

# Eleanor Castracane

PHD CANDIDATE · PHYSICAL CHEMISTRY

✉ ecastrac@ucsd.edu | 🏠 ecastrac.github.io | 📺 ecastrac | 👤 they/them/theirs

## 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  $\alpha$ -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 Spec.*, **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	<b>Instrumental Analysis Laboratory</b> , Teaching Assistant	UC San Diego
Fall 2019	<b>General Chemistry Laboratory</b> , Teaching Assistant	UC San Diego
Spring 2019	<b>Analytical Chemistry Laboratory</b> , Teaching Assistant	UC San Diego
Fall 2018	<b>Analytical Chemistry Laboratory</b> , Teaching Assistant	UC San Diego
Spring 2018	<b>Analytical Chemistry Laboratory</b> , Teaching Assistant	UC San Diego
Winter 2018	<b>General Chemistry Laboratory</b> , Teaching Assistant	UC San Diego
Fall 2017	<b>General Chemistry Laboratory</b> , Teaching Assistant	UC San Diego
Summer 2016	<b>General Chemistry I</b> , Recitation Instructor of record	Stony Brook University
Spring 2016	<b>Freshman Seminar: Ethics in Science</b> , Teaching Assistant	Stony Brook University
Spring 2016	<b>Inorganic Chemistry</b> , Teaching Assistant	Stony Brook University
Summer 2015	<b>General Chemistry II</b> , Recitation Instructor of record	Stony Brook University
Summer 2015	<b>General Chemistry I</b> , Recitation Instructor of record	Stony Brook University
Spring 2015	<b>Inorganic Chemistry</b> , Teaching Assistant	Stony Brook University
Fall 2014	<b>Organic Chemistry I</b> , 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." *254<sup>th</sup> 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." *258<sup>th</sup> 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." 251<sup>st</sup> 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

---

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

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