keramos

2013-2014 Annual Report



Submitted on:

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1. Chapter Adviser Executive Summary

The University of Arizona Chapter of Keramos had a strong 2013-2014 academic year. It continued its focus on fundraising, outreach, and growth, and it is poised to continue to have a major continuous positive impact on the Department of Materials Science and Engineering.

The organization previously instituted a policy for its officers to ensure smooth transitions and continuity when officers graduate, and this has improved the efficiency of the organization by reducing the disorganization associated with new members. A new policy is in effect to encourage even broader participation among our members, but it remains to be seen how well that will work.

The chapter's outreach activities have been especially active, with a broad strategy of interacting with several age groups to educate students and to promote materials science and engineering as a possible major. Given the relatively small percentage of incoming high school students who have never heard of MSE as a possible career path, these outreach activities can have a particularly large impact. In coordination with our local chapter of Material Advantage, the chapter engaged with students at local elementary schools, middle schools, and high schools to educate them about what the field has to offer. Additionally, the chapter works closely with MSE faculty to assist in on-campus outreach activities such as the annual Meet Your Major fair, the freshman engineering Open House for engineering majors who have not chosen a specific engineering discipline, and other activities intended to increase the visibility of the major within the campus community.

The consequence of these active outreach and recruiting activities is that undergraduate enrollment in MSE is approaching 100 students, up from a low of 28 as recently as 4 years ago. This ever-increasing enrollment is leading to growing ranks among our chapter of Keramos. In our most recent induction, we added 23 new members.

The chapter also continued its participation in the annual MS&T conference and the Mug Drop competition held there, and it will send members again this year.

Thus, the University of Arizona Chapter is in an excellent position, and I look forward in the coming years to further assisting the chapter in my role as Faculty Advisor.

Asst. Prof. Robert G. Erdmann
Department of Materials Science and Engineering
University of Arizona

2. Annual Plan for the Upcoming Academic Year

2.1. Goals

Serving the community has always been the ultimate goal of the University of Arizona chapter of Keramos and also its continuation. As members graduate and go on to different parts of their life, new members will revitalize and continue the professional development and scholarship of students here at the University of Arizona.

Another goal of our chapter is attendance at the national chapter meeting. The previous year's funding was secured through the university's ASUA organization, which helps fund student organizations for such events. Other funding came from the Engineering Student Council and fundraising events conducted throughout the year. We sent four members to last year's MS&T, but we hope to send many more students to this year's conference.

Outreach and community involvement are key components of our mission. We perform an increasing number of intercollegiate and high school outreach events, one side effect of which is a continuing rapid increase in the number of students joining the MSE program here at the University of Arizona. We would like to make outreach a higher priority for this coming year.

As new members are inducted and senior members relinquish their roles as officers, there is a constant need to teach and initiate new leaders to ensure continuity. We will be having a transitional dinner between the old and new officers, where the newly elected officers will be able to sit down with their predecessor and learn about their new position and what their job entails. This will help ensure they are up-to-date and ready to perform their duties with minimal down-time, thereby increasing the efficiency of the entire organization.

2.2. Points System

Starting in fall 2014, a new points system will be enacted and regulated by the secretary. Points will go towards the student member's club standing, which in turn will determine what type of graduation regalia that the student member may receive, and possibly towards other awards for students who are not graduating. There will be two standings:

- Excellent Standing: minimum of 11 points per semester
 - Student must attend at least 5 club meetings per semester (1 point per meeting, minimum of 5 points)
 - Student must accumulate a minimum total of 6 points from attending and participating in club events (3 events)
- Good Standing: minimum of 9 points per semester
 - Student must attend at least 5 club meetings per semester (1 point per meeting, minimum of 5 points)
 - Student must accumulate a minimum total of 4 points from attending and participating in club events (2 event)
- Students who cannot attend club meetings must notify the secretary and they will be exempt from the minimum points requirement from attending club meetings for both

standings (they will only be required to attend club events)

This is only a general outline of the points system. These rules are not definite as this is a new system that will be employed next year and may change upon further discussion.

2.3. MS&T 2014

MS&T is one of the most looked-forward-to events that Keramos participates in. It is an indispensable way for students to see cutting-edge MSE research and to network with the materials community from both academic and industrial backgrounds. Last year, we sent four representatives, and we plan on sending quite a few more to MS&T in Pittsburgh, Pennsylvania this year. This interest in attending MS&T has driven us to find different ways in finding funding. We are planning on participating in the Mug Drop and Disc Golf competitions this year. Our chapter participated in the Mug Drop a few years ago and we would like to start that back up again.

Funding for travel has been found from the University of Arizona's ASUA which is a student organization dedicated towards funding student clubs for events such as these. This funding has significantly helped our last trip but was not enough. The generous funding received at MS&T 2013 at the national Keramos chapter convocation helped one more member attend the conference. Additional funding for MS&T 2013 was provided by University of Arizona's Engineering Student Council (ESC). We plan to continue our participation in the council for the upcoming academic year and seek out their funding for MS&T 2014. Also, fundraising events such as selling handmade glass flowers helped. Accommodations for MS&T were done three months in advance, which proved useful in preparing to navigate public transportation and other logistical details. And for this year, our chapter is planning on creating an MS&T student committee of students who are definitely going to the conference. They will be in charge of organizing the trip, ensuring that we receive funding from as many places as there are available, and making sure that we are on schedule with making the competition items.

3. List of Officers, Delegates, and Alternates for the Coming Academic Year

For this upcoming academic year, our chapter created three new officer positions in order to help keep the club more organized. The new positions are: Webmaster, Event Coordinator, and Engineering Student Council (ESC) Representative. Webmaster will be in charge of the club’s website, keeping it up-to-date with photos and meeting minutes and related. Event Coordinator will organize student events and activities, from camping trips to industry tours to outreach at high schools. And ESC Representative will go to every ESC meeting and be in charge of the weekly competitions.

Table 1: Officer Elections in Spring 2014

Position	Name	Email	Phone	Address
President	Ivy Hasman	[REDACTED]	[REDACTED]	[REDACTED]
Vice-President	Sam Hudson	[REDACTED]	[REDACTED]	[REDACTED]
Secretary	Diane Haiber	[REDACTED]	[REDACTED]	[REDACTED]
Treasurer	Kayli McArthur	[REDACTED]	[REDACTED]	[REDACTED]
Herald	Kira Rundel	[REDACTED]	[REDACTED]	[REDACTED]
Webmaster	Emily Leones	[REDACTED]	[REDACTED]	[REDACTED]
Event Coordinator	Kyle Jakes	[REDACTED]	[REDACTED]	[REDACTED]
ESC Rep	Teri Elwood	[REDACTED]	[REDACTED]	[REDACTED]

4. List of Active Members

Our chapter has about 40 active members in total. This number includes four faculty members and 36 student members, and of those, 23 were newly initiated into our chapter, the largest number of students initiated at once for our chapter. Furthermore, our chapter's activities routinely include the University of Arizona Material Advantage chapter as well, resulting in participation by non-members in many club activities.

Table 2: Officers, Delegates, and Alternates

Name	Title
Dr. Robert Erdmann	Chapter Adviser
Dr. Erica Corral	Faculty Member
Dr. Pamela Vandiver	Faculty Member
Dr. B. G. Potter	Faculty Member
Arianne Allred	
Ariel Rieffer	
Chance Fribbs	
Christopher Tursi	
Dan Tuttle*	
Diane Haiber	Secretary
Don Nguyen*	
Emily Leones	Webmaster
Erik Wise	
Ivy Hasman	President
Vanda Ngo	Delegate
Kyle Nguyen	
Samuel Hudson	Vice-President
Stephanie Greiner	
Taylor Rhoades*	
Teri Elwood*	ESC Rep
Thomas Wisbey*	
Wilson Kong*	
Zackary Fortuno*	
Kayli McArthur*	Treasurer
Crispyn Aldridge*	
Abraham Lemus*	
Eric Gabriel*	
Alex Pagano	
Yusuke Watanabe*	
Kyle Jakes*	Event Coordinator
Hector Paz*	
Kira Rundel*	Herald

Joshua De La Cruz*
 Austin Lancaster*
 April Profit*
 Gabriel Garcia*
 Kati Alcantara*
 Neil Jenkins*
 Jennie Allred*
 Kristi Farrell*

*Was inducted on March 28, 2014

5. Treasurer's Report

Table 3: Transactions for the past Academic Year.

Date	Transaction	Deposit	Withdrawal	Balance
09/16/13	Starting Balance			292.72
09/16/13	Club Renewal Fee Check		30.00	262.72
10/01/13	Check		38.00	224.72
10/31/13	Monthly Service Fee		9.00	215.72
11/04/13	ESC Funding	745.00		960.72
11/29/13	Monthly Service Fee		9.00	951.72
12/11/13	Supplies for Liquid Nitrogen Break Stuff Night		13.25	938.47
12/31/13	Monthly Service Fee		9.00	929.47
01/15/14	ASUA Funding	4405.71		5335.18
01/17/14	Travel Reimbursement Check		2040.00	3295.18
01/17/14	Travel Reimbursement Check		766.38	2528.80
01/23/14	Travel Reimbursement Check		766.38	1762.42
01/27/14	ESC Funds	84.00		1846.42
01/30/14	Travel Reimbursement Check		766.38	1080.04
01/31/14	Monthly Service Fee		9.00	1071.04
02/11/14	Change for Glass Flowers Sale		60.00	1011.04
02/14/14	Meeting Food		101.38	909.66
02/28/14	Monthly Service Fee		9.00	900.66
03/27/14	Check		70.00	830.66
03/31/14	*Glass Flowers Sales Profit	224.00		1054.66
03/31/14	Monthly Service Fee		9.00	1045.66
04/08/14	Purchase of Graduation Regalia		30.13	1015.53
04/14/14	Pending: Payment for Graduation Regalia	20.00		1035.53
04/14/14	Pending: Initiate Dues	230.00		1265.53
04/15/14	Current Balance			1265.53

*Please note that more money was raised from the glass flowers sales (about \$500), but money was used to purchase supplies for the eWeek Egg Drop competition and the funds were split with Material Advantage.

6. Chapter Activities

The following events and activities are listed in order of when they occurred, from the first event of the fall semester to the most recent.

6.1. Student Club Showcase

The Engineering Student Council hosted an event for new freshmen to see the many student engineering clubs available. Keramos shared a table with Material Advantage and represented both clubs as well as the MSE department.



Figure 1: Over 100 freshmen attended the student club showcase.

6.2. Meet Your Major Fair

The University of Arizona hosted an event for students to see the different majors available at the university and gain more knowledge on majors that they are interested in possibly pursuing. Keramos and Material Advantage represented the MSE department, and in turn mentioned both clubs in order to gain interest.

6.3. Honors Convocation/Family Weekend Barbeque

The College of Engineering held an Honors Convocation for students who have demonstrated exemplary academic achievement. After the ceremony, the College of Engineering held an informal dinner for the Honors Convocation as well as for Family Weekend. Several student

engineering clubs were at the dinner representing their club, and Keramos and Material Advantage shared a table.

6.4. MS&T 2013

At this past MS&T, four students were able to attend the conference, all of whom were officers of Keramos. On the Sunday before the conference, the President and Vice-President attended the Keramos Annual Convocation and Business Meeting where they reported to the other chapters and the national Board of Directors about our chapter's activities over the past year since the last MS&T. Also at the meeting, our chapter was awarded the Sapphire Award for High Achievement. We have won this award in previous years and plan on buying a plaque to proudly display our slowly-growing collection of awards.



Figure 2: The students who attended MS&T made numerous connections with fellow student club members from other chapters across the U.S.

6.5. MSE Homecoming

MSE Homecoming, a newly-revived event, is a collaboration of the department of MSE and Keramos. This event is directed toward bringing alumni back to the school so that the department can maintain constant contact with them. Many of the Keramos members had opportunities to interact with MSE alumni who are currently at Raytheon, Honeywell, and other large companies.

6.6. ENGR 102 Open House

A total of five students helped our Adviser with demonstrations ranging from levitating a magnet over a superconductor, glass blowing, and several other demonstrations. A total of 90 undeclared engineering freshmen students attended the open house in order to gain a better understanding of MSE as a potential education and career path.



Figure 3: Dr. Robert Erdmann, MSE faculty and Chapter Adviser, talked to over 90 students to recruit for the MSE department.

6.7. Liquid Nitrogen Break Stuff Night

A new biannual tradition held on the last day of classes each semester where students can relieve stress before final exams. At the event, a collection of items and fruit are frozen with liquid nitrogen and shattered within a contained area. Ice cream is made with the liquid nitrogen as well.



Figure 4: Students had a lot of fun bonding with fellow classmates right before their finals.



Figure 5: Our chapter is eagerly looking forward to this semester's Liquid Nitrogen Break Stuff Night to have students relax and have fun before finals.

6.8. ALE/YLF Outreach Event

An event hosted by the Society of Hispanic Professional Engineers (SHPE) every year, Keramos and Material Advantage were invited to participate this year. Our chapter performed materials science demonstrations for over 200 high school seniors interested in attending a four-year university and pursuing a degree in science, engineering, technology, or math. A workshop for about 30 high school students was hosted where these aspiring students were able to get hands on experience through an activity where they polymerized glue.

6.9. Fundraising

6.9.1. Glass Flowers Sale

This fundraising event consisted of selling student-made glass flowers during Valentine's Day. The outcome was a profit of about \$500. The flowers were made from a boro-silicate base and incorporated coloring for an additional fee. The popularity of the event came from the unique, affordable idea and the considerable amount of promotion due to catering to a predictable demand. For hours students worked hard at making the flowers in having them be a sign of love and care between people at a reasonable cost. This event also provided the opportunity for students that do not have experience working with glass a chance to learn hands on.



Figure 6: Dr. Pam Vandiver, MSE faculty member, came in and taught multiple students how to make glass flowers.



Figure 7: Over 20 flowers were sold during the week of Valentine's Day.

6.10. eWeek 2014: Egg Drop Competition

This year our chapter participated in the College of Engineering's eWeek activities by hosting an egg drop competition. Hosting this event increased the presence of our chapter in the engineering community on campus. This event provided the students from other clubs the opportunity to interface with one another through friendly competition.

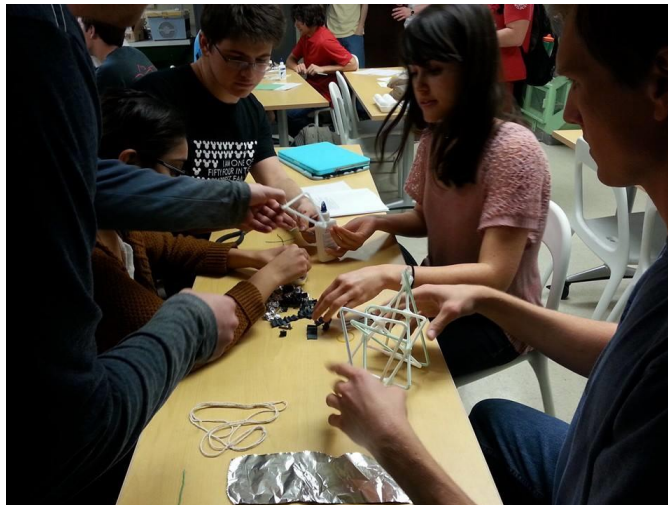


Figure 8: Students were given a minimal amount of supplies that they could use to make their container.



Figure 9: Eleven different engineering clubs attended the Egg Drop Competition.

7. Summary

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 ferrofluids 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 homemade 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 Professional 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 continued 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.