

# AMY E. KIMBALL

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## Office Address:

National Radio Astronomy Observatory  
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## Contact Information:

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## Employment History

NATIONAL RADIO ASTRONOMY OBSERVATORY *Mar 2016 – present*

Associate Scientist (*Mar 2020 – present*)

Manager: Pipeline Operations Support Group (*Nov 2020 – present*)

- VLA Sky Survey Head of Operations: supervise team of Scientists and Data Analysts in day-to-day tasks to ensure appropriate production and timely delivery of survey data products
- User support: HelpDesk; visitor support; update documentation; develop and lead lectures/tutorials at Data Reduction Workshops, Community Day Events
- Other observatory support: CASA development testing and validation, technical reviewer for VLA observing proposals, other duties as assigned

CSIRO ASTRONOMY AND SPACE SCIENCE

*Jun 2013 – Feb 2016*

Office of the Chief Executive Postdoctoral Fellow

- Australia Telescope Compact Array (ATCA) user support, Duty Astronomer
- ASKAP commissioning: test ASKAP data reduction with ASKAPSoft
- Facilitator of science Journal Club

NATIONAL RADIO ASTRONOMY OBSERVATORY

*Sep 2010 – May 2013*

North American ALMA Science Center (NAASC) Postdoctoral Fellow

- ALMA data reduction: science verification data, Early Science data (hands-on and testing data-reduction pipeline)
- Software testing: CASA algorithms (simulations of ALMA data), ALMA data reduction scripts/pipeline, ALMA Observing Tool
- User support: led tutorials on ALMA proposals and data reduction, maintained online CASAGuides documentation, staffed help-desk
- Organizer of weekly AGN Journal Club group

## Education

UNIVERSITY OF WASHINGTON

Ph.D. in Astronomy

*Aug 2010*

“Statistical Studies of Radio Sources with Multi-Wavelength Large Sky Surveys”

Dissertation Advisor: Dr. Željko Ivezić

UNIVERSITY OF WASHINGTON

M.S. in Astronomy

*Aug 2005*

UNIVERSITY OF MICHIGAN

B.S. in Mathematical Physics and Honors Physics

*May 2003*

<b>Honors</b>	National Science Foundation Graduate Research Fellowship	<i>2005 – 2010</i>
	Achievement Rewards for College Scientists (ARCS) Fellowship	<i>2003 – 2006</i>
	Wiley Book Award: Outstanding achievement by undergraduate physicist	<i>Apr 2003</i>
<b>Research Experience</b>	NRAO, SOCORRO, NM	<i>2016 – present</i>
	<ul style="list-style-type: none"> <li>◦ Origin of Radio Emission in Radio-Quiet Quasi-Stellar Objects (PI)</li> <li>◦ various multi-wavelength studies of quasars (co-I)</li> </ul>	
	CSIRO, MARSFIELD, NSW, AUSTRALIA	<i>2013 – 2016</i>
	<ul style="list-style-type: none"> <li>◦ WISE infrared properties of AT20G 20-GHz radio sources</li> <li>◦ ALMA submillimetre properties of luminous QSOs</li> <li>◦ Multi-wavelength studies of the most luminous QSOs</li> </ul>	
	NRAO, CHARLOTTESVILLE, VA	<i>2010 – 2013</i>
	<ul style="list-style-type: none"> <li>◦ Radio Luminosity Distribution of QSOs: Star Formation and AGNs</li> <li>◦ Radio-Intermediate Quasars in WISE and NVSS</li> <li>◦ Dependence of Quasar Spectra on Radio Morphology in FIRST and SDSS</li> </ul>	
	UNIVERSITY OF WASHINGTON, SEATTLE, WA	<i>2004 – 2010</i>
	Supervisor: Dr. Željko Ivezić	
	<ul style="list-style-type: none"> <li>◦ Unified Radio Catalog from NVSS, FIRST, WENSS, GB6, and SDSS</li> <li>◦ Radiative Transfer Modeling of IR Emission from Externally Heated Dust Clouds</li> <li>◦ A Search for Radio Stars in FIRST and SDSS</li> </ul>	
	NRAO, SOCORRO, NM	
Supervisor: Dr. Steven Myers	<i>Jul – Sep 2009</i>	
<ul style="list-style-type: none"> <li>◦ Developing an Automated clean Task for CASA</li> </ul>		
LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NM	<i>Aug – Sep 2004</i>	
Supervisor: Dr. Przemyslaw Wozniak		
<ul style="list-style-type: none"> <li>◦ Simulating the Detection Efficiency of RR Lyrae Stars in the NSVS</li> </ul>		
UNIVERSITY OF WASHINGTON, SEATTLE, WA	<i>Oct – Dec 2004</i>	
Supervisor: Dr. Eric Agol		
<ul style="list-style-type: none"> <li>◦ Observing the Einstein Cross with SIRTf</li> </ul>		
UNIVERSITY OF MICHIGAN, ANN ARBOR, MI	<i>May 2001 – Aug 2003</i>	
Supervisor: Dr. Timothy McKay		
<ul style="list-style-type: none"> <li>◦ Statistical Studies of Small-Scale Galaxy Clustering in the SDSS</li> </ul>		
<b>Computer Skills</b>	Reducing/imaging astronomical data: <i>CASA, AIPS, ASKAPSoft, IRAF, PyRAF</i>	
	Developing/maintaining software: <i>MacOS, Linux, Python, IDL, C, C++, Fortran</i>	
	Familiarity with: <i>SQL, MySQL, SVN, XML, HTML, Perl, R, AWK</i>	

**Invited Talks  
& Colloquia  
(selected)**

*(entries marked \* include financial support)*

University of Washington, Seattle (virtual, joint speaker)	4 Mar 2021
* University of Nevada, Reno, NV	28 Feb 2020
<i>URSI Asia Pacific Radio Science Conference</i> , New Delhi, India	Mar 2019
“The Very Large Array Sky Survey”	
* Drexel University, Philadelphia, PA	28 Feb 2019
* University of Wisconsin, Madison, WI	27 Sep 2018
<i>The radio and X-ray connection in accreting objects</i> , Monopoli, Italy	May 2018
“Radio emission from radio-quiet QSOs”	
New Mexico Tech University, Socorro, NM	26 Apr 2018
* Goddard Space Flight Center, Washington, D.C.	10 Oct 2017
US Naval Observatory, Washington, D.C.	11 Oct 2017
University of New Mexico, Albuquerque, NM	10 Nov 2016
* National Radio Astronomy Observatory, Socorro, NM, USA	1 Dec 2015
* Max-Planck-Institut für Radioastronomie, Bonn, Germany	26 Oct 2015
Instituto di radioastronomia, Bologna, Italy	19 Oct 2015
Curtin University, Bentley, WA, Australia	5 Nov 2014
University of Western Australia, Crawley, WA, Australia	4 Nov 2014
<i>Exploiting MWA surveys for extragalactic studies</i> , Perth, WA, Australia	Oct 2014
“Multi-wavelength identifications for low-frequency radio surveys”	
<i>Transformational Science in the ALMA Era</i> , Charlottesville, VA	Aug 2014
“Review of Quasars”	
Macquarie University, North Ryde, NSW, Australia	14 Feb 2014
CSIRO Astronomy and Space Science, Marsfield, NSW, Australia	18 Sep 2013
* Stanford University, Stanford, CA	20 Aug 2012
* The Institute for Advanced Study, Princeton, NJ	12 Jan 2010
* National Radio Astronomy Observatory, Socorro, NM	24 Apr 2009
National Radio Astronomy Observatory, Charlottesville, VA	22 Sep 2008
* The Johns Hopkins University, Baltimore, MD	19 Sep 2008

**Accepted PI  
Proposals**

SUB-GALACTIC RADIO MORPHOLOGY OF RADIO-LOUD AND RADIO-INTERMEDIATE QSOS VLA: Allocated 8.09 hours at priority C in semester 2022A	Aug 2021
PROBING AGN-CORE/JET CONTRIBUTION TO RADIO EMISSION FROM RQQS VLBA: Allocated 21.2 hours at priority C in semester 2021A	Aug 2020
CONSTRAINING RADIO ORIGIN/MORPHOLOGY FROM RADIO-QUIET QSOS VLA: Fully allocated, 44.95 hours at priority A in semester 2019A	Aug 2018
CONSTRAINING AGN CONTRIBUTION TO RADIO EMISSION FROM RQQS VLBA: Fully allocated, 19.65 hours at priority A in semester 2018B	Feb 2018
SPECTRALLY RESOLVED CO (2-1) IN LUMINOUS QSO J1554+1937 VLA: Allocated 11 hours at priority B in semester 2016A	Nov 2015

WEIGHING THE SUPER-MASSIVE BLACK HOLE IN QSO J1554+1937 <i>P.I. Mark Lacy, NRAO</i> [Australia-based PIs not allowed for FT mode] <i>Gemini</i> : Fully allocated, 1.4 hours Fast-Turnaround (FT) mode	<i>Feb 2015</i>
OUTFLOWS/FEEDBACK IN MOST-LUMINOUS QSOS IN THE UNIVERSE <i>Gemini</i> : Fully allocated, 19.5 hours in semester 2014B	<i>Mar 2014</i>
STAR FORMATION / JET ACTIVITY IN MOST-LUMINOUS QSOS IN UNIVERSE VLA: Allocated 8.5 hours at priority C in semester 2013B	<i>Feb 2013</i>
STAR-FORMATION ACTIVITY IN HOST GALAXIES OF THE MOST LUMINOUS QSOS IN THE UNIVERSE ALMA: Fully allocated, 4.6 hours in Cycle 1	<i>Nov 2012</i>
DOUBLE-LOBED RADIO QUASARS IN BOSS SDSS III BOSS: Fully allocated, 2300 spectroscopic ancillary fibers	<i>Jun 2010</i>

### Professional Memberships

- American Astronomical Society (AAS)
- International Union for Radio Science (URSI) Senior Member
- (formerly) Astronomical Society of Australia (ASA)  
*Early Career Research Chapter, Women in Astronomy Chapter*
- International Astronomical Union (IAU)  
*Division B (Facilities, Technologies and Data Science)*  
*Division J (Galaxies and Cosmology)*

### Committees

- LOC co-chair, *VLA Sky Survey in the Multiwavelength Spotlight* *7-9 Sep 2022*
- Dissertation committee for the PhD of (Dr) Marialis Rosario-Franco, Physics and Applied Physics at UT-Arlington  
*Orbital Evolution Studies and Radio Searches of Extra-Solar Moons* *Nov 2021*
- Jansky Fellowship Committee, NRAO *2017–2020*
- Various hiring committees at NRAO
- CASS Diversity Committee (inaugural member) *Aug 2014 – Feb 2016*
  - Developed guidelines for inclusive policies for staff-organized events (e.g., workshops and conferences)
  - Assisted in CASS application for bronze-level ASA Pleiades Award for commitment to advancing women in astronomy [successful]
- SOC and vice-chair of LOC, Southern Cross Conference Series VII  
*Powerful AGN and Their Host Galaxies Across Cosmic Time* *16–20 Jun 2014*
- SOC and LOC  
*Radio Astronomy in the LSST Era*, NRAO, Charlottesville, VA *6–8 May 2013*
- Hiring committee for NRAO/NAASC post-doctoral fellow *Jan–Mar 2011*

## Working Groups

- VLASS Survey Science Group / co-chair of Science Communication working group
- VLASS Survey Science Group / co-chair of Extra-galactic working group (former)
- ASKAP Evolutionary Map of the Universe (EMU) collaboration project with VLASS
- ASKAP Commissioning and Early Science Team (ACES) (former)
- ASKAP EMU(Genius Group (“EGG”)) (former)
- US Radio Futures, Galaxy Assembly Through Cosmic Time working group (former)
- Radio-Galaxies subgroup of Galaxies and Cosmology working group for Australian Astronomy Decadal Plan (2015–2025) (former)

## Referee

- Technical reviewer, NRAO-VLA proposals (biannual since Mar 2016)
- Internal reviewer for NRAO call for “X”-proposals
- External reviewer for HST Cycle 30
- External referee for 3 GMRT observing proposals (cycles 36, 37, 43)
- External referee for 1 JCMT observing proposal (semester 19A)
- I have refereed papers for the following journals:
  - Monthly Notices of the Astronomical Society (*MNRAS*)
  - The Astrophysical Journal (*ApJ*)
  - Publications of the Astronomical Society of Australia (*PASA*)
  - Journal of Astrophysics and Astronomy (*JOAA*)
- I reviewed a grant proposal for the National Science Centre of Poland (*NCN*), for which I received a small remuneration.
- Two NSF grant review panels. (Timing and topic confidential.)

## Mentoring/ Teaching

### RESEARCH ADVISOR/MENTOR (GRADUATE STUDENTS)

- Erik Carlson, University of Rhode Island *Jun 2021 – present*  
NRAO Graduate Student Intern, summer 2021  
*VLASS Single-Epoch Imaging Customization*
- Marialis Rosario-Franco, University of Texas, Arlington *Sep 2018 - Nov 2021*  
NRAO Reber Fellow (joint NRAO co-advisor with Bryan Butler)  
*Orbital evolution studies and radio searches for extra-solar moons*
- Jesse Swan, University of Tasmania / CASS student *Apr 2015 – Feb 2016*  
*Evolution of star formation and black hole activity across cosmic time*

### RESEARCH ADVISOR/MENTOR (UNDERGRADUATE STUDENTS)

- Trevor McCaffrey, NRAO intern in 2020 and 2022 *May 2020 – present*  
*High-resolution VLA observations of Radio-Quiet QSOs*
- Montana Williams, NSF-REU student NRAO *Jun – Aug 2018*  
*Developing a VLBA proposal to observe radio stars*
- Tiffany Christian, NSF-REU student NRAO *Jun – Aug 2017*  
*Identifying candidate radio stars by cross-matching data from FIRST, SDSS, WISE, PanSTARRS, Gaia*
- Ivan Sadovoy and Arvind Hughes, Macquarie University *Aug – Oct 2015*  
*Reducing ATCA data with CASA*
- Gabriel Murphy, CASS summer student, CSIRO *Nov 2013 – Feb 2014*  
*Searching for luminous, obscured radio quasars*

- Valerie Marchenko, NSF-REU student NRAO *Jun – Aug 2011*  
*Testing Evolutionary Models of Giant Radio Sources*
- Rosalie McGurk, University of Washington *2008 – 2009*  
*Principal Component Analysis of SDSS Stellar Spectra*
  
- VOLUNTEER, PRE-MAJOR IN ASTRONOMY PROGRAM (PRE-MAP) *2005 – 2007*  
<http://www.astro.washington.edu/users/premap/>
  - Mentored students in preparation of final poster/presentation
  - Supervised students on weekend field trip to LIGO
  
- TEACHING ASSISTANT, U. WASHINGTON *2003 – 2008*
  - Introduction to Astronomy (four courses)
  - The Planets (two courses)
  
- TUTOR, KELLER PHYSICS PROGRAM, U. MICHIGAN *Winter 2002*
  - Introduction to Electricity and Magnetism

**Outreach  
(selected)**

- (entries marked \* involved financial compensation or honorarium)*
- Guest speaker for NMT Women’s Day Lunch-Time Panel “Break the Bias” *8 Mar 2022*
  - Guest panelist for Golden Webinar in Astrophysics for presentations:
    - *Supermassive Black holes in the Early Universe: The Nature of Quasars at High Redshifts* by Dr Michael Strauss *23 Jul 2021*
    - *A 40-Year Journey: From Theoretical Predictions to Empirical Evidence for a Supermassive Black Hole at the Center of the Milky Way* by Dr Reinhard Genzel *7 May 2021*
  - Guest speaker for University of New Mexico’s oSTEM@UNM *6 May 2021*
  - Panelist for NASA/NRAO Black Hole Week webinar *13 Apr 2021*
  - Guest speaker for Virtual VLA 40th Anniversary Celebration *10 Oct 2020*
  - \* Guest speaker for St Louis Astronomical Society *17 Jul 2020*
  - NRAO FaceBook Live interview with Nan Janney (NRAO) *15 May 2020*
  - Astronomy on Tap speaker, Marble Brewery, Albuquerque, NM *26 Mar 2018*  
*Quasars: Black Holes, Bright Lights!*
  - \* Guest speaker for St Louis Astronomical Society *15 Dec 2017*
  - Guest speaker for Atlassian, Sydney, NSW *27 Nov 2015*
  - Science fair judge at Gosford Public School, Gosford, NSW *17 Jun 2015*
  - Guest speaker for Northern Sydney Astronomical Society *16 Sep 2014*
  - Guest speaker for Central West Astronomical Society of Australia *15 May 2014*
  - Parkes Teacher Workshop for science teachers *2–4 May 2014*
  - AAS Congressional Visits Day, Washington, DC *12–13 Mar 2013*
  - NRAO–Charlottesville Astronomy Festival *5 Nov 2011*
  - University of Washington Astronomy Open House (annual event) *2004 – 2008*
  - Workshop presenter, U. Washington Making Connections Program *Spring 2004*  
<http://depts.washington.edu/womenctr/programs/making-connections>
  - Workshop presenter, Seattle Expanding Your Horizons *Mar 2004*  
<http://www.seattleu.edu/scieng/outreach/seyh/>
  - U. Michigan Society of Physics Students Inreach Program *2001 – 2003*

**Workshops  
Attended**

Next-Generation VLA Technical Workshop, Socorro, NM	<i>8–9 Dec 2015</i>
.Astronomy 7 (Dot-Astronomy), Sydney, NSW	<i>3–6 Nov 2015</i>
Women in Astronomy Workshop 2015 (CAASTRO)	<i>22–23 Jul 2015</i>
Writing Winning Scientific Proposals (CSIRO)	<i>26 Feb 2015</i>
Looking Up, Looking Down: Interdisciplinary Approaches to Remote Sensing, Image Analysis, and Data Visualization (AAO)	<i>17–18 Sep 2014</i>
ASA Early Career Researcher Mentoring Workshop	<i>2–3 Jun 2014</i>
Project Management Fundamentals (CSIRO)	<i>5–6 Nov 2013</i>
Innovations in Data-Intensive Astronomy (NRAO)	<i>3–5 May 2011</i>
National Virtual Observatory Summer School	<i>6–14 Sep 2006</i>
NRAO Summer Synthesis Imaging Workshop	<i>13–20 Jun 2006</i>
Summer School in Statistics for Astronomers & Physicists	<i>6–10 Jun 2006</i>