Ian D. Roberts **Ph.D. Candidate**

Contact information

Dept. of Physics & Astronomy
ABB-241, McMaster University, 1280 Main St W
Hamilton ON, L8S 4M1

roberid@mcmaster.ca
+1 905 525 9140 ext. 26219

Education

McMaster University, Hamilton, ON
Ph.D., Astronomy, expected 2020
Supervised by Laura Parker

McMaster University, Hamilton, ON
M.Sc., Astronomy, 2016
Thesis: *Galaxy properties across diverse halo environments*
Supervised by Laura Parker

Mount Allison University, Sackville, NB
B.Sc. first class honours with distinction, Physics, 2014
Thesis: *Simulation of double-peaked meteor light curves*
Supervised by Robert Hawkes

Teaching experience

2015 - present: Head teaching assistant, *Introductory Physics*	McMaster University
2015 - 2016: Teaching assistant, *Waves, Electricity and Magnetic Fields*	McMaster University
2014 - 2015: Teaching assistant, *Big Questions*	McMaster University
2014: Teaching assistant, *Introductory Mechanics*	McMaster University
2012 - 2014: Teaching assistant, *Stars, Galaxies and the Universe*	Mount Allison University
2012 - 2013: Teaching assistant, *Solar System Astronomy*	Mount Allison University
2011: Teaching assistant, *General Physics I*	Mount Allison University

Supervisory experience

Research supervisor for Shaojin Huang a visiting senior undergraduate student. Shaojin worked on a project studying the properties of galaxies in between close galaxy cluster pairs.	McMaster University

Outreach

Manager: William J McCallion Planetarium	2016 - present
Member: McMaster Sidewalk Astronomy	2015 - present
Presenter: William J McCallion Planetarium	2014 - present
Volunteer: McMaster Engineering and Science Olympics	2014, 2015, 2016
Presenter: McMaster Origins Institute 3D Theatre	2015 - 2016
Student assistant: Mount Allison Gemini Observatory	2012 - 2014

Scholarships and awards

Ontario Graduate Scholarship - Doctoral	$15000
NSERC Postgraduate Scholarship - Doctoral (3 yr)	$105000
Ontario Graduate Scholarship - Masters	$15000
NSERC Postgraduate Scholarship - Masters	$17500
McMaster University Graduate Scholarship	$2500
McMaster University Entrance Scholarship	$3000
2nd place Undergraduate Research Award, Atlantic Undergraduate Physics & Astronomy conference	
2nd place Astrophysics Award, Canadian Undergraduate Physics conference	
Marjorie Young Bell Summer Research Grant	$6250

	Mount Allison University Entrance Scholarship	$8000
	NSGA Murray Purcell Bursary Award	$2000

Academic activities

Referee for *Monthly Notices of the Royal Astronomical Society*

Refereed publications

8. **Roberts I.D.**, Parker L.C., *"Observing" unrelaxed clusters in dark matter simulations*, 2019, MNRAS, submitted.

7. Demers M.L., Parker L.C., **Roberts I.D.**, *Smaller stellar disc scale lengths in rich environments*, 2019, MNRAS.

6. **Roberts I.D.**, Parker L.C., Brown T., Joshi G.D., Hlavacek-Larrondo J., Wadsley J., *Quenching low-mass satellite galaxies: evidence for a threshold ICM density*, 2019, ApJ, 873, 42.

5. Evans, F.A., Parker L.C., **Roberts I.D.**, *Red Misfits in the Sloan Digital Sky Survey: Properties of Star-Forming Red Galaxies*, 2018, MNRAS, 476, 5284.

4. **Roberts I.D.**, Parker L.C., Hlavacek-Larrondo J., *Connecting optical and X-ray tracers of galaxy cluster relaxation*, 2018, MNRAS, 475, 4704.

3. **Roberts I.D.**, Parker L.C., *Evidence of pre-processing and a dependence on dynamical state for low-mass satellite galaxies*, 2017, MNRAS, 467, 3268.

2. **Roberts I.D.**, Parker L.C., Karunakaran A., *Comparing galaxy morphology and star-formation properties in X-ray bright and faint groups and clusters*, 2016, MNRAS, 455, 3628.

1. **Roberts I.D.**, Parker L.C., Joshi G.D., Evans F.A., *Mass segregation trends in SDSS galaxy groups*, 2015, MNRAS, 448, L1.

In proceedings

1. **Roberts I.D.**, Hawkes R.L., Weryk R.J., Campbell-Brown M.D., Brown P.G., Stokan E., Subasinghe D., *Meteoroid structure and ablation implications from multiple maxima meteor light curves*, 2014, Proceedings of the Meteoroids Conference, ed: Jopek T.J., Rietmeijer F., Watanabe J., Williams I.P., 155.

Observing programs

PI, Roberts I.D., Parker L.C., Hlavacek-Larrondo J., Edwards L.O.V., Gemini semester 2018A, GN-2018A-Q-211, 13.5 hr, *Mapping central emission in cool-core groups.*

PI, Roberts I.D., Parker L.C., Hlavacek-Larrondo J., Edwards L.O.V., Gemini semester 2019A, GN-2019A-Q-311, 18.0 hr, *Mapping central emission in cool-core groups.*

Contributed talks

7. **Roberts I.D.**, Parker L.C., Brown T., Joshi G., Hlavacek-Larrondo J., Wadsley J., *Quenching low-mass satellite galaxies: evidence for a threshold ICM density*, 2019, Meeting of the Canadian Astronomical Society, Montreal, Canada.

6. **Roberts I.D.**, Parker L.C., Hlavacek-Larrondo J., Brown T., Joshi G., Wadsley J., *Insights into cluster relaxation and galaxy quenching from X-ray obs. (at low-z)*, 2018, GOGREEN collaboration meeting, Waterloo, Canada.

5. **Roberts I.D.**, Parker L.C., Hlavacek-Larrondo J., *Connecting optical and X-ray tracers of galaxy cluster relaxation*, 2018, Glenfiddling Galaxy Clusters workshop, Edinburgh, Scotland.

4. **Roberts I.D.**, Parker L.C., *A product of their Halo Environment: How galaxy properties depend on group X-ray luminosity and dynamical state*, 2016, Annual Meeting of the Canadian Astronomical Society, Winnipeg, Canada.

3. **Roberts I.D.**, Hawkes R.L., *Simulating double peaked meteor light curves*, 2014, Atlantic Undergraduate Physics and Astronomy Conference, Halifax, Canada.

2. **Roberts I.D.**, Hawkes R.L., *Simulating double peaked meteor light curves*, 2013, Canadian Undergraduate Physics Conference, Hamilton, Canada.

1. Hawkes R.L., **Roberts I.D.**, Weryk R.J., Campbell-Brown M.D., Brown P.G., Stokan E., *Implications for meteoroid structure and ablation from multiple maxima meteor light curves*, 2013, International Meteor Conference, Poznan, Poland.

Conference posters

7. **Roberts I.D.**, Parker L.C., Brown T., Joshi G., Hlavacek-Larrondo J., Wadsley J., *Quenching low-mass satellite galaxies: evidence for a threshold ICM density*, 2018, Meeting of the Canadian Astronomical Society, Victoria, Canada.

6. **Roberts I.D.**, Parker L.C., *The dependence of galaxy properties on group X-ray luminosity and dynamics*, 2017, Galaxy Evolution Across Time, Paris, France.

5. **Roberts I.D.**, Parker L.C., *How galaxy properties depend on group X-ray luminosity and dynamical state*, 2016, CAASTRO: The Changing Face of Galaxies, Hobart, Tasmania.

4. **Roberts I.D.**, Parker L.C., *How galaxy properties depend on group X-ray luminosity and dynamical state*, 2016, Great Lakes Cosmology Workshop, Hamilton, Canada.

3. **Roberts I.D.**, Parker L.C., *Effects of X-ray luminosity on galaxy star formation and morphology in SDSS groups and clusters*, 2015, Meeting of the Canadian Astronomical Society, Hamilton, Canada.

2. **Roberts I.D.**, Parker L.C., Joshi G.D., Evans F.A., *Mass-segregation trends in SDSS galaxy groups*, 2015, Meeting of the Canadian Astronomical Society, Hamilton, Canada.

1. **Roberts I.D.**, Gamblin T.V., Hawkes R.L., Ehrman J.M., *Laser Ablation Techniques for Simulation of Hypervelocity Impact on Materials Relevant to the Space Industry*, 2012, IRM 10^{th} Anniversary Symposium, The Future of Materials Research, Halifax, Canada.