

Arun Kannawadi

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CITIZENSHIP	India (US Permanent Resident)	
RESEARCH INTERESTS	Cosmology with big data from large surveys, Weak gravitational lensing (WL), Galaxy clusters, Mass mapping, Large-scale structure of the Universe	
CAREER POSITIONS	Assistant Research Professor Duke University , Durham NC, USA. Associate Research Scholar Postdoctoral Research Associate Princeton University , Princeton NJ, USA. Postdoctoral Researcher Leiden Observatory , Leiden, The Netherlands	September 2023 - present October 2021 - August 2023 October 2019 - October 2021 September 2016 - September 2019
EDUCATION	Ph. D. in Physics McWilliams Center for Cosmology Carnegie Mellon University Thesis: Systematic effects in realistic image simulations for future Weak Lensing surveys Advisor: Prof. Rachel Mandelbaum	May 2013 - August 2016
	<i>Master of Science</i> , Physics Department of Physics, Carnegie Mellon University (CMU)	August 2011 - May 2013
	<i>Bachelor of Technology</i> , Electrical Engineering & Physics Indian Institute of Technology, Madras (IITM) Chennai, India	August 2007 - June 2011
GRANTS, AWARDS & FELLOWSHIPS	LSSTC Enabling Science Award (US\$4k) Pipeline Scientist, LSST Dark Energy Science Collaboration (US\$208k) Co-I for Cycle 28 HST proposal (HST-AR-16138; US\$20k) Several travel supports from LSST DESC Travel funding from Graduate Student Assembly to attend 224 th AAS meeting (US\$1K) MITACS Fellowship (CA\$8.5k) Travel grant from Office of Alumni Affairs, IITM (15K INR) Scholarship from T.I.M.E covering 4 year tuition at IITM (> 104K INR)	June 2021-2022 October 2020-2023 2020-2022 2015 2014 2010 2010 2007-2011
PUBLICATIONS	As of September 6, 2023, I have 47 refereed journal papers and 7 pre-prints on arXiv/astro-ph, several of which are accepted for publication. I have a total of 2771 citations according to SAO/NASA ADS, with an h-index of 22 and 3214 citations according to Google Scholar, with an h-index of 25.	
SOFTWARE DEVELOPMENT	Python, C, C++, Matlab/Octave, Git, L ^A T _E X Co-developed GalSim ¹ , an open source package for realistic galaxy image simulations. Science Pipelines developer at Rubin Observatory Data Management, Maintainer of <code>scholarly</code> ²	

¹ <https://github.com/GalSim-developers/GalSim> ² <https://github.com/scholarly-python-package/scholarly/>

RESEARCH MENTORSHIP	Research advisor for Xander Jenkin, an undergrad at Princeton University	Aug 2022 - May 2023
	Research advisor for Paige Cromley, an undergrad at Princeton University	January - May 2022
	Research advisor for Paul Couzy, an MSc student at Leiden Observatory	Oct 2018 - July 2019
	LEAPS ³ research advisor for Erik Rosenberg (undergraduate)	Summer 2018
	LEAPS research advisor for Andrija Kostic (undergraduate)	Summer 2017
TEACHING	Guest lecturer - The Universe (AST 203), Princeton University	Spring 2023
	Invited lecturer - Special undergraduate course on Gravitational Lensing ⁴ University of Antioquia, Medellin, Colombia	Summer 2017
	(Developed 20 hours worth of lecture and lab exercises)	
	TA - Summer Academy of Mathematics and Science (SAMS)	Summer-2 2012
	TA - Physics-II for Engineers (33-107)	Summer-1 2012
	TA - Matter and Interactions-II (33-132)	Spring 2012
TA - Physics-II for Science students (33-112)	Fall 2011, 2012	
SELECTED TALKS	“How we plan to measure shear with Rubin” & Panelist	
	Key challenges for cosmic shear and CMB lensing, Cambridge University, UK	July 2022
	* invited, unless denoted by (c.)	
	“Flavors of coadded images”	
	KIPAC Tea talk, SLAC & Stanford University	April 2022
	“Cosmic shear surveys - Present & Future”	
	Thunch, Dept. of Astrophysical Sciences, Princeton University, Princeton	December 2020
	“Tensions from KiDS, DES and HSC”	
	Plenary talk at the Euclid Consortium meeting, Helsinki, Finland	June 2019
	(c.) “The importance of emulating cosmic shear data”	
	Cosmology on Safari, KwaZulu-Natal, South Africa	March 2019
	“Tensions from KiDS, DES and HSC”	
	Stony Brook/Brookhaven National laboratory joint cosmology seminar	January 2019
	“Tensions from KiDS, DES and HSC”	
	HSC meeting, Princeton University, Princeton	January 2019
“Probing Dark Energy with Gravitational Lensing”		
Seminar, Raman Research Institute, Bangalore	December 2017	
“Probing Dark Energy with Gravitational Lensing”		
Seminar, Indian Institute of Astrophysics, Bangalore	December 2017	
“Probing Dark Energy with Gravitational Lensing”		
Seminar, Indian Institute of Technology, Madras	December 2017	
“Gravitational lensing as a tool to search for Dark Energy”		
Dark Energy in the Laboratory, Lorentz Center, Leiden	November 2017	
(c.) Thesis talk, 228 th meeting, American Astronomical Society (AAS), San Diego	June 2016	
(c.) “Persistent quantum entanglement in ‘promoted’ states”		
Seminar, Indian Institute of Technology, Madras	Jan 2015	

³ <http://leaps.strw.leidenuniv.nl/> ⁴ <https://sites.google.com/site/astrotwincolo/meetings/2017-5th-meeting>

PROFESSIONAL MEMBERSHIPS & COLLABORATIONS	Member, US Research Software Engineering Association (US-RSE)	2021 - present
	Full member, LSST Dark Energy Science Collaboration (DESC) with Builder rights	2013-2016 & 2019 - present
	Member of the Hyper Suprime-Cam collaboration	Oct 2019 - present
	Junior member, International Astronomical Union (IAU)	Oct 2018 - Sept 2023
	Member of the Kilo-Degree Survey collaboration	2016 - present
	Member of the WFIRST (Roman) Detector requirements team	2014-2016
	Member of Euclid Consortium	2013 - present
	Memeber of the American Astronomical Society (AAS)	2014- 2016
LIFETIME RECOGNITIONS	Rubin Observatory/LSST builder	since 2022
	Infrastructure contributor to KiDS-1000 dataset from the Kilo-Degree Survey	since 2020
	Infrastructure contributor to KV450 dataset from the Kilo-Degree Survey	since 2018
LEADERSHIP ROLES	Co-Chair, Scientific Organizing Committee, DESC meeting	July 2023
	Weak lensing lead for Rubin commissioning Science Unit	November 2022 - present
	PSF Working group co-convener, LSST DESC	June 2021 - present
	<i>Co-Lead</i> , Shape measurement work package, Euclid Consortium	September 2017 - present
	President of Indian Graduate Student Association, CMU (nominated for Outstanding Student Organization Leader in 2014; previously served as Vice-President and Treasurer)	2014
PROFESSIONAL SERVICE	Review panel member, NASA ADAP 2023	August 2023
	External reviewer for DIM Origines PhD/postdoc funding proposal (France)	June 2022
	External reviewer for HST Cycle 29	April 2021
	Reviewer for MNRAS, ApJ, AJ, Astronomy & Computing, and several Frontiers and MDPI journals (36 reviews of 20 manuscripts)	July 2015 - present
	Poster Judge for 228th AAS meeting	June 2016
	Poster Judge for Meeting of the Minds, CMU	May 2016
DEPARTMENT SERVICE	Maintainer of the bespoke astro-coffee webpage at Princeton	August 2021 - July 2023
	Founder, Outside Academia career program, Princeton University	June 2020 - present
	Astro-coffee discussion leader, Princeton University	October 2019 - present
	Faculty search committee (postdoc division), Leiden Observatory	April 2019 - May 2019
OUTREACH & EDI	Mentor in LSST DESC mentorship program	November 2022 - present
	Mentor for high school students, Chennai, India	April 2022 - present
	Mentor for graduate students (one per year), Princeton University	September 2021 - present
	“ <i>A journey through the cosmos</i> ”, an informational interview Rajalakshmi Institute of Technology, India	April 2020
	Member, Euclid Consortium Diversity Committee	June 2018 - September 2021
	Organising team, Astronomy on Tap, Leiden	March 2017 - March 2019
	Public talk, Planetarium of Medellin, Colombia	July 2017
	Public talk, Allegheny Observatory, Pittsburgh	July 2016
Coordinator for Science outreach, National Service Scheme, IITM	Aug 2008 - July 2009	
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

SELECTED	Panelist, Key challenges for cosmic shear and CMB lensing, Cambridge, UK	July 2022
WORKSHOPS	Rubin Observatory (annual) Project & Community Workshops	2019 - 2022
PARTICIPATED	Rubin Observatory algorithms workshop (virtual)	March 2020
	Statistical challenges for LSS in the era of LSST, Oxford, UK	April 2018
	The Bright & Dark Universe, Naples, Italy	January 2017
	Foreground Physical Effects on LSST WL Science, Davis, USA	December 2015
	Wide Field InfraRed Survey - Science & techniques meeting, Pasadena, USA	November 2014
	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
SCHOLARLY	All India Rank of 206 (top 0.1 percentile) in IIT-Joint Entrance Examination (JEE)	2007
ACHIEVE-	All India Rank of 618 and Tamilnadu State Rank of 12 in	
MENTS	All India Engineering Entrance Examination (AIEEE)	2007
	All India Rank of 4 in Vellore Institute of Technology Entrance Examination	2007
	First in the district of Chennai on 10 th grade board examinations	2005

REFERENCES

Dr. Robert Lupton

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