John Franklin Crenshaw

Contact Information

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University of Washington Physics Dept
Box 351560
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Education

University of Washington, Seattle, WA USA
Ph.D. in Physics, expected May 2025
M.S., Physics, December 2020
Advisor: Andrew Connolly

Duke University, Durham, NC USA
B.S. in Physics, May 2019
summa cum laude with Highest Distinction
Advisor: Kate Scholberg
Thesis: Sensitivity of the Helium and Lead Observatory to Core-Collapse Supernova Neutrino Bursts

Research Experience

Graduate Research Assistant — Aug 2019 –
DiRAC Institute, University of Washington
Vera C. Rubin Observatory
Dark Energy Science Collaboration (DESC)
Informatics and Statistics Science Collaboration (ISSC)
Advisor: Andrew Connolly

Undergraduate Research Assistant — Aug 2016 – May 2019
Duke University, Neutrino and Cosmology Group
HALO Supernova Neutrino Detector
Advisor: Kate Scholberg

Undergraduate Research Assistant — May - Aug 2018
Karlsruhe Institute of Technology, Institute for Nuclear Physics
IceTop Cosmic Ray Detector
Advisor: Andreas Haungs

Fellowships & Awards

Rubin Observatory ISSC Ambassador	2021
DOE Scholar	2021
NSF Graduate Research Fellowship Honorable Mention	2021
Duke Faculty Scholar	2018 – 2019
Daphne Chang Memorial Award, Duke Physics Department	2019
Highest Distinction for Undergraduate Thesis Research	2019
DAAD RISE Research Exchange Scholarship	2018

First Author Publications

1. Learning Spectral Templates for Photometric Redshift Estimation from Broadband Photometry
Crenshaw, J.F. & Connolly, A.J. 2020 *AJ*, 160, 191.

Co-Author Publications

2. The Sensitivity of GPz Estimates of Photo-z Posterior PDFs to Realistically Complex Training Set Imperfections
Stylianou, N., Malz, A., Hatfield, P., **Crenshaw, J.F.**, Gschwend, J. *PASP in press* (2022)

1. An information-based metric for observing strategy optimization, demonstrated in the context of photometric redshifts with applications to cosmology
Malz, A.I., Lanusse, F., **Crenshaw, J.F.**, Graham, M.L. *arXiv* (2021)

Invited Talks	DESC Winter Meeting (*online*) Deep Generative Modeling for the Photo-z RAIL Pipeline	Feb 2021
	Gruen Weak Lensing Group, KIPAC, SLAC National Lab (*online*) *Deconvolving Galaxy Spectra from Broadband Photometry*	Sep 2020
Contributed Talks	DESC Winter Meeting (*online*)	Feb 2021
	Rubin Observatory Project & Community Workshop (*online*)	July 2020
	DESC Winter Meeting (*Tucson, AZ*)	Jan 2020
Research Posters	AAS 238th Meeting (*online*)	June 2021
	SCMA VII Meeting (*online*)	June 2021
	Duke Physics Undergraduate Research Symposium (*Durham, NC*)	April 2019
	5th Joint Meeting of APS and Physical Society of Japan (*Waikoloa, HI*)	Oct 2018
	Neutrino 2018 (*Heidelberg, Germany*)	June 2018
Teaching Experience	Undergraduate Reading Course Instructor, ΛCDM Cosmology	2021 –
	Teaching Assistant, Intro Physics Courses, Duke University	2016 – 2019
	Physics and Math Tutor, Duke University	2016 – 2019
Outreach	STEM Pals organizer & pedagogical simulation developer	2021
	Duke University Teaching Observatory, volunteer	2018 – 2019
	Duke University Public Lecture: *Where Did We Come From and Are We Alone: cosmic origins and the search for life*	January 2018
Service & Leadership	Physicists for Inclusion and Equity (PIE) Officer, UW	2020 – 2021
	Departmental Review Student Committee, Duke Physics Department	2018
Professional Societies	American Astronomical Society (AAS) American Physical Society (APS) Phi Beta Kappa Duke Society of Physics Students (SPS)	

Last updated: March 8, 2022