JUSTIN H. ROBINSON – CURRICULUM VITAE

CONTACT INFORMATION

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EDUCATION

Georgia State University (GSU) Expected 2022
Ph.D., Astronomy
Advisor: Dr. Misty Bentz

GSU 2020
M.S., Physics
Advisor: Dr. Misty Bentz

Saint Mary's College of California (SMC) 2017
B.S. in Physics with Astrophysics Concentration
Advisors: Dr. Ronald Olowin, Dr. Brian Hill

RESEARCH INTERESTS

HI 21 cm emission line diagnostics; active galactic nucleus host galaxies; extragalactic distance determinations; galaxy baryonic/dynamical/dark matter mass determinations; relationships between galaxies and supermassive black holes; supermassive black hole mass measurements via reverberation mapping.

PROFESSIONAL AFFILIATIONS

Georgia Space Grant Consortium (GSGC)	2018-Present
American Astronomical Society (AAS) Member	2017-Present
Arecibo Legacy Fast ALFA (ALFALFA)	2014-2017
Arecibo Pisces-Perseus Supercluster Survey (APPSS)	2014-2017

LEADERSHIP POSITIONS

Astronomy Graduate Lab Coordinator, GSU	2019-Present
AstroPAL (Peer Advising Leader), GSU	2019-Present
Georgia Outreach Team for Space (GOT Space) Graduate Lead, GSGC	2018-Present
Graduate Student Liaison, AstroPAL & Physics Graduate Student Association, GSU	2018-2019
ALFALFA Undergraduate Research Leader, SMC	2017

WORKSHOPS

Learning Science Through the Lens of Astronomy 2021
Hosted professional development workshop for Georgia STEM teachers; interactive K-12 STEM presentations of astronomy-themed topics
Recording available, click here

Single Dish Training Workshop 2018
Observational training and data analysis tools for the 100 meter Green Bank Telescope (GBT)

Undergraduate ALFALFA Workshop 2016
Study of galaxy detections from radio spectrum, acquisition of detection characteristics and behavior from radio emission at the Green Bank Observatory

CURRENT POSITION

Astronomy Graduate Lab Coordinator 2019-Present
GSU
GOT Space Graduate Lead 2018-Present
GSGC
Graduate Teaching Assistant 2017-Present
GSU

PREVIOUS EMPLOYMENT

Mathematics Tutorial Teacher 2016-2017
Taught pre-calculus and calculus tutorial classes at SMC

Laboratory Assistant 2015-2017
Assisted in the astronomy lab course at SMC

SKILLS

Proficient in IDL, Python, LaTeX, IRAF, DS9, MacOS, Windows, Microsoft Office Suite
Knowledgeable in Linux, MaximDL
CARAMEL: geometric and dynamical modeling software of reverberation mapping data.
Galfit: galaxy surface brightness modeling software.
BusyFit: analytical modeling of emission line profiles.
Green Bank Telescope GBTIDL: IDL suite for reduction and analysis of GBT spectral data.
Remote observing, GBT
Arecibo Radio Telescope IDL_LBW: IDL suite for reduction and analysis of Arecibo spectrral data.
Remote observing, Arecibo Telescope

PUBLIC OUTREACH

10th Georgia NASA STEM Conference 2020
Presented professional development workshop to Georgia STEM teachers
Scientific Consultant for "Race Through Space: Galaxy Edition" App 2020
Selected galaxies, provided physical information, and calculated distance scales for Science ATL and Atlanta Science Festival's app
Click here for the app homepage
GSU Publicity & Outreach Committee Member 2020-Present
Reporting of outreach events and student groups in the GSU official newsletter.
GOT Space Graduate Lead 2018-Present
GOT Space Program lead ambassador in association with the GSGC
Click here for GOT Space's website

EVENTS

GOT Space Virtual Presentations: Trip Elementary School 2021
Organized presentations for 7 classes
GOT Space Virtual Presentations: Northside Elementary School 2021
Presented for 3 classes
GOT Space Virtual Presentations: Wolf Creek Elementary School 2020
Organized demonstrations and presentations for 2 classes
GOT Space Virtual Presentations: Stone Mountain Middle School 2020
Organized presentations for 4 classes
GOT Space Virtual Presentations: Flat Shoals Elementary School 2020
Presented for 2 classes
GOT Space Virtual Presentations: Jean Childs Young Middle School 2020
Organized virtual presentations for 6 classes

GOT Space Virtual Presentations: Maynard Holbrook Jackson High School 2020
Organized virtual presentations for 3 classes

Virtual GOT Space Public Talk 2020
Hosted virtual talk and Q&A: "Building M87's Supermassive Black Hole Image"
Recording available, click here

Atlanta Science Festival "Imagining the Future" Event 2020
Presented for 4 classes at Jean Childs Young Middle School

NASA National Space Grant 30th Anniversary Event on Capitol Hill 2020
1 of 3 representatives of Georgia outreach and GSGC; ran virtual and augmented reality demonstrations; met with 2 Georgia representatives to discuss impact and future funding

Trip Elementary School STEM Night 2020
Organized science demonstrations and telescope observations, answered questions for several hundred students

GOT Space Presentations: Maynard Holbrook Jackson High School 2020
Organized presentations for 6 classes

Carver Early College Science & Engineering Fair 2019
Organized 3 GOT Space ambassadors and I's participation as science fair judges

GOT Space presentations: Maynard Holbrook Jackson High School 2019
Organized presentations for 6 classes

STEM Undergraduate Ambassador Training Co-Facilitator 2019
1 of 2 graduate lead facilitators for training of 18 undergraduate GOT Space ambassadors

Atlanta Race Through Space 5K 2019
Ran GSGC sponsor tent

GOT Space presentations: Lanier High School 2019
Organized presentations for 3 classes

Trip Elementary School STEM Night 2019
Ran science demonstrations and answered questions for several hundred students

GOT Space presentations: Maynard Holbrook Jackson High School 2019
Organized presentations for 4 classes

GOT Space presentations: Alpharetta High School 2018
Lead presentation for Alpharetta Astronomy Club meeting

GOT Space presentations: Cristo Rey Jesuit High School 2018
Organized presentations for 5 classes

Hard Labor Creek Observatory Volunteer 2018-Present
Operate telescopes & answer public questions during open houses

SMC On-campus APPSS Research Display

SMC Physics Outreach Program Member 2015-2017
Research presentations at Saint Mary's High School, Stockton CA and Athenian High School, Danville CA

SMC Physics & Engineering Program Recruitment 2015-2017
Represented the physics department on preview days for prospective students

INVITED TALKS AND COLLOQUIA

Bradley Observatory at Agnes Scott College Open House 2021
"Probing Nearby Active Galaxies: Distance, Masses, Dark Matter, and Black Holes"
Recording available, click here

CONFERENCE TALKS

237th AAS Meeting, Talk Number 209.01 2021
"Dynamical Masses for the Host Galaxies of Reverberation-Mapped AGN"
J. Robinson, M. Bentz

236th AAS Meeting, Talk Number 225.03 2020
"Fundamental Properties of Active Galaxies: Distances and Masses of Nearby Seyferts,"
J. Robinson, M. Bentz
Recording available, click here

7th Perimeter Astronomy Conference 2019
"Connecting AGN Host Galaxies to the Cosmic Distance Ladder"

Georgia Regional Astronomers Meeting 2018
"HI Spectroscopy of Reverberation-Mapped Active Galactic Nuclei"
Recording available, click here

6th Perimeter Astronomy Conference 2018
"HI Spectroscopy of Reverberation-Mapped Active Galactic Nuclei"
Recording available, click here

5th Perimeter Astronomy Conference 2017
"The Radio View of Galaxies in the Nearby Universe"

ACCEPTED PROPOSALS

"HI Spectroscopy of Active Galaxies with Direct Black Hole Mass Measurements"
GBT Project ID: GBT18B-258
Hours allocated: 208.25

PEER-REVIEWED PUBLICATIONS

"HI Spectroscopy of Reverberation-Mapped Active Galactic Nuclei", Justin H. Robinson, Misty C. Bentz, Megan C. Johnson, Hélène M. Courtois, Benjamin Ou-Yang 2019, ApJ, 880, 68

RESEARCH EXPERIENCE

Undergraduate Research Mentor, GSU 2019
Trained and mentored undergraduate in current research project; calibration of galaxy distance measurement method

SMC ALFALFA Research Leader 2017
Independent leader and trainer of 7 undergraduates from SMC and University of San Francisco (USF)
Data reduction and analysis of galaxy detections from radio frequency

APPSS Research Poster 2016
Poster presentation at SMC Research Symposium

APPSS Independent Research 2015-2016
NSF grant funded project; Statistical analysis of blank-field galaxy target outliers from APPSS

APPSS SMC Undergraduate Team Research 2015
NSF grant funded project; galaxy classification, analysis, and cross-reference through use of radio and optical detections of targets
Country-wide collaboration with Cornell University, Union College, USF, West Texas A&M, and others

OBSERVING EXPERIENCE

100m GBT: Green Bank Observatory, Green Bank WV
305m Arecibo Telescope: Arecibo Observatory, Arecibo PR
3.5m A.R.C. Telescope: Apache Point Observatory, Sunspot NM
0.5m A.R.C.S.A.T. Telescope: Apache Point Observatory, Sunspot NM
20m Green Bank Telescope: Green Bank Observatory, Green Bank WV

0.60m Miller Telescope: Hard Labor Creek Observatory, Rutledge GA
0.4m Meade Schmidt-Cassegrain Telescope: Geissberger Observatory, Moraga CA

TEACHING EXPERIENCE

GSU Substitute Lecturer 2019
Taught 7 astronomy lectures as a substitute instructor
Astronomy Lab Instructor 2017-2020
Taught 1010 and 1020 labs for introductory astronomy courses at GSU
Mathematics Tutorial Teacher 2016-2017
Taught pre-calculus & calculus tutorial classes at SMC
Mathematics Tutor 2016-2017
Student tutor at SMC
SMC Substitute Lecturer 2016-2017
Taught 2 astronomy lectures as a substitute instructor
Teaching Assistant, Astronomy 2015-2017
Mathematics Private Tutor 2013-2015

DEPARTMENTAL SERVICE

Online Instruction Material Development 2020
Built online curriculum for 1010 and 1020 introductory astronomy labs
Workshop Development for Graduate Students Through AstroPAL 2019-Present
Developed material for 1st and 2nd year graduate students (qualifying exam preparation, coding, scientific writing, etc.)

REFERENCES

Professor Misty Bentz, Ph.D.
Advisor, Deptartment of Physics and Astronomy, GSU
bentz@astro.gsu.edu

Professor Rebecca Koopmann, Ph.D.
Deptartment of Physics and Astronomy, Union College
koopmanr@union.edu

Professor Brian Hill, Ph.D.
Department of Physics, Deep Springs College
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Lori Skillings
Program Manager, GSGC
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