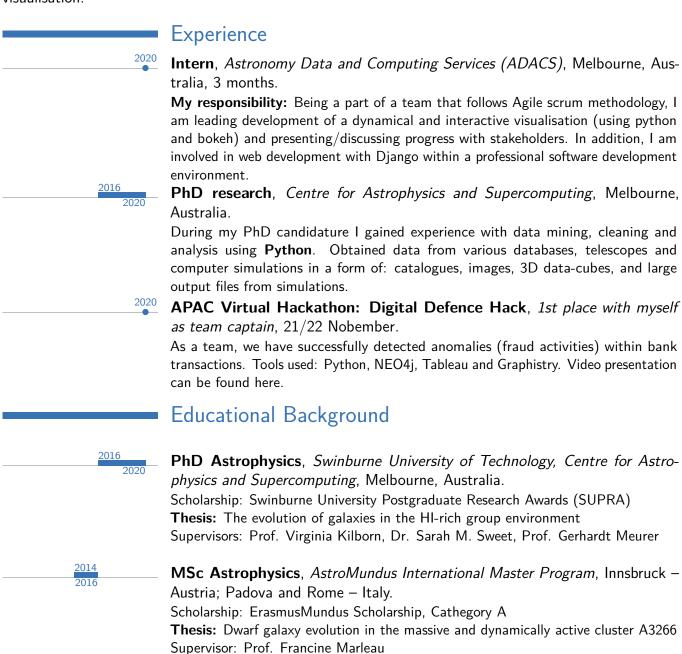
Data Scientist and PhD Astrophysicist, Melbourne - Australia rdzudzar.github.io

Dr. Robert Džudžar

in https://www.linkedin.com/in/robertdzudzar/

Data Scientist & PhD Astrophysicists, who uses scientific knowledge and skills, and applies them to day-to-day problems. I am offering 4 years of active research experience in data processing, analysis and visualisation.



BSc Physics, *University of Novi Sad, Faculty of Science, Department of Physics*, Novi Sad, Serbia.

Scientific field: Physics - Astronomy

2008

2014

Research Proposals

2020 2018 2017 2017

2017

2019

2019

Observational projects as Principal Investigator (PI)

Australia Telescope Compact Array, Awarded 223.5 hours on a shared PI project "The lords of rings: HI gas and kinematic properties of ring galaxies".

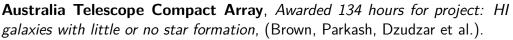
ANU 2.3m: Wide-Field Spectrograph (WiFeS), Awarded three nights to observe galaxy: HIPASSJ0400-52:S1 - observations failed due to weather.

Australia Telescope Compact Array, Awarded 87 hours to map HI content of group galaxies.

Nobeyama 45-m, Awarded 45 hours to map ¹²CO content of group galaxies..

Very Large Array, Allocated 2h of observations.





ALMA, ~14 hours for: Molecular gas in HI eXtreme galaxies, (Lutz, Brown, Catinella, Cortese, Denes, Dzudzar et al.).

Programming Project



Contributed project to National Optical Astronomy Observatory Data Lab, I developed a python script in jupyter notebook for an interactive exploration of multi-wavelength data-sets, published at https://datalab.noao. edu; the script is also available on my github.

2019

Screenplay analysis, Converting the raw screenplay from HTML to text and using **text processing** to extract, clean and analyse data. Outputs include: wordclouds, phrases, analysis of the character, episodes and seasons, sentiment analysis and interactive exploration of the characters number of lines with bokeh..

Languages

Rusyn, Serbian Native; Bilingual Proficiency

English Fluent

Spanish Basic

Great Understanding, Good Speaking

Slavic languages Basic understanding

Skills and Interests

Programming **Python** - 4yr experience

Python packages:

Matplotlib, NumPy, Pandas, APLpy, Bokeh, SciPy, Astropy

Scikit-learn, Django, Seaborn, ChainConsumer, H5py and mpi4py

Tools Tableau, Github, LATEX, Microsoft Office, Spyder, Jupyter Nobteook, Oracle

MIRIAD, CASA, SAODS9; 3DBarolo, Iraf, Source Extractor, GALFIT OzSTAR - basic experience with sbatch and modules

Interests & Strengths Data Mining, Visualisation, Data Analysis, Problem Solving, Big Data, Research Data Visualisation, Research, Image and Data Processing, Data Mining Communication, Organisation, Presentation, Team Work, Leadership Critical Thinking, Project Management

Schools, Seminars, Courses

2012 2020

Online Courses (mostly Coursera), Finished: An introduction to Interactive Programming in Python, Galaxies and Cosmology, Dark Matter in Galaxies: The Last Mystery, Computing for Data Analysis, Introduction to Computer Science and Programming, Introduction to Data Science in Python, Applied Plotting, Charting & Data Representation in Python, Fundamentals of Visualization with Tableau, Data Visualizatio nwith Tableau Specialization (5 courses), Applied Machine Learning in Python, SQL for Data Science.

2017

Radio Astronomy School, Australia Telescope Compact Array, Narrabri, Australia.

CAASTRO, Coding workshop, Swinburne University, Australia.

2019

2017

Swinburne, *Code testing workshop*, Swinburne University, Australia.

2020

ADACS, ADACS astrocomp hack week: gave a flash talk about interactive visualisation, AAO, Sydney, Australia.

Talks and Posters

2017 2017

Talk: "HI in Choir HIPASSJ2027-51", at the Swinburne workshop "From Field To Clusters: HI as a tracer of galaxy evolution, Melbourne, Australia.

Talk: "Gas-rich galaxies in the group environment", Bolton and Student Symposium at the CSIRO, Sydney, Australia.

2018

2018

Poster: "From SINGG to Choirs", KIAA, Forum on Gas in Galaxies, Beijing, China.

2019

Poster: "From SINGG to Choirs", ASA, Annual Scientific Meeting, Melbourne. Australia.

Poster: "Choirs: gas-rich galaxy groups", Australia-ESO joint conference, Sydney, Australia.

2019

2019

Poster: "Galaxy ESO156-G029", ASA, Annual Scientific Meeting, Brisbane, Australia.

Talk: 'HI-rich haloes from the Dark Sage semi-analytic model", RE-SOLVE meeting in US, Remote attendance.

Event Organization

2015

Supervisory Board, Member of the Member of the Supervisory Board of Astronomical Society of Novi Sad, Serbia.

2012	Co-founder of "Novosadska skola astronomije" , <i>School of Astronomy for general public, co-founder and lecturer</i> , Novi Sad, Serbia.
2018	LOC , Member of the Local Organizing Committee at ANITA Student School and Workshop, Melbourne, Australia.
2018	STAC , Member of the Swinburne Telescope Allocation Committee for Keck Telescope, Melbourne, Australia.
	Teaching Experience
	Teaching Assistant
2018	Discovering the Universe , Laboratory tutor - one semester in 2017. and Tutor in one semester in 2018
2019	Electronics and electromagnetism, Laboratory tutor.
2019	eScience, Laboratory tutor: Introduction to data science and R.
	Outreach
2010 2015	Educator at various Astronomy events: , Researchers' Night, Festival of Science, lecturer at Planetarium of Astronomical Society, Novi Sad, Serbia.
2018 2020	AstroTour guide, Swinburne University.
	Publications
[Džudžar et al., 2019a]	Džudžar, R., Kilborn, V., Meurer, G., Sweet, S. M., et al. (2019a). The neutral hydrogen properties of galaxies in gas-rich groups. <i>MNRAS</i> , 483:5409–5425.
[Džudžar et al., 2019b]	Džudžar, R., Kilborn, V., Murugeshan, C., Meurer, G., Sweet, S. M., and Putman, M. (2019b). Group pre-processing versus cluster ram-pressure stripping: the case of ESO156-G029. <i>MNRAS</i> , 490(1):L6–L11.
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[Džudžar et al., 2021] Džudžar, R., Kilborn, V., Sweet, S. M., Meurer, G., Jarrett, T. H., and Kleiner, D. (2021). Environmental processing of galaxies in H I-rich groups. *MNRAS*, 500(3):3689–3710.

[Li et al., 2020] Li, J., Obreschkow, D., Lagos, C., Cortese, L., Welker, C., and Džudžar, R. (2020). Angular momentum-related probe of cold gas deficiencies. *MNRAS*, 493(4):5024–5037.

[Murugeshan et al., 2019] Murugeshan, C., Kilborn, V., Obreschkow, D., Glazebrook, K., Lutz, K., Džudžar, R., and Dénes, H. (2019). Angular momentum regulates H I gas content and H I central hole size in the discs of spirals. *MNRAS*, 483:2398–2412.