

**The University of Arizona**  
**Chapter of Keramos**  
2015-2016 Annual Report

Submitted on:  
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## 1. Chapter Adviser Executive Summary

The Keramos Chapter at the University of Arizona had a remarkable 2015-2016 academic year. The Keramos officers continued to focus on fundraising, outreach, and growth. Keramos activities and the willingness of the members to be active and involved, especially in recruiting activities, has been duly noted by the departmental administration and by professors in the Department of Materials Science and Engineering. The organization held early election of officers to ensure smooth transitions and continuity when the current officers graduate. The overlap of governance has improved the efficiency of the organization.

The chapter's outreach activities have been especially broad, with a strategy of interacting with several age groups to educate students and to promote materials science and engineering as a possible major. Given the large percentage of incoming high school students who have never heard of MSE as a possible career path, these outreach activities have had 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. Most of these outreach activities have involved hands-on materials interactions with new materials engineered in the department or with traditional technologies, such as casting and glass blowing. The consequence of these active outreach and recruiting activities is that undergraduate enrollment in MSE is now 87 students.

This ever-increasing enrollment is leading to growing ranks among our chapter of Keramos. In our most recent induction, we added many new members. The chapter also continued its participation in the annual MS&T conference and the Mug Drop competition and other activities that build a network of student interactions that will lead to camaraderie as postgraduates. We intend to send members again this year. One of our students also gave a paper in a special symposium in the new Art, Archaeology and Materials Science division. Thus, the University of Arizona Chapter is in an excellent position, and I look forward in the coming year to further assist the chapter in my role as Faculty Advisor.

Prof. Pamela B. Vandiver  
Department of Materials Science and Engineering  
Co-Director, Program in Heritage Conservation Science  
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 nine members to last year's MS&T, and we hope to send even 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 had a transitional dinner between the old and new officers, where the newly elected officers were able to sit down with their predecessor and learn about their new position and what their job entails. This helped ensure they are up-to-date and ready to perform their duties with minimal down-time, thereby increasing the efficiency of the entire organization.

### 2.3. MS&T

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 nine students, and we plan on sending a few more to MS&T in Salt Lake City, Utah, later 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 again this year and hopefully the Disc Golf competition as well. 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 2015 at the national Keramos chapter convocation helped us to send more members attend the conference. Additional funding for MS&T 2015 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 2016. 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 continuing our 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.

### 2.4 TMS

For the first time ever Keramos attended The Minerals, Metals & Materials Society (TMS) conference in Nashville, Tennessee. We were able to send four students with the help of

the University of Arizona's Engineering Student Council. They awarded us a travel grant to send our students to this conference. TMS provided yet another great opportunity to network with professionals, and learn more about the future of industry. We plan on continuing to attend this conference, and hopefully send more students than we did this year.

3. List of Officers, Delegates, and Alternates for the Coming Academic Year  
 Event Coordinator has been changed to Event Chair so as to reduce the amount of work done by one single individual. The event chair oversees a couple of dedicated students who work to plan and organize various events, and work to advertise these events. This worked well and we plan on continuing this new change.

Name	Position	Email
Kyle Jakes	President	██████████@email.arizona.edu
Kristi Farrell	Vice President	██████████@email.arizona.edu
April Proft	Secretary, Herald	██████████@email.arizona.edu
Ben Geller	Treasurer	██████████@email.arizona.edu
Zachary Fortuno	Events Coordinator	██████████@email.arizona.edu
Kati Alcantara	Webmaster	██████████@email.arizona.edu
Cole Lumsden	ESC Representative	██████████@gmail.com

#### 4. List of Active Members

Our chapter has about 42 active members in total. This number includes three faculty members and 39 student members, and of those, 15 were newly initiated into 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.

Name
Jacob Rochester
Lou-Anne Wegrzyniak
Jillian Grass
Max Duffy
Angelin McCormack
Patrick Horrocks
George Vlassis

Christopher Tang
Colton Skillings
Claudia Ramirez
Liam Richards
Kevin Luke
Kurumi Austin
Sean Arnold
Laura Haferkamp
Dr. Erica Corral
Dr. Pamela Vandiver
Dr. BG Potter
Austin Lancaster
April Proft
Asher Fishgold
Ben Geller
Caleb Canchola
Cole Lumsden
Don Nguyen
Eric Gabriel
Josh Owl
Josh Vita
Kati Alcantara
Kayli McArthur
Kyle Jakes
Kristi Farrell
Kyle Nguyen
Magnum Pina
Melanie Sanchez
Nicole Oliver
Neil Jenkins
Moses Wangusi
Sarah Shepis
Teri Elwood

Taylor Rhoades
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Zachary Fortuno
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## 5. Treasurer's Report

There have been several different spending ventures this year. The treasurer is responsible for keeping records of all finances and making purchases the club needs, unless otherwise delegated to another member.

MS&T and TMS Participants were able to be Fully Reimbursed through the different funds given by ASUA and other grant funds.

11/30/15	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
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11/02/15	RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPER3WTSS8 XXXXXX6984	\$100.00	
10/30/15	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
10/02/15	RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPECHFBVXM XXXXXX6984	\$100.00	
10/01/15	RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEGDG89XD XXXXXX6984		\$100.00
09/30/15	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
09/02/15	RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEGD67NL5 XXXXXX6984	\$100.00	
09/01/15	RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPE2RXQGMC XXXXXX6984		\$100.00
08/31/15	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
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08/03/15	RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPE5NPXK2H XXXXXX6984	\$100.00	
07/31/15	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
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07/01/15	RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEGGHR965 XXXXXX6984		\$100.00
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06/01/15	RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEGC8MYXX XXXXXX6984		\$100.00
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05/11/15	CHECK # 1001 <a href="#">View</a>		\$70.00



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05/08/15	☒PURCHASE AUTHORIZED ON 05/06 PIZZA HUT 10536 TUCSON AZ S585127025162306 CARD 4962		\$6.49
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05/01/15	☒RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPE8JV4NF3 XXXXXX6984		\$100.00
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04/28/15	☒HARLAND CLARKE CHECK/ACC. 042715 00063617575482 KERAMOS		\$44.58
04/24/15	☒PURCHASE AUTHORIZED ON 04/23 TUCSON PARTY RENTA TUCSON AZ S305113702996763 CARD 4962		\$280.52
04/23/15	☒PURCHASE AUTHORIZED ON 04/23 OFFICE DEPOT 00 3601 E TUCSON AZ P00305113779956638 CARD 4962		\$62.51
04/23/15	☒eDeposit in Branch/Store 04/23/15 01:40:34 PM 4669 E BROADWAY BLVD TUCSON AZ 4962 <a href="#">View Details</a> <sup>†</sup>	\$54.00	
04/06/15	☒eDeposit in Branch/Store 04/04/15 03:55:25 PM 21040 N TATUM BLVD PHOENIX AZ 3700 <a href="#">View Details</a> <sup>†</sup>	\$206.00	
04/02/15	☒RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPE2QH2Z6W XXXXXX6984	\$100.00	
04/01/15	☒RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPE2QGM3DY XXXXXX6984		\$100.00
03/31/15	☒MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
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03/30/15	☒PURCHASE AUTHORIZED ON 03/29 MICHAELS STORES INC520 TUCSON AZ P00000000140243603 CARD 4962		\$15.06
03/30/15	☒PURCHASE AUTHORIZED ON 03/29 MICHAELS STORES INC520 TUCSON AZ P00000000944678326 CARD 4962		\$12.95
03/30/15	☒PURCHASE AUTHORIZED ON 03/28 HONORCORDSOURCE 877-283-9004 WA S465087775296939 CARD 4962		\$165.00

03/30/15	☒PURCHASE AUTHORIZED ON 03/28 HONORCORDSOURCE 877-283-9004 WA S465087775296939 CARD 4962		\$165.00
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03/13/15	☒CHECK # 1117 <a href="#">View</a>		\$657.75
03/13/15	☒CHECK # 1115 <a href="#">View</a>		\$657.75
03/13/15	☒CHECK # 1114 <a href="#">View</a>		\$657.75
03/13/15	☒CHECK # 1118 <a href="#">View</a>		\$656.74
03/13/15	☒CASHED CHECK # 1119 <a href="#">View</a>		\$657.75
03/13/15	☒CASHED CHECK # 1120 <a href="#">View</a>		\$657.75
03/13/15	☒CASHED CHECK # 1113 <a href="#">View</a>		\$590.44
03/12/15	☒CHECK # 1116 <a href="#">View</a>		\$657.75
03/12/15	☒CASHED CHECK # 1111 <a href="#">View</a>		\$63.44
03/12/15	☒MOBILE DEPOSIT : REF NUMBER :218110552908 <a href="#">View Details</a> <sup>†</sup>	\$2,458.78	
03/09/15	☒ONLINE DEP DETAIL & IMAGES		\$3.00
03/02/15	☒RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEN4H3G8V XXXXXX6984		\$100.00
03/02/15	☒RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPETWL9YHQ XXXXXX6984	\$100.00	
02/27/15	☒MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
02/10/15	☒PURCHASE AUTHORIZED ON 02/10 Wal-Mart Super Center TUCSON AZ P00000000146633747 CARD 4962		\$82.85
02/10/15	☒PURCHASE AUTHORIZED ON 02/10 WM SUPERC Wal-Mart Sup TUCSON AZ P00000000450783824 CARD 4962		\$4.29
02/06/15	☒PURCHASE AUTHORIZED ON 02/06 CVS 10184 10184--825 E TUCSON AZ P00465038031997917 CARD 4962		\$6.39
02/05/15	☒eDeposit in Branch/Store 02/05/15 01:21:01 PM 1303 E UNIVERSITY BLVD TUCSON AZ 4962 <a href="#">View Details</a> <sup>†</sup>	\$2,458.78	

02/02/15	RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPE2PW5X68 XXXXXX6984		\$100.00
02/02/15	RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEXSCX3BH XXXXXX6984	\$100.00	
01/30/15	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
01/07/15	MOBILE DEPOSIT : REF NUMBER :716070695687 <a href="#">View Details</a> †	\$20.00	
01/02/15	RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEQYY9W9K XXXXXX6984		\$100.00
01/02/15	RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEQYYNYJJ XXXXXX6984	\$100.00	
12/31/14	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
12/10/14	PURCHASE AUTHORIZED ON 12/10 SAFEWAY STORE 1684 TUCSON AZ P00304344661046946 CARD 4962		\$1.99
12/10/14	PURCHASE AUTHORIZED ON 12/10 SAFEWAY STORE 1684 TUCSON AZ P00384344654969133 CARD 4962		\$39.87
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12/03/14	CHECK # 1110 * <a href="#">View</a>		\$93.28
12/02/14	RECURRING TRANSFER FROM KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPE8HFW999 XXXXXX6984	\$100.00	
12/01/14	RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPE8HFJQ9S XXXXXX6984		\$100.00
11/28/14	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
11/21/14	CHECK CRD PURCHASE 11/18 SAFEWAY STORE0001 TUCSON AZ 425907XXXXXX4962 384322582650547 ?MCC=5411		\$19.13
11/19/14	MOBILE DEPOSIT : REF NUMBER :111190395623 <a href="#">View Details</a> †	\$100.00	
11/03/14	MOBILE DEPOSIT : REF NUMBER :613020390978 <a href="#">View Details</a> †	\$415.00	
11/03/14	MOBILE DEPOSIT : REF NUMBER :513020390895 <a href="#">View Details</a> †	\$415.00	
10/31/14	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
<b>Totals</b>		<b>\$9,931.42</b>	<b>\$10,525.69</b>

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03/31/16	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
02/29/16	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
02/17/16	ATM CASH DEPOSIT ON 02/17 U OF A CYBERBANK TUCSON AZ 0004399 ATM ID 8841B CARD 9401	\$235.00	
01/29/16	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
12/31/15	MONTHLY SERVICE FEE <a href="#">View Details</a>		\$12.00
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12/01/15	RECURRING TRANSFER TO KERAMOS BUSINESS MARKET RATE SAVINGS REF #OPEXW9XBX6 XXXXXX6984		\$100.00

Note: Our MA treasurer handled all TMS expenses.

Current Total: \$276.15

## 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. MS&T 2015

At this past MS&T, nine students were able to attend the conference. On the Sunday before the conference, the President, and the Herald 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 bought a plaque to proudly display our slowly-growing collection of awards.

Unfortunately we were not able to compete in the mug drop this year, but for the next MS&T we plan on competing in the disc golf competition as well as the mug drop competition.

### 6.2 TMS

Four members of Keramos attended TMS for the first time in our chapter's history.

### 6.3. Liquid Nitrogen Break Stuff Night

Our chapter's annual tradition held on the last day of classes during the fall 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. We also treated this as a fundraiser, charging the students a small fee to enjoy pizza and drinks bought by Keramos.

### 6.4. Fundraising

#### 6.4.1. Glass Flowers Sale

This fundraising event consisted of selling student-made glass flowers during Valentine's Day. The outcome was a profit of about \$235.00. The flowers were made from a borosilicate 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.

#### 6.4.2 Liquid Nitrogen Break Stuff Night

This year we charged \$5.00 per student to attend the Liquid Nitrogen Break Stuff Night so they could enjoy pizza and soda that was provided by Keramos. This fundraiser was successful, with profits totaling \$50.00. The pizza was roughly \$50.00, and we had 20 students attend the event. We plan on continuing this as a fundraiser for next year, and will advertise this event more as to increase our profits.

#### 6.5 Professor Networking Night

This year we organized a Professor Networking Night, in which students and faculty gathered at one of the local restaurants to converse outside of the classroom. This was a huge success; we had over twenty people attend the event, including our department head as well as five other professors. Everyone had a blast getting to know each other outside of class, and it was also a great opportunity to gain insight into our future careers with the guidance of the professors.

Due to the great success of this event, we are going to make organize a Professor Networking Night every month. This will provide a great opportunity for future students to learn more about their professors as well as become more involved in the department as a whole.

#### 6.6 Department Barbeque

A department barbeque was held during the last month of the 2015 fall semester. The event was held by both the Keramos chapter and the Materials Advantage chapter. The department graciously funded the event, so students and faculty brought in a dish of their choosing to share with everyone. This was a great way to relax and celebrate the end of the semester with games and good food. We have the barbeque every semester, with the next one coming up at the end of April.

### 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.

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 year as our club tradition. Additionally,

Keramos and MA continued fundraising by selling student-made borosilicate glass flowers on Valentine's Day.

Our webpage, [keramos.arizona.edu](http://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.