JAHMOUR J. GIVANS

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RESEARCH INTERESTS

Cosmology surveys and theory: Large-scale structure, inflation, Lyman-alpha forest physics, cosmological perturbation theory, LSS-CMB cross correlations, infrared detector effects, weak lensing systematics

PROFESSIONAL AFFILIATIONS

American Astronomical Society (AAS)

American Physical Society (APS)

Atacama Cosmology Telescope (ACT) Collaboration
Member of the lensing analysis working group

Dark Energy Science Collaboration (DESC)

Dark Energy Spectroscopic Instrument (DESI) Collaboration
Member of the Lyman-α working group (continuing collaborator)

Nancy Grace Roman Space Telescope (Roman) Collaboration
Member of the weak lensing detector and image simulation working groups

National Society of Black Physicists (NSBP)

Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)

AWARDS

Flatiron Research Fellowship with the Center for Computational Astrophysics	Autumn 2023
Cotsen Fellow, Society of Fellows, Princeton University	August 2022 - Present
Princeton's Presidential Postdoctoral Research Fellowship	August 2021 - Present
DOE Office of Science Graduate Student Research Fellowship	August - November 2020
Simons Foundation - National Society of Black Physicists Graduate Fellow	July - August 2020
The Ohio State University's Arts & Sciences Graduate Studies Travel Award	Autumn 2018
NSF Graduate Research Fellowship—Honorable Mention	Spring 2018
The Ohio State University's University Fellowship	Autumn 2016 - Present
Brown University's Karen T. Romer Undergraduate Teaching and Research Award	Summer 2015

EDUCATION

Doctor of Philosophy in Physics — Summer 2021
The Ohio State University, Columbus, OH
Advisor: Christopher M. Hirata

Master of Science in Physics — Autumn 2018
The Ohio State University, Columbus, OH
Advisor: Christopher M. Hirata

Bachelor of Science in Astrophysics (with honors) Spring 2016
Brown University, Providence, RI
Advisor: David A. Lowe

WORK EXPERIENCE AND SERVICE

Presidential Postdoctoral Research Fellow Autumn 2021 - Present
I work with Jo Dunkley on cross correlations between CMB and LSS data.

Guest Researcher, CCA/Flatiron Institute Autumn 2021 - Present
My position is functionally equivalent to that of a Princeton-Flatiron Fellow.

Member, Dept. of Physics Colloquium Committee Autumn 2019 - Autumn 2020
The committee is responsible for arranging the weekly physics colloquium and making arrangements for the Annual Alpheus Smith Lecture.

Cosmo Lunch Organizer, CCAPP at OSU April 2019 - August 2020
Responsible for planning and leading the weekly cosmology journal club

Polaris Program (Access Network) Mentor, OSU Autumn 2018 - Spring 2020
Polaris is a mentoring program that pairs graduate students with undergrads in physics or astronomy. This program is one branch of the larger Access Network.

Graduate Research Assistant, CCAPP at OSU Summer 2018 - Summer 2021
Under Professor Christopher Hirata

Member, Dept. of Physics Graduate Studies Committee Autumn 2017 - Spring 2019
Served as a student representative on the departmental committee responsible for "all aspects of the graduate curriculum and for all other issues pertaining to graduate study in physics"

Delegate, OSU's Council of Graduate Students Autumn 2017 - Summer 2021
Responsible for representing the interests of physics department graduate students in the University's graduate student government
Served on the College of Arts & Sciences Dean's Student Advisory Board Autumn 2018 - Spring 2019
Served on the University's Committee on Academic Misconduct Autumn 2019 - Summer 2021
Served on the Hayes Graduate Research Forum Planning Committee Autumn 2019 - Spring 2020

Graduate Teaching Assistant, Department of Physics, OSU Autumn 2017 - Spring 2018
Taught PHYS 1251: Electricity & Magnetism, Optics, and Modern Physics
Taught PHYS 1250: Mechanics, Thermal Physics, and Waves

Graduate Fellow, Department of Physics, OSU Autumn 2016 - Summer 2017

Undergrad Teaching Assistant, Department of Physics, Brown Autumn 2015 - Spring 2016
Assisted the graduate TAs in carrying out labs for introductory astronomy courses

Research Assistant, Department of Physics, University of Miami Summer 2014
Under Professor Joshua Gundersen

PUBLICATIONS

8. *A Joint Roman Space Telescope and Rubin Observatory Synthetic Wide-Field Imaging Survey.* M. Troxel, et al., 2022, arXiV:2209.06829, Submitted to MNRAS
7. *Performance of the near-infrared camera for the Subaru Prime Focus Spectrograph.* S. Smee, et al., 2022, SPIE Conference Series, 12184, 121847L
6. *Prime Focus Spectrograph (PFS) for the Subaru Telescope: its start of the last development phase.* N. Tamura, et al., 2022, SPIE Conference Series, 12184, 1218410

5. *Non-linearities in the Lyman-α forest and in its cross-correlation with dark matter halos.* J. Givans, A. Font-Ribera, A. Slosar, et al, 2022, JCAP, 2022, 070.

4. *Streaming velocity effects on the post-reionization 21 cm baryon acoustic oscillation signal.* H. Long, J. Givans, C. Hirata, 2022, MNRAS, 513, 117

3. *Quantum yield and charge diffusion in the Nancy Grace Roman Space Telescope infrared detectors.* J. Givans, A. Choi, A. Porredon, J. Freudenburg, C. Hirata, et al., 2022, PASP, 134, 014001

2. *Brighter-fatter effect in near-infrared detectors – III. Fourier-domain treatment of flat field correlations and application to WFIRST.* J. Freudenburg, J. Givans, A. Choi, C. Hirata, et al., 2020, PASP, 132, 074504

1. *Redshift-space streaming velocity effects on the Lyman-α forest baryon acoustic oscillation scale.* J. Givans and C. Hirata, 2020, PRD, 102, 023515

PRESENTATIONS

5. BSM PANDEMIC Series. September 29, 2020, online. DOUBLE FEATURE. *Lyman-α forest perturbative modeling and improved CMB constraining power.*

4. CMB-S4 workshop. August 14, 2020, online. Early-career scientist talk. *Lyman-α forest perturbative modeling and improved CMB constraining power.*

3. NSBP Conference. November 5, 2018, Columbus. Parallel session talk. *Redshift-space streaming velocity effects on the baryon acoustic oscillation scale.*

2. COSMO-18 Conference. August 29, 2018, Daejeon. Poster presentation. *Redshift-space streaming velocity effects on the baryon acoustic oscillation scale.*

1. APS April Meeting. April 15, 2018, Columbus. Parallel session talk. *Redshift-space streaming velocity effects on the baryon acoustic oscillation scale.*

OUTREACH

STEMCoding video participant Autumn 2019 - Summer 2021
STEMCoding is an effort to infuse coding into high school physics, chemistry, and math. I participated in multiple YouTube videos covering a range of astrophysical topics.

ASPIRE Volunteer, OSU June 2019
ASPIRE is a science summer camp for high school women that provides hands-on experience with physics equipment, software, and real data. I helped lead the Java-based STEMcoding project and I participated in the outreach video.

Young Scholars Program, OSU Summer 2017
Volunteered with physics and coding demonstrations

REFERENCES

Professor Jo Dunkley jdunkley@princeton.edu
Department of Astrophysical Sciences & Department of Physics, Princeton University

Emeritus Professor James (Jim) Gunn jeg@astro.princeton.edu
Department of Astrophysical Sciences, Princeton University

Professor Christopher M. Hirata hirata.10@osu.edu
Department of Physics & Department of Astronomy, The Ohio State University

Dr. Andreu Font-Ribera afont@ifae.es
Staff Scientist, Institut de Física d'Altes Energies

Dr. Anže Slosar anze@bnl.gov
Tenured Scientist, Astrophysics and Cosmology Group, Brookhaven National Laboratory

Professor Stephon Alexander stephon_alexander@brown.edu
Department of Physics, Brown University
Former President, National Society of Black Physicists