

Eleanor Castracane

PHD CANDIDATE · PHYSICAL CHEMISTRY

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Education

University of California San Diego

PHD, PHYSICAL CHEMISTRY

Advisor: Prof. Robert E. Continetti

La Jolla, CA

Sept 2017 - Present

Stony Brook University

MS, CHEMISTRY

Advisor: Assoc. Prof. Christopher J. Johnson

Stony Brook, NY

Aug 2016 - May 2017

Stony Brook University

BS, CHEMISTRY

University Scholars Honors Program

Stony Brook, NY

Aug 2012 - Aug 2016

Freie Universität Berlin

STUDY ABROAD

FUBIS - German Language and Cinema

Berlin, Germany

July 2016 - Aug 2016

Research Experience

University of California San Diego - Department of Chemistry and Biochemistry

GRADUATE RESEARCH; ADVISOR: PROF. ROBERT E. CONTINETTI

Research Interests: Photoelectron-photofragment coincidence spectroscopy of carboxylic acid anions

La Jolla, CA

Jan 2018 - Present

Stony Brook University - Department of Chemistry

RESEARCH ASSISTANT; ADVISOR: ASSC. PROF. CHRISTOPHER J. JOHNSON

Research Interests: Anionic mass spectrometry studies of amine substitutions in atmospheric aerosols

Stony Brook, NY

May 2017 - Aug 2017

Stony Brook University - Department of Chemistry

GRADUATE RESEARCH; ADVISOR: ASSC. PROF. CHRISTOPHER J. JOHNSON

Thesis: "Spectroscopic and Mass Spectrometric Studies of Atmospherically Relevant Clusters"

Stony Brook, NY

Aug 2016 - May 2017

Stony Brook University - Department of Chemistry

UNDERGRADUATE RESEARCH; ADVISOR: PROF. DALE G. DRUECKHAMMER

Thesis: "Development of a FRET-Based Continuous Glucose Sensor"

Stony Brook, NY

May 2014 - May 2016

Publications

RESEARCH PUBLICATIONS

7. **Castracane, E.**; Hanold, K.A.; Continetti, R.E. "Two- and three-body dissociative photodetachment dynamics of α -keto acid anions." *In preparation*.
6. Gibbard, J.A.; **Castracane, E.**; Krylov, A.I.; Continetti, R.E. "Photoelectron photofragment coincidence spectroscopy of aromatic carboxylates: benzoate and p-coumarate." *Phys. Chem. Chem. Phys.*, **2021**, 34 (23), 18414. · DOI: 10.1039/D1CP02972J
5. Gibbard, J.A.; **Castracane, E.**; Continetti, R.E. "Photoelectron-photofragment coincidence spectroscopy of the mixed trihalides." *J. Chem. Phys.*, **2020**, 153 (5), 054304. · DOI: 10.1063/5.0014253
4. Gibbard, J.A.; **Castracane, E.**; Shin, J.A.; Continetti, R.E. "Dissociative photodetachment dynamics of the oxalate monoanion." *Phys. Chem. Chem. Phys.*, **2020**, 22 (3), 1427-1436. · DOI: 10.1039/C9CP05338G

3. Waller, S.E.; Yang, Y.; **Castracane, E.**; Kreinbuhl, J.K.; Nickson, K.; Johnson, C.J. "Electrospray Ionization-Based Synthesis and Validation of Amine-Sulfuric Acid Clusters of Relevance to Atmospheric New Particle Formation." *J. Am. Soc. Mass Spectrom.*, **2019**, 30 (11), 2267-2277. · DOI: 10.1007/s13361-019-02322-3
2. Gibbard, J.A.; Shin, A.J.; **Castracane, E.**; Continetti, R.E. "A high beam energy photoelectron-photofragment coincidence spectrometer for complex ions." *Rev. Sci. Instrum.*, **2018**, 89 (12), 123304. · DOI: 10.1063/1.5074112
1. Waller, S.E.; Yang, Y.; **Castracane, E.**; Racow, E.; Kreinbuhl, J.; Nickson, K.; Johnson, C.J. "The Interplay Between Hydrogen Bonding and Coulombic Forces in Determining the Structure of Sulfuric Acid-Amine Clusters." *J. Phys. Chem. Lett.*, **2018**, 9 (6), 1216-1222. · DOI: 10.1021/acs.jpclett.8b00161

OTHER PUBLICATIONS

1. **Castracane, E.**; "Breaking up with Pretty Bad." *C&EN*, **2018**, 96 (36), [Online only].

Teaching Experience

| | | |
|-------------|---|------------------------|
| Spring 2020 | Instrumental Analysis Laboratory , Teaching Assistant | UC San Diego |
| Fall 2019 | General Chemistry Laboratory , Teaching Assistant | UC San Diego |
| Spring 2019 | Analytical Chemistry Laboratory , Teaching Assistant | UC San Diego |
| Fall 2018 | Analytical Chemistry Laboratory , Teaching Assistant | UC San Diego |
| Spring 2018 | Analytical Chemistry Laboratory , Teaching Assistant | UC San Diego |
| Winter 2018 | General Chemistry Laboratory , Teaching Assistant | UC San Diego |
| Fall 2017 | General Chemistry Laboratory , Teaching Assistant | UC San Diego |
| Summer 2016 | General Chemistry I , Recitation Instructor of record | Stony Brook University |
| Spring 2016 | Freshman Seminar: Ethics in Science , Teaching Assistant | Stony Brook University |
| Spring 2016 | Inorganic Chemistry , Teaching Assistant | Stony Brook University |
| Summer 2015 | General Chemistry II , Recitation Instructor of record | Stony Brook University |
| Summer 2015 | General Chemistry I , Recitation Instructor of record | Stony Brook University |
| Spring 2015 | Inorganic Chemistry , Teaching Assistant | Stony Brook University |
| Fall 2014 | Organic Chemistry I , Teaching Assistant | Stony Brook University |

Presentations

ORAL PRESENTATIONS

1. **Castracane, E.**; Racow, E.; Yang, Y.; Waller, S.E.; Kreinbuhl, J.; Johnson, C.J. "Amine substitution studies of atmospherically relevant anionic clusters." *254th American Chemical Society National Meeting*, Washington, DC, August 2017.

POSTER PRESENTATIONS

7. **Castracane, E.**; Gibbard, J.A.; Continetti, R.E. "Dissociation dynamics of aromatic carboxylic acid anions." *PACIFICHEM 2021*. Online. December 2021.
6. **Castracane, E.**; Gibbard, J.A.; Continetti, R.E. "Towards the dissociation dynamics of multiply charged ions." *258th American Chemical Society National Meeting*. San Diego, CA. August 2019.
5. **Castracane, E.**; Racow, E.; Waller, S.E.; Yang, Y.; Kreinbuhl, J.; Johnson, C.J. "Infrared Studies of Binary Proton-bound Complexes: Quantum Delocalization and Temperature Determination." *Chemistry Research Day*. Stony Brook, NY. November 2016.
4. **Castracane, E.**; Gao, S.Q.; Drueckhammer, D.G. "Development of a FRET-Based Continuous Glucose Sensor." *Undergraduate Research and Creative Activities Symposium*, Stony Brook, NY, April 2016.
3. **Castracane, E.**; Marcella, N.; Corrao, A.; Daly, K.; Aubrecht, K.B. "Promoting Science Literacy and Communication." *Stony Brook University Admitted Students Day – Chemistry Department Tours*. Stony Brook, NY. April 2016.
2. **Castracane, E.**; Gao, S.Q.; Drueckhammer, D.G. "Development of a FRET-Based Continuous Glucose Sensor." *Stony Brook University Admitted Students Day*. Stony Brook, NY. April 2016.

1. **Castracane, E.**; Marcella, N.; Corrao, A.; Daly, K.; Aubrecht, K.B. "Promoting Science Literacy and Communication." 251st American Chemical Society National Meeting. San Diego, CA. March 2016.

Mentoring

2017 **Jamie Butalevicz**, currently PhD student at UT Austin

Stony Brook University

Awards & Honors

| | | |
|-----------|---|----------|
| 2023 | Empowerment Award , Females in Mass Spectrometry (FeMS) | \$300 |
| | Travel Award , UC San Diego - Department of Chemistry & Biochemistry | \$500 |
| 2016 | Commencement Speaker , Stony Brook University - Department of Chemistry | |
| | Roy W. Sonntag Award , Gamma Sigma Epsilon Chemistry Honor Society | \$200 |
| | Outstanding Service Award , Stony Brook University - Department of Chemistry | |
| 2012-2016 | Presidential Scholarship , Stony Brook University | \$10,000 |

Outreach & Professional Development

SERVICE AND OUTREACH

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| 2019-2020 | Chemistry Graduate Student Mental Health Support Group , Organizer | <i>UC San Diego</i> |
| 2019 | Expanding Your Horizons , Volunteer | <i>University of San Diego</i> |
| 2019 | Chemistry Graduate Student Research Seminar , Organizer | <i>UC San Diego</i> |
| 2019 | Chemistry Graduate Student Research Seminar , Organizer | <i>UC San Diego</i> |
| 2018, 2019 | Comienzo con un Sueño , Volunteer | <i>UC San Diego</i> |
| 2015, 2016 | Department of Chemistry Undergraduate Poster Session , Organizer | <i>Stony Brook University</i> |
| 2014-2016 | Undergraduate American Chemical Society , Treasurer | <i>Stony Brook University</i> |
| 2014-2016 | Gamma Sigma Epsilon - Kappa Pi Chapter , President & Charter Member | <i>Stony Brook University</i> |

DEVELOPMENT

American Sign Language, five quarters of college-level ASL.

Introduction to College Teaching, a ten-week long pedagogy course related to teaching at the college level.

CommSciCon, a science communication workshop for graduate students.

PROFESSIONAL MEMBERSHIPS

American Chemical Society
Society of Women Engineers
Females in Mass Spectrometry