

# Rebecca Guth-Metzler

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Georgia Institute of Technology

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## EDUCATION

- Ph.D. **Georgia Institute of Technology**, Atlanta, GA, Expected 2023  
Chemistry and Biochemistry  
Research Advisors: Loren Williams and Jennifer Glass
- B.S. **Pennsylvania State University**, University Park, PA, 2018  
Molecular Biology Major and Geosciences Minor, *summa cum laude*
- B.F.A. **Moore College of Art & Design**, Philadelphia, PA, 2013  
Bachelor of Fine Arts, 2D Major, *magna cum laude*

## RESEARCH EXPERIENCE

- 2018 - present **Graduate Research Assistant**, Pennsylvania State University  
Advisors: Dr. Loren D. Williams and Dr. Jennifer Glass  
Project title: Iron-mediated rRNA in-line cleavage as a mechanism of RNA damage and as a probe of RNA structure
- 2016 - 2018 **Undergraduate Research Assistant**, Pennsylvania State University  
Advisor: Dr. Philip C. Bevilacqua  
Thesis title: Investigating RNA Aptamer Structure and Function in Complex Coacervation Conditions
- 2017 **Research Experience for Undergraduates Participant**, Pennsylvania State University  
Project: NSF and 3M-Sponsored Undergraduate Research in Chemistry

## PROFESSIONAL EXPERIENCE

- 2018 - present **Teaching Assistant**, Georgia Institute of Technology  
Class: Biochemistry Laboratory II  
Supervisor: Dr. Mary Peek
- Lead the activities of a diverse undergraduate lab
  - Present experiment background and design course materials
  - Assign grades and provide students with feedback
  - Manage lab safety and waste

## CERTIFICATIONS

- 2018 American Society for Biochemistry and Molecular Biology

## **TECHNICAL SKILLS**

### **Laboratory**

DNA cloning and bacterial transformation

DNA extraction and purification

RNA transcription and purification

Gel electrophoresis

UV/UV-Vis Spectrophotometry, Fluorometry, and Circular Dichroism

### **Computer**

PyMol

ChemDraw

## **RESEARCH GRANTS AND FELLOWSHIPS**

- |             |   |
|-------------|---|
| 2018        | President's Fellowship, Georgia Institute of Technology   |
| 2018        | Georgia Tech Institute Fellowship   |
| 2017        | Erickson Discovery Grant, Pennsylvania State University   |
|             | <ul style="list-style-type: none"><li>• Award to notable undergraduates in any field to sponsor summer research</li></ul> |
| 2017        | Undergraduate Travel Grant, Pennsylvania State University   |
|             | <ul style="list-style-type: none"><li>• Provided funding for travel to the Astrobiology Graduate Conference</li></ul>     |
| 2016 & 2017 | Undergraduate Research Grant, Pennsylvania State University   |
|             | <ul style="list-style-type: none"><li>• Award to support outstanding research proposals of undergraduates</li></ul>       |

## **ACADEMIC HONORS AND AWARDS**

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|-------------|---|
| 2018        | Outstanding Student in Biochemistry and Molecular Biology, Pennsylvania State University                              |
| 2017        | Class of 1934 Grant in Aid, Pennsylvania State University   |
| 2017        | Dr. Joellen Schildkraut & Dr. Brian Annex Scholarship in the Eberly College of Science, Pennsylvania State University |
| 2017        | Clarence E. & Ruth L. Armstrong Scholarship, Pennsylvania State University  |
| 2016 - 2017 | Penn State Academic Grant, Pennsylvania State University  |
| 2016 - 2017 | Irving and Jeanne Atlas Scholarship in Biochemistry, Pennsylvania State University                                    |
| 2016        | John van Valzah Foster, Jr. M.D. and Carolyn Manifold Foster Memorial Scholarship, Pennsylvania State University      |
| 2015 - 2018 | Dean's List, Pennsylvania State University  |

## **ORAL AND POSTER PRESENTATIONS**

- Oct. 2017 Eberly College of Science Undergraduate Poster Exhibition, Pennsylvania State University
- Aug. 2017 Research Experience for Undergraduates Symposium, Pennsylvania State University
- Poster Title: Stability of a Functional RNA Under Coacervation Conditions
- July 2017 Astrobiology Graduate Conference (AbGradCon), Charlottesville, VA
- Poster Title: Thermal Stability of Functional RNA Inside Coacervates
- July 2017 Proposal Writing Retreat, Green Bank Observatory, Green Bank, WV
- Proposal Title: UV radiation: a double-edged sword in prebiotic chemistry
  - Wrote and presented a group proposal in response to the NASA ROSES-2017 call for proposals that ranked in the top three for the retreat
- May 2017 Undergraduate Research Symposium, Pennsylvania State University
- Poster Title: Enhanced Thermal Stability of Functional RNA Inside Coacervates

## **PROFESSIONAL AFFILIATIONS**

- 2018 - present Center for the Origins of Life, Georgia Institute of Technology
- 2018 - present Bioengineering & Bioscience Unified Graduate Students, Georgia Institute of Technology
- 2016 – 2018 Center for RNA Molecular Biology, Pennsylvania State University

## **SERVICE**

- 2018 Buzz on Biotechnology, Georgia Institute of Technology
- Led a hands-on demonstration of DNA extraction for high-school students and their community