

LILLY BRALTS-KELLY

Scientist specializing in data analysis and communication.
Passionate about science outreach and policy.

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EDUCATION

Macalester College, St. Paul, MN
B.A. Mathematics, Physics
Cumulative GPA: 3.99/4.00

August 2016 – May 2020 (expected)

PROJECTS

Research in Extragalactic Astronomy

Summer 2019, Spring 2018, Spring 2017

Netherlands Institute for Radio Astronomy, Dwingeloo, The Netherlands

Macalester College, St. Paul, MN

- ◇ Analyzed ~200 extragalactic sources for the Arecibo Pisces-Perseus Supercluster Survey
- ◇ Imaged and modeled dwarf galaxies using Python libraries and software
- ◇ Presented a poster at the 233rd meeting of the American Astronomical Society
- ◇ Published results in *Astrophysical Journal Letters*: [arXiv:1808.07108](https://arxiv.org/abs/1808.07108) (5th author);
[arXiv:1709.10161](https://arxiv.org/abs/1709.10161) (1st author)

Research in Neutrino Physics (NSF REU)

Summer 2018

University of Michigan, Ann Arbor, MI

- ◇ Simulated cosmic ray showers in a neutrino detector using particle detector libraries in C++

Research in Solar Physics (NSF REU)

Summer 2017

Montana State University, Bozeman, MT

- ◇ Imaged and analyzed a set of twelve solar flare events using IDL

EXPERIENCE

Physics and Mathematics Preceptor

September 2017 – present

Macalester College, St. Paul, MN

- ◇ Assigns grades, provides feedback, and holds office hours for physics and mathematics classes
- ◇ 5 courses since hired, including MATH 312 (Differential Equations), PHYS 481 (Quantum Mechanics)

Physics Tutor

September 2017 – present

Macalester College, St. Paul, MN

- ◇ Assists with problem sets, lab preparation, and exam review for introductory physics classes

Public Observing Nights Coordinator

September 2018 – present

Macalester College, St. Paul, MN

- ◇ Operates Macalester's own 16-inch telescope for the Minneapolis/St. Paul public
- ◇ Answers questions and gives talks about the telescope, the cosmos, and astronomy at Macalester

Staff Writer

June 2014 – July 2018

ROOKIE Magazine

- ◇ Wrote a commissioned weekly to monthly "diary"
- ◇ Published contributions to music and advice columns

SKILLS

- ◇ Python
- ◇ R
- ◇ Excel
- ◇ Data analysis
- ◇ Data visualization
- ◇ Technical writing

OTHER ACTIVITIES

- ◇ **La Serena School for Data Science**, 2018.
Intensive ten-day school on machine learning and data handling. Held in La Serena, Chile.