Anowar J. Shajib

Contact Information

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Research Interests

Gravitational Lensing, Observational Cosmology

Education

University of California, Los Angeles, USA

Ph.D. Candidate, Astronomy, March 2017 (expected graduation date: June 2020)

- Dissertation Topic: "Shining light on the dark energy with time-delay cosmography"
- Advisor: Prof. Tommaso Treu

M.S., Astronomy, June 2016

- Advisor: Prof. Edward L. Wright

The University of Tokyo, Japan

B.S., Physics, March 2014

Honors and Awards

Graduate Student Travel Stipend, *MIAPP*, 2018, €500

Graduate Student Travel Grant, *UCLA*, 2017, $2000

Astronomy Division Fellowship, University of California, Los Angeles, 2014-2015

MEXT[1] **Scholarship**, 2009-2014

Academic Experience

University of California, Los Angeles, USA

Graduate Student **October 2014 - present**

Includes current Ph.D. research, Ph.D. and Masters level coursework and research.

Guest Lecturer

- Physics 127 - General Relativity (Spring 2015)
- Astro 81 - Astronomy I: Stars and Nebulae (Winter 2016)

Teaching Assistant

- Astronomy 3 - Nature of Universe (Fall 2014)
- Physics 1C - Electrodynamics, Optics and Special Relativity (Winter 2015)
- Physics 127 - General Relativity (Spring 2015)
- Physics 6C - Physics for Life Sciences Majors: Light, Fluids, Thermodynamics, Modern Physics (Fall 2015)
- Astronomy 81 - Astrophysics I: Stars and Nebulae (Winter 2016)
- Astronomy 140 - Stellar Systems and Cosmology (Spring 2016)
- Physics 12 - Physics of Sustainable Energy (Winter 2017)

European Southern Observatory, Munich, Germany

Visiting Graduate Student **July 2018**

Collaborative research with Dr. Adriano Agnello.

[1] Ministry of Education, Culture, Sports, Science and Technology, Government of Japan

Publications

First Author Publications

1. Shajib, A. J. and Wright, E. L. Measurement of the integrated Sachs-Wolfe effect using the AllWISE data release. ApJ, 827:116, 2016.
2. Shajib, A. J., Treu, T., and Agnello, A. Improving time-delay cosmography with spatially resolved kinematics. MNRAS, 473, 210-226, 2018.
3. Shajib, A. J., et al. Is every strong lens model unhappy in its own way? Uniform modelling of a sample of 12 quadruply+ imaged quasars. arXiv:1807.09278, 2018.

Contributing Author Publications

1. Williams, P. R., et al. Discovery of three strongly lensed quasars in the Sloan Digital Sky Survey. MNRAS: Letters, sly043, 2018.
2. Ding, X., Treu, T., **Shajib, A. J.**, et al. Time Delay Lens Modeling Challenge: I. Experimental Design. arXiv:1801.01506, 2018.
3. Chen, G. C.-F., et al. Constraining the microlensing effect on time delays with new time-delay prediction model in H_0 measurements. MNRAS, sty2350, 2018.
4. Birrer, S., et al. H0LiCOW - IX. Cosmographic analysis of the doubly imaged quasar SDSS 1206+4332 and a new measurement of the Hubble constant. arXiv:1809.01274, 2018.

Invited Talks

1. MPA Lensing Group Seminar, June 2018.

Contributed Talks

1. Strong Lensing by Galaxies and Clusters, Aosta, Italy, June 2017.
2. Shedding Light on the Dark Universe with Extremely Large Telescopes, UCLA, USA, April 2018.
3. Extragalactic distance scale in the *GAIA* era, MIAPP workshop, Munich, Germany, June 2018.
4. Keck Science Meeting, Caltech, USA, September 2018.

Workshops

1. Mary Lea & C. Donald Shane Observational Astronomy Workshop, UCO/Lick Observatory, October 2014.
2. Extragalactic distance scale in the *GAIA* era, MIAPP, Germany, June-July 2018.

Approved Observing Proposals (CoI)

1. Keck U053(2017A), U032(2017B), U011(2018A). PI: Treu. Dark energy with gravitational time-delay: OSIRIS spectroscopy of lensing galaxies.
2. MUSE NFM Science Verification (2018). PI: Zanella. From cosmology to star-forming regions: two compelling cases for MUSE NFM.
3. 2-m Himalayan Chandra Telescope (2018). PI: Courbin. Photometric monitoring of the quadruply lensed quasar PSOJ0147+4630.

Observing Experience

OSIRIS, Keck I, 7.5 nights,
NIRC2, Keck II, 3 nights.

Data Analysis Experience

W. M. Keck Observatory (OSIRIS, NIRC2), *Hubble Space Telescope*, *Wide-field Infrared Survey Explorer*, *Wilkinson Microwave Anisotropy Probe*, *Planck*, Sloan Digital Sky Survey.

Outreach	**Lecturer**, Astronomy Live! summer workshop for high school students, 2018. **Astronomy Live!**, visited K-12 schools to perform various demos as part of the UCLA Astronomy outreach program. **Exploring Your Universe**, performed various demos in UCLA's annual science festival, 2014-17. **Star show**, UCLA Planetarium, 2014, 2015. **Public talk**, Title: The Story of You. UCLA Planetarium, 2014.
Computer Skills	**Programming Languages:** Python, C, C++, PHP, SQL, JavaScript. **Astronomy software:** Lenstronomy, IRAF, PyRAF, SExtractor, DS9. **Software/Framework:** TensorFlow, Flask.
Positions of Responsibility	**Captain and Coach,** The University of Tokyo Cricket Club, 2012-13 **College prefect,** Sylhet Cadet College, 2006-07