Weixiang Yu

32 S 32nd St, Philadelphia, PA 19104
(513) 593-5215 ◇ wy73@drexel.edu ◇ wx-yu.com

Education

Drexel University 2017 - 2022 (expected)
Ph.D., Physics
Advisor: Prof. Gordon T. Richards

University of Illinois at Urbana-Champaign 2013 - 2015
B.S., Physics

Miami University 2011 - 2013
Major in Physics

Positions Held

Drexel University 2017 - Present
Graduate Teaching Fellow

National Center for Supercomputing Applications 2016 - 2017
Academic Professional, Dark Energy Survey Data Management

Research Interests

- AGN/quasar selection in large astronomical surveys
- AGN variability, accretion disk physics of super-massive black holes
- Astronomical Big Data, machine learning applications in astronomy

Research Grants

- LSSTC (**Co-I**; PI: Richards), $ 12,500 2020-2021
  2020 LSSTC Enabling Science Proposal: AGN Data Challenge
- XSEDE (**Co-I**; PI: Richards), 500k CPU hours 2019-2020
  Investigating the Effects of Non-Uniform Cadences on AGN selection in LSST

Publications

Refereed:

- Moreno, J., Vogeley, M.S., Richards, G.T., **Yu, W.** 2019, "Stochastic Modeling Handbook for Optical AGN Variability", *Publications of the Astronomical Society of the Pacific*, 131, 1000
- **Yu, W.**, Carrasco Kind, M., Brunner, R.J. 2017, "Vizic: A Jupyter-based Interactive Visualization Tool for Astronomical Catalogs", *Astronomy and Computing*, 20, 128-139

Non-refereed (including white papers):

- **Yu W.**, Richards G. T., 2021, "LSST AGN SC Cadence Note: Differential Chromatic Refraction", PDF
- **Yu W.**, Richards G. T., 2021, "LSST AGN SC Cadence Note: Non-Parametric Structure Function Metric", PDF

- **Yu W.**, Richards G. T., Yoachim P., Peters C., 2020, "Differential Chromatic Refraction in the Context of the Legacy Survey of Space and Time", RNAAS, 4, 252
- Richards G. T., **Yu W.**, Brandt, W. N., et al. 2018, "LSST Cadence White Paper: Testing of LSST AGN Selection Using Rolling Cadences", PDF

Conference Presentations

- "AGN Data Challenge: A Preview of the LSST Data Releases in the Context of AGN Science", LSST AGN SC Meeting, July 2021 (**invited talk**)
- "Accelerating CARMA modeling with Gaussian Processes", AAS Meeting #237, January 2021 (Poster)
- "Direct Modeling of AGN Variability Using Continuous-Time ARMA Processes", **MiM**:Supermassive Black Hole Studies, AAS Meeting #236, June 2020 (**invited talk**)
- "Vizic: A Jupyter-based Interactive Visualization Tool for Astronomical Catalogs", SciPy 2017 Conference, July 2017 (**invited talk**)

Awards & Honors

LSSTC Workshop Travel Award - *Data Visualization and Exploration in the LSST Era* 2018
R.L. Edward Scholarship - Miami University 2012
Second Prize in the Patterson Examination - Miami University 2012

Teaching & Mentoring Experience

Courses Taught:

PHYS 231: Introductory Astrophysics
PHYS 232: Observational Astrophysics
PHYS 532: Cosmology
PHYS 540: Big Data Physics

Students Mentored:

Matt Callaway – undergraduate student at Drexel University

Professional Skills

- Programming Language: Python, Julia, C/C++, Matlab, Java, JavaScript/HTML/CSS
- Data Analysis: SciPy, NumPy, Pandas, scikit-learn, DS9
- Database: SQL, MongoDB
- Cloud Computing Platform: XSEDE-Jetstream, AWS, Google Cloud Platform
- Other: Docker, LaTeX, Shell, Web Development

Professional Memberships

- LSST AGN Science Collaboration (Full Member) 2020 - Present
- LSST Dark Energy Science Collaboration (Associate Member) 2019 - Present
- American Astronomical Society 2017 - Present