Jonah Daniël Wagenveld

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Education

Nov 2019 - Present
Ph.D. Astronomy — Max-Planck Institut für Radioastronomie
Preliminary Thesis title: "Testing large scale cosmology with MeerKAT"
Supervisors: Prof. Dr. Michael Kramer, Dr. Hans-Rainer Klöckner

Sep 2017 - Aug 2019
M.Sc. Astronomy Research — Leiden University
First project title: "Bayesian methods of high redshift quasar selection in the LOFAR HETDEX field"
Supervisors: Prof. Dr. Huub Röttgering, Dr. Kenneth Duncan

Second project title: "Weak lensing power spectrum inference using Bayesian Hierarchical modeling with KiDS"
Supervisor: Prof. Dr. Koen Kuijken

Honours: cum laude

Sep 2014 - Aug 2017
B.Sc. Astronomy — Leiden University
Thesis title: "Exploratory analysis of the Sz91 transition disk"
Supervisor: Prof. Dr. Michiel Hogerheijde
Thesis work carried out together with fellow student Christiaan van Buchem

Professional experience

Nov 2019 - Present
Doctoral researcher — Max-Planck Institut für Radioastronomie

SS 2020 - WS 2021
Teaching assistant — University of Bonn
Optical Astronomy Lab course (Master's, English, two semesters)

Apr 2018 - Okt 2019
Custodian — Old Observatory Leiden
Overseeing the visitors' centre at the Old Observatory in Leiden greeting guests and giving two short tours per day

International collaborations

Nov 2019 - Present
Associate member — MeerKAT Absorption Line Survey (MALS)
Under student project: "Testing large scale cosmology with MeerKAT"

Jan 2023 - Present
co-Chair SWG-3 — MeerKAT Absorption Line Survey (MALS)
co-Chair of Science Working Group (SWG)-3: Radio continuum and polarization science

Service to the community

March 2023 | **Co-organiser Fundi tutorials** — Max-Planck Institut für Radioastronomie
Co-organised a week of tutorials on various topics for students of the Fundamental Physics in Radio Astronomy group

Dec 2021 - Present | **PhD-student meetings coordinator** — Max-Planck Institut für Radioastronomie
Organise meetings between the PhD students and the group director (Prof. Dr. Michael Kramer) of the Fundamental Physics in Radio Astronomy group

Apr 2021 - Apr 2022 | **Student representative** — International Max Planck Research School (IMPRS)
MPIfR internal student representative of IMPRS

Conferences and Workshops

Mar 2023 | **Invited talk** — Fundi tutorials, Max-Planck Institut für Radioastronomie
Title: "Interferometry for dummies"

Mar 2023 | **Contributed talk** — Cosmology on Safari, South Africa
Title: "The cosmic radio dipole: Bayesian estimators on new and old radio surveys"

Nov 2022 | **Contributed talk** — SKA Pathfinder Radio Continuum Surveys (SPARCS), South Africa
Title: "MALS – Homogeneous continuum catalogues towards a measurement of the cosmic radio dipole"

Nov 2021 | **Contributed talk** — German Long Wavelength Consortium (GLOW) assembly, Munich, Germany
Title: "MALS - The first steps towards a kilo square degrees continuum sky"

Mar 2021 | **Contributed talk** — A precursor view of the SKA sky, Online
Title: "MALS - The first steps towards a kilo square degrees deep radio continuum sky"

Jan 2021 | **Participant** — School of Astro-Statistics, Online
Attended session: "Bayesian Statistics" (Lecturer Elena Sellentin)

Aug 2019 | **Participant** — First light summer school, Sao Paolo, Brazil

Observing experience

2020 | **Co-I** — Telescopio Nazionale Galileo, La Palma
Programme: A41TAC_23, 4 hours granted. Title: "Follow-up observations on a confirmed z=5.56 quasar"

2019 | **PI** — Isaac Newton Telescope, La Palma
Programme: N17, 10 nights (6 dark/4 grey) granted. Title: "Spectroscopic confirmation of radio detected high-redshift quasar candidates selected using machine learning techniques"

Skills

- Programming languages: Python, Bash, LaTeX, SQL
- Software: CASA, CARTA, Topcat, AstroPy, DS9, Singularity, Docker, IRAF
- Languages: Dutch (native), English (fluent), German (intermediate)

Publications

As leading author

2023 **J. D. Wagenveld**, H.-R. Klöckner, N. Gupta, P. Deka, P. Jagannathan, S. Sekhar, S. A. Balashev, E. Boettcher, F. Combes, K. L. Emig, M. Hilton, G. I. G. Józsa, P. Kamphuis, D. Y. Klutse, K. Knowles, J.-K. Krogager, A. Mohapatra, E. Momjian, K. Moodley, S. Muller, P. Petitjean, P. Salas, S. Sikhosana, R. Srianand, 2023, "The MeerKAT Absorption Line Survey: Homogeneous continuum catalogues towards a measurement of the cosmic radio dipole", submitted
J. D. Wagenveld and H.-R. Klöckner, 2023, "The cosmic radio dipole: Bayesian estimators for a new generation of radio surveys", in prep.

2022 **J. D. Wagenveld**, A. Saxena, K. J. Duncan, H. J. A. Röttgering & M. Zhang, 2022, "Revealing new high-redshift quasar populations through Gaussian mixture model selection", A&A, 660, A22

As co-author

2023 Emig et al. (incl. **Wagenveld**), 2023, "Discovery of Hydrogen Radio Recombination Lines at z=0.89 towards PKS 1830-211", A&A, accepted

2022 Gupta et al. (incl. **Wagenveld**), 2022, "MALS SALT-NOT survey of MIR-selected powerful radio-bright AGN at 0<z<3.5", ApJ, 929, 1

Maina et al. (incl. **Wagenveld**), 2022, "Mapping HI 21-cm in the Klemola 31 group at z = 0.029: emission and absorption towards PKS2020-370", MNRAS, 516,2

Gloudemans et al. (incl. **Wagenveld**), 2022, "Discovery of 24 radio-bright quasars at $4.9 \leq z \leq 6.6$ using low-frequency radio observations", A&A, 668, A27

Combes et al. (incl. **Wagenveld**), 2022, "PKS1413+135: OH and HI at z = 0.247 with MeerKAT", A&A, accepted

2021 Gupta et al. (incl. **Wagenveld**), 2021, "Blind HI and OH absorption line search: first results with MALS and uGMRT processed using ARTIP", ApJ, 907, 1

Kondapally et al. (incl. **Wagenveld**), 2021, "The LOFAR Two Metre Sky Survey: Deep Fields Data Release 1 – III. Host-galaxy identifications and value added catalogues", A&A, 648, A3