Dr. Khaled Said

Contact Information

Research Fellow
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Research Interests

- Large Scale Structure and Galaxy Flows.
- Observational Cosmology.
- Photometric and Spectroscopic Surveys.
- Galaxy Formation and Evolution.

Professional Appointments

The University Of Queensland, St Lucia, Brisbane, QLD 4072, Australia

- Research Fellow in Cosmology & Gravitational Wave. **April 2024 – April 2027**
- Postdoctoral Research Fellow with Prof. Tamara Davis. **May 2020 – April 2024**

The Australian National University, Canberra ACT, Australia

- Taipan Postdoctoral Research Fellow with Prof. Matthew Colless. **July 2017 – May 2020**

Education

University of Cape Town

PhD, July 2017

- Topic: *Peculiar Flow Fields in the Zone of Avoidance*
- Adviser: Prof. Renée C. Kraan-Korteweg

M.Sc., December 2013

- Topic: *The Tully-Fisher relation and its cosmological applications*
- Adviser: Prof. Renée C. Kraan-Korteweg

B.Sc. (Honours), Decembre 2011

- Essay Topic: *Bulge and Disk Profiles of THINGS Galaxies.*
- Adviser: Prof. Erwin de Blok

Grants and Awards

- SMP Accelerator Grants Scheme, March 2024 **(6000 AUD)**
- 2017 winner of the Gruber Foundation and IAU Fellowship **(50 000 USD)**
- Science Faculty PhD Fellowship at UCT, 2014 – 2016 **(320 000 ZAR)**
- NRF Fellowship for M.Sc. at UCT, Jan 2012 – Dec 2013 **(190 000 ZAR)**
- NRF Fellowship for Honours at UCT, Jan 2011 – Dec 2011 **(95 000 ZAR)**

Postgraduate Supervision

- **Rianna Bell**: Probing Cosmology using Peculiar Velocities, University of Queensland (PhD, Ongoing)
- **Paula Boubel**: Testing gravity with the peculiar velocities of galaxies, Australian National University (PhD, Ongoing)
- **Rafif Rabbani**: Peculiar velocities from 6dFGS, SDSS, and LAMOST, Institut Teknologi Bandung (MSc, Graduated with Class I)
- **Rianna Bell**: Calibration of WISE W1 and W2 Tully-Fisher relation, University of Queensland (Honours, Graduated with Class I)
- **Swarnim Shirke**: Cosmological parameters from the 6dF galaxy survey, Australian National University (Future Research Talent at ANU, currently PhD student at the Research institute in Pune, India)

Publications

Summary: I have authored a book chapter, 27 peer-reviewed journal publications, and four conference proceedings, collectively amassing over 1000 citations, as documented by the Astrophysics Data System (ADS).

Professional Society Membership

- Junior Member of the International Astronomical Union
- Member of Astronomical Society of Australia
- Member of the DESI survey (800 members)
- Member of the WALLABY survey team (150 members)
- Member of the 4MOST Hemisphere Survey (100 members)

Committees, Administrative tasks

- Member of the SOC of the ASA Annual Science Meeting 2021
- Regular refereeing for the MNRAS
- Regular refereeing (expert/non-expert) for students theses at UQ

Observing Proposals as PI

- Over the last five years, I have been awarded more than $500,000 in observing time: 39 nights as a chief investigator on the Parkes radio telescope (Australia); 93 nights on the Nancay radio telescope (France); and 37 nights on the Japanese Near-Infrared Telescope at the South Africa Astronomical Observatory (South Africa).

Invited Talks

Summary: I have had the honor of delivering key presentations on peculiar velocities and their cosmological applications across the globe, including in Norway, Australia, the UK, the USA, South Korea, South Africa, and China. These engagements, from detailed analyses of the peculiar velocity surveys to exploring future directions in cosmology, shows my role in shaping this rapidly evolving field.

Teaching

The University of Queensland, Brisbane, Australia

- Supervisor: Data Science Capstone Project 2B (DATA7903) - *Themed project: Predicting the outcome of space missions with data science* **Semester 1, 2024**
- Lecturer: Frontiers in Astrophysics PHYS4080 - *Galaxy Surveys. BAO. Peculiar velocities. Correlation functions* **Second Semester 2020, 2021, 2022, and 2023**

The Australian National University, Canberra ACT, Australia

- Lecturer: Astronomy ASTR3002 - *Galaxies and Cosmology* **Second Semester 2019**

University of Cape Town, Rondebosch, Cape Town, South Africa

- Teaching Assistant
  - Astronomy 2002H - *Introduction to Modern Astrophysics.* **Fall 2013 & 2014**
  - Physics 1012F - *Mechanics for Engineers.* **First semester 2014, 2015 & 2016**
  - Physics 1013S - *Electromagnetism for Engineers.* **Second semester 2014, 2015 & 2016**

References

Prof. Matthew Colless (e-mail: matthew.colless@anu.edu.au)
◇ The Australian National University, Mt Stromlo Observatory, Cotter Rd, Weston Creek, ACT 2611, Australia

Prof. Tamara Davis (e-mail: tamarad@physics.uq.edu.au)
◇ The University Of Queensland, St Lucia, Brisbane, QLD 4072, Australia

Prof. Hélène M. Courtois (e-mail: helene.courtois@univ-lyon1.fr)
◇ University Lyon 1, IUF, IP2I Lyon, 69622 Villeurbanne cedex, France.