

DR STHABILE KOLWA

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EMPLOYMENT

Feb 2021 to present **Lecturer and Staff Astronomer,**
The University of Johannesburg

Feb 2020 - Dec 2020 **Postdoctoral Research Fellow,**
Inter-University Institute for Data Intensive Astronomy (IDiA)

Aug 2016 - Dec 2019 **Doctoral Student,**
The European Southern Observatory (ESO)

Jan - Nov 2013 **Astronomy Tutor,**
The University of Cape Town (UCT)

EDUCATION

2016 - 2019 **Dr. rer. nat. (Doctor rerum naturalium) / Ph.D. in Physics, cum laude**
Ludwig-Maximilians-Universität München (LMU) & ESO
Thesis title: *The kinematic nature of baryons in the multi-phase circumgalactic media of high-redshift radio galaxies*
Advisor: Dr. Carlos de Breuck, co-advisor: Dr. Joël Vernet

2014-2015 **M.Sc. in Physics, cum laude**
University of the Western Cape (UWC)
Thesis title: *The Effects of Environment on radio-loud AGN Activity in Stripe 82*
Advisor: Prof. Dr. Matt J. Jarvis, co-advisor: Dr. Kim McAlpine

2010-2013 **B.Sc. Honours in Astronomy and Physics**
UCT
Honours Project: *The Effects of Ionospheric Scintillation on the Dilution of Precision in GPS Positioning*
Advisor: Dr PJ Cilliers

PUBLICATIONS

First-authored: **S. Kolwa**, et al (2019) A&A, 625, 102
MUSE unravels the ionization and origin of metal enriched absorbers in the gas halo of a $z = 2.92$ radio galaxy

S. Kolwa, et al (2019) MNRAS, 482, 5156-5166
The relation between galaxy density and radio jet power for 1.4 GHz VLA selected AGN in Stripe 82

Co-authored: W. Wang, et al (2021) , eprint:2107.09066
T. Falkendal, et al (2019) , A&A, 621, 27
J. Vernet, et al (2017) , A&A, 602, 6
M.J. Jarvis, et al (2016) , PoS(MeerKAT2016)006 (MIGHTEE)

Submitted: **S. Kolwa**, et al, *Neutral carbon missing from $z \gtrsim 3$ radio-loud AGN host galaxies* (under review by A&A)

GRANTS & ACHIEVEMENTS

- ESO Ph.D. Studentship over 3.5 years (Aug 2016- Dec 2019)
- Admission into the International Max Planck Research School (IMPRS) Astrophysics Ph.D. program (2016)
- SKA (Square Kilometer Array) Undergraduate and M.Sc. Scholarships (2011-2015)

COLLABORATIONS

- MeerKAT and uGMRT polarisation working group (led by Prof R. Taylor of IDiA/UCT)
- MeerKAT International GigaHertz Tiered Extragalactic Exploration (MIGHTEE) working group (led by M.J. Jarvis of Oxford University/UWC)
- High-redshift radio galaxies group (led by Carlos de Breuck of ESO)
- Baryon cycles of the CGM in galaxies (led by Celine Péroux of ESO)

TALKS

- European Astronomical Society Meeting (June 2021)
Virtual conference Session 2: High-z galaxies with ALMA
Special Session 6: Diversity & Inclusion Day
- University of Southampton Astronomy (June 2021)
Virtual seminar
- South African Astronomical Observatory (May 2021)
Virtual colloquium
- South African Radio Astronomy Observatory (December 2020)
Virtual conference
- Astrophysics Seminar (Nov 2019)
ETH, Zurich, Switzerland
- OPINAS (Optical and Interpretive Astronomy) Seminar (Nov 2019)
Max Planck Institute for Extraterrestrial Physics (MPE), Garching, Germany
- *Modeling Meerkats* Workshop (July 2019)
Hazyview, Mpumalanga
- *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
- *Walking the Line* Meeting (Mar 2018)
Goldwater Centre, Arizona State University, USA
- *ESO AGN Club* Seminar (Feb 2018)
ESO Garching, Germany
- *What Matters Around Galaxies* Conference (Jul 2017)
Durham University, United Kingdom

- *Dawn of Galaxies* Conference (Jan 2017)
Obergurgl, Austria
- *SKA Conference* (Dec 2016)
Cape Town, South Africa
- *SKA Conference* (Dec 2015)
Stellenbosch, South Africa
- *SKA Pathfinders and Radio Continuum Surveys (SPARCS)* (July 2015)
Hazyview, South Africa
- *SKA Conference* (Dec 2014)
Stellenbosch, South Africa

TELESCOPE OBSERVING

- Acquired several runs for remote observers awarded time in ESO Period using the Atacama Pathfinder Experiment Telescope (APEX) in San Pedro de Atacama, Chile (2017)
- Obtained long-slit spectroscopic observations using the Radcliffe 1.9-m Telescope on two separate week-long observing runs at the South African Astronomical Observatory (SAAO) in Sutherland, South Africa (2012)

MEDIA & PRESS

- Appeared as self in a short documentary by the South African Institute for Physics (SAIP) (2021)
Web-link to video
- Opinions featured in a popular science article posted on the *WIRED* magazine website (2021)
Web-link to article
- Gave a public outreach talk on radio galaxies for the *SAAO Open Night* series (2020)
Web-link to the video
- Interviewed while a Ph.D. student for *ESOCast* Episode 149: *Fast Track Your Career with the ESO Studentship Programmes* (2017)
Web-link to the episode
- Authored a popular science article for the *Mail & Guardian* (South Africa) entitled *Power answer in black-holes?* (2015)
Web-link to the article

ADVOCACY

- Judge of a high-school debate between Cape Science Academy and Elsies River High School (2021)
- Organiser/spokesperson for the organisation *Astronomy in Colour* (2020+)
- Fundraiser for the *Astro Molo Mhlaba* project (2019+)
- Overseer of the voting process at the *ESO Open Panel Committee* meetings for proposal periods 109, 100 and 101 (2017-18)
- Organiser for monthly seminar series at the ESO known as the *Wine & Cheese Seminar* (2017-18)
- Tutor and mentor to high-school students interested in pursuing STEM careers (2011-16)

REFERENCES

Prof Dr. Russ Taylor
Advisor & Project Lead
Professor at UCT/UWC
russ@idia.ac.za

Prof. Dr. Matt Jarvis
Master's Advisor
Professor at Oxford University/UWC
matt.jarvis@physics.ox.ac.uk

Prof Dr. Jarita Holbrook
Mentor during Ph.D.
Professor at UWC
jholbrook@uwc.ac.za

Dr. Carlos de Breuck
Ph.D. Advisor
Senior Scientist at ESO
cdebreuc@eso.org

Dr. Theresa Falkendal
Research Collaborator
Head of Research & Development at Nilsson Energy AB
theresa@nilssonenergy.com

Dr. Michelle Cluver
Mentor during Master's
Swinburne University
mcluver@swin.edu.au