

Dr. Arun Kannawadi

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Postdoctoral Research Associate, Dept. of Astrophysical Sciences, Princeton University

RESEARCH INTERESTS

Weak gravitational lensing (WL), Galaxy clusters, Mass mapping,
Large-scale structure of the Universe, Cosmology with Big Data

EDUCATION

Doctorate of Philosophy May 2013 - August 2016
McWilliams Center for Cosmology
Department of Physics, Carnegie Mellon University
Advisor: Prof. Rachel Mandelbaum
Thesis title: Systematic effects in realistic image simulations
for future Weak Lensing surveys

Master of Science, Physics August 2011 - May 2013
Department of Physics, Carnegie Mellon University (CMU)

Bachelor of Technology, Electrical Engineering August 2007 - June 2011
Minor: Physics Indian Institute of Technology, Madras (IITM)
Chennai, India

WORK EXPERIENCE

Postdoctoral Research Associate October 2019 - present
(DRP Software Scientist with Rubin Observatory Data Management)
Princeton University, Princeton NJ, USA.

Postdoctoral Researcher September 2016 - September 2019
Leiden Observatory, Leiden, The Netherlands

MITACS Globalink Research Assistant May 2010 - August 2010
University of Toronto, Toronto, Canada.

Summer intern, working on μ CLinux May 2009 - August 2009
Sands India Pvt. Ltd., Chennai, India

PUBLICATIONS

As of May 23, 2020, I have 15 refereed journal papers and 3 pre-prints, 1 of which is accepted for publication. I have a total of 323 citations according to SAO/NASA ADS, with an h-index of 9.

SOFTWARE SKILLS

Python, C, C++, Matlab/Octave, Git, L^AT_EX
Co-developed GalSim¹, an open source package for realistic galaxy image simulations.
Stack developer, Rubin Observatory Data Management

TEACHING & MENTORSHIP

Invited lecturer - Special undergraduate course on Gravitational Lensing² Summer 2017
- University of Antioquia, Medellin, Colombia Summer 2017 & 2018
LEAPS³ research advisor for undergraduate students October 2018 - July 2019
Research supervisor for a Masters student Summer-2 2012
TA - Summer Academy of Mathematics and Science (SAMS) Summer-1 2012
TA - Physics-II for Engineers (33-107) Spring 2012
TA - Matter and Interactions-II (33-132) Fall 2011, 2012
TA - Physics-II for Science students (33-112)

¹ <https://github.com/GalSim-developers/GalSim>

² <https://sites.google.com/site/astrotwincolo/meetings/2017-5th-meeting>

³ <http://leaps.strw.leidenuniv.nl/>

TALKS	Plenary talk at the Euclid Consortium meeting, Helsinki, Finland	June 2019
	Cosmology on Safari, KwaZulu-Natal, South Africa	March 2019
	Stony Brook/Brookhaven National laboratory joint cosmology seminar	January 2019
	HSC meeting, Princeton University, Princeton	January 2019
	Seminar, Raman Research Institute, Bangalore	December 2017
	Seminar, Indian Institute of Astrophysics, Bangalore	December 2017
	Seminar, Indian Institute of Technology, Madras (Chennai)	Dec 2017, Jan 2015
	Dark Energy in the Laboratory, Lorentz Center, Leiden	November 2017
	228 th meeting, American Astronomical Society (AAS), San Diego	June 2016
	Santa Fe Cosmology Workshop, 2015	July 2015
	Neighborhood workshop, Pennsylvania State University (PSU)	March 2015
PROFESSIONAL ACTIVITIES & OUTREACH	Reviewer for Monthly Notices of Royal Astronomical Society (MNRAS)	July 2015 - present
	Junior member, International Astronomical Union	October 2018 - present
	Member of Euclid Consortium Diversity Committee	June 2018 - present
	Public talk, Planetarium of Medellin, Colombia	July 2017
	Public talk, Allegheny Observatory, Pittsburgh	July 2016
	Poster Judge for 228th AAS meeting	June 2016
	Poster Judge for Meeting of the Minds, CMU	May 2016
	Coordinator for Science outreach, National Service Scheme, IITM	Aug 2008 - July 2009
LEADERSHIP	<i>Co-Lead</i> , Shape measurement work package, Euclid Consortium	September 2017 - present
	Organising team, Astronomy on Tap, Leiden	March 2017 - present
	<i>President</i> , Vice-President and Treasurer Indian Graduate Student Association, CMU	2012-2014
	<i>Organiser</i> - Shaastra Circuit Design Challenge, IITM	January 2010 - October 2010
	Project lead, Fertiliser feeder, Spirit of Engineering, IITM	May 2008 - October 2008
POSTERS PRESENTED	Workshop on Weak gravitational lensing, Berkeley	January 2019
	Workshop on Foreground physical effects on LSST WL Science	December 2015
	Innovation with Impact, CMU	April 2015
	224 th meeting, American Astronomical Society (AAS), Boston	June 2014
WORKSHOPS PARTICIPATED	Rubin Observatory algorithms workshop (virtual)	March 2020
	Euclid Consortium meeting, Bonn, Germany	June 2018
	Statistical challenges for LSS in the era of LSST, Oxford, England	April 2018
	Euclid Consortium meeting, London, England	June 2017
	The Bright & Dark Universe, Naples, Italy	January 2017
	LSST Dark Energy Science Collaboration meeting, Sacramento, USA	March 2015
	Wide Field Infra-Red Survey meeting, Pasadena, USA	November 2014
	Santa Fe Cosmology Workshops, 2013 & 2014	July 2013, 2014
	Summer school on Astrostatistics, Pennsylvania State University (PSU), USA	May 2013

REFERENCES

Prof. Dr. Henk Hoekstra

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