



Excellence • Scholarship • Tradition

Missouri Chapter of Keramos

2022 Annual Report



Table of Contents

I.	Chapter Advisor Executive Summary - Jeff Smith	5
II.	Annual Plan for Upcoming Year	6
III.	List of Officers for Upcoming Year	7
IV.	Active Members	8
	A. New Members	
	B. Full Member List	
V.	Graduating Members	13
VI.	Missouri Chapter Honorary Keramos Nominations	15
VII.	Treasurer's Report	16
VIII.	Chapter Activities	19
	A. Educational Outreach	20
	a. McNutt Breezeway Outreach	
	b. Open Houses and Field Trips	
	c. Ceramic in the Modern World Demos	
	d. Demo Boxes	
	e. Science Teacher Conference	
	B. Professional Development	23
	a. Etiquette Dinners	
	b. Lunch and Learns	
	c. Career Fair Prep	
	d. Student Advising	
	e. Student of the Month	
	f. Graduating with Honors	
	C. Service to the Community	26
	a. St. Patrick School Science Fair	
	b. STEMfest	
	c. Christkindl Market	
	d. Spring Banquet	
	e. MSE Department Mural Painting	
	D. Fundraising	29
	a. Miner Jobs for Major Cash	

E. Networking and Social Events	29
a. Cross Casting	
b. Glass Etching	
c. Other Social Events	
F. Alumni Engagement	31
a. Alumni Keragram	
G. Convocation and Conferences	35
a. MS&T 2021 Conference	
b. Keramos Convocation	
H. Miscellaneous	36
a. Organization	
IX. Executive Summary	37

I. Chapter Advisor Executive Summary

Strange year again. As the Covid issue began to ease, the Keramos chapter was faced with trying to balance trying to get back to normal with trying to protect members and the public from unnecessary risk. Jacob and his team (the Keramos exec) spent much time reviewing university policy and CDC recommendations, things that no other Keramos executive board has had to deal with, at least in my two plus decades as their Keramos advisor. Jacob was the right person to lead the chapter out of the pandemic. He is quiet, thoughtful, caring. He was perhaps not the leader I had expected, but he was definitely the leader that was necessary. His leadership through these issues has led to him being reelected as president of the chapter. I looked through the records and I do not see a two-term Keramos president in the history of the chapter. This is a strong indication of the faith that the chapter has in their president, and it gives me great hope that next year will be even more like the pre-Covid days. Couped with a other executive board members being elected again for the upcoming year, I think Jacob and the team are well positioned to help the chapter achieve all the goals they set forth.

The past year was much more successful than I imagined. The chapter completed a host of things that are detailed in this annual report. Perhaps the most important was their efforts to help the department recruit undeclared freshman. Covid led to many university changes and somehow, in the mess that ensued, the university dramatically changed how they recruit for the smaller, lesser well known, departments on campus. As such the department was facing significant enrollment issues. Keramos joined forces with Material Advantage and our other student groups and attacked the problem participating in numerous recruiting days just outside our building, where they successfully introduced students to the amazing careers that are ceramic and metallurgical engineering. It will take some time to see the fruits of their labor, but I am certain the results will be significant.

The plan for next year is to add back in as many of the pre-Covid activities as possible, while maintaining the new ones that were established. It will not be easy but this is the most experienced executive board I have had the pleasure to advise, so I am confident they will be able to achieve their lofty goals.

Respectfully, Jeff Smith, Missouri S&T chapter advisor

II. Annual Plan for Upcoming Year

There were a lot of exciting events that took place this year as Keramos was finally allowed to do more events in person. We had many opportunities for our Missouri Chapter members to actively participate in events which made the year feel much closer to normal. Even with that, quite a few students in the department still did not want to be actively involved. This problem most likely stems from the fact that many of the underclassmen have not ever been a part of a normal semester. The lack of involvement is a problem in other organizations as well and needs to be addressed in the coming year as Covid-19 hopefully has even less of an impact in our lives. The 2022-2023 year will continue to focus on strengthening outreach efforts, creating interesting social events to get students enthusiastic about the department again, raising our membership numbers as over half of our members are currently graduating, and trying to grow a culture of innovation with the MS&T student competitions.

Dr. Wilkerson really helped the push for outreach this year, and most of the events seemed rather successful. The Missouri Chapter of Keramos will continue to focus on these events by having a strong student presence. Creation of new demos and outreach materials would also be a big help to this part of the plan. Introducing new material helps to reinvigorate the outreach effort. Another goal for next year is to bring more ceramic and metallurgy students into Keramos. The best way to do this is to get to know the younger students on a more personal level. We plan on increasing the amount of socials (since it is viable now) so that a better camaraderie can be built between all of the students in the department. Hopefully this can help involve more students than in the previous year.

The Missouri Chapter of Keramos had an outstanding performance at the MS&T student competitions this year, and it would be nice to make that a tradition like it used to be. Just like a good shift from old officers to new, we need to be able to transition the procedures for the competitions to the younger generations. It would also be nice to see innovation in the competitions as well with students trying to push the limits as much as they can. It is going to be another busy but exciting year, and I can't wait to see things progress even more!

I hope to lead the Missouri Keramos Chapter the rest of the way into normal proceedings,

~Jacob M. Stacy - 2022-2023 MST Keramos President

III. List of Officers for Upcoming Year

Name: Jacob Stacy Office: President Address: [REDACTED] Phone Number: [REDACTED] E-mail Address: [REDACTED]	Name: Krista Hilmas Office: Vice President Address: [REDACTED] Phone Number: [REDACTED] E-mail Address: [REDACTED]
Name: Jack Vortmeier Office: Secretary Address: [REDACTED] Phone Number: [REDACTED] E-mail Address: [REDACTED]	Name: Josie O'Dell Office: Treasurer Address: [REDACTED] Phone Number: [REDACTED] E-mail Address: [REDACTED]
Name: David Thien Office: Herald Address: [REDACTED] Phone Number: [REDACTED] E-mail Address: [REDACTED]	Name: Julie Johnston Office: Historian Address: [REDACTED] Phone Number: [REDACTED] E-mail Address: [REDACTED]
Name: Lucas Rackers Office: Nominations Chair Address: [REDACTED] Phone Number: [REDACTED] E-mail Address: [REDACTED]	Advisor: Dr. Jeff Smith Address: [REDACTED] Phone Number: [REDACTED] E-mail Address: [REDACTED]

IV. List of Active Members

A. New Members

Over the 2021-2022 academic year, the Missouri S&T Keramos chapter welcomed six new members. Four members joined at the Fall Initiation, and two at the Spring Initiation. The Initiation process and requirements were intended to build on Ceramic Engineering knowledge, introduce new students to the Materials Science and Engineering Department, and develop a community amongst the S&T Keramos chapter. As such, initiates are required to participate in several of the key events hosted by Keramos: Lunch & Learns, Miner Jobs for Major Cash (if held), a Keramos Etiquette Dinner, and the S&T Career Fair. Initiates also make a ceramic plaque and take a pledge quiz covering Keramos history and ceramic knowledge.

Initiation was held on November 18, 2022 and April 12, 2022. Prior to initiation, new members collected signatures on their plaques from faculty, staff, and Keramos members. Following Initiation, the Keramos chapter celebrated the new members at Alex's Pizza, a Rolla, MO classic.



Additionally, Dr. Scott Miller, an Honorary Keramos Member (2003) and Associate Chair for Undergraduate programs in the S&T Materials Science and Engineering Department, created his long-overdue plaque. His plaque placed second in the “Best Plaque” contest for the spring initiation.



B. Full Member List

<u>November 18th, 2021 Initiates</u>		
Himmel, Rose	Rackers, Lucas	Schuman, Audrey
Thien, David		
<u>April 12th, 2022 Initiates</u>		
Goodman, J	King, John Paul	
<u>Undergraduate Members</u>		
Abbott, Ashleigh ²	Luebbert, Anthony ¹	Schneider, Anna ¹
Asbury, Meredith ²	Malins, Lukas	Schuman, Jared ¹

Basler, Grace	Malpocker, Sophia	Shellabarger, Stephen ²
Bax, Alyssa ¹	Mcgarvey, Seamus	Smerek, Kyle ¹
Burkett, Mitchell ¹	Miller, Garrett ¹	Stacy, Jacob ²
Christian, Jordan	Moeller, Lauren	Sutalski, Elliot
Colletti, Catherine ²	Mrotek, Jay ¹	Thomasson, Caitlin ²
Gillespie, Nathan ²	O'dell, Josie	Thornton, Sarah ²
Grier, Sophie ²	Pallett, Michelle ²	Vishy, Matthew ¹
Hilmas, Krista	Pizzo, Erica ¹	Vortmeier, Jack
Hopper, Danielle ¹	Reed, Zoe	Wannenmacher, Jacob
Johnson, Caelen ²	Reicher, William ²	Woodley Michelle
Johnston, Julia	Sabata, Clare ¹	Wyand, Robert ¹
Lenox, Megan ¹	Sayre, Elizabeth ²	
<u>Graduate Members</u>		
Blatt, Nathan	Lapeyre, Jonathan	Scott, Jonathan
Blatt, Rebekah	Lewis, Theodore	Smith, Steven
Boland, Sydney	Martin, Austin	Timme, Nicholas
Brune, Paul	Martin, Hannah	Volz, Steven

Cook, Rachel	Murchie, Alec	Weyrauch, Noah
Duncan, Katie	Pommerenke, Hans	Wittmaier, Connor
Jarmann, Jecce	Read, Aaron	
Jarvis, Leiren	Richards, Tyler	
<u>Faculty</u>		
Dr. Laura Bartlett	Dr. Wayne Huebner	Dr. Mark Schlesinger
Dr. Richard Brow	Dr. Aditya Kumar	Dr. Bob Schwartz
Dr. Anthony Convertine	Dr. David Lipke	Dr. Jeff Smith
Dr. Fatih Dogan	Dr. Scott Miller	Dr. Jeremy Watts
Dr. Bill Fahrenholtz	Dr. Joe Newkirk	Dr. Kelley Wilkerson
Dr. Greg Hilmas	Dr. Ron O'Malley	
<u>Emeritus Faculty</u>		
Dr. Harlan Anderson	Dr. Darrel Ownby	Dr. Dave Van Aken
Dr. Delbert Day	Dr. Mary Reidmeyer	Dr. Von Richards
<u>Honorary Members</u>		
1947 – John C. Hostetter	1987 – Mohamed Rahaman	2007 – Eric Bohannan
1948 – Frederick Norton	1988 – Lokeswarappa Dharani	2008 – Matt O'Keefe

1950 – Paul Smith	1989 – James Stoffer	2009 – Ted Ruppert
1953 – Charles Smith	1990 – Daniel Armstrong	2010 – Sam Stang
1961 – William James	1991 – Larry Heying	2012 – Cindy Schwartz
1970 – John Arthur	1992 – Richard Hagni	2013 – S. Jill Glass
1970 – John Holt	1994 – Daniel Stutts	2014 – Jaci Huebner
1971 – Harlan Smith	1996 – Bill Hibler	2015 – Mike Carson
1973 – Hector McDonald	1997 – Kent Peaslee	2016 – Glen H. Kirby
1975 – Leroy Hart	1998 – Eric Schramm	2017 – Kathleen Shugart
1977 – Manfred Wuttig	1999 – Ken Goretta	2017 – Mrityunjay Singh
1978 – Paul Cash	2000 – Terry Tiegs	2018 - Gary Penell
1980 – Edward Epstein	2001 – William Dawson	2019 - John Story
1981 – John Bartel	2002 – Carl Moody	2020 - Sylvia Johnson
1983 – Melvin Churovich	2003 – Scott Miller	2021 - David Lay
1984 – Don Sparlin	2004 – Chris Ramsey	2022 - Jie Huang
1985 – John Dial	2005 – Ted Day	
1986 – Chandra Ray	2006 – Ron Kosher	

¹Members Graduating Fall 2021

²Members Graduating Spring 2022

V. Graduating Members

Fall 2021 Graduates

Alyssa Bax Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]	Danielle Hopper Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]
Megan Lenox Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]	Anthony Luebbert Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]
Garrett Miller Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]	Jay Mrotek Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]
Erica Pizzo Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]	Clare Sabata Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]
Anna Schneider Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]	Jared Schuman Email: [REDACTED]
Kyle Smerek Email: [REDACTED]	Matthew Vishy Email: [REDACTED]
Robert Wyand Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]	

Spring 2022 Graduates

<p>Ashleigh Abbott Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>	<p>Meredith Asbury Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>
<p>Catherine Colletti Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>	<p>Nathan Gillespie Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>
<p>Sophie Grier Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>	<p>Caelen Johnson Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>
<p>Michelle Pallett Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>	<p>William Reicher Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>
<p>Elizabeth Sayre Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>	<p>Stephen Shellabarger Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>
<p>Jacob Stacy Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>	<p>Caitlin Thomasson Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>
<p>Sarah Thornton Address: [REDACTED] Phone: [REDACTED] Email: [REDACTED]</p>	

VI. Missouri Chapter Honorary Keramos Nominations



The Missouri Chapter of Keramos would like to nominate Dr. Jie Huang as an honorary member for the 2021-2022 school year. Dr. Jie Huang is an Associate Professor of Electrical and Computer Engineering at the Missouri University of Science and Technology.

Dr. Huang received his PhD in Electrical Engineering from Clemson University in 2015 and has spent the past six years at Missouri S&T. His research focuses on fiber optic and microwave sensors and instrumentation for applications in energy, intelligent infrastructures, clean environments, biomedical sensing, and harsh environments. Dr. Huang has authored or coauthored over 100 article publications in the past ten years.

While most materials science students do not interact with Dr. Huang in a classroom setting, his talks are informative and engaging. His numerous publications about the application of fiber optic and microwave sensors show his dedication to the advancement of ceramic materials. Dr. Jie Huang’s passion for researching applications of ceramic materials is why Missouri S&T’s chapter of Keramos believes he would be a fantastic candidate to become the next honorary member of the Keramos Fraternity.

Phone Number: [REDACTED]

Email Address: [REDACTED]

VII. Treasurer's Report

The Missouri Chapter of Keramos spent a total of \$2387.22 and collected a total of \$1235.00 over the course of the 2021-2022 academic school year. The \$2387.22 was spent on Lunch & Learns, initiation activities, ordering department merchandise, and department socials. The \$1235.00 was collected through selling department merchandise, MJMC's, and member dues. The following three tables show the annual expenditure report of the bank account, cash bag, and Venmo account for the Missouri Chapter.

Bank Account				
Date	Debit	Credit	Balance	Description
9/24/2021			\$1919.92	Beginning Balance
10/18/2021		\$120.00	\$2039.92	MJMC
10/27/2021	-\$46.44		\$1993.48	Lunch and Learn
11/17/2021	-\$43.44		\$1950.04	Lunch and Learn
11/19/2021	-\$162.29		\$1787.75	Keramos Initiation - Dinner
12/1/2021	-\$45.55		\$1742.20	Etiquette Dinner
12/6/2021		\$10.00	\$1752.20	Department Merch Sale
12/6/2021		\$600.00	\$2352.20	Transfer to Bank Account

12/9/2021	-\$1000.68		\$1351.52	Department Merch Order
1/23/2022	-\$76.34		\$1275.18	Department Social
2/28/2022	-\$19.09		\$1256.09	Etching Materials
3/7/2022	-\$72.40		\$1183.69	Student of the Month Stickers
3/14/2022	-\$163.15		\$1020.54	Honor Cords and Etching Materials
3/15/2022	-\$72.76		\$947.78	Lunch and Learn
3/22/2022	-\$98.44		\$849.34	Glaze for Plaques
4/12/2022	-\$285.64		\$563.70	Keramos Initiation - Dinner
4/14/2022		\$400.00	\$963.70	Transfer to Bank Account

Cash Bag				
Date	Debit	Credit	Balance	Description
9/24/2021			\$427.00	Beginning

				Balance
11/19/2021		\$10.00	\$437.00	Initiation Fee
12/1/2021		\$10.00	\$447.00	Polo Sale
12/6/2021		\$340.00	\$787.00	Department Merch Sales
12/10/2021	-\$195.00		\$592.00	Senior Send-off and Keramos Plaque
12/10/2021		\$80.00	\$672.00	Department Merch Sales
4/11/2022	-\$106.00		\$566.00	Lunch and Learn

Venmo Account				
Date	Debit	Credit	Balance	Description
4/22/2021			\$440.48	Beginning Balance
4/29/2021		\$45.00	\$485.48	Graduation Cords
10/23/2021		\$10.00	\$495.48	Etiquette Dinner Deposits

11/11/2021		\$15.00	\$510.48	Graduation Cords
11/18/2021		\$20.00	\$530.48	Initiation Fee
11/19/2021		\$50.00	\$580.48	Polo Sales
12/6/2021		\$440.00	\$1020.48	Department Merch Sales
12/6/2021	-\$600.00		\$420.48	Transfer to Bank Account
12/14/2021		\$15.00	\$435.48	Graduation Cords
4/11/2022		\$60.00	\$495.48	Graduation Cords
4/11/2022		\$10.00	\$505.48	Spring Banquet
4/14/2022	-\$400.00		\$105.48	Transfer to Bank Account

VIII. Chapter Activities

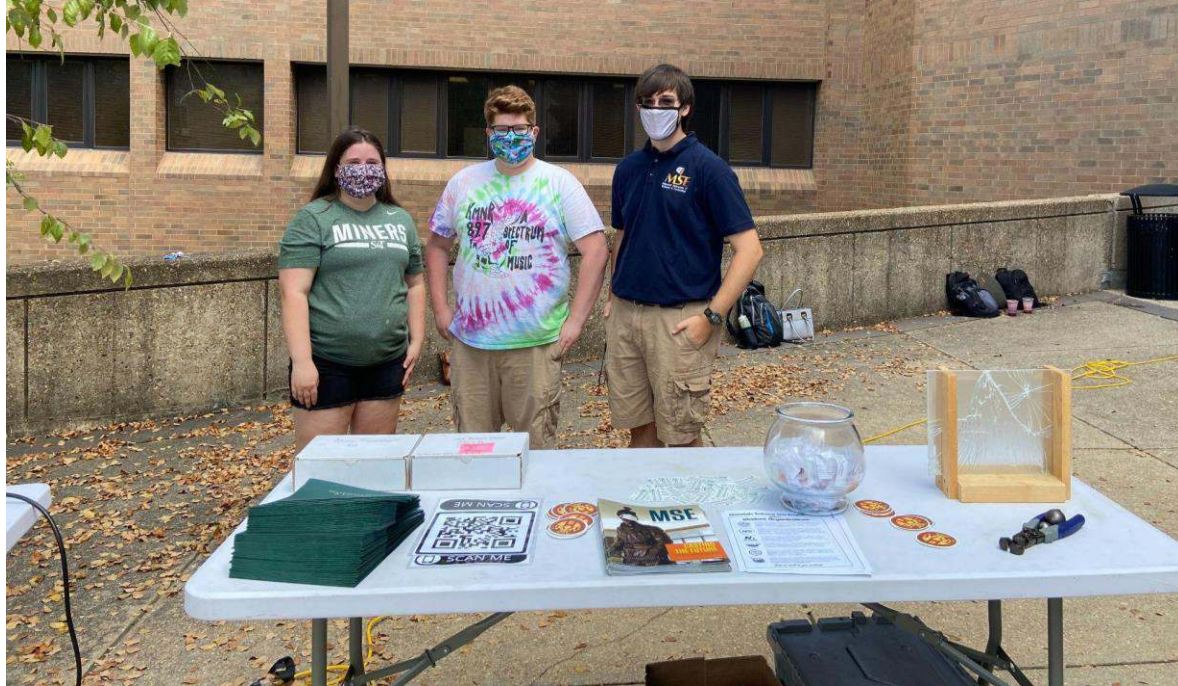
A. Educational Outreach

One of the main focuses of Missouri's Keramos Chapter this year was to reach out to as many prospective college and high school students as possible. We hosted a few events on campus geared towards freshman and sophomore students and even more for prospective students visiting campus. The creation of demo boxes over the last two years has also allowed us to reach more students than ever before. To make sure there are enough students that can perform the demos at these outreach events, demo training is coordinated with Material Advantage and typically a graduate student that has given the demos before.

McNutt Breezeway Outreach

The Materials Science and Engineering Department wanted Keramos and the other department organizations to get involved with more out of department students and convince them to join us. This led to having booths set up outside of McNutt Hall during opening week and each week a month before advising week. The use of a cotton candy machine to explain how fiberglass is made is always a great way to draw people in to talk. The new department stickers also helped with that as well. Then Keramos was able to demonstrate many of the interesting sides of materials science to these students with our typical glass and crystal structure demos. The jolly rancher fiber pull demo was also a big hit. These outreach activities were successful in reaching far more college students than normal.





Open Houses and Field Trips

Throughout the year, middle and high school students take trips to the Missouri S&T campus, and Keramos and Material Advantage take advantage of this opportunity to show them exciting demos. The same thing is done whenever prospective students and their families visit on open house days. We bring these students into the lab and cover many relevant topics in materials science and engineering. These topics include things like crystal structures, glass forming and dopants, heat treatments, semiconductors, and particle packing. For these visits, Keramos usually also incorporates the tempered glass demo, a glass fiber pull right out of the furnace, the space shuttle tile demo, and a thermal shock demo with alumina if there is time. The students always seem to enjoy this time in the lab, and we make sure to give the younger students some of our old take home experiments that were originally created by Dr. Reidmeyer.

Ceramics in the Modern World Demos

Keramos members aided our advisor in giving the demos about glass science to the introductory ceramic engineering class. It is generally the first class that incoming freshmen and sophomores take and gives a brief introduction to all of the different aspects of ceramic engineering. The glass demo consisted of walking the students through several topics of glass science, from the raw materials and colorants to special applications within the medical and

nuclear fields. Two physical demonstrations performed with the students were tempered glass breaking and pulling of a glass fiber.

Demo Boxes

Keramos outreach with demo boxes started during the Covid-19 semesters with a generous CGIF grant. They were a way for Keramos to teach students at home all about materials science. The idea worked really well the first time, so this year we partnered up with Admissions to send out 300 demo kits to prospective students. Another 100 or so boxes were sent to Missouri science school teachers so that they could use them in their classrooms. The demo boxes contained materials for showing thermal conductivity, pretzel sticks and marshmallows to create crystal structures, jolly ranchers and popsicle sticks to pull “glass” fibers, two different pieces of glass to show how tempered versus regular glass breaks, and of course a set of instructions to run all of the experiments. Each box also contained information on how to contact the department and our lovely new stickers.



Science Teacher Conference

The Science Teachers of Missouri (STOM), part of the National Science Teachers Association, provides professional development opportunities for science teachers of all levels in Missouri. Keramos presented a seminar for high school teachers at their virtual conference on September 25, 2022 in which the value and role of ceramic engineering was discussed. S&T students performed several live demos over video to demonstrate in-class activities that teachers could bring back to their classroom, or that the S&T Keramos chapter could run for them during classroom visits.

B. Professional Development

Etiquette Dinners

Each year the Missouri chapter of Keramos holds two etiquette dinners for members of Keramos, students, faculty, guests, and industry professionals. It serves as an opportunity to learn how to dine and conduct yourself properly in a professional setting. The main goal of the dinner is that attendees are able to develop good habits and they leave with an increased knowledge of culture and technique for formal dining. The dinner is sponsored by an industry company, which allows for networking opportunities for our students and faculty with professionals from the company. This was the first year since COVID-19 that the chapter was able to host an in-person etiquette dinner.

The Fall 2021 etiquette dinner was sponsored by Nucor and held at Just a Taste in St. James, MO. Dr. F. Scott Miller led the dinner presentation that night, informing attendees of the Do's and Don'ts of formal dining through humorous pictures. A total of 55 people attended the dinner, including four representatives from Nucor: Gary Pennell, Obinna Adaba, Cameron Smith, and Ashish Singh. Several prizes, brought by Nucor attendees, were awarded throughout the night by use of a random name drawing.

The Spring 2022 etiquette dinner was hosted in conjunction with the American Foundry Society (AFS) at Just a Taste in St James, MO. Our Keramos chapter has hosted this event in conjunction with AFS since 2018 to promote more metallurgical students' involvement, encourage greater department development, and strengthen ties between the two organizations. The dinner was sponsored again by Nucor and had 51 people in attendance, including 4 representatives from Nucor. Dr. Greg Hilmas led the dinner presentation, complete with new pictures and slides of faculty professors acting out the Do's and Don'ts of proper etiquette. Prizes brought by Nucor were once again awarded to attendees through a random name drawing.

Lunch and Learns

Keramos hosted seven Lunch & Learn seminars over the 2021-2022 academic year. The Lunch & Learns consist of interactive, informal presentations and sandwiches. These are open to all students and are intended to provide resources on careers in the ceramic engineering industry.

This year two of the presentations focused on preparation for the Missouri S&T Career Fair, and two on student experiences while on co-op, with the goal of preparing students for co-ops and internships. Experts on ceramics and metallurgy from GE Research and an expert on glass and ceramics from Honeywell also presented to the chapter. In all, Keramos students were able to learn about jobs at Kohler, Sandia National Labs, GE Research, Nucor, and Honeywell. An expert on fiber optics also presented to the chapter to recruit students for graduate school.

2021-2022 Lunch & Learn Presentations

Topic	Presenter	Date
S&T Career Fair Preparation	Missouri S&T Career Opportunities & Employer Relations	September 22, 2021 (presented virtually)
Co-op Experience at Kohler and Sandia National Labs	Lauren Moeller and Catherine Colletti, S&T undergraduate students	October 15, 2021
Fiber Optics Research	Dr. Jie Huang, S&T Professor of Electrical Engineering	November 17, 2021
GE Research	Dr. Laura Dial and Dr. Jared Weaver, GE Research	December 1, 2021 (presented virtually)
S&T Career Fair Preparation	Missouri S&T Career Opportunities & Employer Relations	February 11, 2022 (presented virtually)
Co-op Experience at Nucor	Sophia Malpocker, S&T undergraduate student	March 9, 2022
Honeywell	Rachel Grodsky, Honeywell	April 8, 2022

Career Fair Prep

Two resume review sessions were held over the course of the year, one before each semester's career fair. Resumes from Keramos and department members were sent in for review by the Keramos Executive board two weeks prior to the career fairs. This helped members to improve their resumes and have a better chance of finding an internship or job. Mock interviews were also held the week prior to each career fair. Members were paired with a faculty member who volunteered to host the interview. Each student's interview was 30 minutes and they were asked several common interview and behavioral questions. This event helped members to prepare for the career fair and gain confidence for any future internship or full-time position interviews.

Student Advising

In the fall during advising week, an event was held to help current materials science students with choosing their coursework. Dr. Smith and a few of the upperclassmen gathered in the McNutt commons to answer any questions that the underclassmen might have. Sometimes the degree program can be hard to navigate especially if students have the opportunity to go on a co-op. This event is a chance to help clear that up and advise the students on what to take and when. The event did not have the best attendance which was likely due to its placement around the week of the MS&T 2021 conference.

The event in the spring semester took on a slightly different form. Instead of meeting in the commons, two events were held at two of the student dorms. This event was similar by having upperclassmen present to answer any questions the students had. It had a much larger turnout than the advising event in the fall. Next year's Keramos and Material Advantage advising events will most likely be in this form.

Student of the Month

Keramos Student of the Month is an honor that was continued from last year in which students and faculty can recognize students who have made contributions to the department. Every month, a nomination form is sent out to the department for both Ceramic Student of the Month and Metallurgical Student of the Month. At the end of the month, any E-Board members who have not been nominated evaluate the nominations and choose one student for each category. Students who receive the award are announced at department seminars and given a Student of the Month sticker.



Graduating with Honors

This is an honor given to the outstanding members of Keramos. Graduating seniors are able to wear blue and gold honor cords at graduation and seniors who receive the graduating with honors distinction also get to wear a Keramos gold pin. Seniors fill out an application and write about the following criteria and how they went above and beyond: departmental activity, professional development, research, and other campus involvement. Any E-Board members who are not graduating evaluate the responses and choose the top candidates as compared to the rest of their class.

C. Service to the Community

St. Patrick School Science Fair

On January 27, 2022, members of the chapter assisted at the St. Patrick School Science Fair by helping judge. This is an annual event hosted by the school in which students in grades 5-8 spend several weeks researching and conducting a science project. The students then prepared a poster board detailing the entire scientific method they used during the experiment. The event was able to be held in-person this semester with accommodations made to be safe such as all participants wearing masks and only one class presenting at a time. Keramos members aided in the judging process, in which each student was seen by three different judges and asked a series of questions to gauge how well they understood their project. Judges then completed a short scoring rubric to help determine the winners from the fair. Fair winners were then eligible to compete in the next level of competition.

Keramos' participation was vital to the success of the fair and ensuring that the fair ran smoothly. Keramos was able to provide the number of judges necessary for each class to shift their schedules by less than an hour for judging. We also were able to provide a unique viewpoint of a student while still having the knowledge of several science topics. Finally, we gave the students feedback on their projects and presentation skills based on our previous experience in giving presentations.

STEMfest

STEMfest was a brand new event created for the community in association with the 150th anniversary celebration of Missouri S&T. The event consists of many of the school's math and science based student organizations putting on interactive activities for younger students and their parents. We were able to bring our tempered glass demo which always gets people excited about materials science. We also brought a few of our crystal structure models to talk about and some take home demos for the smaller children. The event was rather successful for letting the community know what Keramos is all about and how they can get involved. Hopefully, the school will continue to put on the event every year to promote all of the STEM fields. It was a great opportunity to see some of the youngest and oldest people in the community learning and asking questions all about materials science.



Christkindl Market

Each December, the city of Rolla hosts the annual Christkindl Market to celebrate the holidays and Rolla's sister city in Germany. The event is a local favorite and is filled with entertainment, food, and local arts and crafts vendors. Keramos partnered with Material Advantage this year to set up a booth for the Materials Science and Engineering department where we passed out cotton candy and small items with department information. All proceeds from the event were donated back to the Christkindl Market to help them have another successful event next year.

Spring Banquet

Keramos will organize and host the Materials Engineering (MSE) department spring banquet dinner to be held on April 28 at Matt's Steakhouse, with 100 anticipated guests. The banquet serves as a way to honor everyone that has contributed to the department this year and to appreciate what we've accomplished together. Several awards will be given, including the recognition of outstanding undergraduate students, outstanding graduating students, outstanding graduate students, and outstanding faculty members for both the ceramic and metallurgical engineering fields. Other awards will be presented by student groups to Keramos members graduating with honors. All award winners are nominated by faculty and voted upon by both faculty and students in their respective fields.

MSE Department Mural Painting

Every 5-10 years, Missouri S&T's Residence Hall Association allows students to submit designs for murals on the walls of the tunnels that connect the residence halls to the rest of campus. This year, Keramos facilitated the submission of a mural for the Materials Science and Engineering Department. The mural titled "Material Advancement" was one of thirty submissions that was selected to be installed in the Residential Commons tunnel. The design and painting of the mural was done by student volunteers of the department.



D. Fundraising

Miner Jobs for Major Cash

Each year, the Missouri S&T Keramos chapter puts on a fundraiser known as “Miner Jobs for Major Cash” (MJMC), a pun off our school mascot Joe Miner. During these events, Keramos members will do miscellaneous work for faculty and staff in the Materials Science and Engineering department. Faculty members will make a donation to the Keramos chapter in return. In addition to the monetary value of these events, MJMC helps to introduce new students to faculty members and promote a community in the Materials Science and Engineering department. This year, three MJMC events were held for two different professors. On September 19, 2021 a MJMC was held for Dr. Von Richards to stack wood for the winter. On October 10, 2021 and November 13, 2021 MJMC events were held for Dr. Smith to rake leaves and clear weeds and dead branches from his property. In total, the MJMC events raised \$120 and an in-kind donation of pins for Keramos members Graduating with Honors.

E. Networking and Social Events

Cross Casting

Keramos has had a long tradition of running a social with AFS in which metallurgy students come into the ceramic lab (the mud lab) to slip cast ceramics and the ceramic students go into the foundry to watch their own pieces get cast in an aluminum pour. It is a great way for the students in both degree programs to network with each other and relax on a weekend. This year CAST (the newly formed Ceramic Artists of S&T) joined in and added plate glazing into the list of activities. This event always brings a lot of students together that don't normally get to work with each other. This event usually takes place at least once a semester.

Glass Etching

This year, Keramos hosted a glass etching social for the Materials Science and Engineering department to foster a greater sense of community within the department. Prior to the event, Keramos officers gathered unique glasses from our local Goodwill for the event, and the Nominations Chair designed specific Keramos, Materials Science and Engineering department, or St. Patrick's Day designs (as the event was held the day before St. Patrick's Day), which were then cut into vinyl. During the event, students gathered in one of the labs and chose a glass and a design to acid etch. Any extra glasses/designs were etched at the end of the event to be sold with other Keramos merchandise at a later date. We received fantastic feedback from those attending the event as it was a great way to socialize, be creative, and take home some personalized merchandise with a materials science theme. This event can serve as a multifunctional social and fundraiser for the chapter in the future.



Other Social Events

Keramos wanted to end the fall 2021 semester on a high note, so a bonfire was planned at Dr. Hilmas' house. This event was open to everyone in the department and it was a great stress reliever before finals week. A few students had gathered plenty of wood the day before to build the bonfire. The event consisted of eating pizza and desserts brought by the students as well as roasting marshmallows on the fire. The turnout was one of the best Keramos had all year because we talked quite a few graduate students into coming. Before the actual bonfire was lit, a white elephant of sorts took place using rejected pieces made in the mud lab as well as some of Gaffer's Guild's leftover glass pieces. Almost all of the attendees had also worn their Happy

Holiphase sweatshirts that Keramos had made last year. It was very relaxing for everyone to get together and celebrate the end of the year.

Keramos and Material Advantage also put on a dinner at one of the local Mexican restaurants at the end of each semester to serve as a send-off event for the seniors. They were both nights of storytelling by both the professors and graduating seniors. It is always sad to see the seniors go, but these send-off events are light-hearted and help us to remember all of the great things our friends have accomplished.



F. Alumni Engagement

Alumni Keragram

Keramos continued the tradition of sending a monthly newsletter, titled Keragram, to all of the chapter's alumni. The purpose of the Keragram is to keep the alumni updated with the happenings of the department and Keramos' involvement on campus. It also allows us to maintain connections with many of the alumni, which has been beneficial to find speakers for future lunch and learns. Additionally, we utilized the Keragram to involve the alumni in a project for a beloved long-time professor who is retiring after this school year. A survey was sent out with the Keragram to send in stories and quotes they remembered from his classes that was used to design stickers with his famous quotes.

Keragram Special Edition

AN APOLOGY FROM THE EDITOR

Hi everyone, Michelle here. Happy 2022! I sincerely apologize for the delay in this Keragram. December (and Finals Week) caught up with me. Enjoy this special edition Keragram with all the things happening in Keramos from November through January. We sure had a lot happen, despite 6 weeks of that time frame being Winter Break.



Oliver certainly enjoyed his holiday break, even if his mom had to work a lot.

10,000 THINGS EVERY CERAMIC ENGINEER SHOULD KNOW!

Our beloved Dr. Huebner is finally retiring. In celebration of his retirement, we are surveying all of his students, past and present, to see which of the 10,000 things we remember. If you would like to contribute to the list of things, we have a Google Form for you to share the things that you remember from Dr. Huebner. Use the link or the QR code to access that form. Feel free to contribute as many as you would like!

<https://forms.gle/DXEX7qBbtEAeTwYR9>



FEBRUARY EVENTS

- February 9-11: Mock Interviews
- February 15-16: Spring Career Fair

FUTURE EVENTS

- April 14: Tentative Spring Initiation

ANNUAL KERAMOS FALL ETIQUETTE DINNER

Keramos was able to host the fall Etiquette Dinner in-person for the first time since the pandemic began. The event took place at Just a Taste in St. James and was sponsored by Nucor. Dr. Miller was our speaker for the evening and did a fantastic job sharing all sorts of tips for proper dinner etiquette while we enjoyed a delicious meal. Nucor sent several representatives, allowing us the opportunity to also network outside of just our peers and professors. Overall, the evening was a huge success.



Our excellent speaker for the evening with vice-president, Krista Hilmas.

Just a Taste provided the perfect venue.

FALL INITIATION WELCOMES FOUR NEW MEMBERS



The four new members initiated this fall.

Last fall, our chapter of Keramos welcomed four new members. Under the guidelines at the time, we were even able to open up in-person seating to the current members in addition to our professors. The celebration of our new members continued afterwards at Alex's Pizza, where Dr. Hilmas shared several old pictures of himself and the other professors.



Our new members with the Executive Board and esteemed professors.

Other Fun Things We Did

MSE DEPARTMENT MURAL

The university allowed organizations to submit potential designs for new murals in the UC/RC and TJ tunnels. Keramos worked with other members of the department to submit a design for the UC/RC tunnel, and it was approved! Several painters from the department dedicated several hours in the last weeks of classes to finish the mural. The final product looks fantastic and is a great way to showcase our department, especially being right next to our building.



END-OF-SEMESTER BONFIRE



Dr. Hilmas graciously hosted the department at his property for a bonfire at the end of the semester. We also held a White Elephant exchange with mystery pieces donated from the Mud Lab and Hot Glass Shop. Every one got to take home their own "treasure" (my treasure is on the right). The evening concluded with s'mores and great conversation.



Serving cotton candy at Rolla Christkindl Markt



Dr. Hilmas gets pied



Congratulations to our seniors who graduated with honors in December!

G. Convocation and Conferences

Another focus for the Missouri Keramos Chapter this year was to have a large group of students attend and participate in the MS&T 2021 student competitions. We were glad to have many Keramos students from our chapter attend the MS&T 2021 conference as well as the annual Keramos Convocation. Both of these were very important to us this year as they were fully online in 2020.

MS&T 2021

There were around 15 of the Missouri Keramos Chapter members that were able to attend MS&T this year. They had many opportunities to learn about novel research and network with many other students and industry professionals. The Missouri Chapter also came to the conference with a lot of entries into the student competitions. We had multiple students compete in the poster competition, the mug drop competition, and the disc throwing competition. This year we were lucky enough to have Amelia Martinez take 1st in the undergraduate poster contest, Sophie Grier take 1st in the mug drop, Elliot Sutalski take 1st in the aesthetic mug, and Jacob Stacy take 1st in the aesthetic disc competition. Many of the other students participating placed as well. The conference was a great way for Keramos to get back to doing more events in person.



Keramos Convocation

Convocation was presided over by Kelley Wilkerson, because the Keramos National Student Representative, Will Reicher, was unable to attend. The Missouri Chapter was fortunate enough to have seven members in attendance. There were only three chapters present at convocation this year: the Colorado Chapter, the Illinois Chapter, and the Missouri Chapter. Each president gave a report of the previous year's activities. The Missouri Chapter was happy to receive the Diamond Award and congratulate Colorado School of Mines for winning the

Outstanding Chapter Award. The last business of the meeting was to elect a new National Student Representative which was Aidan Ravnik from Colorado School of Mines.

H. Miscellaneous

Organization

As the operations on the Missouri S&T campus began to return to normal, there was a push from Student Involvement to update a lot of documents for registered student organizations. That gave us an opportunity to update our Constitution so that it would better reflect our goals and rules to operate by. We based the new Constitution on the current National Chapter's procedures manual and added our own traditions to keep things relevant for the Missouri Chapter. The new Constitution was ratified in February of this year (2022).

One of the focuses of this year was also to improve communication between Keramos and the other organizations housed in the Materials Science Department. To do so, we created a shared Google drive for all of the department's clubs. All the digital Keramos files were moved over, and Missouri S&T's Material Advantage Chapter has also fully moved their files over. Next year, Keramos will continue to encourage the other organizations to do the same so that we can all share files much more seamlessly. Another way we improved communication was to reinstate the campuswide Keramos email (keramos@mst.edu). This allows us to be able to send out our keragram to the Missouri Chapter alumni, receive messages in one place, and send out announcements and sign-ups from one account.

IX. Executive Summary

The circumstances surrounding this year were most definitely unique. The Missouri Chapter found itself with a multitude of opportunities for in person events that had not been able to happen for a couple years. Our levels of outreach attained new heights this year due to a bustling campus and a drive in the students to go out and talk to others. We were also able to create new social events and help the community in ways we haven't before. A focus was also placed on working with all of the other department organizations. It was nice to be able to work so closely with our Material Advantage Chapter, American Foundry Society, and Ceramic Artists of S&T.

The Missouri Chapter also kept tradition in many ways including the initiation ceremonies and helping out with the St. Patrick School Science Fair. We took our normal outreach approaches and put them into overdrive. Throughout the year, Keramos appealed to many different students on campus, teachers online, and students at home with our demo boxes that were sent out all over the state. Having a presence at the Christkindl Market and STEMfest also gave the community awareness about all that the materials science department has to offer.

To keep Keramos members on top of professional development, we continued our use of resume reviews and mock interviews. They helped to strengthen our members' search for jobs, internships, and co-ops. The advising sessions assisted students in keeping their schedules reasonable and on track. The lunch and learn events were also a great way to keep students up to date on current job opportunities and advice as well as give them a time to relax.

It was exciting to see all of the students work hard to prepare for the MS&T student competitions and succeed. The experience was very rewarding for all of them. I hope to see a similar turn out next year. The glass etching and cross casting socials were also very popular and will be great to have again in the future. Events like the department bonfire made sure to bring students and professors together for much needed downtime and relaxation. The Missouri Chapter of Keramos can't wait to see what kinds of ideas will come up within the next year to serve the students, but we will most certainly draw inspiration from the many Keramos members of the past and preserve their many traditions.