Sarah M. Trallero

(Formerly Sarah M. Golin)

196 Auditorium Road, U-3046
Storrs, CT 06269
(785) 323-7910
sarah.trallero@uconn.edu

EDUCATION

Master of Science in Physics **2012**
University of Ottawa, Ottawa, ON Canada
Supervisor: Paul B. Corkum
Dissertation: "Studies of Crystal Structure Using Multiphoton Transitions in GaAs"

Bachelor of Science in Physics, Honors **2007**
McMaster University, Hamilton, ON Canada

EXPERIENCE

Instructor in Residence **August 2019 - Present**
University of Connecticut, Storrs, CT

- Instruct physics courses in both studio and traditional style.
  - Utilize multiple teaching techniques including group discussion, in-class problem solving, clickers questions, and in-class demonstrations.
  - Have obtained high teaching evaluations every semester and students consistently express the quality of my teaching.
- Designed and built multiple new class activities and demonstrations for multiple introductory courses.
- Have created new lab experiments and procedures for multiple introductory courses.
- Supervised and mentored graduate student teaching assistants.
- Mentored graduate student instructors-of-record

Laboratory Technician **August 2017 - August 2019**
University of Connecticut, Storrs, CT

- Directed weekly training meetings for graduate student teaching assistants, covering physics concepts, pedagogy, and experimental apparatuses for introductory physics courses.
- Involved in preparation and development of the transition of introductory physics courses into a new studio format, including new lab experiment design and development, equipment procurement, space planning, and physical movement of assets.
- Designed and built new lab experiments, demonstrations and hands-on activities.
- Developed, updated, and re-wrote lab manuals as needed.
- Set up and took down experimental equipment.
- Troubleshot any equipment issues during and after laboratory sessions. Fixed broken equipment.
- Trained and supervised undergraduate workers in equipment setup and repair.

Physics Instructor **August 2010 - May 2017**
Kansas State University, Manhattan, KS

- Taught introductory calculus-based physics in a scale-up format, to physics majors and engineering students.
  - Responsible for lecturing, guiding through hands-on activities and problem solving.
  - Created and graded quizzes and in-class problems.
  - Designed a new lab and multiple physics demonstrations. Rewrote multiple laboratory procedures.
  - Supervised and mentored undergraduate and graduate teaching assistants.
- Taught two years of an orientation class for physics majors, exposing students to current discoveries/problems in physics (both in the department and worldwide).
  - Developed the curriculum to include investigation of physics careers and development of professional and scientific skills/practices.
- Have obtained nearly perfect teacher evaluations every semester and students consistently express the quality of my teaching.

Undergraduate Academic Advisor **June 2013 - May 2017**
Kansas State University, Manhattan, KS

- Advised approximately 40 students on class choices, research opportunities, scholarships and other help resources as required.
- Developed customized flowcharts for physics students pursuing double majors and dual degrees.
- Conducted Orientation and Enrollment of incoming freshman students.
- Maintained the undergraduate mailing list, student directory, and information portal.
- Made decisions on physics classes transferring to K-State.

Recruitment Coordinator **August 2012 - May 2017**
Kansas State University, Manhattan, KS

- Developed hands-on activities for high school and middle school students, to increase exposure and interest in physics. Includes design, purchasing, and setup.
- Created a new recruitment program which sponsors high school groups across Kansas to visit the physics department. Responsible for organizing, presenting, and guiding through activities.
- Organized recruitment efforts on campus, such as degree fairs and individual student visits.
- Created the Physics Nobel Prize Public Lecture Series Colloquia. Responsible for organizing and advertising.
- Redesigned all department recruitment handouts and materials.
- Met with prospective undergraduate students and families visiting the physics department.
- Participated in outreach efforts in collaboration with the College of Engineering.

OUTREACH

- Co-organized field trip of 110 2nd-graders from local elementary school to visit physics department and interact with various physics equipment and experiments.
- Organized and participated in a physics event as part of the Connecticut Science Center's Women in Science Initiative. Engaged children and adults alike to have "Fun with Physics" and experience physics hands-on.
- Developed and organized a physics lecture series in Olathe, KS, which targeted high school students and focused on different fields of cutting-edge research in physics.
- Organized 25 independent field trips for students in high schools across Kansas. Students were provided a tour of the physics department and engineering facilities, participated in hands-on physics experiments and projects, and were mentored on college possibilities and preparation.

PUBLICATIONS AND PRESENTATIONS

- Panelist, *Balancing personal and professional lives*, Conferences for Undergraduate Women and Gender Minorities, University of Connecticut, Storrs, CT, Jan 2025.
- **Sarah Golin**, Debra Dandaneau, Amit Chakrabarti (2015, February). *Strategies for growth and retention in the Physics Department at Kansas State University.* Poster presented at Building a Thriving Undergraduate Physics Program Workshop, Seattle, WA.
- **Sarah M. Golin**, Sean Kirkwood, Denis D. Klug, Paul B. Corkum, and Carlos A. Trallero-Herrero. *Strong field processes inside gallium arsenide.* Journal of Physics B: Atomic, Molecular and Optical Physics, **47**, 204025 (2014).
- **Sarah M. Golin**, Marina Gertsvolf, David Rayner, and Paul Corkum (2008). *Nonlinear absorption in high-density gas.* Poster presented at the NATO Advanced Study Institute 2008: Laser Control & Monitoring in New Materials, Biomedicine, Environment, Security & Defense, Ottawa, Canada.
- **Sarah M. Golin**, Marina Gertsvolf, David Rayner, and Paul Corkum (2008). *Nonlinear absorption in high-density gas.* Poster presented at the 14th Gordon Research Conference on Multiphoton Processes, Tilton, NH.
- **Sarah. M. Golin**, M. Gertsvolf, D. M. Rayner, P. B. Corkum (2008). *Studies of multiphoton absorption in high-density gas.* Talk presented at the Attosecond Science MURI Workshop, College Station, TX.
- S.R. Saha, **S. Golin**, T. Imai, F.C. Chou, (2007) *Spin-Peierls and incommensurate states in layered S = 1/2 system TiOCl.* Journal of Physics and Chemistry of Solids. 68: 2044–2047.
- **Sarah M. Golin,** Andrew J. Budz, Harold K. Haugen, (2006). *Dynamics of mode-locked semiconductor quantum-well diode lasers.* Oral presentation at the Canadian Undergraduate Physics Conference, Fredericton, NB.
- **S. M. Golin,** F. L. Ning, T. Imai, (2005). *Electrochemical technique of sodium de-intercalation in a battery material superconductor* $Na_{0.3}CoO_2{\cdot}1.3H_2O$. Poster presented at the Canadian Undergraduate Physics Conference, London, ON.

HONORS AND AWARDS

- Provost's Recognition of Excellence in Teaching, UConn Fall 2019, Fall 2020
- Natural Science and Engineering Research Council of Canada (NSERC) Alexander Graham Bell Canada Graduate Scholarship – Doctoral, 2009
- University of Ottawa Excellence Scholarship, 2009 – 2012
- NSERC Canada Graduate Scholarship – Masters, 2007 - 2009
- NSERC Undergraduate Student Research Award, 2005-2007
- Emanuel Williams Scholarship in Physics, McMaster University, 2005
- A. B. McLay Scholarship for highest score in Physics, McMaster University, 2005
- Gwen George Award, McMaster University, 2004 - 2006
- McMaster President's Award entrance scholarship, McMaster University, 2003 - 2004

TECHNICAL SKILLS

- PASCO CAPSTONE; Use and setup
- AutoCAD
- MATLAB; Data analysis, simulations, plotting
- LabVIEW; Hardware interfacing
- LaTeX
- Microsoft Office
- Microsoft Visio