

Adam B. Watts

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Education

PhD

02/2018 - 08/2021

The University of Western Australia

Supervisors: A/Prof. Barbara Catinella, A/Prof. Luca Cortese, A/Prof. Chris Power

Thesis: Constraining gas kinematics and distributions with spatially unresolved HI observations

Master of Physics (Astronomy & Astrophysics) with Distinction

02/2016 - 06/2017

The University of Western Australia

Supervisor: Prof. Gerhardt Meurer

Thesis: Main sequence luminosity function constraints on the IMF from HST observations of nearby galaxies

Bachelor of Science

02/2012 - 11/2015

The University of Western Australia

Majors: Physics & Mathematics

Other research experience

Summer research student

12/2015 - 02/2016

International Centre for Radio Astronomy Research

Supervisor: A/Prof. Kenji Bekki

Project: Simulations of dwarf-dwarf galaxy mergers

Research proposals

Unveiling the drivers of disturbances in the gas reservoirs of isolated galaxies

PI: A.B. Watts

ESO P106 UT4 MUSE Successful, 8.3 hours allocated

Professional Associations

ASTRO 3D - ARC Centre of Excellence for All-Sky Astrophysics in 3 Dimensions

Australian Astronomical Society

Committee service

ICRAR Development, Equity & Inclusivity committee

2019 - 2020

Awards & data officer

Harley Wood School of Astronomy

2020

LOC chair

ASTRO3D Equity, Diversity & Inclusion committee

2019

Student representative

ICRAR/UWA student representative	2019
The Life and Death of Star-Forming Galaxies	2019
LOC member	

Outreach

Engagement with work experience students	Various, ongoing
Astrofest - Perth & regional events	2017
Astrofest - Perth	2016

Awards

<u>Best Australian Student poster</u>	11/2020
<i>Australia-China Consortium for Astrophysical Research (ACAMAR) Virtual Workshop</i>	

Conference presentations

E-poster	11/2020
<u>Gas removal and the global HI asymmetry of galaxies</u>	
<i>Australia-China Consortium for Astrophysical Research (ACAMAR) Virtual Workshop</i>	

Contributed talk	07/2020
<u>The impact of environment on the dynamics of gas reservoirs in galaxies</u>	
<i>Astronomical Society of Australia Annual Science Meeting, online</i>	

E-poster	06/2020
<u>The impact of environment on the gas reservoirs in galaxies</u>	
<i>European Astronomical Society Annual Science Meeting, virtual</i>	

Contributed poster	06/2019
<u>The average global HI spectrum is not symmetric</u>	
<i>Astronomical Society of Australia Annual Science Meeting, University of Queensland, Brisbane, Australia</i>	

Contributed talk	05/2019
<u>Statistically quantifying HI profile asymmetries using xGASS</u>	
<i>ASTRO3D science meeting, CSIRO Marsfield, NSW, Australia</i>	

Contributed talk	03/2019
<u>Constraining the IMF with optical HST observations of resolved stellar populations in the outer disc of DDO 154</u>	
<i>The Life and Death of Star-Forming Galaxies, Rendezvous Scarborough, WA, Australia</i>	

Contributed talk	02/2019
<u>A statistical quantification of HI profile asymmetry as a function of galaxy properties from xGASS</u>	
<i>12th SKA Pathfinder HI Survey Coordination Committee (PHISCC) meeting, University of Western Australia, WA, Australia</i>	

Publications

1. *On the relationship between gas content, star-formation, and global HI asymmetry of galaxies on the star-forming main-sequence*
Watts, A.B., Catinella, B., Cortese, L., Power, C., and Ellison, S.L., (2021), MNRAS, 504, p.1989-1998
2. *Global HI asymmetries in IllustrisTNG: a diversity of physical processes disturb the cold gas in galaxies*
Watts, A.B., Power, C., Catinella, B., Cortese, L., and Stevens, A.R.H., (2020), MNRAS, 499, p.5205-5219
3. *xGASS: Robust quantification of asymmetries in global HI spectra and their relationship to environmental processes*
Watts, A.B., Catinella, B., Cortese, L., and Power, C., (2020) MNRAS, 492, p.3672-3684
4. *The initial mass function in the extended ultraviolet disc of M83*
Bruzzeese, S.M., Thilker, D.A., Meurer, G.R., Bianchi, L., **Watts, A.B.**, Ferguson, A.M.N., Gil de Paz, A., Madore, B., Martin, D.C., and Rich, R.M., (2020), MNRAS, 491, p.2366-2390
5. *Star formation in the outskirts of DDO154: a top-light IMF in a nearly dormant disc*
Watts, A.B., Meurer G.R., Lagos, C.D.P., Bruzzeese, S.M., Kroupa, P., and Jerabkova, T., (2018), MNRAS, 477 p.5554-5567
6. *Formation and evolution of blue compact dwarfs: the origin of their steep rotation curves*
Watts, A., and Bekki, K., (2016), MNRAS, 462, p.3114-3324

References

Associate Professor Barbara Catinella

Relationship: PhD supervisor

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Associate Professor Luca Cortese

Relationship: PhD supervisor

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Associate Professor Chris Power

Relationship: PhD supervisor

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