

# DR. TOBY BROWN

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Department of Physics & Astronomy, McMaster University, Hamilton, Canada

## EMPLOYMENT

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### **Post Doctoral Fellow, Astrophysics**

October 2017 - present

*McMaster University*

*Hamilton, Canada*

- Devising, leading and completing successful scientific research projects
- Supervising PhD and undergraduate students in astrophysics and data science
- Speaking at international conferences, research institutions and public lectures
- Successfully pursuing funding, managing research budgets and resources
- Collaborating with experts to form productive research partnerships
- Advanced data science and software development (primarily Python)
- 12 publications in world-leading academic journals

## EDUCATION

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### **Business Administration with Management**

May 2018 - Present

*McMaster University CCE*

*Hamilton, Canada*

- Continued education to ensure a strong foundation in business competencies, including finance, operations and general management
- Key modules: Business Foundations, Business Strategy, Organizational Behaviour

### **Doctor of Philosophy (Ph.D.), Astrophysics**

October 2013 - August 2017

*Swinburne University of Technology*

*Melbourne, Australia*

- Awarded a competitive stipend of ~\$280,000 AUD to fund my research
- Leading long-term, collaborative research projects in astrophysics
- Thesis nominated for the International Astronomical Union's best PhD prize
- Taught undergraduate Quantum Mechanics and Electromagnetism classes
- Split PhD with final 2 years at the University of Western Australia

### **Astrophysics MPhys, Hons**

September 2009 - June 2013

*University of Liverpool & Liverpool John Moores University*

*Liverpool, UK*

- Received an Upper Second Class (2:1)
- Science Editor at Liverpool Student Media, coordinating a team of student journalists

## LEADERSHIP AND VOLUNTARY ROLES

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### **Women in Astronomy WG**

November 2018 - present

*International Astronomical Union*

- Report on the status of gender equality in astronomy and recommend future actions that will improve the environment for all astronomers

**Bargaining Team Member** October 2018 - present  
*Canadian Union of Public Employees - Local 3906* *Hamilton, Canada*

- Elected to represent union members at the bargaining table with university leadership
- Negotiate and ratify collective agreement with employer

**Field Director** 2018 - present  
*Municipal Council Election Campaign* *Hamilton*

- Developing and delivering campaign messaging through voter contact
- Leading foot, phone and digital platform canvassing strategies
- Managing campaign's data analytics

**PhD Supervisor** 2017 - present  
*Dept. Physics & Astronomy, & MacDATA Centre* *McMaster University*

- Primary supervisor of McMaster's MacDATA Graduate (PhD level) Fellow
- Won a grant to pay for my student's 8 month astronomy-data science collaboration

**Senior Field Organiser** 2018  
*Ontario New Democratic Party* *Hamilton Centre*

- Organised teams of foot canvassers for ONDP leader, Andrea Horwath's successful re-election campaign.
- Managed the campaign's *get out the vote* phase and data analytics, reporting directly to the Campaign Manager to inform strategic decision making

**Steering Committee Member** 2016 - 2017  
*Early Career Researcher Chapter* *Astronomical Society of Australia*

- Oversaw and reviewed policies for the Astronomical Society of Australia chapter
- Advocated for and represented early career astronomers in Australia

**Undergraduate Supervisor** 2014 - 2017  
*Swinburne University & McMaster University* *Melbourne & Hamilton*

- Supervised astrophysics project-based learning for eight McMaster students
- Supervised four Swinburne University animation student projects

## **PUBLIC SPEAKING AND COMMUNICATION**

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**Award-winning public talks** 2016 - present

- Speaking to audiences of 700+, including the March for Science, the British Council's Famelab Australia Final, British live event series Cosmic Shambles

**Media coverage** 2016 - present

- Providing comment on STEM issues for local and national media, including The Conversation, ABC Radio National, ABC 720 Perth, ABC Melbourne

**Media commentary** 2016 - present

- Stories on my research have been featured in Scientific American, News.com.au, The Daily Telegraph, Space.com, Gizmodo, IFL Science, among others