

WENDY LOUISE WILLIAMS

ORCID: [0000-0001-7315-1596](https://orcid.org/0000-0001-7315-1596)
Address: Centre for Astrophysics Research
University of Hertfordshire
Hatfield
Hertfordshire
AL10 9AB
United Kingdom
Email: w.williams5@herts.ac.uk
Phone: +44 1707 281 077
+44 7340 887 385
URL : <https://goo.gl/Mw4L11>
Date of Birth: 16 August 1986
Nationality: South Africa

RESEARCH INTERESTS

Extragalactic Astronomy including Large Scale Structures, and the formation and evolution of galaxies, dust and gas in galaxies, and star formation.

Active galactic nuclei (AGN), in particular their accretion modes/fuel sources, their host galaxies, and their influence on galaxy formation and evolution, and the cosmic evolution of radio sources.

Radio interferometry techniques, including ionospheric calibration techniques. The next generation of radio telescopes such as the Low Frequency Array (LOFAR), MeerKAT and the Square Kilometre Array.

EMPLOYMENT

2015 Oct – present	Postdoctoral Research Fellow – Centre for Astrophysics Research, University of Hertfordshire LOFAR Surveys – imaging and testing of new calibration/imaging algorithms Studies of radio-loud AGN and their evolution
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EDUCATION

2011 Jan – 2015 Dec	PhD in Astronomy – Leiden Observatory, Leiden University Thesis: <i>Facets of Radio-loud AGN evolution: a LOFAR surveys perspective</i> Supervised by Prof. H. J. A. Röttgering
2009 Jan – 2011 Jan	MSc in Astronomy (with distinction) – University of Cape Town Thesis: <i>A multiwavelength study of HI galaxies discovered in the Zone of Avoidance</i> Supervised by Prof. R. C. Kraan-Korteweg
2008 Jan – 2008 Dec	BSc (Hons) in Astrophysics & Space Science (First Class) – University of Cape Town Coursework covering Astrophysics, Electrodynamics, Computational Methods, Observational Techniques, Astrophysical Fluid Dynamics (Class medal for AST4007W) Research project: <i>Galaxies in the Zone of Avoidance: An Infrared Study of HI Detections</i> Supervised by A. Prof. P. Woudt

2005 Jan – 2007 Dec **BSc with distinctions in Physics & Astrophysics (degree with distinction) – University of Cape Town**
 Courses covered Astrophysics, Physics, Applied Mathematics, Mathematics, Statistics and Computer Science (Class medals for PHY3022S, AST3002F, PHY3021F, AST2000S, MAM2046W and AST100F)

MEETINGS

The Broad Impact of Low Frequency Observing, 19–23 June 2017, Bologna, Italy (invited talk)
 Realising SKA-LOW, 29–31 March 2017, Perth, Australia (invited talk)
 Science at Low Frequencies III, 7–9 Dec 2016, Pasadena, USA (invited talk)
 SPARCS 2016, 3–5 Nov 2016, Goa, India (talk)
 Science for the SKA generation, 7–11 Nov 2016, Goa, India
 Early Science from Low-Frequency Radio Telescopes, 8–10 December 2015, Tempe, USA (invited talk)
 IAU S309 Galaxies in 3D, 7–11 July 2014, Vienna, Austria (talk)
 Mini-Symposium on Black Holes and Feedback (Dr Andrew King), 2–4 July 2014, Utrecht, NL (talk)
 IAU S304 Multi-wavelength AGN Surveys and Studies, 7–11 October 2013, Yerevan, Armenia (invited talk)
 The Modern Radio Universe, 22–26 June 2013, Bonn, DE (poster)
 Astronomy, Radio Sources and Society: The Wonderful Century, 10–13 June 2013, Leiden, NL (LOC; talk)
 10 years of Infrared Survey Facility and the future, 16–18 November 2010, Nagoya, Japan (talk)

Seminars at Leicester, Mullard Space Science Laboratory, Oxford Astrophysics, Edinburgh

Workshops/schools

Several LOFAR Surveys Busy Weeks

Several LOFAR Imaging Busy Weeks

Masterclass “FIRSED2013 – the FIR-submm SEDs of galaxies with and without active nucleus”, 2 April 2013, Amsterdam, NL

NOVA Fall School – Epoch of Reionisation, 3–7 October 2011, Dwingeloo, NL

PRIZES AND FUNDING

2012	Leiden Observatory Best Teaching Assistant
2009 – 2010	SKA South Africa Bursary
2009	KW Johnstone Research Scholar ; Manuel & Luby Washkansky Scholarship ; UCT Equity Scholarship
2008	SASOL Golden Key Excellence Award ; NASSP Bursary
2006 – 2007	University of Cape Town Science Faculty Scholarships
2005 – 2007	Dean’s Merit List
2007	Ivor Lewin Prize for Physics
2005 – present	Member Golden Key International Honour Society
2005	UCT Entrance Scholarship
2004	Dux Scholar – Valedictorian; Most Industrious Student (High School)

COMMITTEES & POSITIONS

2016 – present	LOFAR Technical Review Panel
2016 – present	Organised weekly Centre for Astrophysics Research (CAR) Seminars
2014	Organised weekly Leiden LOFAR Group meetings
2013	LOC member: Astronomy, Radio Sources and Society Symposium

2009 – 2010	Organised weekly NASSP Colloquia
2009	Organised and coordinated the 5-week NASSP Summer School
2007	Third year physics class representative

OBSERVING EXPERIENCE

4.2 m William Herschel Telescope, La Palma, Spain (AF2/WYFOS – multi-object spectroscopy, 4 nights)
 Parkes Radio Telescope, Parkes, Australia (HI spectroscopy, 5 nights)
 1.4 m InfraRed Survey Facility, Sutherland, South Africa (SIRIUS; >52 nights)
 SAAO 1.9 m Telescope, Sutherland, South Africa (Long slit spectroscopy, 4 nights)

TEACHING EXPERIENCE

2017	DARA (Development Africa Radio Astronomy, Newton Fund programme): 2 weeks teaching practical radio interferometry
2016, 2017	Programming & Statistics module: teaching python programming part
2012, 2013	Teaching Assistant: MSc course Detection of Light
2009, 2010	Tutor: third year course Astrophysics, BSc (Honours) course General Astrophysics
2007, 2008	Hotseat (impromptu) Tutor for first year mathematics
2006	University Residence tutor for first year physics, mathematics and applied mathematics
2005, 2006	Private tutor for High School mathematics and science

EDUCATION & OUTREACH

2015 – present	public talks on radio astronomy at Bayfordbury Observatory, Hertfordshire, UK
2016	public talk at Loughton Astronomical Society, Essex, UK
2011	Research into educational resources repositories and editing for Universe Awareness
2007 – 2008, 2010	Volunteer work for Free High School Science Texts (FHSST) – involved typesetting examples and exercises in LaTeX as well as providing worked solutions
2009 – 2010	Public outreach at the South African Astronomical Observatory (SAAO) – involved operating small telescopes, interacting with the public and answering Astronomy-related questions

TEAMS

2016 – present	SKA Science Working Group – Extragalactic Continuum (associate member)
2011 – present	LOFAR Surveys Key Science Project (AGN at moderate-z working group member)
2011 – present	LOFAR Multi-frequency Sky Snapshot Survey (MSSS) team
2011 – 2015	Leiden LOFAR Group
2011 – 2015	LOFAR Commissioning team
2013	LOC member Astronomy, Radio Sources and Society (10–13 June 2013)

SKILLS

Languages	English (fluent, mother tongue) Afrikaans (intermediate, Senior Certificate) Dutch (intermediate, B1 Common European Framework for Languages)
Programming	python (expert), Linux shell (advanced), MATLAB (intermediate), FORTRAN (intermediate), PASCAL (intermediate), C (basic), java (basic)
Astronomy Packages	Astropy, Topcat, DS9, SExtractor, EAZY

Radio reduction	Casa (advanced), LOFAR software (advanced), SPAM (advanced), AIPS (intermediate), Obit (basic), Parseltongue (basic),
Optical reduction	IRAF/PyRAF (basic)
other	git (intermediate), LaTeX (advanced), HTML/CSS (basic)
Personal development	Effective Communication, January 2014 Time management – Self management, October/November 2012 Communication in Science, November/December 2012

INTERESTS

My interests include running, squash, hiking, reading, baking & knitting.

REFERENCES

Prof H. J. A. Röttgering

PhD Supervisor
Leiden Observatory
Leiden University
The Netherlands
Phone: +31 71 527 5851
Email: rottgering@strw.leidenuniv.nl

Prof R. C. Kraan-Korteweg

MSc Supervisor
Astronomy Department
University of Cape Town
South Africa
Phone: +27 21 650 5829
Email: kraan@ast.uct.ac.za

Prof M. J. Hardcastle

Centre for Astrophysics Research
University of Hertfordshire
Hatfield
Hertfordshire
AL10 9AB
United Kingdom
Phone: +44 1707 28 6409
Email: mjh@extragalactic.info