

Amanda A. Kepley Ph.D.

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Education

Ph.D. University of Wisconsin–Madison, Astronomy	Jan 2008
• December 2008	
M.S. University of Wisconsin–Madison, Astronomy	Jan 2004
• August 2004	
B.S. Case Western Reserve University, Astronomy	Jan 2002
• Summa cum laude	

Experience

National Radio Astronomy Observatory, North American ALMA Science Center (NAASC), Associate Scientist	Mar 2021 – present 5 years 6 months
National Radio Astronomy Observatory, North American ALMA Science Center (NAASC), Assistant Scientist	Mar 2017 – Mar 2021 4 years 1 month
National Radio Astronomy Observatory, North American ALMA Science Center (NAASC), Postdoctoral Fellow	Sept 2014 – Mar 2017 2 years 7 months
National Radio Astronomy Observatory, Green Bank Observatory, Postdoctoral Fellowship	Sept 2012 – Aug 2014 2 years
University of Virginia, Research Associate • Supervisor: Dr. Kelsey E. Johnson • Visiting appointment at the National Radio Astronomy Observatory	Oct 2008 – Aug 2012 3 years 11 months
University of Wisconsin–Madison, Research Assistant • Advisor: Dr. Eric M. Wilcots	Aug 2002 – Sept 2008 6 years 2 months

Grants, Awards, and Honors

- **Star Award for Work as Deputy Chair for NAASC Scientist Hiring Committee** — 11/2019
- **Over 30 successful PI telescope time proposals** — 2004 – present: GBT 4mm Large Proposal (17A and 17B, high frequency oversubscription 4:1); ALMA cycle 1 proposal (top 10%, highest priority, oversubscription 6:1); 2 EVLA Resident Shared Risk Proposals (10A and 12A semesters, oversubscription 4:1)
- **American Astronomical Society International Travel Grant** — 2012, 2015
- **National Radio Astronomy Observatory Foreign Telescope Fund Grant** — 2009, 2010
- **Green Bank Telescope (GBT) Student Support Award** — 2005 – 2008
- **National Science Foundation Graduate Research Fellowship** — 2003 – 2007
- **Wisconsin Space Grant Consortium Graduate Fellowship** — 2003, 2007
- **Karl Guthe Jansky and Alice Knapp Jansky Award** — University of Wisconsin, 2006

Science Management Experience

- **Deputy Pipeline Sub-System Scientist for ALMA** — 1/2023 – present: Assist the Pipeline Sub-system Scientist with the management of the ALMA Pipeline Working Group. Serve as an alternate point of contact when the Pipeline Sub-system Scientist is unavailable. Write requirements for future functionality. Assist with validation.
- **CASA Sub-System Scientist for ALMA** — 11/2019 – present: Gather and set ALMA requirements for CASA. Work with CASA to prioritize development. Oversee validation testing including development of automated tests for specific ALMA use cases.
- **Member of NRAO Observatory Leadership Cohort II** — 10/2020 – 6/2021
- **Principal Investigator for DEGAS, a large project on the Green Bank Telescope** — 2/2017 – present: Coordinate proposal writing. Develop observing procedures and manage on-call rotation. Generate requirements for data reduction pipeline. Coordinate work on data release and associated papers.
- **Member of ngVLA operations working group** — 2017 – 2022: Contribute to ngVLA operations plan. Present operations plan at conferences as requested.
- **Creator and maintainer of NA ARC ALMA imaging script template** — 10/2014 – 2021: Developed script to standardize manual imaging and guide data analysts in making appropriate choices.

Scientific Software Experience

- **ALMA Wideband Sensitivity Upgrade (WSU) Data Processing** — 10/2022 – present
- **Data Processing Working Group** — ALMA WSU, 10/2023 – present: Member of working group tasked with identifying requirements for an ALMA next generation Data Processing System (ngDPS) and a concept and end-to-end requirements for processing WSU data.
- **Data Rate Ramp Up Working Group** — ALMA WSU, 10/2023 – present: Member of working group tasked with identifying the minimum scientific capabilities that will be offered at various stages of WSU deployment.
- **Data Processing and Data Accessibility Working Group** — ALMA WSU, 10/2022 – 7/2023: Member of working group tasked with assessing the impact of the ALMA Wideband Sensitivity Upgrade (WSU) on ALMA operations and developing recommendations for WSU data processing.
- **Panelist for CASA Reimplementation Program Conceptual Design Review** — 2020
- **Data Reduction Pipeline for DEGAS (GBT Large Project)** — 2017 – present: Generate requirements for data reduction pipeline. Test pipeline code in production. Make bug fixes as necessary.
- **Lead for "Auto-multithresh" feature** — 2016 – 2020: Developed and prototyped an algorithm to automatically mask emission while cleaning. Worked with developer to have it implemented in CASA. Led validation testing. Organized future feature development and bug fixes and did associated testing. Wrote CASA documentation and paper describing algorithm. Supervised writing of an informal guide describing how to use the feature.
- **SRDP Requirements Committee** — 2017 – 2019: Provide feedback to the SRDP projects on current and future requirements.
- **CASA validation** — 2012 – present

Instrumentation Experience

- **Panelist for LASSI Preliminary and Final Design Review** — 2019 – 2020: Evaluated current status of an NSF-funded project to increase the number of high frequency observing hours available for the Green Bank Telescope.
- **Developed observing procedures for Argus (16 pixel focal plane array)** — 2017: Developed observing procedures for Argus, which was a newly commissioned instrument in shared risk mode.
- **Coordinated astronomical testing for new GBT backend (VEGAS)** — 9/2013 – 8/2014
- **Published the first paper based on data from the new 4mm GBT receiver** — 1/2014
- **Resident Shared Risk Observer for the Expanded Very Large Array** — 2/2012 – 5/2012

User Support Experience

- Presented "Error Recognition" lecture at the **Synthesis Imaging Summer School** — 2022, 2023
- Member of the **NAASC Video Working Group** — 2021 – 2022
- Led **Tutorials for the Synthesis Imaging Summer School** — 5/2018
- Provided training for **ALMA Ambassadors** — 2/2018 – present
- Presenter for **ALMA Community Days/NRAO Live!** — 3/2015 – 3/2016
- Support **F2F visits** — 9/2014 – present
- **ALMA Contact Scientist** — 9/2014 – present
- **Lecturer and Project Team Leader for Single Dish Summer School** — July 2013, 2015: Designed a small-group, hands-on project (July 2013); Co-lectured on combining single-dish and interferometer data (2013, 2015)
- **Support Scientist for the Green Bank Telescope** — 9/2012 – 8/2014
- Wrote **OPT Quickstart Guide for the Very Large Array** — 2/2012 – 5/2012

Review Panels

- **LASSI Final Design Review Panel** — 6/2021
- **Astro2020 Panel on Galaxies** — 8/2019 – 10/2020
- **External Reviewer for thesis at McMaster University** — 10/2020
- **CASA Reimplementation Program Conceptual Design Review Panel** — 2020
- **LASSI Preliminary Design Review Panel** — 9/2019
- **NRAO Student Programs Review Committee** — 11/2013
- **Technical Secretary for ALMA Science Review Panel** — 6/2016
- **NSF Astronomy and Astrophysics Grant Review Panel Member**: 2 terms
- **NASA ROSES/APRA Panel Member**
- **Reviewer for National Science Centre (Poland), Stratospheric Observatory for Infrared Astronomy (SOFIA), Large Millimeter Telescope (LMT), and Giant Metrewave Radio Telescope (GMRT)**
- **Referee for Nature, Astronomical Journal, Astrophysical Journal, Astronomy and Astrophysics, and Monthly Notices of the Royal Astronomical Society**

Scientific Organizing Committees

- **Argus-144 (virtual due to COVID-19)** — 9/2020
- **Optimizing Science from GBT Surveys, Green Bank, WV** — 11/2018
- **ALMA Postdoctoral Symposium, Indian Wells, CA (Chair)** — 7 – 9/2016
- **Molecular Gas in Galactic Environments, Charlottesville, VA** — 4/2016
- **NRAO Postdoctoral Symposium, Green Bank, WV (co-Chair)** — 1/2013 – 4/2013

Other Service

- **AAS Committee on Employment** — 7/2018 – 6/2021
- **NRAO Women's Climate Survey Committee** — 6/2018 – 11/2018
- **U.S. Radio/Millimeter/Submillimeter Science Futures II, ngVLA working group** — 7 – 8/2016

Mentoring

- **Mentored 9 graduate students (L.M. Walker, B. Mullan, K. Rabidoux, L. Barcos, C. Lee, L. Bittle, A. Desouza, T. Braun, Y. Song) and 7 undergraduates (S. Schmitz, E. Wilson, A. Wofford, G. Petter, S. Garza, M. Newman, M. Brooks)**: Assisted with writing telescope time proposals (Bittle, Walker, Barcos, Rabidoux, Mullan); Provided extensive feedback on paper drafts (Schmitz, Walker, Mullan, Rabidoux, Garza, Petter); Guided student-led research projects (Schmitz, Mullan, Desouza, Wilson, Wofford, Garza, Petter, Braun, Song, Newman, Brooks); Taught students how to use radio telescopes effectively (Bittle, Walker, Barcos, Lee)

Teaching and Outreach Experience

- **Instructor, Observational Astronomy for Majors** — University of Virginia, Fall 2011: Re-designed course, integrating best learning practices and appropriate technology.; Guided students in original research projects, which they presented in a poster session.
- **Course Design Institute** — University of Virginia, 5/2011: Designed a learner-centered syllabus for a future course during a five-day workshop.
- **Introductory Teaching Excellence Workshop** — 1/2009: Attended a two-day course on effective teaching strategies for introductory astronomy courses.
- **Presented more than a dozen public talks** — 2006 – present
- **Introductory Astronomy Tutor** — University of Wisconsin–Madison, 2005 – 2008
- **Expanding Your Horizons (EYH)** — 2003, 2005 – 2007: Developed and led astronomy activities to increase the interest of middle-school girls in science.

Observing Experience

- GBT, VLA, ALMA, Australian Telescope Compact Array, Arizona Radio Observatory 12-m and Submillimeter Telescopes, Mopra, WIYN (Sparsepak and WHIRC), KPNO 2.1m

Software Experience

- **Expert:** CASA, AIPS, GBTIDL
- **Familiar:** Miriad, Unipops, Class, ASAP
- **Programming:** Strong Python and IDL skills; primary development language currently Python. Strong git skills.