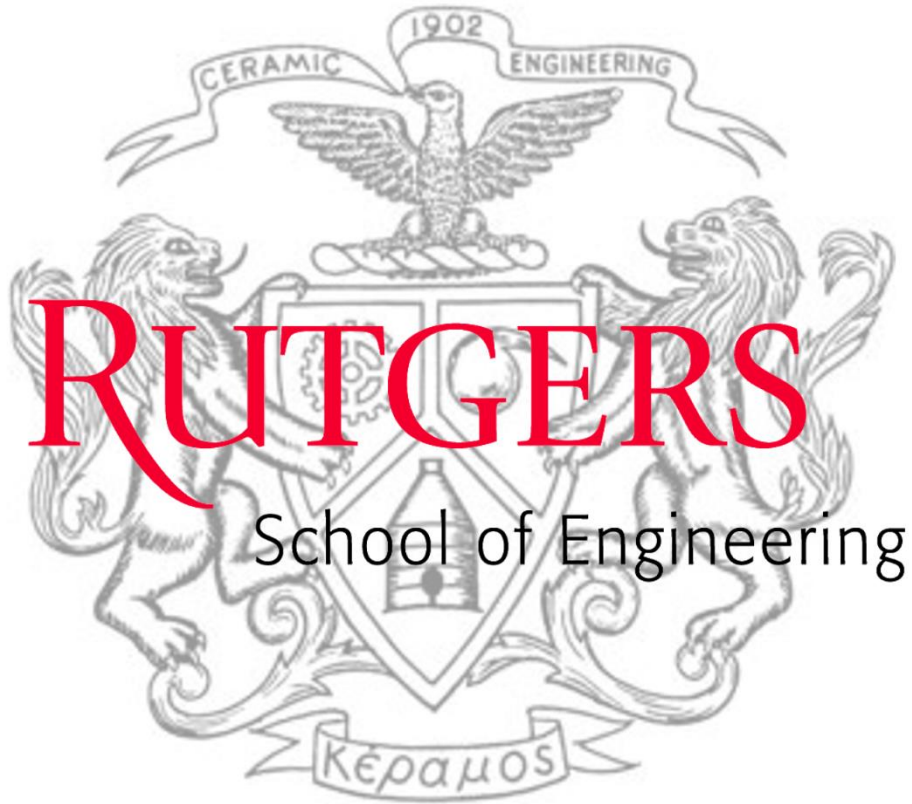


**KERAMOS RUTGERS UNIVERSITY STUDENT CHAPTER
2018-2019 ANNUAL REPORT**



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Prepared For:

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and

Members of the Keramos Executive Board

Date Submitted:

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Keragram Article

The Rutgers University, New Brunswick Chapter has had another exciting year full of activity. Traditional events such as game nights and study nights have again strengthened the relationships between members of our organization and department, and events such as freshman Majors Night tabling and department tours have introduced new members to our community. Keramos has also been an active partner with the Materials Science and Engineering department, advertising and helping to win the School of Engineering food drive competition, and volunteering at recruitment events, lab tours, and outreach events such as interactive glass activities and lessons with a local high school. Additionally, efforts towards alumni engagement have begun and we welcome all alumni of the Rutgers chapter to join our new LinkedIn group at: <https://www.linkedin.com/groups/12235300/>.

The chapter is very grateful to have received the Ceramics and Glass Industry Foundation grant for the 2018-2019 academic year, and was able to host a successful glass slumping mold activity for department and prospective engineering students. The students were able to cut and grind their own panes of glass and decorate personal pieces to be slumped over unique molds. The event introduced students to the artistic side of glass, exciting students about the unique material properties and promoting an alternative view of the material, all the while subtly providing a physical intuition for concepts such as crack propagation, the temperature-viscosity relationship, and the glass transition temperature.

Even more exciting for the chapter was having one of our Rutgers Keramos alumni, Dr. Matt Dejneka, be the Distinguished Lecturer at the Malcolm G. McLaren Symposium, the Materials Science and Engineering department's largest annual event. His "Lessons Learned from 20 Years of Glass Innovation" provided students and faculty insight into his astonishing work at Corning, and offer a podium of inspiration and aspiration for current students to strive for.

A unique attribute to our chapter is our elevated induction chapter requirements. The minimum major and overall GPA cutoff are 3.25, therefore each member represents outstanding scholarship and character driven by great energy and initiative, embodying the national motto of "through fire to perfection". We welcome the new initiates and have begun planning events for the next academic year to integrate new students into the department and introduce them to the missions of Keramos.



List of Officers, Delegates, and Alternates for 2019-2020

| Position | Last Name | First Name | Phone | Email | Delegate |
|-----------|-----------|------------|------------|------------|----------|
| President | Sun | Katie | [REDACTED] | [REDACTED] | x |
| Vice Pres | Kenny | Grant | [REDACTED] | [REDACTED] | |
| Treasurer | Sukenik | Emily | [REDACTED] | [REDACTED] | |
| Secretary | Bethur | Eshana | [REDACTED] | [REDACTED] | Alt |
| Herald | Rizzie | Steven | [REDACTED] | [REDACTED] | |

List of Active Members

| Last Name | First Name | Status | Induction Date | New Initiate |
|-------------|------------|---------------|----------------|--------------|
| Kenny | Grant | Undergraduate | 2018 Spring | |
| Sun | Katie | Undergraduate | 2018 Spring | |
| Bethur | Eshana | Undergraduate | 2019 Spring | x |
| Rizzie | Steve | Undergraduate | 2019 Spring | x |
| Ryan | Caillin | Undergraduate | 2019 Spring | x |
| Sukenik | Emily | Undergraduate | 2019 Spring | x |
| Tagliaferro | Gabrielle | Undergraduate | 2019 Spring | x |
| Deshkar | Ambar | Graduate | 2016 Spring | |
| Tewatia | Arya | Graduate | 2016 Spring | |
| Gagnepain | Michael | Graduate | 2017 Spring | |
| MacDowall | Brian | Graduate | 2017 Spring | |
| Rucker | Ross | Graduate | 2017 Spring | |
| Schaefer | Mark | Graduate | 2017 Spring | |

Graduating Member Contact Information

| Last Name | First Name | Phone | Email |
|-----------------|------------|------------|------------|
| Benderly-Kremen | Ethan | [REDACTED] | [REDACTED] |
| Herrera* | Alexa | [REDACTED] | [REDACTED] |
| LaCapra | Mikio | [REDACTED] | [REDACTED] |
| Shah | Vats | [REDACTED] | [REDACTED] |
| Spitzer | Alex | [REDACTED] | [REDACTED] |
| Wang | Kaitlin | [REDACTED] | [REDACTED] |

* new initiate

Treasurer's Report*

| Event | Description | Cost |
|------------------------|--|--------------------------|
| DIY Slump Molding | 45lb Glass Pane Pack | \$424.95 |
| | Color Assortment Frit | \$119.95 |
| | Clear Frit | \$62.95 |
| | 15" Pasta Bowl Mold | \$55.95 |
| | 5" Square Spiral Plate Mold | \$21.95 |
| | Buddha Faces Mold | \$43.95 |
| | Cat Dish Mold | \$28.95 |
| | Cow Skull Mold | \$13.95 |
| | Face of Music Mold | \$11.95 |
| | Koi Mold | \$33.95 |
| | Pyramid Paperweight Mold | \$28.95 |
| | Salamander Mold | \$31.95 |
| | Discount | (\$60.00) |
| | Study Sessions (Multiple) | Food (Donuts and Coffee) |
| Game Nights (Multiple) | Food (Pizza) | \$139.50 |
| Trivia Night | Food (Pizza) | \$80.00 |
| Dues | New Induction Dues (Transferred to National Board) | \$60.00 |

* Only events with reimbursed expenses are reported.

Chapter Activities

Educational Outreach

DIY Slump Mold Activity

This year the Rutgers Chapter received a CGIF grant for a glass slump mold activity for Materials Science and Engineering as well as prospective engineering students, where students were able to cut and design pieces of glass to fit to various purchased molds. This event benefited the ceramic and glass community by engaging both current and future Materials Science and Engineering students. The current students were able to practice the theory and processing principles they learnt in the classroom, while the first-year engineering students were able to gain exposure to a more artistic side of glass and ceramic engineering, compounding with their ideas to choose their major. In both cases the students were able to have fun with the material, hopefully fostering an interest for those especially in a position of extracurricular leadership to continue this activity into a traditional repeated event. Overall, the event was successful in both participation numbers as well as its ability to promote engagement in glass and having students thinking about the properties of the material in a social setting.



Figure 1: a) a Materials Science and Engineering undergraduate technician providing guidance about various molds to first year engineering students b) Materials Science and Engineering students preparing their buddha head mold project with clear frit c) some pre-firing decorated pieces by participants.

Partnership with Piscataway High School

A similar event is currently being planned for students from Piscataway High School, whose teacher is an alumnus of the Rutgers Materials Science and Engineering department. During this entire school day event, students will be given a brief lesson on glass engineering, shown a glass pour demonstration, conduct the glass molding activity, and tour the department and facilities. This is a unique opportunity for students to gain early exposure to glass engineering and materials science as a whole, setting a path for them to explore more avenues in a technical education. This event will in part be sponsored by the CGIF funding for the previous slump molding activity.

Looking Forward: CGIF Grant Application

The Rutgers Chapter has submitted an application for a CGIF grant for the 2019-2020 year. The proposed event is similar to the one successfully conducted with the previous CGIF grant.

Professional Development*Student Speaking Contest*

Keramos helped solicitation participation in the Rutgers local student speaking competition, in preparation for the national contest at MS&T. Students were expected to present within the same boundaries and with the same expectations as with the national competition in front of three judges, one of which was a former student board member for the Keramos Rutgers chapter. The winner of the local competition was the 2018-2019 Keramos president, Mikio LaCapra, and he went on to place third at MS&T 2018. The student speaking competition plays the essential role of exposing students to public speaking and critical research analysis outside of the classroom, and is an opportunity for critic and therefore development of such skills.

Looking Forward: First Year Night

In an effort to engage incoming sophomores, students who have just declared their major as Materials Science and Engineering, Keramos will be hosting a social session where they can mingle with each other and with department faculty. This will be done as an effort to not only connect the incoming class with each other before they enter a three year stretch of mirroring course schedules, but to also hopefully connect them with faculty to find a research position for the summer or upcoming semester.

Service to the Ceramics Community*Study Sessions*

Several study sessions are hosted during exam periods in attempt to assist struggling students, and develop relationships within the lower years and between the class years. The event is primarily geared towards the sophomore and junior exams and is an opportunity for upperclassmen to help out underclassmen in challenging topics in a social setting.

MSE Night

Every semester the Materials Science and Engineering department hosts an information session and lab tours for first year students who are interested in materials and ceramics engineering. This event is a large recruiting opportunity for the department and often provides students with their first exposure to research labs. During MSE Night, Keramos members speak to the students from an undergraduate prospective and act as tour guides, taking students to visit various instruments such as the Atomic Force Microscope, Transmission Electron Microscope, and a fiber optics laboratory.

Majors Night

The School of Engineering hosts an annual event where they invite all departments to table prior to the deadline for first year students to choose an engineering major. Although the tabling is organized by each department's administrative side, they ask for student volunteers to talk to the student attendees, answering questions about their major and providing advice about course paths. This year Keramos members were asked to represent the Department of Materials Science of Engineering. This was an important role for the organization to have since many first-year students have not heard of the major or have qualms about joining a discipline they have had little exposure to.



Figure 2: The 2018-2019 Vice President, Ethan Benderly-Kremen, conducting a glass flame working demonstration at the 2018 Rutgers Day.

Rutgers Day

Each year Rutgers opens its doors to the general public in a university wide festival. It was estimated that about 106 thousand people attended Rutgers Day in 2018, and therefore is a perfect opportunity for the Materials Science and Engineering department to showcase the various exciting opportunities a path in materials and ceramic science has. The activities are usually separated by research laboratory, however Keramos members are heavily involved in volunteering. Example activities are liquid nitrogen made ice cream, building crystal structures with toothpicks and gumdrops, and a flameworking demonstration (Figure 2).

Alumni Engagement

Preparations have begun this year to connect the Rutgers Chapter with its alumni base. A current roster of all Rutgers chapter members has been acquired by the student board for the chapter's record. Starting with the current and new members, a LinkedIn page for the Rutgers chapter has been created and will offer a platform for connections and communications (if interested please join at <https://www.linkedin.com/groups/12235300/> and please keep this group to Rutgers alumni only). Since our department and chapter is small, we look to foster an online community representing our strong fraternal bonds, devoted to elevating each other and demonstrating our high achievements in the world of materials science and engineering.

Participation at the Annual Convocation and Business Meeting

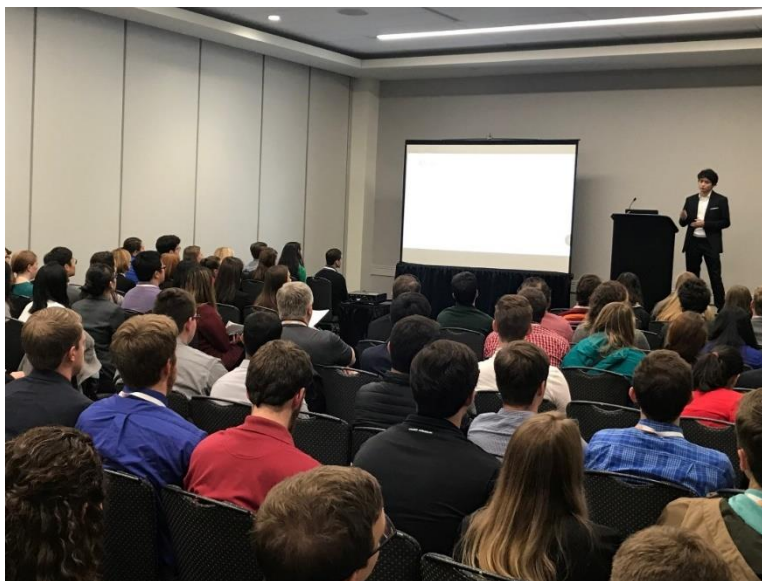


Figure 3: The 2018-2019 President, Mikio LaCapra, presenting his research at the MS&T 2018 student speaking competition.

This year only one representative, the president and delegate Mikio LaCapra, was able to attend the annual meeting at MS&T 2018. Despite this reduced presence, the Rutgers chapter offered a voice for smaller chapters at the meeting, participating in discussion such as with the Mug Drop Competition rule changes. Outside of the meeting, the Rutgers representative participated in The

American Ceramics Society's student poster and student speaking contest (Figure 3), placing third in the latter.

Looking forward, the Rutgers chapter looks to send more student representatives to MS&T 2019. Besides participating in the meeting and presenting their research through the various competitions, the Rutgers chapter is currently developing a team for the Mug Drop competition.

Interorganizational Communications and Collaboration

Rutgers Materials Science and Engineering is a small department, and therefore collaboration between organizations is essential in developing and maintaining departmental cohesion. Therefore, multiple efforts are made throughout the year to collaborate in social events.



Figure 4: Some undergraduate students playing card and online games at Game Night.

Game Nights

A classic event that is cohosted multiple times a year is game night where students bring in various board and digital games to play with their peers. The games played range from Scrabble to Jack Box TV games and the event is very popular amongst the undergraduate students. Participation spans all three class years and is one of the essential traditional events where students can build social relationships.

Trivia Night

Inspired by the various trivia options on and off campus, the Keramos and Materials Advantage chapter worked together to host our own trivia night. The questions consisted of North vs. South Jersey, MSE professor fun facts, general history, 1990's items, and "work" related songs. Students were able to form their own teams and healthily compete against each other outside the classroom.



Figure 5: Various teams spread across the room contemplating a history question during Trivia Night.

MSE Friendsgiving

In the theme of Thanksgiving, Keramos, Materials Advantage, and Society of Plastics Engineers hosted and promoted a MSE potluck. Student brought items from stuffing to spanakopita to sit down and share with their peers. This event not only brought together student from across class years and was a destresser during an exam period, but also hopefully was an opportunity for students to recognize their peers and be thankful for the help and friendship they received.



Figure 6: Donated food and drinks from the students and faculty in the Materials Science and Engineering department for the Rutgers Food Pantry during the School of Engineering's food drive.

School of Engineering Food Drive

This year the department of Materials Science and Engineering participated and donated the most pounds of food or drinks per student during the School of Engineering's food drive. All food from this drive was donated to the Rutgers Student Food Pantry, a university wide initiative to alleviate food insecurity amongst students. Keramos and other department extracurricular student leaders not only donated, but also promoted avocation and involvement from other students and faculty.

Looking Forward: MSE Game Day

The last event of the semester is the MSE BBQ and Game Day during the reading period before final exams. The BBQ side of the event is hosted by the Graduate Student Association, while the games are organized by the student organizations. Traditionally undergraduate and graduate students are organized on opposing teams and compete in various relay events or volleyball. The annual event is enamored by many in the department and symbolizes a celebration of the academic year's end.