

Charlotte Olsen

Pronouns: She/Her, They/Them

Education

- expected 2023 **Rutgers, The State University of New Jersey**,
Ph.D. Physics and Astronomy.
- 2020 **Rutgers, The State University of New Jersey**,
M.S. Physics and Astronomy.
- 2017 **Cal Poly Humboldt**,
B.S. Physics with Astronomy Option, Minor in Applied Mathematics, with honors Magna Cum Laude.
- 2014 **College of the Redwoods**,
A.A. in Science, Highest Honors.

Research Interests

Galaxy Evolution, Galaxy Star Formation Histories, Observational Cosmology, Spectral Energy Distribution Fitting, Machine Learning and Data Mining, Resolved Stellar Populations within Galaxies, Large Volume Surveys, Galaxy Interactions and Mergers

Awards, Fellowships, Honors, & Grants

- 2022 **Robert A. Schommer Prize**, *The Robert A. Schommer Prize is awarded to the one student who, in the collective judgment of the astrophysics faculty in the Department, has published the best first-author, refereed journal article in the field of astrophysics in the past two years* , <http://www.physics.rutgers.edu/grad/prizes/SchommerPrize.html>.
- 2022 **Noemie Koller Endowed Graduate Scholarship**, *The Noemie Koller Endowed Scholarship in the Department of Physics and Astronomy has been established with a gift from Prof. Koller. This gift was made based on her appreciation of the importance of financial assistance in attracting the best graduate students. The intent is to assist individual students and the department as a whole.* , <http://www.physics.rutgers.edu/grad/prizes/KollerScholarship.html>.
- 2021 **Chambliss Astronomy Achievement Student Awards**, AAS 238, The Astronomy Achievement Student Awards are given to recognize exemplary research by undergraduate and graduate students who present at one of the poster sessions at the meetings of the AAS, <https://aas.org/grants-and-prizes/chambliss-astronomy-achievement-student-awards>.
- 2020 **Rutgers Graduate Student Association Award for Excellence in Graduate Service**, *Recognizes a Rutgers University graduate student who demonstrates a tireless track record of service. Those honored have shown a selfless commitment to the betterment of their cohort, fellow graduate students, and/or the community as a whole, improving the livelihood of others while encouraging an environment of inclusivity and growth*, More at the GSA website.
- 2017 **AAS FAMOUS Travel Grant**, *The FAMOUS (Funds for Astronomical Meetings: Outreach to Underrepresented Scientists) Travel Grants Program awards money to attend an AAS meeting.*
- 2017 **Henry C. Torrey Fellowship**, *The Torrey award is awarded by the Physics & Astronomy department to the most outstanding entering graduate students..*
- 2017 **Rutgers Excellence Fellowship for doctoral study in Physics and Astronomy**, *The Rutgers Excellence Fellowship is awarded by the School of Graduate Studies (SGS) to outstanding students entering doctoral study at Rutgers .*
- 2017 **Cal Poly Humboldt Recognition for Academic Excellence in a Discipline**, – *Physics*, Excellence in Natural Resources & Sciences, Award presented to one student for Academic Excellence in a Discipline and in Academic Achievements. .
- 2017 **Cal Poly Humboldt Physics and Astronomy Department Award for Outstanding Service to the Physics & Astronomy Community**, *Inaugural award given to the graduating student that according to the department demonstrated exceptional leadership and mentorship..*

- 2016 **John Mather Nobel Scholar**, *The John Mather Nobel Scholarship Program awards travel allowances towards the cost of presenting research papers at professional conferences. Applicants must have demonstrated high academic achievement, and be currently holding a Goddard-based research internship* , More details at <https://spacegrant.org/programs/john-mather/>.
- 2016 & 2017 **Comap MCM Math Modeling Competition**, *Honorable Mention*, COMAP Mathematical Contest in Modeling (MCM) challenges teams of students to clarify, analyze, and propose solutions to open-ended problems. The contest attracts diverse students and faculty advisors from over 900 institutions around the world.
- 2016 **Alfred Piltz Academic Scholarship**, *Cal Poly Humboldt endowed scholarship in the memory of Alfred Pilz granted to an undergraduate demonstrating academic excellence..*

Professional Service

- 2022–2025 **AAS SGMA Committee Member**, *The AAS Committee for Sexual-Orientation and Gender Minorities in Astronomy (SGMA) works to promote equality for sexual-orientation and gender minorities (SGMs) within our profession, including those identifying as lesbian, gay, bisexual, transgender, intersex, questioning or queer, or asexual. SGMA works to end hiring and workplace discrimination on the basis of sexual orientation and gender identity or expression; eliminate the inequalities in compensation experienced by SGMs; create a professional climate that respects and values diversity; serve as a conduit for communication between the AAS Council and the SGM community; support networking and peer mentoring among SGMs; and provide resources to support SGM equality within the astronomical profession. .*
- 2022– **Referee for Monthly Notices of the Royal Astronomical Society (MNRAS).**
- 2021–2022 **Rutgers PreDoctoral Leadership Development Academy Fellow**, *The PreDoctoral Leadership Development Academy (PLDA), is a one year program designed to provide doctoral students from a broad array of academic disciplines with the supplemental knowledge and skills needed for academic and administrative leadership roles. PLDA Fellows have an opportunity to develop a deeper understanding of the challenges confronting higher education, foster engagement with university strategy, enhance their leadership competencies, and strengthen their network of colleagues* , <https://ol.rutgers.edu/programs/plda/>.
- 2021–2023 **Graduate Studies and Life Committee Member**, *The GSLC is a departmental committee made of the Graduate Program Director, and two graduate students. Its purpose is to supervise the operation of the graduate program, including advising graduate students, considering complaints, problems, and suggestions, recommending changes in the program, and recommending changes in the status of individual students..*
- 2020–present **Graduate Student Physics Department Union Representative**, *Grad student representative for the AAUP-AFT for Rutgers. This position requires participation in the contract bargaining process, as well as communicating union business to the other graduate students in the department. Most importantly, my role allows for me to communicate the needs of the Physics & Astronomy graduate students to our union.*

Publications

Olsen, Charlotte; Gawiser, Eric, “Searching for Conformity Across Cosmic Time with Local Group and Local Volume Star Formation Histories” *The Astrophysical Journal* *submitted October 10 2022, accepted for publication December 7th 2022* arXiv:2210.05637

Olsen, Charlotte; Gawiser, Eric; Iyer, Kartheik; McQuinn, Kristen B. W.; Johnson, Benjamin D.; Telford, Grace; Wright, Anna C.; Broussard, Adam; Kurczynski, Peter “Star Formation Histories from SEDs and CMDs Agree: Evidence for Synchronized Star Formation in Local Volume Dwarf Galaxies over the Past 3 Gyr” *The Astrophysical Journal*, Volume 913 DOI:10.3847/1538-4357/abf3c2 May 2021

Somerville, Rachel S.; **Olsen, Charlotte**; Yung, L. Y. Aaron; Pacifici, Camilla; Ferguson, Henry C.; Behroozi, Peter; Osborne, Shannon; Wechsler, Risa H.; Pandya, Viraj; Faber, Sandra M.; Primack, Joel R.; Dekel, Avishai “Mock light-cones and theory friendly catalogues for the CANDELS survey ” *Monthly Notices of the Royal Astronomical Society*, Volume 502, Issue 4, pp.4858-4876 DOI: 10.1093/mnras/stab231 February 2021

Beck E. Strauss, Schuyler R. Borges, Thea Faridani, Jennifer A. Grier, Avery Kiihne, Erin R. Maier, **Charlotte Olsen**, Theo O’Neill, Edgard G. Rivera-Valentín, Evan L. Sneed, Dany Waller, Vic Zamloot, “Nonbinary Systems: Looking Towards the Future of Gender Equity in Planetary Science” *Whitepaper* arXiv:2009.08247 September 2020

Benson, G., **Olsen, C.**, “Exoplanet Research: Differential Photometry of Kepler 6b” *ideaFest: Interdisciplinary Journal of Creative Works and Research from Cal Poly Humboldt*, Volume 1, 2016

Presentations & Talks

Invited Talks

- February 2023 **Franklin & Marshal Colloquium**, *Galaxy Star Formation Histories as Spatio-Temporal Probes of Environment*.
- January 2023 **AAS Winter Meeting**, *UVCANDELS Special Session, Reconstructing Spatially Resolved Star Formation Histories with UVCANDELS*.
- December 2022 **CANUCS Science Meeting**, *Synchronized Star Formation and Conformity Across Cosmic Time with Local Volume Star Formation Histories*.
- November 2022 **Stanford KIPAC tea**, *Synchronized Star Formation and Conformity Across Cosmic Time with Local Volume Star Formation Histories*, Invited Talk.
- November 2022 **Dartmouth Astro Seminar**, *Synchronized Star Formation and Conformity Across Cosmic Time with Local Volume Star Formation Histories*, Invited Talk.
- November 2022 **Princeton Galread**, *Conformity Across Cosmic Time with Local Volume Star Formation Histories*, Invited Talk.
- October 2022 **Yale Galaxy Lunch**, *Conformity Across Cosmic Time with Local Group and Local Volume Star Formation Histories*, Invited Talk.
- September 2022 **Space Telescope Science Institute Galaxies and AGN Journal Club**, *Searching for Conformity Across Cosmic Time with Local Group and Local Volume Star Formation Histories*, Invited Talk.
- September 2022 **U Delaware Colloquium**, *Searching for Conformity Across Cosmic Time with Local Group and Local Volume Star Formation Histories*, Invited Talk.
- September 2022 **CCA Galaxy Formation Group**, *Searching for Conformity Across Cosmic Time with Local Group and Local Volume Star Formation Histories*, Invited Talk.
- July 2022 **Pan-Survey SED Forum: spectral energy distribution modeling for galaxy evolution studies with surveys in the JWST era, SFHs from color-magnitude diagrams, the Galaxy perspective**, Invited Talk.
- April 2022 **Physics & Astronomy Equity & Inclusion Journal Club**, *"Burnout or Breakthrough? Exploring the Psychological Cost of Academia on Grad Students"*, Invited Talk.
- December 2021 **Roman Virtual Lecture Series**, *Star Formation Histories from Spectral Energy Distributions and Color Magnitude Diagrams Show Synchronized Star Formation amongst Local Volume Dwarf Galaxies*, Invited Talk.
- September 2021 **Penn State Lunch Talk**, *Star Formation Histories from Spectral Energy Distributions and Color Magnitude Diagrams Show Synchronized Star Formation amongst Local Volume Dwarf Galaxies*, Invited Talk.
- June 2021 **CANDELS SED fitting Telecon**, *Star Formation Histories from SEDs and CMDs Agree: Evidence for Synchronized Star Formation in Local Volume Dwarf Galaxies over the Past 3 Gyr*, Invited Talk.
- June 2021 **Princeton Galread Extragalactic Discussion Group**, *Star Formation Histories from SEDs and CMDs Agree: Evidence for Synchronized Star Formation in Local Volume Dwarf Galaxies over the Past 3 Gyr*, Invited Talk.
- May 2021 **CCA Galaxy Formation Group**, *Synchronized Star Formation in Local Volume Dwarf Galaxies*, Invited Talk.
- February 2021 **Cal Poly Humboldt Physics & Astronomy Invited Speaker Seminar**, *The Secret Lives of Galaxies*, Invited Colloquium.

Contributed Talks

- January 2023 **AAS Winter meeting**, *Dissertation Talk, Spatio-temporal Correlations of Galaxy Star Formation Histories*.
- July 2022 **A Comprehensive View of Galaxy Evolution From The Milky Way To I Zwicky 18**, *Synchronized Star Formation and Conformity in Local Volume Dwarfs*, Contributed Talk.
- June 2022 **AAS Summer Meeting**, *Searching for Conformity Across Cosmic Time with Local Group and Local Volume Star Formation Histories*, Contributed Talk.
- April 2022 **Student Seminars in Physics and Astronomy at Rutgers (SSPAR)**, *Synchronized Star Formation and Conformity in Local Volume Dwarfs*, Contributed Talk.
- April 2022 **Student Seminars in Physics and Astronomy at Rutgers (SSPAR)**, *Introduction to Rutgers AAUP-AFT*, Contributed Talk.
- January 2022 **AAS Winter Meeting**, *Probing Cosmic Conformity in Local Volume Dwarf Galaxies with Star Formation Histories from CMDs and SEDs*, Contributed Talk.

- August 2021 **Rubin Project Community Workshop Research Bytes**, *Finding synchronized star formation in galaxies using star formation history reconstruction*, Contributed Talk.
- July 2021 **Dark Energy Science Collaboration Meeting Lightning Talks**, *Evidence for Synchronized Star Formation in Local Volume Dwarf Galaxies*, Contributed Flash Talk.
- June 2021 **AAS Summer Meeting**, *Star Formation Histories from SEDs and CMDs Agree: Evidence for Synchronized Star Formation in Local Volume Dwarf Galaxies over the Past 3 Gyr*, iPoster+ and Talk.
- May 2021 **Multi Object Spectroscopy Galaxies Meeting**, *Finding Synchronized Star Formation in Local Volume Dwarf Galaxies*, Poster and Lightning Talk.
- April 2021 **Student Seminars in Physics and Astronomy at Rutgers (SSPAR)**, *Talk: Finding Evidence for Synchronized Star Formation in Local Volume Dwarf Galaxies*, Contributed Talk.
- January 2021 **AAS Winter Meeting**, *Probing Cosmic Conformity in Local Volume Dwarf Galaxies with Star Formation Histories from CMDs and SEDs*, Contributed Talk.
- October 2020 **Physics & Astronomy Equity & Inclusion Journal Club**, *Nonbinary Fraction and Nonbinary Systems: Whitepapers on the Future of Gender Equity in Space Sciences*, Contributed Talk.
- October 2020 / November 2019 **Student Seminars in Physics and Astronomy at Rutgers (SSPAR)**, *Talk: Women in Physics: A Case Study of Equity Issues in Physics*, Contributed Talk.
- October 2020 **Rutgers Physics and Astronomy Astro Group Research Talks**, *Synchronized Star Formation in the Local Volume?*, Journal Club Talk.
- September 2020 / October 2019 **Student Seminars in Physics and Astronomy at Rutgers (SSPAR)**, *Mental Health and Mental Hygiene: Developing Tools to Thrive while earning a Physics PhD*, Contributed Talk.
- May 2019 **Rutgers Physics and Astronomy Astro Group Research Talks**, *A Comparative Analysis of Nearby Galaxy Star Formation Histories*, Journal Club Talk.
- March 2019 **Student Seminars in Physics and Astronomy at Rutgers (SSPAR)**, *Equity Issues in Physics*, Contributed Talk.
- February 2019 **Student Seminars in Physics and Astronomy at Rutgers (SSPAR)**, *Perspectives on Mental Health as a Graduate Student*, Contributed Talk.
- April 2017 **Cal Poly Humboldt Physics and Astronomy Senior Seminar**, *A Search for Triggered Star Formation in Galaxies: A Study of NGC 5851, NGC 5852 and CGCG 077-007*, Thesis Talk.

Conference & Research Posters

- August 2022 **Rubin Project & Community Workshop**, *Understanding Synchronized Star Formation in Local Volume Dwarf Galaxies*, Poster.
- August 2017 **NASA Goddard Space Flight Center Summer Intern Poster Session**, *A Swift Search for Stellar Birth in Interacting Galaxies*, Poster.
- January 2017 **AAS Winter Meeting Evolution of Galaxies Poster Session January 6th Grapevine, TX**, *A Search for Triggered Star Formation in the Compact Group of Galaxies NGC 5851, NGC 5852 and CGCG 077-007*, Poster.
- October 2016 **2016 Undergraduate Scientific Research Symposium October 9th Cal Poly Humboldt**, *Tidally Triggered Star Formation in Groups and Pairs of Galaxies*, Poster.
- August 2016 **NASA Goddard Space Flight Center Summer Intern Poster Session**, *Searching for Tidally Triggered Star Formation in Galaxies with Multiwavelength Observations*, Poster.
- April 2016 **ideaFest Cal Poly Humboldt Interdisciplinary Research Symposium**, *An Exploratory Study of Exoplanet Atmospheres*, Poster.

Panels & Discussions

- July 2022 **Rutgers Summer Research Professional Development Session (A Guide to Grad School for REU Students)**, *Panel Discussion*.
- June 2022 **AAS Summer Meeting**, *How to Give Great Presentations: A Scientist's Guide to Effective Communication*, Panelist.
- July 2021 **Rutgers Summer Research Professional Development Session (An Inside Look at Grad School)**, *Panel Discussion*.
- March 2019 **SPS Zone 3 Meeting - Rutgers University**, *Diversity in Physics Panelist*, Panel Discussion.
- March 2017 **Cal Poly Humboldt You Belong Here Workshop for Women and Underrepresented Minorities in STEM**, *Panel discussion member*.

Leadership, Outreach & Service

- 2022-2023 **Outreach to New Brunswick Magnet Health Sciences High School**, Co-organized monthly engagements with high school physics classes where we use physics demos to create experiential learning opportunities tuned to the curriculum.
- 2020-2021 **Organizer for the Astronomy group weekly Journal Club**, Found and arranged for graduate student hosts, paper presentations, and research talks for both faculty and students as well as facilitating lively discussion about the latest papers in the field.
- 2019-2020 **Member of the Rutgers Graduate Student Association Mental Health Committee**, Addressed mental health struggles for grad students across all disciplines through events, outreach, and awareness campaigns.
- 2019-2020 **Physics and Astronomy Graduate Student Organization Co-President**, Implemented a Near-Peer mentorship program where each incoming student is paired with a more advanced graduate student to help them navigate everything from housing to exam stress. Helped to establish an orientation. Held events to create an atmosphere of community care.
- 2019-2022 **Outreach to New Brunswick Middle School through Nature thru Nurture (NtN) After School Program**, Brought physics demos relating to current physics curriculum for students in the program.
- 2019-2022 **Rutgers Physics and Astronomy Near-Peer Mentorship Program Mentor**.
- 2020 **Graduate Co-Chair of Rutgers University Minorities in Physics and Astronomy group (RU-MIPA)**, Following in the footsteps of RU-WIPA, RU-MIPA was created to replace RU-MIPA and be more inclusive of all people who are underrepresented in physics.
- 2018-2019 **Graduate Co-Chair of Rutgers University Women in Physics and Astronomy group (RU-WIPA)**, Organized weekly meetings and meeting topics.
- 2018-2019 **Outreach to New Brunswick High School through Nature thru Nurture (NtN) After school Program**, Brought physics demos relating to current physics curriculum for students in the program.
- 2018-2019 **Treasurer of the Physics and Astronomy Graduate Student Organization**, Beyond handling reimbursements, implemented yearly climate and funding surveys for keeping track of grad-student well being and collected data on the effectiveness of the mandatory first year placement exams.
- 2017 **Member of AAUP-AFT Committee on Diversity and Inclusion**, Committee formed to address increased white supremacist activity on Rutgers Campuses.
- 2016-2017 **Outreach to Continuation and Community Schools**, Visited local continuation and community schools to show by example that students in alternative High Schools can still be academically successful.
- 2016-2017 **NASA Space Public Outreach Team (SPOT) Ambassador**, Performing outreach in local K-12 schools with talks and activities to educate about NASA projects and increase enthusiasm for space.
- Summer 2015 **North Star Quest Camp Workshop Instructor**, Ran weekly Astronomy and Science workshops for an all girls' Summer Camp ages 9-16.
- 2015-2017 **President of the Cal Poly Humboldt Physics and Astronomy Club**, Along with public outreach such as public observing nights and movie nights, the Physics and Astronomy Club also became a resource for career planning, with workshops on research opportunities, industry jobs, and grad school.
- 2015-2016 **President of Cal Poly Humboldt Society of Women in Math and Science (SWiMS)**, Resurrecting founder of the new SWiMS, this provided an interdisciplinary space for women in science.
- 2014 **Treasurer of the College of the Redwoods Mathematical Modeling Club**, Rather informal club centered around tackling problems related to dynamical systems.

Teaching & Professional Development

- 2020 **TA Grading Physics 341 & 442**, Rutgers, The State University of New Jersey, *Duties*, Grading for junior and senior level astrophysics classes.
- 2019 **Teacher's Assistant Byrne Seminar:RU-PREP**, Rutgers, The State University of New Jersey, *Duties*, The Rutgers Undergraduate Pipeline to Research & Education in Physics (RU-PREP) seminar is an intensive 10 week course intended to provide coding and critical thinking tools to prepare first generation physics majors for research experience. I assisted students with unix and python projects, helped with conceptual questions related to their research projects, offered career and academic advice, and graded work.
- 2019 **Lab Teacher's Assistant Physics 205**, Rutgers, The State University of New Jersey, *Duties*, Ran labs for introductory physics courses, wrote and administered quizzes, coached students through concepts and problems, graded labs and quizzes, and submitted grades.
- 2019 **Developing Educational Leaders among TAs in Physics (DELTA-P)**, Certificate of Training in Physics Education.

- 2018 **Teacher's Assistant Physics 115**, *Rutgers, The State University of New Jersey*,
Duties, Held recitations for the Extended Analytic introductory physics course for Engineering students in need of math remediation, coached students through concepts and problems, graded student work, and submitted grades.
- 2018 **Lab Teacher's Assistant Physics 206**, *Rutgers, The State University of New Jersey*,
Duties, Ran labs for introductory physics courses, wrote and administered quizzes, coached students through concepts and problems, graded labs and quizzes, and submitted grades.
- 2018 **Seminar In Graduate Mentoring in Astronomy and Physics (SIGMA-P)**, *Certificate of Training in Physics Mentoring* .
- 2015-2017 **Instructional Student Aid**, *Cal Poly Humboldt*,
Duties, Graded assignments for the physics and math departments. Graded introductory to advanced senior courses. Maintained online grade books and developed rubrics.
- 2013-2014 **Teacher's Assistant**, *College of the Redwoods*,
Duties, Teacher's assistant for a fast paced preparatory math class. Offered individual assistance and taught problem solving methods.
- 2013-2014 **Math Tutor**, *College of the Redwoods*,
Duties, Worked in the Math Lab as a tutor for basic arithmetic through calculus. Helped students individually and in groups in an informal setting. Taught basic methods of problem solving and assisted with developing effective study habits.

Media & Public Engagement

- November 2022 **Telescope night at the Clarence Dillon Public Library**, *Taught families how to use the brand new telescope the library had acquired for loan.*
- August 2022 **The Astro Show**, *Video Show by Wyoming Stargazing*, Guest speaker, Showcased research for a call in crowd of amateur astronomers and astronomy enthusiasts alongside regular scientist hosts.
- January 2022 **Assigned Scientist at Bachelors (ASAB) Podcast**, *On Space*, Special Guest.
- June 2021 **The Tundra**, *Beyond Space*, Video Podcast, Special Guest.
- July 2021 **Astrobites**, *Queer Astronomy Pt 1 & 2*.
- May 2021 **Press Release**, *36 Dwarf Galaxies Had Simultaneous "Baby Boom" of New Stars*, Translated into dozens of languages and picked up by Sky & Telescope.

Skills

- Languages Python, Mathematica, IDL, MATLAB, C++, L^AT_EX
- Software pandas, SciPy, matplotlib, scikit-learn, Astropy, git, SAOImage DS9, CIAO, FSPS, Astronomer's Proposal Tools (APT)

Other Interests

- playing electric bass
- fundraising and community organizing
- running
- collecting records
- listening to live music
- science fiction