



Missouri Chapter of Keramos

2018 Annual Report

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Table of Contents

- I. Chapter Advisor Executive Summary 1
- II. Annual Plan for Upcoming Year 2
- III. List Officers for the Upcoming Year 3
- IV. List of Active Members 4
 - A. New Members 7
 - B. Graduating Members 8
- V. Missouri Chapter Honorary Keramos Nomination..... 10
- VI. Treasurer’s Report 11
- VII. Chapter Activities 14
 - C. Fundraising 14
 - Item Sales 14
 - Miner Jobs for Major Cash 14
 - D. Educational Outreach..... 14
 - Open Houses 14
 - Summer Camps 15
 - September Student Showcase 15
 - St. Patrick’s School Science Fair 15
 - Kaleidoscope Volunteers 15
 - Ceramic Glass and Industry Foundation (CGIF) Proposal 16
 - E. Professional Development 16
 - Etiquette Dinners 16
 - Lunch and Learns..... 17
 - Practice Interviews 17
 - Graduating with Honors..... 17
 - Skeramos..... 17
 - Materials Bowl Trivia 18
 - Comprehensive Keramos Roster..... 18
 - F. Networking Events..... 18
 - AFS/Keramos Casting Social 18
 - G. Services to the Ceramics Community 19
 - Spring Banquet..... 19

President’s Council of Student Advisors (PCSA)	19
Congressional Visit Day	19
H. Alumni Engagement	20
Career Fair Fall Picnic	20
I. Convocation and Conferences	20
Materials Science and Technology 2017 Conference (MS&T’17)	20
Keramos Convocation.....	20
78 th Conference on Glass Problems (GPC).....	21
54 th Symposium on Refractories	21
42 nd USACA Conference on Composites, Materials and Structures	21
Mock Competitions.....	22
J. External Chapter Communications	22
Missouri and Illinois Cross-Chapter Social	22
National Student Representative.....	22
VIII. Keragram Article	23
IX. Executive Summary	24

I. Chapter Advisor Executive Summary

The focus of the 2016-17 Keramos executive board was one of outreach. That group, led by President Elizabeth Robinson and Vice President John Waldo, had a singular goal to expand the reach of Keramos to ensure that the chapter recovered the outstanding chapter award. They reached their goal and their efforts had significantly expanded the role of Keramos on this campus as a go-to organization for outreach activities related to materials engineering.

The 2017-18 Keramos executive board, led by Evan and Jacob, focused more on providing Keramos members enhanced and expanded opportunities for professional development, while maintaining most of the expanded outreach from the previous year. I indicate most as there was a real push to teach other material's science organizations to take on some of the activities that Keramos had initiated, such as one of the etiquette dinners. By working with those organizations to ensure transition of the event to the new group was accomplished seamlessly, the Keramos crew not only freed themselves up to attack additional activities, they significantly expanded the number of students impacted by their efforts. Sure down the road the Keramos origin of the event may be forgotten but the expanded professional impact will continue. I will advise future Keramos executive boards to keep an eye on those events and assist those groups as necessary.

On many occasions, I have indicated that this or that year was the "best ever" for the Missouri S&T chapter. What I have learned is that more often than not the year really is the best ever because the officers pay attention to the current needs of the university, the department, the students and they adjust what they do to best address those needs. Such adjustments on the fly to address changing conditions and to take advantage of new opportunities is the epitome of professionalism and exactly what Keramos is about.

As always, it is a joy to serve as faculty advisor to the students of the Missouri S&T chapter of Keramos. They make me proud to be a member of Keramos.



Jeffrey D. Smith
Keramos Faculty Advisor – Missouri Chapter 2017-2018

II. Annual Plan for Upcoming Year

The 2017-2018 year for the Missouri Chapter of Keramos has been an exciting one. We have added a number of brand new activities, including a practice interview week, mock competitions for MS&T, and Materials Bowl Trivia, just to name a few. While it has been a programming-focused year, I would like to increase participation in our events over the next year and improve our recruitment practices so we have even more membership involvement.

More participation will allow our programming events to be more engaging, and it will make it easier to find participants for open houses and other outreach/volunteer activities. This can be accomplished with improved department communication efforts, such as a Google Calendar that students can add to their phone and a monthly calendar posted in the commons of our department building. I will be exploring methods of improved communication and recruitment practices for our chapter over the coming year so that we can have the most active Keramos chapter yet.

In addition to this, I would also like to see an improvement in participation between all department organizations. In the last year, Keramos has flourished while some of our other department organizations are starting to diminish in presence. I plan to increase participation by hosting joint social events with organizations like the American Foundry Society and Material Advantage, as it will lead to an increase in overall involvement for all members of the department. This will also increase networking opportunities for ceramic students with metallurgists, and professionalism will remain a focus with these socials as well.

Continuing with professional focus, I would like to repeat our résumé review program from last year and start a new mentorship program with new members called the Kera-bear program. Initiates will be paired with an older member of Keramos who applies to the program, and the older member will serve as their mentor in both fraternal and academic activities. This will create a better connection between older and younger members in the organization and will increase overall membership involvement with the pledging process.

I am extremely pleased with how our chapter has performed this year, and I am excited to see how we will improve over the course of the next year.



Drew Jacobs

Keramos President 2018 – 2019

III. List Officers for the Upcoming Year

Name: Drew Jacobs ¹ Office: President Address: [REDACTED] [REDACTED] Phone Number: [REDACTED] E-mail: [REDACTED]	Name: Nicole Nulsen ¹ Office: Vice-President Address: [REDACTED] [REDACTED] Phone Number: [REDACTED] E-mail: [REDACTED]
Name: Kathryn Buscher ² Office: Treasurer Address: [REDACTED] [REDACTED] Phone Number: [REDACTED] E-mail: [REDACTED]	Name: Erin O’Neill ² Office: Secretary Address: [REDACTED] [REDACTED] Phone Number: [REDACTED] E-mail: [REDACTED]
Name: Olivia Rodell Office: Herald Address: [REDACTED] [REDACTED] Phone Number: [REDACTED] E-mail: [REDACTED]	Name: Teresa Schneider Office: Historian Address: [REDACTED] [REDACTED] Phone Number: [REDACTED] E-mail: [REDACTED]
Name: Alissa Reynolds Office: Nominations Chair Address: [REDACTED] [REDACTED] Phone Number: [REDACTED] E-mail: [REDACTED]	Name: Dr. Jeff Smith Office: Advisor Address: [REDACTED] [REDACTED] [REDACTED] Phone Number: [REDACTED] E-mail: [REDACTED]

¹Officers attending the Annual Convocation as delegates at MS&T 2018

²Officers attending the Annual Convocation as alternates at MS&T 2018

IV. List of Active Members

This year, the Missouri Chapter of Keramos focused on improving membership engagement by encouraging greater participation from active members, initiating a large class of impressive and enthusiastic students, and gathering more reliable information to keep in touch with graduating members. The chapter added 30 new initiates to its total of 119 members, 24 of which graduate this year. The Keramos body is listed below.

<u>November 16th, 2017 Initiates</u>		
Barr, Adam	Moore, Melanie ²	Scheer, Austin
Buscher, Kathryn	Reynolds, Alissa	Verhoff, Luke ²
Jaeger, Shannon	Richards, Tyler ²	Weiseman, Mikaela
Keil, Haley	Ricketts, Bailey	Willenbrink, Luke
Mefford, Elissa	Ryckman, Cambria	Dr. David Lipke
<u>April 12th, 2018 Initiates</u>		
Buznego, Alana	Martin, Hannah	Smith, Tessa
Hopper, Danielle	Phinney, Cole	Stansbery, Alexander
Kaczmarek, Anna	Prothman, Ben	Stone, Miranda
Khayat, Michael	Schottel, Jaden	Timme, Nicholas
Luebbert, Anthony	Schuman, Jared	Vishy, Matthew
<u>Undergraduate Members</u>		
Anselmo, Nicholas	Gilfoil, Katherine ²	Mitchell, Auben
Blatt, Rebekah	Gordon, Joseph	Musterman, Evan ²
Boillat, Rachel	Grant, Tyler ²	Nulsen, Nicole
Bueltmann, Alexandra ²	Grieshaber, Doran	O'Neill, Erin
Butler, Hannah	Hahn, Michael ²	Read, Aaron
Cahoon, Mary Ann	Jacobs, Drew	Reynolds, Ethan ¹
Carder, Nichole ²	Jarman, Jecce ²	Rodell, Olivia
Chadbourne, Connor	Jones, Matthew	Sattman, Tyler

Chernoff, Aleksander ²	Kent, Andrew	Schneider, Teresa
Cornish, Morgan ²	Klafehn, Ethan	Schott, Andrea
Courtney, Emily ¹	Korklan, Nichole	Scott, Jon ²
Croce, Dominic	Latty, Blake ²	Soendker, Stephanie ¹
Cunningham, Ryan	Lawrence, Ben ²	Stamps, Ransom ¹
Dachroeden, Grant	Lonergan, Jason	Steinbach, Derek
Drury, Daniel ²	Lunte, Ellie	Thompson, Lawrence
Dunn, William	Martinez, Amelia	Vietor, Hannah ²
Eaves, Hannah	McKinney, Jennifer ²	Vomund, Samantha ²
Ernst, Zachary	Miller, Mary ²	Whanger, Jacob ²
<u>Graduate Members</u>		
Brune, Paul	Martin, Austin	Mattione, Anna
Lapeyre, Jon	Reynolds, Ethan	Schwind, Evan
Murchie, Alec	Scott, Margaret	Shoaib, Noor
Spratt née Ferris, Myranda	Stanfield, Austin	Waldo, John
Cook, Rachel	Jarvis, Leiren	
<u>Faculty</u>		
Dr. Dave Van Aken	Dr. Aditya Kumar	Dr. Mary Reidmeyer
Dr. Laura Bartlett	Dr. David Lipke	Dr. Von Richards
Dr. Richard Brow	Dr. Scott Miller	Dr. Mark Schlesinger
Dr. Fatih Dogan	Dr. Mohsen Asle Zaeem	Dr. Bob Schwartz
Dr. Bill Fahrenholtz	Dr. Joe Newkirk	Dr. Jeff Smith
Dr. Greg Hilmas	Dr. Matt O’Keefe	Dr. Jeremy Watts
Dr. Wayne Huebner	Dr. Ron O’Malley	

<u>Emeritus Faculty</u>		
Dr. Darrell Ownby	Dr. Delbert Day	Dr. Harlan Anderson
<u>Honorary Members</u>		
1947 – John C. Hostetter	1985 – John Dial	2003 – Scott Miller
1948 – Frederick Norton	1986 – Chandra Ray	2004 – Chris Ramsey
1950 – Paul Smith	1987 – Mohamed Rahaman	2005 – Ted Day
1953 – Charles Smith	1988 – Lokeswarappa Dharani	2006 – Ron Kosher
1961 – William James	1989 – James Stoffer	2007 – Eric Bohannan
1970 – John Arthur	1990 – Daniel Armstrong	2008 – Matt O’Keefe
1970 – John Holt	1991 – Larry Heying	2009 – Ted Ruppert
1971 – Harlan Smith	1992 – Richard Hagni	2010 – Sam Stang
1973 – Hector McDonald	1994 – Daniel Stutts	2012 – Cindy Schwartz
1975 – Leroy Hart	1996 – Bill Hibler	2013 – S. Jill Glass
1977 – Manfred Wuttig	1997 – Kent Peaslee	2014 – Jaci Huebner
1978 – Paul Cash	1998 – Eric Schramm	2015 – Mike Carson
1980 – Edward Epstein	1999 – Ken Goretta	2016 – Glen H. Kirby
1981 – John Bartel	2000 – Terry Tiegs	2017 – Kathleen Shugart
1983 – Melvin Churovich	2001 – William Dawson	2017 – Mrityunjay Singh
1984 – Don Sparlin	2002 – Carl Moody	2018 – Gary Pennell

¹Fall 2017 Graduate

²Spring 2018 Graduate

A. New Members

The Missouri Chapter of Keramos continued to expand its membership this year due to rising numbers in department enrollment. Over 45 qualified students from both ceramic and metallurgical engineering applied this year, and the top students were admitted into our Fraternity. Fifteen members were initiated on November 16th, 2017 and fifteen members on April 12th, 2018. One professor and three freshman students were among the new members welcomed into our chapter.

The initiation process this year followed the successful plaque making experience created last year. This was a creative and hands-on way to let the initiates interact and bond as they became members of Keramos here at Missouri S&T. Each semester, the members could be seen growing together after being introduced through Keramos.

During the application process, students were asked about their interests, campus involvement, and desire for membership in Keramos. As part of the initiation process, initiates were required to attend the career fair, attend an etiquette dinner, make a glazed Keramos plaque, attend a Lunch and Learn, and pass an initiation test. All initiates were required to attend the Missouri S&T Career Fair during the semester of their induction. Attending the Career Fair built professionalism and encouraged networking with employers in the field. Many of the initiates who attended the Career Fairs during both semesters obtained internships or co-ops for this summer and upcoming semesters.

During the etiquette dinners, initiates learned the ways of professional formal dining and what is appropriate to say and do. Proper etiquette was discussed while comedic pictures of professors and students were displayed to show counterexamples. Attending the etiquette dinner prepared initiates to act professional in a dining setting and make the best impression on those around them.

Initiates worked on making their Keramos plaques during the first few months of each semester. A stoneware clay body was rolled out and cut into the shape of the Keramos badge. The stars and moon shapes were cut and placed onto the main body and initiates hand carved “Keramos” in their plaque. All surfaces and edges were smoothed to make the plaques look professional. The plaques were bisque fired and then glazed with the two colors representing Keramos: blue and gold.



This was the second year in which lots of attention was focused on the fine details of making the plaques. Faculty candidates judged the final products to select the best plaque for each initiate class. It was rewarding to see department faculty Keramos members debate for so long about which plaques to choose as best for the initiate competition. The above picture is of Miranda Stone’s plaque which received the best plaque award for the spring 2018 initiation. She received a Keramos glass as a reward for making the best plaque. Our chapter hopes to pass this standard down to every following initiation class and also hopes continuous improvements to the process will lead to even more beautiful plaques in the future.

Our Chapter was also able to invite The Grandmaster Potter, Dr. Brian Gilmore, to our Spring Initiation. Through a bit of serendipity, Brian was on our campus and had reserved the day to spend with the Material Science and Engineering Department. Our chapter invited him to our initiation ceremony and encouraged the initiates to get his signature on their plaques. The new Keramos members enjoyed his presence at initiation, and our chapter was happy to host him.



B. Graduating Members

Fall 2017 Graduates

Name: Emily Courtney Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Stephanie Soendker Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Ethan Reynolds Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Ransom Stamps Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]

Spring 2018 Graduates

Name: Alexandra Bueltmann Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Jennifer McKinney Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Nichole Carder Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Mary Miller Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Aleksandr Chernoff Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Melanie Moore Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]

Name: Ryan Cunningham Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Evan Musterman Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Katherine Gilfoil Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Tyler Richards Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Tyler Grant Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Jonathan Scott Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Michael Hahn Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Luke Verhoff Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Jecce Jarman Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Hannah Vietor Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Blake Latty Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Samantha Vomund Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]
Name: Ben Lawrence Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]	Name: Jacob Whanger Address: [REDACTED] [REDACTED] Phone: [REDACTED] E-mail: [REDACTED]

V. Missouri Chapter Honorary Keramos Nomination



The Missouri Chapter of Keramos would like to nominate Mr. Gary Pennell as an honorary member of Keramos for the 2017-2018 academic year. Mr. Pennell is the chief metallurgist at Nucor-Yamato Steel.

Mr. Pennell earned a Bachelor of Science degree in metallurgical engineering from Missouri S&T in 1997. He received the Missouri S&T MSE Outstanding Met. Alumni Award in 2010 and an award of professional distinction in metallurgical engineering from Missouri S&T in 2011. Mr. Pennell began his career as a plant metallurgist with Nucor-Yamato Steel, a joint venture of Nucor Corp. in 1997. Since 2001, he has served as chief metallurgist. He received the Missouri S&T MSE Outstanding Met. Alumni Award in 2010.

E-mail: [REDACTED]

Phone: [REDACTED]

Mr. Pennell has been a strong supporter of the Missouri S&T Materials Science and Engineering Department. He sponsors an annual department picnic in the fall at which

students can meet and network with company representative and potential employers before the campus career fair. In the spring, Mr. Pennell sponsors the Keramos etiquette dinner. This dinner helps prepare students for professional events that may be part of an interview process, and attendance is a requirement for initiation into Keramos. In addition, he generously donates funds that allow students to travel to the annual MS&T conference at little expense to themselves. Students studying ceramic engineering enjoy the opportunities this conference provides to meet other students and professionals in the industry and to participate in competitions involving ceramic materials. Through Mr. Pennell's influence, Nucor was also the charter corporate sponsor of Missouri S&T's materials camp which has allowed 30 to 40 high school students to come to campus at no cost each summer to learn about materials science and engineering. This camp has been a very useful recruiting tool and has allowed the department to reach out to high school students and develop their interest in ceramic engineering. Mr. Pennell further supports the Materials Science and Engineering Department by sponsoring research projects, offering employment opportunities to graduates and co-op students, and giving departmental seminar lectures. Through his efforts, Nucor Steel has helped increase recruitment for materials science and engineering undergraduates. Mr. Pennell's efforts have helped the department create greater awareness of and interest in ceramic engineering and have resulted in a better experience for those already in the program. The students of Keramos are deeply grateful for Mr. Pennell's continuing and dependable support of students pursuing degrees in the materials science and engineering field and believe that he is an excellent candidate for honorary membership.

VI. Treasurer's Report

Over the past year, the Missouri Chapter of Keramos grossed \$1,964.50 through fundraising and item sales as of April 9th, 2018 and spent \$1,493.91 on hosting activities such as Lunch and Learns and chapter socials. The following tables contain the annual expenditure report of the Missouri Chapter of Keramos for the online account, estimated future expenditures, and the Keramos money bag. Estimated end-of-year account balances are \$922.06 in the online account and \$137.67 in the money bag, assuming no more sales are made; however, this is subject to change as there will likely be more item purchases of cords and Keramos glassware as the spring semester closes.

Bank Account August 2017 - April 2018				
Date	Debit	Credit	Balance	Description
8/13/17			\$550.34	Starting Balance
8/22/17		\$120	\$670.34	Miner Jobs for Major Cash (MJMC)
9/11/17	(\$260)		\$410.34	National Dues
10/6/17		\$275	\$685.34	MJMC
10/6/17		\$600	\$1,285.34	Money Bag Deposit
10/30/17	(\$135)		\$1,150.34	Jacob Whanger Travel Reimbursement
10/31/17		\$1043	\$2,193.34	Money Bag Deposit Through Dues and Seminar Purchases
11/14/17	(\$12)		\$2,181.34	Tim Eddings Lunch and Learn Payment
11/22/17	(\$296.92)		\$1,884.42	Alex's Pizza Keramos Initiation
12/8/17	(\$400)		\$1,484.42	Etiquette Dinner Payment
12/8/17		\$215	\$1,699.42	MJMC
12/15/17		\$146	\$1,845.42	Money Bag Deposit
12/21/17	(\$150)		\$1,695.42	Just a Taste Payment
12/26/17	(\$805)		\$890.42	Department Payment for Polo Sales
2/16/18		\$1,417	\$2,307.42	Money Bag Deposit
2/23/18	(\$60)		\$2,247.42	Cash Withdrawal

3/1/18	(\$112)		\$2,135.42	Tim Eddings Glassware Payment
3/1/18	(\$443)		\$1,692.42	Keysport Ceramist Shirts
3/1/18	(\$749.75)		\$942.67	Keysport Phase Diagram Shirts
3/5/18	(\$75)		\$867.67	Keysport St. Pat's Sweatshirts
3/23/18		\$1,314.25	\$2,181.92	Money Bag Deposit
3/29/18	(\$495)		\$1,686.92	Third Degree Glass Factory Visit
4/6/18	(\$122.14)		\$1,564.78	Reimbursement for Jacob Whanger Keramos Glassware Purchases

Anticipated Expenditures				
Date	Debit	Credit	Balance	Notes
4/10/18	(\$299.80)		\$1264.98	Graduation Cords (25)
4/10/18	(\$61)		\$1,203.98	Material Advantage Check for Sales
4/10/18		\$15	\$1,218.98	Graduation Cord Purchase check deposit
4/12/18	(\$296.92)		\$922.06	Initiation Dinner (Alex's Pizza)

Money Bag (August '17 - April '18)				
Date	Debit	Credit	Balance	Notes
8/14/17			\$1,097.28	Beginning Balance
8/22/17	(\$120)		\$977.28	Deposit into online account
8/30/17	(\$59.72)		\$917.56	Keramos General Meeting Pizzas
9/28/18		\$60	\$977.56	Seminar Sales
10/5/17		\$35	\$1,012.56	Seminar Sales
10/6/17	(\$600)		\$412.56	Deposit into Online Account
10/12/17		\$20	\$432.56	Seminar Sales
10/19/17		\$45	\$477.56	Seminar Sales

10/26/17		\$180	\$657.56	Seminar Sales
10/30/17	(\$32.59)		\$624.97	Skeramos Items
10/30/17		\$460	\$1,084.97	Dues Payments
10/31/17	(\$1043.00)		\$41.97	Deposit into Online Account
11/2/17	(\$35.83)		\$6.14	Keramos Pledge Quiz Pizza
11/2/17		\$260	\$266.14	Department Polo Sales
11/2/17	(\$64.88)		\$201.26	Keramos Initiation Dinner (Alex's Pizza)
11/3/17		\$180	\$381.26	Department Polo Sales
11/9/17		\$20	\$401.26	Department Polo Sales
11/16/17		\$115	\$516.26	Seminar Sales
11/30/17		\$90	\$606.26	Seminar Sales
12/15/17	(\$146)		\$460.26	Deposit into Online Account
2/1/18	(\$37.66)		\$422.60	Keramos General Meeting (Locker Room)
2/15/18	(\$23.96)		\$398.64	Keramos Pledge Quiz Pizza
2/15/18		\$1,419.50	\$1,818.14	Cumulative Sales (Department and Keramos)
2/16/18	(\$1417)		\$401.14	Deposit into Online Account from Sales
2/22/18	(\$25)		\$376.14	Keramos General Meeting (Locker Room)
3/8/18	(\$35.83)		\$340.31	Dr. O'Malley Lunch and Learn
3/23/18		\$1,134.21	\$1,474.52	Cumulative Sales (Department and Keramos)
3/23/18	(\$1314.25)		\$160.27	Deposit into Online Account
4/5/18	(\$22.60)		\$137.67	Keramos General Meeting
4/8/18			\$137.67	End of Year Balance

VII. Chapter Activities

The Missouri Chapter of Keramos organized many activities with the goal of providing valuable experiences to members and increasing their participation. These activities focused on fundraising, educational outreach, and professional development.

C. Fundraising

To ensure our chapter can have outstanding activities and member engagement it is paramount that there be adequate funding to provide such events.

Item Sales

This past year introduced many new items to the Keramos sales with additional throwbacks to old items. Every Thursday, before our department's weekly seminar, Keramos members sold Keramos items as well as items for as our University's Material Advantage chapter. Glassware



etched with the Keramos crest was sold in the spring semester of 2018, as a flashy method to encourage more engagement and comradery in our members. This new line of items was very well received by our members. The year also saw the reintroduction of the very popular and well missed Cera-Mist and phase diagram shirts.



Miner Jobs for Major Cash

The Missouri Chapter of Keramos continued the “Miner Jobs for Major Cash” (MJMC) program, which was established in the Fall of 2014. In this program, student members perform a service project for a faculty member in exchange for a donation from that faculty member. One notable project from the year was assisting a faculty member with building a series of dog kennels. The chapter organized three MJMC projects this year, earning a total of \$510 for the chapter, and also built up interest in the program so that it can continue to grow next year.

D. Educational Outreach

To inspire interest in ceramic engineering and in the Keramos Fraternity in future generations of students, the Missouri Chapter of Keramos engaged in a variety of educational outreach activities.

Open Houses

The Material Science and Engineering department hosts several open houses during the year to draw students to materials engineering. During open houses, students perform two essential recruitment roles. In the common areas, students discuss curriculum, department activities, and any questions about potential careers and studies with incoming freshmen. In our labs, students perform demos in various areas of material science (glass, metals, and technical ceramics), where incoming freshmen can learn more of the science behind the various majors. Keramos members volunteer many hours in both roles to try and draw more students to our department and ultimately the Fraternity.

Summer Camps

Keramos helps out at the many summer camps that are geared to lead students into the department. Each summer, our department hosts both ASM Materials Camp and Jackling Intro to Engineering. The ASM Materials Camp consists of a week of activities in which groups of high school students get involved in a project that shows a specific aspect of materials engineering. Jackling Intro to Engineering is a broad introduction to all engineering majors at Missouri S&T, but in terms of our department, demonstrations of several aspects of materials engineering are given to interested students. Our chapter is also involved with a student panel, where the campers can ask questions they may have about college, fraternities, student groups, and special opportunities that are only available at Missouri S&T.



September Student Showcase

Twice per year, Project Lead The Way from our campus hosts a Student Showcase to show the various STEM majors our university offers. On September 20th, Keramos members helped give demonstrations about materials science and engineering to students between 4th and 7th grade. The event was fun for the students and Keramos members alike. Our chapter is expecting to hear soon about another showcase in May.

St. Patrick's School Science Fair

On February 16th, the Materials Science and Engineering Department students judged the St. Patrick's School Science Fair for grades 5-8th. The student judges were very impressed to see fifth grade students understanding concepts such as non-Newtonian fluid relationships using "ooblek", as well as material stress and strain in brittle materials (uncooked spaghetti noodle bridges). The science fair participants were judged on several criteria, including the explanation of their project, project board, and interaction with the judges. The judges were stunned and pleased to see full annotations for works cited and future work sections on some of the more impressive boards. The department students really enjoyed seeing the enthusiasm of the younger students. The teachers and staff at St. Patrick's Grade School were very grateful for our continued support and encouragement of their science program. The science fair was a great and interactive way to help reinforce the concepts of good scientific study and connect the younger students with the Materials Science and Engineering Department. Nearly 90 students presented boards at the science fair with projects that promise good STEM students in the future.

Kaleidoscope Volunteers

Kaleidoscope is a local youth educational outreach organization. One of their members contacted our Keramos chapter to help them set up an event for National Engineers Week. On February 19th, Keramos members went to the Engineers Week event and demonstrated materials engineering to the attendees. Our chapter hopes to continue volunteering with them as the event grows.

Ceramic Glass and Industry Foundation (CGIF) Proposal

The CGIF gave Keramos the wonderful opportunity to write proposals for outreach directed toward younger students. Our chapter sent out a survey, asking for proposal ideas from our members. Teresa Schneider came up with an idea to use a cotton candy machine to represent the process of creating fiberglass. The proposal included a budget for four cotton candy machines: two of which would be kept within the department for demos, one sent to the local high school, and one sent to the St. Louis Science Center. The demo would include giving cotton candy to participants while explaining the similarities and differences between making cotton candy and making fiberglass. Samples of fiberglass would also be included in the demo kits for students to hold (but not eat!).

E. Professional Development

The Missouri Chapter of Keramos organized several professional development events to provide members with opportunities to cultivate skills such as networking and interviewing.

Etiquette Dinners

Each year the Missouri Chapter of Keramos holds two etiquette dinners for members, students, faculty, guests, and industry professionals. Our dinners serve the main purpose of increasing the professionalism of those who attend. By teaching attendees culture and techniques of formal dining, we promote the development of good habits. The industry sponsored dinners also allow our students and faculty to build relationships with professionals from industry.

The Fall 2017 etiquette dinner was sponsored by Kohler and held at Just A Taste in St. James, MO. Dr. Mary Reidmeyer led our learning experience that night, informing attendees of the Do's and Don'ts of formal dining with humorous pictures throughout the presentation. A total of 75 people attended including representatives from Kohler: Kaitlyn Deister, Jeff Mitchell, and Mitzi Dahlberg.



For the Spring 2018 etiquette dinner, Keramos decided to partner with the American Foundry Society (AFS) to promote more metallurgical engineering student involvement and encourage greater departmental development. The Nucor-sponsored dinner had 81 total attendees with Travis McCarthy and Roger Rettig as the present industry representatives. The presenter for the Keramos/AFS dinner was Dr. Ron O'Malley, a metallurgy professor who works very closely with steel industries. Keramos intends to continue hosting the spring etiquette dinner with AFS and to strengthen relations between our two organizations.

Lunch and Learns

Keramos sponsors a series of monthly talks, called Lunch and Learns, open to our department. These talks are aimed to supplement our members’ education with speakers who can share their professional experiences in industry and academia. For these talks, Keramos provides lunch for 15-25 students and the speakers.

Our chapter has hosted six Lunch and Learns this year, three each semester. In the fall semester, a talk was hosted to describe rules for the Speaking, Mug Drop, and Disc Golf Competitions at MS&T’17. Other talks hosted students who presented over their co-op experiences as part of a course requirement. These students discussed their professional experiences at CertainTeed, Zimmer Biomet, Kohler, and Sandia National Labs.

In the spring semester, our chapter hosted one talk by a professor and two talks by professionals in industry. Dr. Ron O’Malley approached us wanting to describe the accomplishments of the Peaslee Steel Manufacturing Research Center housed on campus. We also continued the tradition of hosting talks by the presidents of ACerS with Mike Alexander’s talk. Our last Lunch and Learn is planned for April 18th with Ted Day, the CEO of MoSci Corporation.



Practice Interviews

The Missouri Chapter of Keramos felt there should be better preparation of our members for interviews they may have, especially the younger members. In response, the chapter organized practice interviews conducted by our professors. The mock interviews were held the week before the Missouri S&T Fall Career Fair.

Graduating with Honors

Every semester, special recognition is given to graduating members of Keramos who have demonstrated exceptional dedication to the Fraternity and department. All graduating seniors of Keramos can wear blue and gold cords in the graduation ceremony; however, only students who are recognized as graduating with honors are given a gold Keramos pin. This honor is intended not only to recognize those who went above and beyond, but also as motivation for other members to do the same. In order to earn this honor, members must demonstrate their involvement in a variety of areas including departmental activities, professional development, undergraduate research, and other campus involvement.

Skeramos

Inspired by the Colorado School of Mines Chapter’s “Skeramos” event, our chapter decided to host our own “Skeramos” on Halloween night. Attendees were treated with popcorn and candy to watch the release of Stranger Things 2 in one of our department’s lecture halls. The turnout was less than expected, but those who attended gave very positive feedback.

Materials Bowl Trivia

The Missouri Chapter of Keramos planned and hosted our first-ever materials science themed trivia night on April 5th. The inaugural trivia night was a success; all who attended had a great time connecting with fellow students. The event was planned as a light-hearted approach to building interpersonal relationships within our chapter in addition to testing our knowledge of materials science. Over 120 questions were created to provide a diverse question bank; 30 questions were written by Dr. Wayne Huebner and the remaining questions were written by Treasurer Jon Scott and graduate students of the department. Questions ranged from knowledge of compositions of traditional ceramics, to basics of sintering, to dopants for semiconductor materials. Flyers were posted advertising the event and a sign-up sheet was sent out via department-wide E-mails; however, only around twelve people showed up to the trivia night. This can be attributed to the timing during the semester, climate on campus, and location. To further increase attendance, the event should be planned for the fall semester when there is more overall time available, and a heavier emphasis should be placed on advertising by word-of-mouth. Ideally, the location would also be changed to V. H. McNutt Hall, as many people who were not in attendance expressed this as a more favorable venue.



Comprehensive Keramos Roster

In an effort to compile a more accessible history of Keramos, the Historians were tasked with creating a comprehensive list of every member of the Missouri Chapter of Keramos. Using annual reports dating back to 1947, our Historians, Daniel and Tyler, started to compile rosters from each year into a single Excel spreadsheet. A consistent format was created to ensure that it is simple to add new student awards, initiates, and executive board members.

This spreadsheet will be placed on the Google Drive so that future rosters can be added to this all-encompassing document.

F. Networking Events

The Missouri Chapter of Keramos organized networking events to strengthen our relationships with other organizations on campus and to give members opportunities to connect with other students and professionals.

AFS/Keramos Casting Social

On April 14th, the Missouri Chapter of Keramos and the local American Foundry Society chapter hosted a cross casting social. The metallurgy students were trained in the art of slip casting, while the ceramics students were taught metal casting. The social gave an opportunity for our members to interact with students outside of their major and to experience new material processing techniques.

G. Services to the Ceramics Community

The Missouri Chapter of Keramos aims to serve the ceramics community by promoting strong relationships between students, faculty, and industry professionals. Our chapter organized events to bring members of each of these groups together to recognize achievements in the community.

Spring Banquet

Keramos will organize and host the Material Science and Engineering (MSE) department spring banquet on April 18th at Matt's Steakhouse. This event will celebrate the achievements of students and faculty from the past year with 250 anticipated guests. Several awards will be presented including ones recognizing outstanding undergraduate students, graduate students, and faculty members from the ceramic and metallurgical engineering departments. Student groups will also present awards including the Keramos honors awards. These awards will be voted upon by the students and faculty in their respective organizations and departments.

President's Council of Student Advisors (PCSA)

A student, Daniel Drury, from our Keramos chapter was chosen to be a PCSA delegate. PCSA for ACerS is an organization run by students who represent universities from all across the globe and focuses on outreach, programming, and building professionalism. PCSA consists of 46 members from 32 different universities and 11 countries. Daniel was a member of the Programming Committee which coordinates activities associated with ACerS meetings and other activities or services that involve students and professionals in the ceramics community. A new competition, titled the Student and Industry Failure Trials Competition, was devised by PCSA this year and was first unveiled at the International Conference and Expo on Advanced Ceramics and Composites. The competition allowed for teams of students, industry professionals, and academics to analyze a ceramic material which had failed in an industrial setting and identify the failure mechanism.

Congressional Visit Day

Congressional Visit Day gives an opportunity for research-focused students to visit with legislators and congressional staff in Washington D.C. and discuss the importance of elevating funding for research in physical sciences and engineering. Two Keramos members, Daniel Drury and Tyler Grant, were chosen to represent the Missouri S&T Material Advantage chapter in Washington D.C.

The goal of the Congressional Visit Day is to put a face onto the generic "science and engineering funding" by providing stories about how federal support impacts them. These two students will meet with Senator Blunt, Senator McCaskill, Representative Smith, a staff member for Representative Leutkemeyer, and others. The hope is to increase their support and recognition of how vital research funding is for the U.S. to remain relevant in the field of science, engineering, and manufacturing.

H. Alumni Engagement

The Missouri Chapter of Keramos aims to encourage increased participation from both current students and alumni.

Career Fair Fall Picnic

As a networking opportunity, the Missouri Chapter of Keramos hosts a fall picnic before the campus career fair. Representatives from companies hiring ceramic or metallurgical engineering students are invited to attend. The picnic consists of a softball game followed by a barbeque and potluck dinner. All members of the Materials Science and Engineering department, including alumni, are invited and encouraged to attend the picnic to get to know other students and professionals in the industry. This is a great opportunity for students to interact with potential employers in an informal environment so that they are more comfortable approaching representatives at the career fair the following day.

I. Convocation and Conferences

The Missouri Chapter of Keramos encourages members to participate in several conferences throughout the year. These serve as excellent opportunities for members to further improve their professional and networking skills and to learn about current developments in industry.

Materials Science and Technology 2017 Conference (MS&T'17)

The Missouri S&T Material Science and Engineering department sent 27 students to MS&T'17 in Pittsburg. This conference allowed our members to compete against their peers, and to listen to various technical presentations. Our Keramos and MA chapters were both recognized at this conference. Our members participated in the student competitions where Stephanie Soendker won the aesthetic disc competition and Daniel Drury tied for first in the disc golf competition.



Keramos Convocation

Keramos National Convocation serves as a meeting for every Keramos chapter across the country. Once again the Missouri Chapter was able to attend, sending Jacob Whanger, Evan Musterman, Drew Jacobs, and Tyler Grant as representatives. With a change of plans, Jacob Whanger volunteered to lead the student portion of the convocation. During this meeting, our chapter enjoyed forging connections and brainstorming ideas with other national Fraternity members.

The National Convocation also serves as a place to present the awards for the previous year. The Missouri Chapter was very excited and honored to receive the Outstanding Chapter and Diamond Awards. The chapter has since worked hard over the last year and looks forward to sending Drew Jacobs and Nicole Nulsen as delegates for the 2018 National Keramos Convocation in Columbus, OH.

78th Conference on Glass Problems (GPC)

Numerous Keramos members attended the GPC in Columbus, OH. This conference was an exceptional opportunity to learn about the glass industry directly from recruiters, salespersons, experienced professors, and other conference speakers. For undergraduate students, this was an extremely informative event, exposing members to the specialized niche of the glass industry. The GPC was comprised of many technical talks, an exposition, and evening socials that allowed students to interact and meet people from industry in a more relaxed environment for networking. The technical sessions covered a broad range of glass-related topics, such as new melting methods, energy efficiency analysis, modeling, and refractories. These talks touched heavily on topics covered in the Missouri S&T ceramic engineering program and exposed students to industrial knowledge on glass.

The students also experienced glass production, both in person, and in presentations. Students were shown the Mt. Vernon plant of Owens Corning where the “Pink Panther Pink” fiberglass is created. This tour showed the in’s and out’s of the plant and was the first look at a glass manufacturing setting for some students. The 78th Conference on Glass Problems was an eye opening experience for Keramos members, showcasing the vast field of glass science and technology.

54th Symposium on Refractories

A group of 12 Missouri S&T students attended the 54th St. Louis Section of the Symposium on Refractories. This student group was sponsored by the ASTM C08 section and donations from various companies attending the symposium. The students enjoyed the conference and were thrilled to put their professional skills of networking and dining to the test. The majority of those in attendance were taking the refractories course taught by Dr. Jeff Smith at Missouri S&T.



Many of the students graduating this May were looking for jobs. This opportunity allowed the graduating seniors and undergraduates to share their resumes and some even got interviews. This symposium offered a great opportunity for Keramos members to apply the professional skills they have developed.

42nd USACA Conference on Composites, Materials and Structures

Ten members of Keramos had the chance to attend the 42nd USACA Conference on Composites, Materials and Structures as part of the student page program. As part of the page program, all fees and travel costs were covered in exchange for help running the conference. When the students were not working, they were able to attend talks and converse with the other attendees. Students were allowed to post their resumes in the lobby. Keramos members were able to talk with professionals and professors about potential employment prospects or advising about graduate school. This event offered many opportunities for networking, professional development, and for some summer fun in the usual winter months of Missouri.

Mock Competitions

Keramos noticed that historically mug drop and disc golf competitions held at the MS&T conference have been last minute efforts by our members. In order to have a stronger presence at the official competitions, local mock competitions were arranged to be held on April 26th. The hopes of this event is to have our members develop their ideas more in advance. The competition will have the same rules as the official competition, with a few provisions. At least one member must attend the following MS&T conference, all procedures must be documented, and two mugs or discs should be prepared, one will be used in the local competition and the other for the official competition.

J. External Chapter Communications

In addition to increasing internal membership engagement, this year the Missouri Chapter of Keramos set a goal of also increasing cross-chapter engagement.

Missouri and Illinois Cross-Chapter Social

To facilitate a stronger relationship with other Materials Science and Engineering programs, the Keramos and Material Advantage chapters from the University of Illinois at Urbana-Champaign (UIUC) and Missouri S&T organized a social in St. Louis on April 7th. Twelve students from Missouri S&T met with eighteen students from UIUC. The busy schedule began with lunch at various locations on Delmar Boulevard in St. Louis following with a tour of Third Degree Glass Factory. The tour consisted



of learning about their gallery pieces, kiln room, and the cold-working and flame-working shops. Afterward, our chapters had a quick stop at The Gateway Arch and then enjoyed a couple hours exploring the City Museum. Dinner at The Sliced Pint concluded the social. The cross-chapter social was a good way for students to connect with others in their field. The hope was to facilitate the participants' ability to connect with each other at future events.

National Student Representative

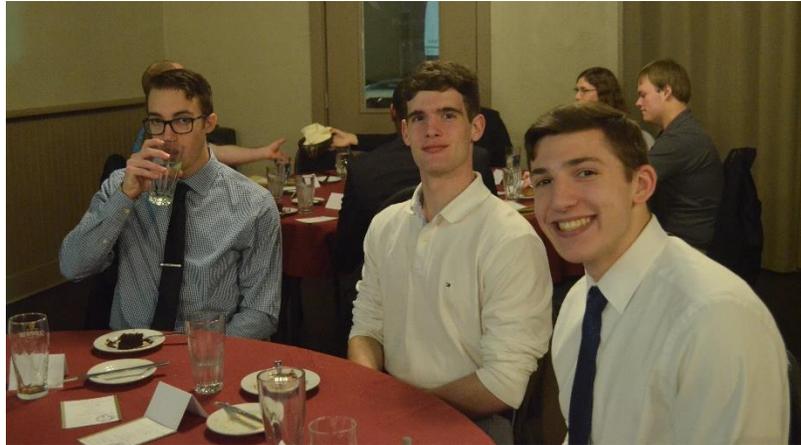
The Keramos National Student Representative acts as the liaison between the national board and the presidents of student chapters. The student representative is in charge of scheduling the chapter teleconferences, running the student portion of Convocation, and answering questions to members of other chapters and communicating best practices.

For the 2017-18 school year, Drew Jacobs was elected as the National Student Representative. In the position, he created a chapter president GroupMe was to keep chapter communication quick and simple, and to give updates on upcoming deadlines. The GroupMe also makes it easier to share ideas across the chapters so good ideas can spread faster.

VIII. Keragram Article

The Missouri S&T chapter had an exciting semester this spring continuing its established traditions and organizing new programs. We held multiple Lunch and Learns and hosted another successful etiquette dinner, expanding it to include the American Foundry Society (AFS). We also created several new events including a materials science trivia night and a cross-chapter social with the University of Illinois at Urbana-Champaign (UIUC). Here are some more details from the past semester:

Our chapter hosted our spring etiquette dinner jointly with AFS in an effort to strengthen the relationship between our organizations and between the ceramic and metallurgical engineering students. The dinner was sponsored by Nucor at Just A Taste in St. James, MO and was great fun for all who attended. We also held three Lunch and Learns this semester, with Dr. Ron O'Malley presenting on the Peaslee Steel Manufacturing Research Center on campus, Mike Alexander speaking about professional development, and Ted Day talking about his experiences as the CEO of MoSci Corporation.



Our chapter is also proud of the new programs organized this spring. To improve chapter communications and relationships, we participated in a cross-chapter social along with UIUC. Students from both schools met in St. Louis where we toured Third Degree Glass Factory and explored the City Museum. Our members look forward to seeing these students again at future conferences and other events. Our chapter also organized our first ever materials science themed trivia night, with questions being created by professors and graduate students in the department. Finally, our chapter introduced new sale items, including etched glassware, as a part of our fundraising efforts.

IX. Executive Summary

This year was an exceptionally creative and daring year for the Missouri Chapter of Keramos. Several new ideas were proposed, planned, and performed as the chapter looked internally to strengthen our membership engagement. We saw more members at our meetings and were glad to see our members participate in new and exciting socials. Our chapter strived to improve our professional development with impactful Lunch and Learns, practice interviews, and mock competitions. In recognition of our efforts, our chapter was honored to receive our school's Student Council Most Remarkable Student Group award.

The motto of this year for the Missouri Chapter started as, "Keep the Golden Years Golden." Although we strived to maintain the traditions and successes of previous years, this year, Keramos sought to strengthen our chapter for future generations of members. New programs such as Skeramos, Materials Bowl Trivia, and the Cross Casting Social helped to bring our chapter members together outside of the classroom. This, combined with moving our meetings to a more informal setting with the incentive of giant pretzels, helped to bring our members together with laughter and good food.

Our chapter also worked to emphasize the professional aspects of our Fraternity. Before our biannual career fair, our chapter organized a series of practice interviews. This opportunity for our members was coupled with our Lunch and Learn program and etiquette dinners. The Lunch and Learn presentations were aimed at helping students learn about professionalism and career opportunities. These talks offered students information about co-op experiences, professional societies, and managerial and entrepreneurial experiences. Our chapter hopes these experiences will have long-lasting effects in our members' professional careers.

Going along with the theme of future successes, our chapter looked for other ways to strengthen our traditions. Our chapter historians were charged with looking through every annual report our chapter has written. Although tedious, our historians have been working to compile a comprehensive roster for the Missouri Chapter of Keramos. Although this spreadsheet will not affect this year's members, our chapter hopes that the benefits of the historians' work will be seen far in the future as the living document continues to grow.

The 2017-2018 year saw the Missouri Chapter of Keramos strengthen itself from within. Our members are more engaged, more prepared, and ready to take on future years in Keramos and their careers. As the chapter winds down its activities for the year, we are excited to see what the next year will bring.



Evan Musterman
Keramos President 2017 – 2018