

Dr. Adam B. Watts

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Employment

AUGUST 2021 - PRESENT

Postdoctoral research associate *in galaxy evolution in the local Universe*
International Centre for Radio Astronomy Research – University of Western Australia

Education

FEBRUARY 2018 - DECEMBER 2021

Doctor of Philosophy *in Astronomy and Astrophysics*
University of Western Australia

Thesis: *Constraining gas kinematics and distributions with spatially unresolved HI observations*
Supervisors: A/Prof. Barbara Catinella, Prof. Luca Cortese, Prof. Chris Power

FEBRUARY 2016 - June 2017

Master of Physics *in Astronomy and Astrophysics – with distinction*
University of Western Australia

Thesis: *Main sequence luminosity function constraints on the initial mass function from HST observations of nearby galaxies*
Supervisor: Prof. Gerhardt Meurer

FEBRUARY 2012 - NOVEMBER 2015

Bachelor of Science
University of Western Australia

Majors: *Physics & Mathematics*

Research proposals

Time awarded as PI

MeerKAT open call 2022	MKT-22034	9.2 hours allocated priority B
ESO P106	VLT/MUSE P106.21QD	8.3 hours allocated priority C - unobserved

Time awarded as Co-I

P110.244E VLT/MUSE; P109.23CB VLT/MUSE; P105.208Y VLT/MUSE

Awards

Australia-China Consortium for Astrophysical Research (ACAMAR) Virtual Workshop
Best Australian Student poster 2020

Professional associations

MAUVE survey 2022 -
GECKOS survey 2022 -
VERTICO survey 2021 -
Australian Astronomical Society 2019 -
ASTRO 3D - ARC Centre of Excellence for All-Sky Astrophysics in 3 Dimensions 2018 -

Leadership roles

Committee service

MAUVE survey executive team 2022 -
ICRAR Development, Equity & Inclusivity committee 2019 - 2020
ASTRO3D Equity, Diversity & Inclusion committee - UWA student representative 2019
ICRAR/UWA student representative 2019

Conference roles

Harley Wood School of Astronomy - LOC chair 2020
The Life and Death of Star-Forming Galaxies - LOC 2019

Conference presentations

What matters around galaxies 2022, Champoluc, Italy, 09/2022

Contributed short talk: A sub-kpc view of cold atomic and molecular hydrogen in cluster galaxies: it is not just all about stripping

Epoch of Galaxy Quenching 2022, Institute of Astronomy, Cambridge, UK, 09/2022

Contributed talk: A sub-kpc view of cold atomic and molecular hydrogen in cluster galaxies: it is not just all about stripping

ASTRO3D science meeting, online, 06/2022

Contributed talk: A sub-kpc view of cold atomic and molecular hydrogen in cluster galaxies

Australia-China Consortium for Astrophysical Research (ACAMAR) Virtual Workshop, 11/2020

E-poster: *Gas removal and the global HI asymmetry of galaxies*

Astronomical Society of Australia Annual Science Meeting, online 07/2020

Contributed talk: *The impact of environment on the dynamics of gas reservoirs in galaxies*

European Astronomical Society Annual Science Meeting, online 06/2020

E-poster: *The impact of environment on the gas reservoirs in galaxies*

Astronomical Society of Australia Annual Science Meeting, University of Queensland, Brisbane, Australia 06/2019

Poster: *The average global HI spectrum is not symmetric*

ASTRO3D science meeting, CSIRO Marsfield, NSW, Australia, 05/2019

Contributed talk: *Statistically quantifying HI profile asymmetries using xGASS*

The Life and Death of Star-Forming Galaxies, Rendezvous Scarborough, WA, Australia, 03/2019

Contributed talk: *Constraining the IMF with optical HST observations of resolved stellar populations in the outer disc of DDO 154*

12th SKA Pathfinder HI Survey Coordination Committee (PHISCC) meeting, University of Western Australia, WA, Australia, 02/2019

Contributed talk: *A statistical quantification of HI profile asymmetry as a function of galaxy properties from xGASS*

Publications

I am author on 10 publications: 7 as first author and 3 as co-author

They are listed below in reverse chronological author, split by category.

First author publications

1. **Watts, A.B.**, Cortese, L., Catinella, B., Brown, T., Wilson, C.D., Zabel, N., Roberts, I.D., Davis, T.A., Thorp, M., Chung, A., Stevens, A.R.H., Ellison, S.L., Spekkens, K., Parker, L.C., Bahé, Y.M., Villanueva, V., Jiménez-Donaire, M., Bisaria, D., Boselli, A., Bolatto, A.D., Lee, B., PASA (2023)
VERTICO V: The environmentally driven evolution of the inner cold gas discs of Virgo cluster galaxies
2. **Watts, A.B.**, Cortese, L., Catinella, B., Power, C., Fraser-McKelvie, A., Bryant, J.J., Croom, S.M., van de Sande, J., Bland-Hawthorn, J., Groves, B., MNRAS, (2023), 519, 1452
SAMI-HI: the connection between global asymmetry in the ionised and neutral atomic hydrogen gas in galaxies
3. **Watts, A.B.**, Catinella, B., Cortese, L., Power, C., and Ellison, S.L., (2021), MNRAS, 504, 1989
On the relationship between gas content, star-formation, and global HI asymmetry of galaxies on the star-forming main-sequence
4. **Watts, A.B.**, Power, C., Catinella, B., Cortese, L., and Stevens, A.R.H., (2020), MNRAS, 499, p.5205
Global HI asymmetries in IllustrisTNG: a diversity of physical processes disturb the cold gas in

galaxies

5. **Watts, A.B.**, Catinella, B., Cortese, L., and Power, C., (2020) MNRAS, 492, p.3672
xGASS: Robust quantification of asymmetries in global HI spectra and their relationship to environmental processes
6. **Watts, A.B.**, Meurer G.R., Lagos, C.D.P., Bruzzone, S.M., Kroupa, P., and Jerabkova, T., (2018), MNRAS, 477 p.5554
Star formation in the outskirts of DDO154: a top-light IMF in a nearly dormant disc
7. **Watts, A.**, and Bekki, K., (2016), MNRAS, 462, p.3114
Formation and evolution of blue compact dwarfs: the origin of their steep rotation curves

Co-author publications

1. Catinella, B., Cortese, L., **et al., incl Watts A.B.**, (2023), MNRAS, 519,1098
SAMI-HI: The HI view of the H α Tully-Fisher relation and data release
2. Villanueva, V , Bolatto, A.D., **et al., incl Watts, A.**, (2022), ApJ, 940, p.19
VERTICO. IV. Environmental Effects on the Gas Distribution and Star Formation Efficiency of Virgo Cluster Spirals
3. Bruzzone, S.M., Thilker, D.A., **et al., incl Watts, A.B.**, (2020), MNRAS, 491, p.2366
The initial mass function in the extended ultraviolet disc of M83