



University of Arizona
2017-2018 Keramos
Annual Report

Submitted 4/15/2018

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1. Summary Article

Over the last academic year, the Keramos student chapter has positively impacted the University of Arizona, the local community, and our own department. We hope that increasing the involvement of faculty in our department and recruiting the incoming students will continue that positive impact. This Keramos chapter has so much to offer its members and the students in the MSE department. Although our last year was productive, we believe we could do so much more.

The University of Arizona Chapter of Keramos has been through a rebirth this past semester. Since many of the former officers graduated in the year prior, there was much confusion from the new officers on how the society should be run. Despite the inexperience, the officers were able to start the process to rebuild Keramos.

The chapter hosts bi-weekly meetings where discussion occurs about outreach, recruitment, future plans, and Keramos business. Usually 10-15 students are in attendance at the meetings which doesn't sound like much, but compared to the last year when only a few attended, it is a step in the right direction.

Some big events for this semester have included attending MS&T 2017 in Pittsburgh, where four students attended and were able to see and participate in a National meeting as well as being able to network with other officers from different Universities. A BBQ was held at the off-campus research facility, the Arizona Material Laboratory, which was attended by over 30 professors, students and staff, and participated in the MSE Homecoming, where many members had opportunities to interact with MSE alumni. The students were also able to compete against the professors in a friendly tournament of Bocce ball, which helped the student-professor bonds grow. Another department BBQ is planned for late April. A "Friendsgiving" was held in the week before Thanksgiving break where students brought in food to the student lounge and had a potluck. This event had never been done before and it was a success with many of the students looking forward to it next year, as there will be better planning and a lot more food. A department open house was held for Freshman with an undecided Engineering Major. The open house showcased the labs within the department along with information on classes, research, live demos, and a powerpoint to introduce students to Material Science. The Chapter ran a successful glass flower sale which raised a good amount of money for future club use. Finally, the chapter has agreed to judge a local Science Fair under SARSEF (Southern Arizona Research Science and Engineering Foundation).

2. List of Officers, delegates, alternatives

First Name	Last Name	Email	Title	Phone Number
Daniel	Chavez	[REDACTED]	President	[REDACTED]
Michelle	Trinh	[REDACTED]	Vice President	[REDACTED]
Spencer	Stein	[REDACTED]	Treasurer	[REDACTED]
Nick	Baumann	[REDACTED]	Herald	[REDACTED]
Morgan	Swanson	[REDACTED]	Secretary	[REDACTED]
Rachel	Koch	[REDACTED]	Delegate	[REDACTED]
Lindsay	Lutman	[REDACTED]	Delegate	[REDACTED]
Jakob	Bookspan	[REDACTED]	Delegate	[REDACTED]
Austin	Grimm	[REDACTED]	Delegate	[REDACTED]
Kathleen	Van Atta	[REDACTED]	Delegate	[REDACTED]
Rachel	Gorelik	[REDACTED]	Member	[REDACTED]
Justin	Palacios	[REDACTED]	Member	[REDACTED]
Gabrielle	Lambert	[REDACTED]	Member	[REDACTED]
Lucas	Stolberg	[REDACTED]	Member	[REDACTED]
Nick	Thompson	[REDACTED]	Member	[REDACTED]

3. List of Active Members

First Name	Last Name	Email	Title	Phone Number
Barrett	Potter	████████████████████	Advisor	██████████
Rachel	Gorelik	████████████████████	Member	██████████
Justin	Palacios	████████████████████	Member	██████████
Gabrielle	Lambert	████████████████████	Member	██████████
Lucas	Stolberg	████████████████████	Member	██████████
Nick	Thompson	████████████████████	Member	██████████
Zheshen	Zhang	████████████████████	Honorary Member	██████████

4. List of Graduating Members

There is only one graduating member this year.

First Name	Last Name	Email (Personal)	Title	Phone Number
Spencer	Stein	████████████████████	Treasurer	██████████

5. Honorary Member

Name: Zheshen Zhang

Number: [REDACTED]

Email: [REDACTED]



Zheshen Zhang is an assistant professor in the Department of Materials Science and Engineering and the College of Optical Sciences at the University of Arizona. He received his Bachelor of Science degree in electrical engineering from Shanghai Jiao Tong University in 2006 and his doctorate in electrical and computer engineering from the Georgia Institute of Technology in 2011. Zhang joined MIT in 2012 as a postdoctoral Associate and became a research scientist in 2015.

Zhang's research encompasses a broad swath of the experimental and theoretical aspects of quantum information science. He studies new materials and light-matter interactions that give rise to unique quantum phenomena. These quantum phenomena are in turn leveraged in quantum-optics and nanophotonic platforms to implement devices that serve as building blocks for scalable quantum information processing.

In conjunction with theoretical investigations on quantum protocols, Zhang's research gives rise to novel applications in diverse fields ranging from non-invasive sensing to telecommunications with provable security.

Zhang is popular among the students for his generosity and genuine hearty laugh that is wonderfully contagious. He deserves to be an honorary member of Keramos for his research in quantum-optics, his outstanding leadership in the classroom, and his genuine character.

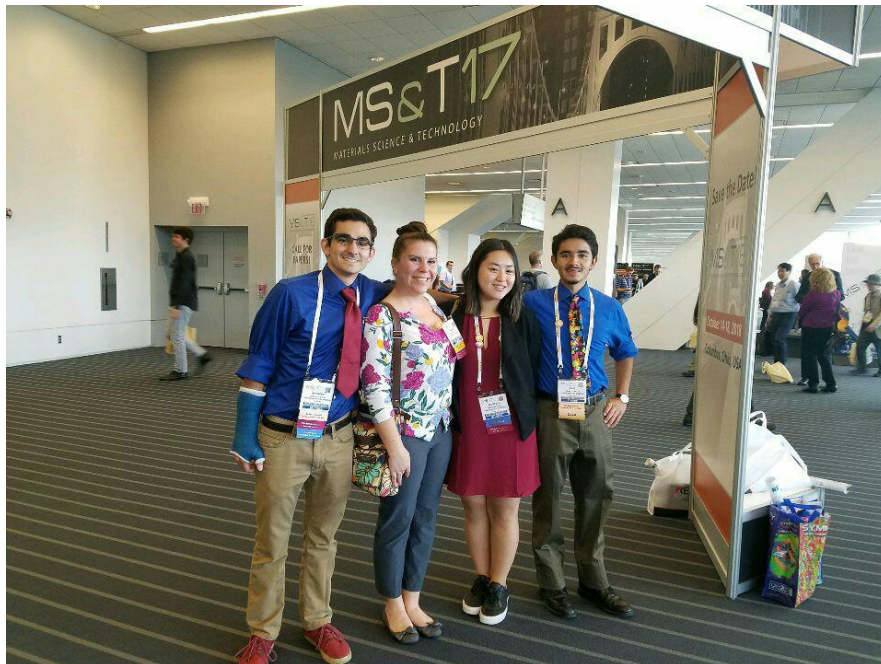
6. Treasurer's Report

Over the past year the club has participated in several activities that involved both spending and fundraising money. Most of the money spent was put towards funding students to go to MS&T 2017; however, other activities were organized and funded by the club such as the department picnic held every semester and the biweekly meetings. Other expenses involved buying materials for projects such as the SARSEF trophy. The club members did a fair amount of fundraising this semester by setting up a snack bar in the student lounge as well as making glass flowers by hand and selling them on the UofA mall. It was through the combined efforts of the members, officers, and treasurer that the club was able to organize and raise the funds needed to reach our goals.

Current total: \$459.09

7.1 MS&T 2017

This year the club was able to send four students to MS&T 2017 in Pittsburgh, Pennsylvania and almost fully reimburse them. On the first day the four members attended the Keramos Annual Convocation and Business Meeting. At the convocation the four of them met with other Keramos chapters where they exchanged ideas and experiences regarding Keramos. While at the convocation the group presented the clubs previous and future club activities, while also listening to similar presentations given by the other chapter members. MS&T is a unique experience because it gives students the opportunity to learn about current research in their field, network, and meet new and interesting people. After returning from MS&T the members shared their experience and new insight with the rest of the club.





7.2 Friendsgiving

On the week leading up to Thanksgiving, Keramos decided to have a potluck dinner in celebration of the holidays before everyone went on break. The main goal of this event was to give all the members an opportunity to bond with each other and for those that weren't planning on going back home for the holidays.

7.3 Department Cookout

On October 28th, 2018 the Materials Science and Engineering major had a department cookout with the help of Keramos contributing to purchases food items and setting-up the location at the Arizona Materials Laboratory. The purpose of this event was to invite all the faculty and students to network with each other. Having the department cookout at the Arizona Materials Laboratory showcases to students the lab facility where the professors' conduct their research.



7.4 Department Open House

On November 15th, 2017 the Materials Science and Engineering department held an open house for incoming engineering students that haven't declared a major within the college of engineering. Six Keramos members volunteered to assist in creating a PowerPoint about the department and student club activities. Some Keramos members also helped with presenting and giving the incoming students a tour of the material science labs offered in this department. There were +60 students that showed up to the open house and many of them expressed interest in being a part of Keramos.

7.5 Meet your Major Fair

On October 4th, 2017 students from the Materials Science and Engineering department participated in the "Meet Your Major Fair" where prospective freshmen who have undecided majors can come and talk to all of the majors on campus. The materials science booth gave demonstrations on shape memory alloy to attract students, then gave them a run down on what MSE was and answered any of their questions. We received many names to add on our email list and hopefully we'll see those students this coming fall.



7.6 Glass Flower Sales

On February 14th, 2018 the club set up a small table and sold glass flowers on the mall in the middle of campus for valentine's day. Student club members worked together in the glass lab on campus to create 18 glass flowers. The flowers varied in price based on colors and difficulty of the design. Prices ranged from 10 to 25 dollars. Five club members took turns selling flowers from 11:00am to 2:00pm. All flowers sold except for one which raised over 300 dollars for the chapter. This proved to be a very successful fundraiser and was decided to occur again later this semester on April 27th. Students have already begun stockpiling flowers which will be sold for graduation and Mother's Day. If this also proves to be just as successful, the club may be able to prepare pre- orders for flowers next year.

7.7 SARSEF Award

On April 14th, the U of A Keramos chapter presented the winner of the middle school SARSEF (Southern Arizona Research, Science, and Engineering Foundation) science fair the Keramos Tetrahedron award. The award, made by students in Keramos, consisted of a Tetrahedron made with four different materials: Casted Aluminum, 3D printed thermal sensitive plastic (changes color when exposed to extreme temperatures), Soda lime glass, and a sculpted ceramic piece. The award was given to a student whose project showed an emphasis on materials, more specifically the hardness of their ballet pointe shoes based on what the canvas material was treated with. We determined that this project was very unique as it combined two passions: materials science and dance. We hope to do this again in the next years to inspire students to pursue science.

8 Conclusion

Overall this year has been more successful than anticipated. All of the new officers were elected before summer in 2017 with limited knowledge of Keramos and even less knowledge on how to run a professional ceramic fraternity. As all engineers do however, we learned and adapted to our new positions and started to rebuild this society from its rubble at the U of A. This club is not perfect and there is much to do in the future to bring it back up to its full potential, but over the past year we have directed it on the correct course and will continue to do so in the coming years.