

Sthabile Kolwa

Curriculum Vitae

Employment

- 2021-present** Lecturer and Postdoctoral Astronomer
The University of Johannesburg
- 2020** Postdoctoral Fellow
*The University of Cape Town /
The Inter-University Institute for Data-Intensive Astronomy (IDIA)*
- 2013** Astronomy Tutor
The University of Cape Town

Education

- 2016**
2019 **Dr. rer. nat. Physics**, *The Ludwig Maximilian University of Munich (LMU)*,
Munich, Germany
Thesis: *The kinematic nature of baryons in the multi-phase circumgalactic media of
high-redshift radio galaxies*
- 2014**
2015 **MSc Physics**, *University of the Western Cape (UWC)*, Cape Town, South
Africa
Thesis: *The effects of environment on radio-loud AGN activity in Stripe 82*
- 2010**
2013 **BSc Physics and Astronomy**, *The University of Cape Town (UCT)*, Cape
Town, South Africa
Thesis: *The Effects of Ionospheric Scintillation on the Dilution of GPS Positioning*

First-Authored Papers

- Kolwa, S.** ; De Breuck, C. ; Vernet, J. ; Wylezalek, D. ; ... Andreani, P. (2023),
submitted
- Kolwa, S.** ; Vernet, J. ; De Breuck, C. ; Villar-Martín, M. ; ... Man, A (2019),
A&A, 625, 102
- Kolwa, S.** ; Jarvis, M. J. ; McAlpine, K. ; Heywood, I. (2019), MNRAS, 482,
5156

Co-authored Papers

- Hale, C. L. ; Whittam, I. H. ; Jarvis, M. J. ; ... **Kolwa, S.** ; ... Taylor, A. R.
(2023), MNRAS, 520, 2668

De Breuck, C. ; Lundgren, A. ; Emonts, B. ; **Kolwa, S.** ; Dannerbauer, H. ; Lehnert, M. (2022), A&A, 658, L2

Wang, W.; Wylezalek, D.; De Breuck, C.; Vernet, J.; ... **Kolwa, S.** (2021), A&A, 654, 88

Falkendal, T; De Breuck, C. ; Lehnert, M.D. ; ... **Kolwa, S.** ; ... Wylezalek, D. (2019), A&A, 621, 27

Vernet, J. ; Lehnert, M. D. ; De Breuck, C. ; ... **Kolwa, S.** ; ... Boulanger, F. (2017), A&A, 602, 6

Jarvis, M. ; Taylor, R. ; Agudo, I. ; ... **Kolwa, S.** ; ... Smith, D. J. B (2016) PoS(MeerKAT2016)006

Invited Talks and Scientific Contributions

- 2023 *Space Telescope Science Institute (STScI)/Johns Hopkins University Journal Club Seminar* (April 2023)
- African Astronomical Society (AfAS) Meeting 2023* (Mar 2023)
- Magnetism and Accretion Conference 2023* (Jan 2023)
- 2022 *Brno High Energy Astrophysics Journal Club, Brno, Czech Republic* (Nov 2022)
- Max Planck Institute for Radio Astronomy (MPfIR) Colloquium, Bonn, Germany* (Nov 2022)
- BRICS Collaboration Astronomy Working Group Seminar (virtual)* (Oct 2022)
- 2021 *University College London Astronomy Seminar (virtual)* (Oct 2021)
- The European Astronomical Society (EAS) Meeting (virtual)* (June 2021)
- Southampton Astronomy Online Seminar* (July 2021)
- South African Astronomical Society (SAAO) Colloquium (virtual)* (May 2021)
- 2019 *ETH Astrophysics Seminar, Zurich, Switzerland* (Nov 2019)
- OPINAS (Optical and Interpretive Astronomy) Seminar, Max Planck Institute for Extraterrestrial Physics (MPE), Garching, Germany* (Nov 2019)
- Modeling Meerkats Workshop* (July 2019), Hazyview, Mpumalanga, South Africa
- Multi-messenger Astronomy with SKA precursors and pathfinders Workshop* (May 2019), Aveiro, Portugal
- Australia-ESO Conference* (Feb 2019), Sydney, Australia
- ESO Gas Matters Seminar* (Feb 2019), ESO Garching, Germany
- 2018 *Walking the Line Meeting* (Mar 2018), Goldwater Centre, Arizona State University, USA
- ESO AGN Club Seminar* (Feb 2018), ESO Garching, Germany
- 2017 *What Matters Around Galaxies? Conference* (Jul 2017), Durham University, United Kingdom
- Dawn of Galaxies Conference* (Jan 2017), Obergurgl, Austria

Teaching & Student Supervision

- Teaching**
- *Engineering Physics* for 2nd year undergraduates
 - *Radiative Processes in Astrophysics* for Honour's (4th year) students
- Students**
- Thando Mothogoane (PhD supervisor; 2022-)
 - Tshepang Siteo (MSc co-supervisor; 2022-)

Observing Experience

- 2017** ESO Period 100 observing on the Atacama Pathfinder Experiment Telescope (APEX), San Pedro de Atacama, Chile
- 2012** Optical observing on the Radcliffe 1.9-m Telescope at the South African Astronomical Observatory (SAAO), Sutherland, South Africa

Computing Skills

- Languages Python, SQL, HTML5, Erlang
- Computational tools SciPy, NumPy, AstroPy & Pandas
- Visualisation tools Matplotlib, Seaborn, Plotly & Pillow
- Development tools Git & Docker
- Documentation tools Jupyter Notebook, L^AT_EX & Microsoft Word

Professional Activities

- Academic mentor in the *Supernova Foundation* (2022-)
- Executive Committee official in the African Astronomical Society (AfAS) (2022-)
- Chair of the AfAS early-career science sub-committee (2022-)
- Organiser of monthly talks at the *ESO Wine & Cheese Seminar* series (2017-18)
- Volunteer at the *ESO Open Panel Committee* meetings for periods 109, 100 and 101 (2017-18)

Outreach

- Member of the *African Network for Women in Astronomy (AfNWA)* organisation (2021-)
- Organiser in the *Astronomy in Colour (AiC)* collective (2021-)
- Fundraiser for the *Astro Molo Mhlaba* project (2019-)
- Co-ordinator for astronomy outreach at Elsies Rivier High School (2015-16)
- Tutor for SHAWCO, UCT (2011-14)

Selected Media & Press

- International Astronomy Union (IAU) *Women in Astronomy Working Group* Seminar (2022)
- Scientific comments featured in *WIRED* magazine (2021); Click here for a link to the article
- Session chair in the *AiC Speaker Series: Trailblazers* (2020); Click for a link to the video channel
- Public talk on radio galaxies for the *SAAO Open Night* series (2020); Click for a link to the video
- Popular science writer on *Medium* (2020-)

Achievements

- 2023 Recipient of BAAP NRF funding
- 2016 - 2019 Awarded ESO Ph.D. Studentship funding
- 2016 Selected for the International Max Planck Research School (IMPRS), Astrophysics Ph.D. program
- 2011-2015 Recipient of NRF-SKA (National Research Foundation - Square Kilometer Array) B.Sc. and M.Sc. Scholarships

References

Prof Dr. Russ Taylor

Professor
Astronomy Department, UCT
Cape Town, South Africa
✉ russ@idia.ac.za

Prof Dr. Soebur Razzaque

Professor
Physics Department, UJ
Johannesburg, South Africa
✉ srazzaque@uj.ac.za

Dr. Carlos de Breuck

Staff Astronomer
The European Southern Observatory
Garching bei München, Germany
✉ cdebreuc@eso.org

Prof Dr. Matt Jarvis

Professor
Astrophysics Department, Oxford Uni.
Oxford, The United Kingdom
✉ matt.jarvis@physics.ox.ac.uk

Dr. Jarita Holbrook

Cultural Astronomer
The University of Edinburgh
Edinburgh, Scotland
✉ jc.holbrook@ed.ac.uk

Dr. Michelle Cluver

Staff Astronomer
Centre for Astrophysics and Supercom-
puting
Melbourne, Australia
✉ mcluver@swin.edu.au