

# DR STHABILE KOLWA

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**LinkedIn:** <https://linkedin.com/in/sthabile-kolwa/>

**GitHub:** <https://github.com/skolwa>

## 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 meeting  
Session 2: High-z galaxies with ALMA  
Special Session 6: Diversity & Inclusion Day
- *University of Southampton Astronomy Seminar* (June 2021)  
Virtual seminar
- *South African Astronomical Observatory (SAAO)* (May 2021)  
Virtual colloquium
- *South African Radio Astronomy Observatory (SARAO)* (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) Meeting* (July 2015)  
Hazyview, South Africa
- *SKA Conference* (Dec 2014)  
Stellenbosch, South Africa

## TELESCOPE OBSERVING EXPERIENCE

- 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