

Catherine Braiding – Curriculum Vitae

Department of Physics and Astronomy
Faculty of Science
Macquarie University ~ Sydney
NSW 2109 Australia

Email: catherine.braiding@gmail.com
Tel: +61 2 9850 4476
Fax: +61 2 9850 8115

Research Interests

Star and planet formation; protostellar discs; magnetohydrodynamics; supernova remnants interacting with molecular clouds; astronomy education and outreach

Academic Qualifications

- 2011 PhD in Astrophysics, Macquarie University
Thesis Title: *Star Formation and the Hall Effect*
Supervisor: Mark Wardle
Available online at arXiv: 1110.2168
- 2004 BSc(Hons) First class honours in Physics, Macquarie University
Thesis Title: *Hydroxyl Emission from Shock Waves in Interstellar Clouds*
Supervisor: Mark Wardle

Employment

Postdoctoral Research Fellow
Department of Physics and Astronomy
Macquarie University
May 2011 – May 2012

Publications

The Hall Effect in Accretion Flows
Braiding, C. R., Wardle, M.
submitted to MNRAS, April 2012

The Hall Effect in Star Formation
Braiding, C. R., Wardle, M.
2012, MNRAS, 422:261

Fun and feedback at the press of a button
Richards, D., Braiding, C., Vaughan, A.
in the proceedings of ASCILITE 2006, Sydney University Press, 2006

Awards and Prizes

- 2009 Affiliated Participant, the Dynamics of Discs and Planets Programme,
Isaac Newton Institute for Mathematical Sciences, University of Cambridge
- 2009 Highly Commended, Macquarie University Innovation Award in Learning and Teaching
- 2005 “Most Mathematically-Engaging Talk”, Astrofest, Macquarie University

Presentations

- 2009 – 2011 Seminars, Astronomy Journal Club, Macquarie University
- 2010 Seminar, Australian Institute of Physics Postgraduate Awards,
Macquarie University Preliminary Round (placed second)
- 2010 Poster Talk, Magnetic Fields: CC2YSO, University of Western Ontario
- 2009 Poster, Disc '09, University of Cambridge

Catherine Braiding - Curriculum Vitae

- 2009 Poster and speed talk, Dynamics of Discs and Planets Workshop, Isaac Newton Institute, University of Cambridge
- 2009 Poster, IAU XXVII General Assembly, Brazil
- 2007 Poster, Astronomical Society of Australia Annual Scientific Meeting, Macquarie University
- 2005 – 2007 Seminars, Star Formation Group, Macquarie University
- 2006 Talk, ASCILITE 2006, University of Sydney
- 2006 Poster, Astronomical Society of Australia Annual Scientific Meeting, University of New South Wales
- 2005 Poster, Protostars and Planets V, Hawai'i
- 2005 Poster, Wilhelm und Else Heraeus Physics School
- 2005 Talk, Astrofest 2005, Macquarie University
- 2005 Poster, Kobe International School of Planetary Sciences
- 2005 Poster, Astronomical Society of Australia Annual Scientific Meeting, University of Sydney
- 2004 Poster, Astronomical Society of Australia Annual Scientific Meeting, University of Queensland
- 2003 Honours Talk, Macquarie University

Conferences and Workshops Attended

- 2012 Australian Exoplanets Workshop, Macquarie University
- 2011 Early Career Researchers@MQ, Macquarie University
Academic Integrity Symposium, Macquarie University
Women in Astronomy, CASS
- 2010 Magnetic Fields: Core Collapse 2 Young Stellar Objects, University of Western Ontario
- 2009 The Dynamics of Discs and Planets Programme, Isaac Newton Institute, University of Cambridge
(August - October)
DDP Workshop 2: Planetesimal Formation, Isaac Newton Institute, University of Cambridge
Disc '09: Angular Momentum Transport and Energy Release in Accretion Discs, Institute of Astronomy, University of Cambridge
DDP Workshop 1: Dynamics of Discs and Planets, Isaac Newton Institute, University of Cambridge
IAU XXVII General Assembly, Rio de Janeiro
- 2007 Extragalactic and Intergalactic Magnetic Fields Workshop, ATNF
Astronomical Society of Australia Annual Scientific Meeting, Macquarie University
Harley Wood Winter School, Cessnock
Aus-VO Summer School, University of Sydney
- 2006 ASCILITE 2006: Who's Learning? Whose Technology? University of Sydney
Astronomical Society of Australia Annual Scientific Meeting, Australian Defence Force Academy, University of New South Wales
Harley Wood Winter School, Bateman's Bay
Future Directions for Millimetre Astronomy in the Southern Hemisphere
- 2005 Protostars and Planets V, Hawai'i
Wilhelm und Else Heraeus Physics School 2005 – Extrasolar Planetary Systems, Physikzentrum Bad Honnef, Germany
Astrofest, Macquarie University.
Kobe International School of Planetary Sciences 2005 – Origin of Planetary Systems, Japan
Astronomical Society of Australia Annual Scientific Meeting, University of Sydney
Harley Wood Winter School, the Entrance
Workshop on Simulating the Dynamics of Galaxies and the ISM, ATNF
Australian Partnership for Advanced Computing Summer School, Australian National University
- 2004 Astronomical Society of Australia Annual Scientific Meeting, University of Queensland
Harley Wood Winter School, Coolangatta

Professional Service

- 2012 – Member, Astronomical Society of Australia
- 2007 Local Organising Committee, Astronomical Society of Australia Annual Scientific Meeting
Local Organising Committee, Harley Wood Winter School
- 2006 Scientific Organising Committee, Harley Wood Winter School
- 2004 – 2011 Student Member, Astronomical Society of Australia

Observing Runs

- 2006/10 4 days, Australia Telescope Compact Array, planetary nebulae observations
- 2006/9 2 nights, Parkes Telescope, Search for 6 GHz OH masers in supernova remnants

University Service

- 2010 Speaker, High School Science Experience
- 2009 Speaker, Women in Science evening
- 2008 – 2009 Web manager, *Deep Space in the Classroom* Project
- 2008 – 2010 Automarker, Macquarie University and Sydney Institute of Business and Technology
- 2006 – 2010 Assistant, Foundation for Astronomy
- 2006 – 2009 Managed the Astronomy Group website
- 2006 – 2008 Teaching Assistant, Keypad System, Physics and Computing Departments
- 2004 – 2008, 2010 Planetarium and telescope presentations, Macquarie University Open Days

Teaching

- | | | |
|-------------------|--|---------------------------------------|
| 2010 | ASTR 170 Introductory Astronomy | marking |
| 2006 – 2007, 2010 | PHYS 149 Physics for Technology | laboratory supervisor |
| 2010 | MATH 123 Mathematics 123 | marking |
| 2009 | PHYS 201 Physics IIA | laboratory supervisor |
| 2009 | MATH 132 Mathematics 1A (Advanced) | marking |
| 2008 – 2009 | PHYS 270 Astronomy | observatory supervisor |
| 2008 | PHYS 159 Concepts in the Physical Sciences | marking |
| 2008 | PHYS 178 Other Worlds: Planets | observatory supervisor |
| 2007 – 2008 | MATH 135 Mathematics 1A | marking |
| 2004 – 2008 | HLTH 204 Radiographic Physics and Protection | laboratory supervisor |
| 2006 – 2007 | PHYS 270 Astronomy | 3 lectures and observatory supervisor |
| 2005 – 2007 | PHYS 159 Concepts in the Physical Sciences | laboratory supervisor |
| 2005 – 2006 | MATH 130 Mathematics 1E | marking |
| 2004 – 2005 | PHYS 140 Physics IA | laboratory supervisor |
| 2004 | PHYS 143 Physics IB | laboratory supervisor |
| 2003 | PHYS 149 Physics for Technology | laboratory demonstrator |
| 2003 | PHYS 159 Concepts in the Physical Sciences | laboratory demonstrator |
| 2001 | PHYS 277 Astronomy | laboratory demonstrator |

Private Tutoring

- 2007 PHYS 301 Electromagnetism and Quantum Physics
- PHYS 377 Astrophysics I
- PHYS 378 Cosmology and General Relativity
- PHYS 303 Atomic and Solid-State Physics
- 2006 PHYS 202 Physics IIB
- 2005 PHYS 159 Concepts in the Physical Sciences
- PHYS 201 Physics IIA
- 2001 MATH 136 Mathematics IB

Outreach Activities

- 2012 Author, "What would you like to discover today?", *Science Illustrated*, March/April, 2012
(<http://plus.google.com/109135507272171705686/posts/Zo3cPV2Fw9k>)
- Author, "Where do baby stars come from?", *Science Illustrated* blog:
(<http://scienceillustrated.com.au/blog/science/where-do-baby-stars-come-from/>)
- 2011 Scientist, Speed Meet a Scientist, Australian Broadcasting Corporation
- 2008 Invited Speaker, Birrong Girls High School Presentation Ceremony
- 2007 Activity Leader, Veronica James Science Challenge for Hearing Impaired Children
- 2006 – 2010 Assistant Organiser, Astronomy Open Night, Macquarie University
- 2006 – 2008 Assistant Organiser, School of Astronomy, Macquarie University
- 2006 Transit of Mercury viewing, Macquarie University
- 2006 Demonstrator, Science and Engineering Challenge
- 2004 Transit of Venus viewing, Macquarie University
- 2003 Opposition of Mars viewing, Macquarie University
- 2003 – Volunteer, Astronomy Open Nights, Macquarie University
- 2003 – Presenter, Macquarie University Planetarium (shows for primary and high school students)
- 2002 – 2003 Volunteer, Powerhouse Museum
- 2002 – Demonstrator, Macquarie University Observatory

Catherine Braiding - Curriculum Vitae

Referees

Professor Mark Wardle
Department of Physics and Astronomy
Faculty of Science
Macquarie University ~ Sydney
NSW 2109 Australia

Email: mark.wardle@mq.edu.au
Tel: +61 2 9850 8909
Fax: +61 2 9850 8115

Dr Birendra Pandey
Department of Physics and Astronomy
Faculty of Science
Macquarie University ~ Sydney
NSW 2109 Australia

Email: birendra.pandey@mq.edu.au
Tel: +61 2 9850 8933
Fax: +61 2 9850 8115

Dr Raquel Salmeron
Research School of Astronomy and Astrophysics
Australian National University
Mount Stromlo Observatory, Cotter Road
Weston Creek ACT 2611 Australia

Email: raquel@mso.anu.edu.au
Tel: +61 2 6125 8902
Fax: +61 2 6125 0233