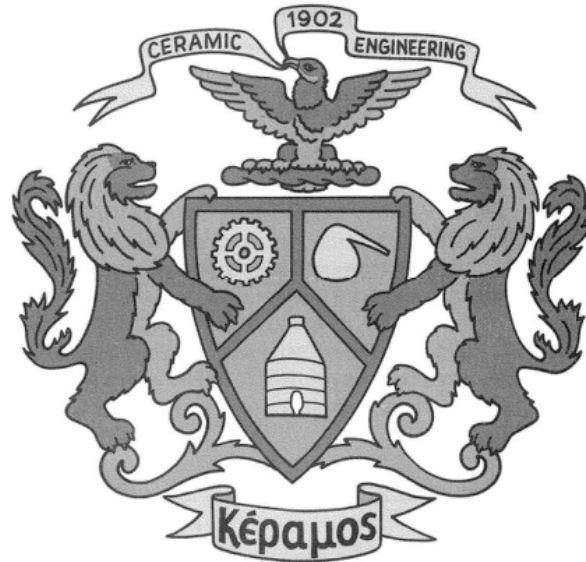


KERAMOS FRATERNITY
UNIVERSITY OF ARIZONA 2009-2010 ANNUAL REPORT



Submitted by:

Alex Miles - President
Don Jensen - Vice President
Scott DeValle - Treasurer
Ouliana Panova - Secretary
Elizabeth Cameron - Herald

Submitted to:

Dr. Robert Schwartz - General Secretary

Submitted on:

SEPTEMBER 13TH, 2010

Contents

1 Chapter Advisor Executive Summary	3
2 Annual Plan for the Upcoming Academic Year	4
2.1 Goals	4
2.2 MS&T 2010	4
2.3 New Student Welcome	5
2.4 Engineering 102 Open House	5
2.5 2011 Keramos Officer Orientation	5
3 List of Officers, Delegates, and Alternates for the Coming Academic Year	6
4 List of Active Members	7
5 Treasurer's report	8
6 Chapter Activities	9
6.1 Fund raising	9
6.2 Mug Drop	9
6.3 Outreach and Tutoring	9
6.4 Industry Seminars and Contact	11
6.5 Tours	11
6.6 MS&T Conference	12

1 Chapter Advisor Executive Summary

The University of Arizona Chapter, in the 2009-2010 academic year, focused on increasing the awareness of ceramics and MSE through participation in a variety of College-level events and self-directed outreach activities, in concert with the local Materials Advantage Chapter. Keramos members continued their development of high school level outreach presentations and demonstrations in MSE and participated in these off-campus visits to local schools. The group provided guides for on-campus recruitment tours of the department and its facilities and expanded their support of yearly curriculum-based open houses for interested freshman providing new, hands-on demonstrations during these events. Tutoring efforts increased this year with on-demand tutoring offered at the request of MSE faculty for select courses. Keramos member interactions outside the department have also contributed to the movement of engineering students to MSE.

Awareness of the Chapter within the Department and College continues to grow with the Spring, 2009 induction resulting in 8 new student members as well as the addition of two MSE faculty members to the Chapter: Dr. Pam Vandiver and Dr. Erica Corral. Both these faculty are highly regarded researchers in the ceramics field and strong supporters of student involvement in ceramics through technical society activity, extracurricular opportunities, and lab-based learning.

In this context, through the sustaining technical support of Dr. Pam Vandiver, the new glass blowing and ceramic forming facility, representing the combined efforts of Keramos and Materials Advantage members, has become a focus for potential fund raising concepts as well as an enabling facility for curriculum development and for generating student interest in ceramics and glass. In fact, the facility was used for the design and fabrication of UAs first-ever entries in the Mug-drop contest at MS&T 2009.

Budget stresses within the State of Arizona provide significant challenges to education on multiple fronts. It is important to note that the Keramos chapter continues in its goal to serve as a strong student component of the MSE department and the College of Engineering, contributing to the student-centered environment for which the Department and College are known. The membership has efficiently utilized the resources available and worked with faculty, staff and students in the department to identify and secure alternative sources of support to increase Chapter financial reserves and to better serve their membership. In this context, the membership is pursuing plans

for new fund raising activities, including logo t-shirt and mug sales, as a focus for the coming year.

Clearly, the MS&T meeting is an extremely effective (and popular) technical and professional opportunity for Keramos members. The Chapter is looking forward to seeing the Board again this Fall to report on their activities and to reconnect with the other Keramos Chapter representatives.

Prof. B.G. Potter, Jr.

University of Arizona, MSE Dept.

2 Annual Plan for the Upcoming Academic Year

2.1 Goals

The latest induction increased the number of active members in the University of Arizona chapter of Keramos, making up for those members that moved on to other universities and into industry. These new members will allow us to undertake more academic outreach, community service, and fund raising activities in the upcoming year. Attending MS&T is always a priority, and sending additional members seems likely. Doing this will require a significant amount of fund raising, and we will likely receive funding from the Materials Science and Engineering Department and College of Engineering within the University of Arizona for this purpose. In addition to these contributions, our fund raising efforts will soon be underway .

Outreach and community involvement will also be a continuing goal in the upcoming year. Many of the demonstrations taken in past years to local high schools for the purpose of recruiting are being repaired or replaced, and new demonstrations have been constructed. In addition we will maintain at least our current level of tutoring for undergraduate courses, if not increasing the number of tutoring sessions with our increased membership, as demand requires.

2.2 MS&T 2010

From the positive feedback of the members that attended the MS&T conference this year, it is planned that more members should be sent to the conference next year. This year we hope to send at least four University of Arizona Keramos representatives to the national conference. The actual number of attendees will be limited by funding, but as interest grows in MS&T, students

are more willing to obtain funds through stipends, travel grants, donations, fund raising or out of pocket cost. This trip will take place in October of 2010.

2.3 New Student Welcome

For the new College of Engineering student welcome Keramos represented the Materials Science Engineering to incoming students. This included running demonstrations, answering questions, and distributing information regarding the field. Several sophomores have mentioned this event in particular when asked why they chose to specialize in Materials Science Engineering. As such, we plan to continue to take part in this event.

2.4 Engineering 102 Open House

One outreach opportunity that occurs once per semester and is very useful to Keramos and the MSE department is the Engineering 102 open house which provides an opportunity to recruit undecided freshman into a specific engineering discipline. Many new engineering freshmen come out to see the MSE department and facilities and ask questions about the major. This allows us to stir up some new interest in field of Materials Science Engineering.

2.5 2011 Keramos Officer Orientation

Next years' orientation will take place in the spring of 2011. This orientation will consist of a short session wherein each new officer meets with the previous officer and is provided with a formal overview of the duties and specific problems that have been dealt with before. The goal of this orientation is prevent the same problems from turning up as each new group of officers takes the reins. A smaller version of this was carried out for the current group of officers, and feedback was uniformly good.

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

Table 1: Officers for 2010-2011

Office	Name	Phone	Email	Address
President	Alexander Miles	(520) 450-3495	amiles@email.arizona.edu	2002 N. Park Ave, #2 Tucson, AZ 85719
Vice President	Don Jensen	(480) 242-2587	djensen@email.arizona.edu	2800 W. Broadway, Apt #926 Tucson, AZ 85745
Treasurer	Scott DeValle	(480) 343-7960	sadevall@email.arizona.edu	7168 S. Oak St. Tempe, AZ 85289
Secretary	Ouliana Panova	(520) 275-2913	panova@email.arizona.edu	7151 Rivulet Dr. Tucson, AZ 85743
Herald	Elizabeth Cameron	(520) 975-6788	cameron5@email.arizona.edu	250 N. Santa Rita #114 Tucson, AZ 85719

4 List of Active Members

Our chapter has 16 active members in total. This number includes four faculty members, and twelve student members. Our chapter's activities routinely include the University of Arizona Materials Advantage chapter as well, resulting in participation by non-members in many club activities.

Table 2: Officers, Delegates, and Alternates (Alphabetic)

Name	Title	
Russel Beal		
*Elizabeth Cameron	Herald	Alternate
*Dr. Erica Corral	Faculty Member	
*Brandon Deanada		Alternate
Jacqueline DeAsta		
Scott DeValle	Treasurer	Alternate
Dr. Robert Erdmann	Faculty Member	
*Don Jensen	Vice President	Delegate
Alex Miles	President	Delegate
*Ouliana Panova	Secretary	Delegate
Dr. B. G. Potter Jr.	Chapter Advisor	
Emanuel Romero		
*Nicholas Sischka		
Robert Stover		
*Dr. Pamela Vandiver	Faculty Member	
Nick Vlieg		

*Inducted April 9th, 2010

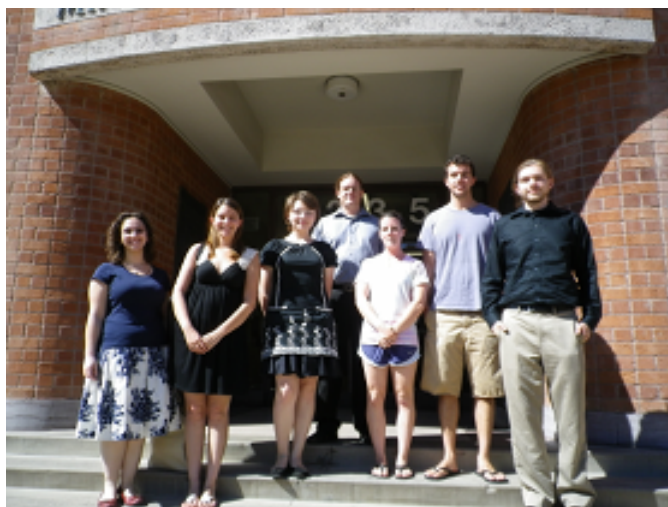


Figure 1: From left to right: Jacqueline DeAsta, Jessica Rimza (participating as an unofficial member until induction), Ouliana Panova, Dr. Robert Erdmann, Elizabeth Cameron, Scott DeValle, Alexander Miles

5 Treasurer's report

Table 3: Transactions for the past Academic Year

Date	Transaction	Income	Outflow	Balance
05/01/09	Starting Balance			1,710.16
09/29/09	Meeting food member reimb.		100.00	1,610.16
10/26/09	*Flight member reimb. (MS&T 2009)		1169.61	440.55
10/26/09	*Hotel member reimb. (MS&T 2009)		173.99	266.56
03/04/10	Induction misc supplies		12.00	254.56
03/04/10	Meeting food member reimb.		50.00	204.56
04/14/10	Keramos Natl. Membership Grant	332.00		536.56
04/15/10	Fund raising raw materials		150.00	376.56
05/12/10	Material Advantage Chapter Grant	460.00		836.56
08/30/10	Current Balance			836.56

* University fund-matching was accomplished by reimbursing members for travel costs to MS&T.

6 Chapter Activities

6.1 Fund raising

This years' fund raising came in part from the UA College of Engineering and the Materials Science & Engineering Department. The funds collected primarily were used to pay for the travel and accommodations of the students that attended the MS&T conference. We have begun to raise funds by creating glass and ceramic objects, running weekend pay-to-learn tutorials on glass blowing, throwing clay mugs, and slipping ceramics, as well as designing shirts promoting the Materials Science Department. This

will hopefully enable us to send a larger contingent of members to MS&T.

6.2 Mug Drop

We did submit a mug for the previous mug drop competition, and it fared quite well. A committee was created to begin planning the next iteration, hopefully with improved results. We hope to submit at least 2 mugs in the competition this year.

6.3 Outreach and Tutoring

Tutoring played a large role in our chapter's efforts over the previous year. Our goal was to have at least one member in the common study area twice a week, for at least two hours. This equates to a large number of hours being reported in the table below, and utilization varied with the occurrence of exams, but was generally good.

The outreach aspect of Keramos has always been one of the primary centers of attention of its members; in such a specific and unfortunately not well-known facet of Engineering that is Materials Science, it is of great importance to provide appropriate exposure and education of that fascinating area of study to the young public.

It is of course most beneficial to reach out to students that are either finishing high school or starting college. In previous years, it was customary to deliver a short presentation of the advantages of Keramos and Materials Science and Engineering in general to the Introduction to MSE class

at the beginning of the semester, punctuated by relevant science demonstrations. This has been done again this year, with a PowerPoint presentation of what a Materials Science major entails, the research and job opportunities provided by an MSE diploma and a membership in Keramos, and a demonstration of the magnet levitation over a nitrogen-cooled superconductor. Said presentation became an introduction to the outreach efforts that followed. The Outreach Committee was formed shortly afterwards.

Table 4: Summary of Outreach Hours

Event	Days	Hours	Students	Total
Class Visits	3	3	3	18
Demos	2	3	2	12
Club Fairs	2	2	4	16
Tutoring	32	2	1	64
			Total	110
Members	12		Total/Member	9.17

So far, Keramos has mainly been focusing on promoting Keramos membership inside the Materials Science major; but soon the Committee got an opportunity to expand its horizons and encompass college freshmen and sophomores in all of Engineering. The open-door event organized by the College of Engineering for the introductory class (ENGR 102) allowed Keramos and MSE to really stand out among other professional societies and majors. During this event, all of the Engineering departments would prepare a half-hour presentation of their major in the form of their choice, and each student enrolled in the ENGR 102 class was asked to choose three departments to visit during the event. In previous semesters the outreach part consisted of a simple PowerPoint presentation; this year, however, with the aid and participation of the great majority of Keramos' members – including faculty, the visiting students were shown multiple first-hand demonstrations of Materials Science at work, including polymer cross-linking, glass blowing, Aluminum sand casting and other minor experiments such as information transmission through fiber optics, the superconductor demonstration, and rapid prototyping. The whole event was a clear success; and building on that success the Outreach Committee decided to go one step further and plan a full one-hour presentation about MSE to be given at a high school.

Since the high school environment is quite different from that of a college, a comparatively small school, the Academy of Math and Science, was selected for the first presentation. Two members of the Outreach Committee consulted with the school administration and came to the conclusion that the best target classes were sophomores and juniors. Whereas major experiments such as metal casting could not be performed, secondary demonstrations and display objects were still very successful and proved to be enough material for an hour-long presentation. Those successful outreach events will constitute the foundation of the upcoming year's program.

Now that precedents have been set, the Committee can stretch and expand its reach. The Solid State Chemistry course has been selected as an addition to the Introduction to MSE course for an in-class promotional presentation; three more schools have been selected based on their State standing and focus on scientific subjects for a full MSE outreach event; it has been planned for Keramos to be present at general outreach events such as club and career fairs; and finally, new experiments and demonstrations ideas are being developed and implemented into our presentations for a better education in Materials Science and Engineering.

6.4 Industry Seminars and Contact

Members organized a tour of the Sieritta mine operated by Freeport McMoran, was taken in cooperation with the University of Arizona Materials Advantage Chapter.

6.5 Tours

This semester tours of the department were given primarily through Engineering Focus Days organized by the College of Engineering. Keramos members gave interested high school students a tour of the MSE facilities and laboratories. Interested students get to see the SEM, newly upgraded computer lab, glass blowing facilities and student lounge. This year metal casting, a short polymer lab, and glass blowing demonstration were added to the tour we have ran in previous years.

6.6 MS&T Conference

This year we sent three delegates to the MS&T national conference. Alexander Miles, Scott DeValle, and Robert Stove. Our participation was made possible through a grant from the Materials Science and Engineering department and the Keramos travel grant. The delegates all gave positive feedback about their experience and thought it was valuable in advancing their education, professional affiliations, networking skills, and industry knowledge. We hope to be able to send an equal number, if not more delegates in 2010.