

HANNAH R. STACEY

POSTDOCTORAL RESEARCHER

stacey@mpa-garching.mpg.de

MAX PLANCK INSTITUTE for ASTROPHYSICS

+49(0)89300002008

Karl-Schwartzschild-Str. 1, Garching 85748, Germany

<https://wwwmpa.mpa-garching.mpg.de/~stacey>

EDUCATION

- 2016 to 2020 **Ph.D. Astrophysics**
University of Groningen, The Netherlands
Doctoral Thesis advised by Prof. J. P. McKean and Prof. L. V. E. Koopmans: ‘*Through a lens darkly: magnified views of massive galaxy formation*’
- 2014 to 2015 **M.Sc. Astronomy and Astrophysics**
University of Manchester, UK
- 2007 to 2011 **B.Sc. Physics**
University of Manchester, UK

RESEARCH EXPERIENCE

- 2020 to present **Postdoctoral researcher** | Max Planck Institute for Astrophysics
- 2016 to 2020 **Doctoral research** | University of Groningen, Kapteyn Institute
- 2016 to 2020 **Doctoral research** | Netherlands Institute for Radio Astronomy
- 2014 to 2015 **Graduate research** | University of Manchester
- 2011 to 2016 Employment in health care and science engagement

RESEARCH INTERESTS

- Primary Interests* Strong gravitational lensing, AGN feedback, high-redshift galaxies, interstellar medium, gas dynamics, galaxy structure and formation
- Techniques* Sub-mm/mm/radio interferometric imaging and spectroscopy (ALMA, VLBA, e-MERLIN, EVN, VLA & LOFAR). Optical and infrared imaging and spectroscopy (HST, OSIRIS/Keck, & *Herschel*)

GRANTS & AWARDS

- IAU Symposium Grant to organise the conference *Gravitational Lensing in the Era of Big Data* (2023) | €20000
- Sponsorship from Kapteyn, SRON and ASTRON on behalf of Astronomy on Tap Groningen (2019) | €1500
- Leids Kerkhoven-Bosscha Fonds, travel grant (2019) | €400
- RadioNet, travel grant (2018) | €128
- Leids Kerkhoven-Bosscha Fonds, travel grant (2017) | €485
- Sheffield University International Summer School Scholarship (2009)
- University of Manchester Academic bursary (2007) | £1000

*Observing
programmes
(as PI)*

Atacama Large Millimeter/submillimeter Array Cycle 9 (18 hrs):
Caught red handed: dusty quasars blowing out molecular gas
Project Code 2022.1.00534.S

Atacama Large Millimeter/submillimeter Array Cycle 9 (14 hrs):
Resolving the dynamics of quasar host galaxies at cosmic noon
Project Code 2022.1.00381.S

Atacama Large Millimeter/submillimeter Array Cycle 8 (9 hrs):
New constraints on dark matter models with strongly lensed quasars
Project Code 2021.1.00675.S

Atacama Large Millimeter/submillimeter Array Cycle 7 (10 hrs):
New constraints on dark matter models with strongly lensed quasars
Project Code 2019.1.00948.S

Atacama Large Millimeter/submillimeter Array Cycle 7 (6 hrs):
Towards improved constraints on dark matter with strongly lensed quasars
Project Code 2019.1.00964.S

Very Long Baseline Array 2019 (30 hrs):
A novel method to identify AGN-heated dust in quasar host galaxies
Project Code VLBA/19A-246

Very Large Array 2019 (8 hrs):
A novel method to identify AGN-heated dust in quasar host galaxies
Project Code VLA/19A-402

Atacama Large Millimeter/submillimeter Array Cycle 6 (24 hrs):
Gravitational lenses as cosmic telescopes: Resolving feedback on 100-pc scales at redshift 3
Project Code 2018.1.01008.S

Very Long Baseline Array 2018 (36 hrs):
Resolving radio-mode feedback in a sample of radio-weak quasars
Project Code VLBA/18B-270

Effelsberg Telescope 2018 (37 hrs):
AGN feedback and star formation in high-redshift gravitationally lensed quasars

*Observing
programmes
(as Co-I)*

Very Large Array | 6 programs

Very Long Baseline Array | 4 programs

European VLBI Network | 8 programs

e-MERLIN | 2 programs

Global VLBI | 1 program

Atacama Large Millimeter/submillimeter Array | 5 programs

TEACHING & SUPERVISION

Teaching

Lecturer | DARA VLBI training workshop (2019)

I co-wrote and delivered a two week workshop of 12 lectures and 4 tutorials on VLBI as part of the Development in Africa with Radio Astronomy (DARA) project.

Teaching Assistant | Introduction to Radio Astronomy (2016-2019)

I delivered tutorials and lab sessions, wrote tutorials and graded lab reports.

Teaching Assistant | Introduction to Observational Astronomy (2016)

Assisted with lab sessions in the observatory.

Students

Supervised

Chatrik Mangat | Summer student research project (2020)

Kim Heinemann | Summer student research project (informal supervision; 2019)

Arno Lafontaine | Bachelor's thesis research project (2019), resulted in a paper (Stacey, Lafontaine & McKean 2020)

TECHNICAL EXPERIENCE

Telescope experience

Atacama Large (sub-)Millimetre Array (ALMA)

Extensive experience (successfully proposing, obs. planning, data reduction)

Very Large Array

Experience (successfully proposing, observation planning, data reduction)

Very Long Baseline Array

Extensive experience (successfully proposing, observation planning, data reduction)

European VLBI Network & Global VLBI Network

Experience (data reduction)

e-MERLIN

Extensive experience (data reduction)

Herschel Space Observatory

Experience (data reduction)

Hubble Space Telescope

Some experience (data reduction)

OSIRIS IFU on Keck Telescope

Some experience (data reduction)

Computing skills

Programming | Python, C/C++, shell scripting, Slurm, etc.

Software | Astropy, AstroConda / DrizzlePac, PyRAF, HIPE, CASA, AIPS

Presentation | \LaTeX , Matplotlib, Adobe products

OS | Linux, Unix, macOS

PRESS & PUBLIC OUTREACH

Astronomy on Tap, Groningen | Speaker, '*The Dark Side of the Universe*' (2020)

Astronomy on Tap, Groningen | Founder and chair (2019 to 2020)

The Jodcast | JodBite interview (January 2015 edition)

The Jodcast | Podcast presenter and writer (2014 to 2015)

LEADERSHIP AND COLLABORATION

<i>Service roles</i>	Deputy Equal Opportunities Officer Max Planck Institute for Astrophysics (2022 to present) Chair of Executive Committee International Astronomical Union (IAU) Junior Members Working Group (2021 to present) Postdoc Representative Max Planck Institute for Astrophysics (2021 to 2022) Organising committee member Max Planck Institute for Astrophysics Welfare and Equality Group (2021 to present) Founder and chair Astronomy on Tap Groningen, 2019 to 2020 Organiser Astro-ph journal club, 2014 to 2015
<i>Meeting organisation</i>	SOC chair Gravitational Lensing in the Era of Big Data, Italy (2023) SOC chair Junior Members Sessions at the IAU General Assembly, Korea (2022) SOC European Form of Astronomical Communities at EAS Meeting, Valencia, Spain (2022)
<i>International collaborations</i>	Strong Lensing at High Angular Resolution Program (SHARP) https://sites.google.com/view/sharpgravlens LOFAR Two-Metre Sky Survey (LoTSS) Consortium https://lofar-surveys.org/surveys.html
<i>Society Memberships</i>	International Astronomical Union Junior Member European Astronomical Society Member
<i>Peer review activities</i>	Referee for <i>The Astrophysical Journal</i> (2022–present) ALMA proposal review (2021, 2022)

TALKS & COLLOQUIA

<i>Conference talks (selected)</i> *=invited	<i>'Dusty quasars eject star-forming gas from galaxies at cosmic noon'</i> What Drives the Growth of Black Holes: A Decade of Reflection , Iceland, 2022 <i>'How dusty quasars shape the inner regions of galaxies at cosmic noon'</i> IAU Symposium 373: Resolving the Rise and Fall of Star Formation in Galaxies , Busan, Korea, 2022 <i>'IAU Junior Members Working Group 2021–2022'</i> * Junior Members Sessions at the IAU General Assembly , Busan, Korea, 2022 <i>'How dusty quasars shape the inner regions of galaxies at cosmic noon'</i> IAU Division J: Galaxies and Cosmology , Busan, Korea, 2022 <i>'Quasars drive molecular gas from galaxies at cosmic noon'</i> COSPAR Meeting: Supermassive Black Holes at High Redshift , Athens, 2022 <i>'Quasars drive molecular gas from galaxies at cosmic noon'</i> European Astronomy Meeting , Valencia, Spain, 2022 <i>'Organising Committee of Junior Members of the International Astronomical Union'</i> * European Astronomy Meeting , Valencia, Spain, 2022 <i>'Flux ratio anomalies at sub-millimetre wavelengths'</i> Gravitational lensing by galaxies and clusters , Isle of Skye, UK, 2019 <i>'Investigating AGN feedback in quasar host galaxies with strong lensing'</i> European Week of Astronomy and Space Science , Liverpool, UK, 2018
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'Insights into galaxy evolution with strong gravitational lensing'
ALMA Science Day, Leiden, The Netherlands, 2018

'Gravitationally lensed quasars in LoTSS: disentangling SF/AGN activity'
LOFAR Surveys KSP meeting, Leiden, The Netherlands, 2018

'Star formation in quasar host galaxies revealed by strong gravitational lensing'
Lifecycles of Radio Galaxies, ASTRON, The Netherlands, 2018

'Gravitational lensing reveals dust-obscured star formation in quasar host galaxies'
Star Formation in the Radio, Millimetre, and Submillimetre, Manchester, 2017

'Gravitational lensing reveals dust-obscured star formation in quasar host galaxies'
Gravitational lensing by galaxies and clusters, Cogne, Italy, 2017

'Gravitational lensing reveals dust-obscured star formation in quasar host galaxies'
Quasars at all cosmic epochs, Padova, Italy, 2017

'Studying AGN feedback and star formation in high-z galaxies with strong lensing'
Celebrating a century of gravitational lensing, Leiden, The Netherlands, 2016

'Investigating radio-quiet quasars with gravitational lensing'
National Astronomy Meeting, Llandudno, UK, 2015

'The birth and death of massive galaxies: insights from strong gravitational lensing and ALMA'
ASTRON, The Netherlands, 2022

'Molecular outflows from dusty quasars: evidence that radiative feedback regulates the inner regions of galaxies at cosmic noon'
European Southern Observatory, Germany, 2022

'How radiative feedback shapes the inner regions of galaxies at cosmic noon'
Max Planck Institute for Astronomy, Germany, 2022

'How radiative feedback shapes the inner regions of galaxies at cosmic noon'
University of Heidelberg, Germany, 2022

'Quasar-driven molecular winds during the peak of cosmic star formation'
University of Groningen, The Netherlands, 2022

'Witnessing the formation of compact spheroids with ALMA'★
DAWN Cosmic Centre, Denmark, 2021

'The rocky road to quiescence: compaction and quenching of galaxies at $z \sim 2$ '★
INAF Bologna, Italy, 2020

'The rocky road to quiescence: compaction and quenching of galaxies at $z \sim 2$ '
Max Planck Institute for Astrophysics, Germany, 2020

'Through a lens darkly: magnified views of massive galaxy formation'
ASTRON, The Netherlands, 2020

'Gravitational lenses as cosmic telescopes'★
University of Lusaka, Lusaka, Zambia, 2018

*Institute talks
(selected)
★=invited*

This CV was last updated on November 10, 2022.