

Traci Lin Johnson – Graduate Student

University of Michigan Department of Astronomy
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- EDUCATION** **Ph.D. Astrophysics**, University of Michigan, Ann Arbor, Michigan, Fall 2012-April 2018.
B.A. Physics, Carleton College, Northfield, Minnesota, June 2012. *Magna Cum Laude*
- RESEARCH EXPERIENCE** **Graduate Student Research**, University of Michigan, Ann Arbor, MI, 2012-present
– Advisor: Dr. Keren Sharon
NSF REU student, National Radio Astronomy Observatory, Socorro, NM, 2011/2012
– Advisor: Dr. Michael Rupen, Dr. Amy Mioduszkeski, Dr. Miriam Krauss
Independent study in research, Carleton College, Northfield, MN, 2009-2010
– Advisor: Dr. Cindy Blaha
- TEACHING & OUTREACH EXPERIENCE** **Visiting Instructor**, Carleton College, Winter 2015: Astronomy 110
Graduate Student Instructor, University of Michigan, 2013: Astronomy 101 and 102
Grader/Tutor/Lab Assistant, Carleton College Dept. of Physics & Astronomy, 2009-12
Assistant for FEMMES (Females Excelling More in Math and Science), Fall 2012/13/14
Organized YASE (Young Astronomers Summer Experience), Summer 2011
Assistant for YASE, Summer 2010
Volunteer at monthly Goodsell Observatory Open Houses, 2009-2012
- AWARDS AND HONORS** **Certificate of Attendance**, 15th NRAO Imaging Synthesis Workshop, 2016
Certificate of Attendance, Penn State Astrostatistics Summer School, 2014
Distinction in Physics and Senior Integrative Exercise, Carleton College, 2012
Sigma Xi, Carleton College Chapter, 2012
Varsity Captain, Carleton College Women’s Golf Team, Fall 2011-Spring 2012
Mike Ewers Award, Carleton College, 2011
Clare Boothe Luce Research Scholarship, Carleton College, 2010
All-American Scholar (3), National Golf Coaches Association, 2009, 2010, 2011
- SERVICE** **Admissions Committee Member**: University of Michigan, Jan-Feb 2018
Graduate Student Mentor: University of Michigan, 2016-present
Michigan Internal TAC: Magellan and MDM facilities, 3 semesters (2016A-2017A)
Referee: *Monthly Notices of the Royal Astronomical Society Letters*
- TALKS AND POSTERS** **Dissertation talk**: 231st AAS Meeting, Washington D.C., Jan. 2018.
Contributed talk: Magellan Science Symposium, Carnegie Institute of Science, Washington D.C., Dec. 2016.
Poster: COSMOS 2016, University of Michigan, Ann Arbor, MI. Aug. 2016.
Contributed talk: Great Lakes Cosmology Workshop, Hamilton, Ontario, Jun. 2016
Contributed talk: Frontier Fields Focus Meeting, IAU XXIX GA, Honolulu, Aug. 2015.
Invited talk: Science of the Frontier Fields Conference, Sesto, Italy, Feb. 2015
Invited talk: Lens modeling session, Frontier Fields Workshop, Yale Univ., Nov. 2014
Contributed talk: Future Directions in Galaxy Cluster Surveys, Paris, June 2014
Talk: Physics Graduate Student Symposium, University of Michigan, June 2014
Poster: Cluster Lensing: Peering into the Past, Planning for the Future, STScI, April 2013
Poster: 219th AAS Meeting, Austin, TX, January 2012

OBSERVING EXPERIENCE	<p>Magellan telescopes, Las Campanas Observatory, Chile (10 visits, 29 nights) 2.4-m Hiltner telescope, MDM Observatory, Kitt Peak, Arizona (4 nights)</p>
SUCCESSFUL GRANTS AND PROPOSALS	<p>Co-I: Magellan/LDSS3-C proposals (3), 2016A-2017A “Follow-up spectroscopy of giant arcs in strong lensing South Pole Telescope clusters”, 5 nights Co-I: Magellan/LDSS3-C proposals (2), 2016B & 2017A “Reionization with Lensing Clusters (RELICS): Spectroscopic followup of lensed galaxies”, 2 nights PI: Gemini North GMOS Fast Turnaround proposal, 2015A, “Resolving star forming clumps in a lensed $z = 2.5$ galaxy: supporting ground-based spectroscopy of secondary arcs in the field of SGAS 1110”, 4.5 hours Co-I: Magellan/IMACS proposal, 2015A, “Follow-up spectroscopy of giant arcs in strong lensing South Pole Telescope clusters”, 5 nights Co-I: Magellan/IMACS/FourStar proposal, 2014B, “Mapping the ISM conditions in a $z = 2.4$ lensed galaxy at 200 pc resolution’ supporting imaging for SED fitting and lens modeling”, 50% of 2 nights Co-I: Magellan/MagE proposal, 2014A, “Detailed spectroscopic study of highly magnified, bright, lensed galaxies with MagE”, 2 nights Co-I: HST Cycle 22 proposal GO-13639, “Resolving Lyman-alpha Emission on Physical scales < 270 pc at $z > 4$”, 15 orbits Co-I: Gemini/GMOS proposal, 2014A, “Resolving the Star Formation in Distant Galaxies’ supporting ground-based spectroscopy for a large HST program”, 30 hours queue-mode Co-I: Magellan/IMACS proposal, 2014A, “Resolving the Star Formation in Distant Galaxies’ supporting ground-based spectroscopy for a large HST program, 3 nights Co-I: HST Frontier Fields Modeling Grant NAS5-26555, 2013 (\$38K) Rackham Research Grant, Doctoral Candidate Award, University of Michigan, 2016 (\$2050) IAU Travel Grant, IAU, 2015 (\$750) Rackham Travel Grant (3), University of Michigan, 2014-2015 (\$3080 total) Rackham Research Grant, Doctoral Precandidate Award, University of Michigan, 2014 (\$1500)</p>
REFEREED JOURNAL PUBLICATIONS	<p>16 total, 4 first author</p> <ol style="list-style-type: none"> 16. Johnson, T. L., J. R. Rigby, K. Sharon, M. D. Gladders, M. Florian, M. B. Bayliss, E. Wuyts, K. E. Whitaker, R. Livermore, K. T. Murray, 2017, “Star Formation on 30 parsec scales in a lensed galaxy at redshift 2.48”, <i>ApJL</i>, 843, 21. 15. Rigby, J. R., T. L. Johnson, K. Sharon, K. E. Whitaker, M. D. Gladders, M. Florian, J. Lotz, 2017, “Star formation at $z=2.481$ in the lensed galaxy SDSS J1110+6459, II: What is missed at the normal resolution of the Hubble Space Telescope?” <i>ApJ</i>, 843, 79. 14. Johnson, T. L., K. Sharon, M. D. Gladders, J. R. Rigby, M. B. Bayliss, E. Wuyts, K. E. Whitaker, M. Florian, K. T. Murray, 2017, “Star formation at $z=2.481$ in the lensed galaxy SDSS J1110+6459, I: Lens Modeling and Source Reconstruction,” <i>ApJ</i>, 843, 78. 13. Sharon, K., M. B. Bayliss, H. Dahle, M. K. Florian, M. D. Gladders, T. L. Johnson, R. Paterno-Mahler, J. R. Rigby, K. E. Whitaker, E. Wuyts. 2017, “Lens Model and Time Delay Predictions for the Sextuply Lensed Quasar SDSS J2222+2745”, <i>ApJ</i>, 835, 5. 12. Johnson, T. L. & Sharon, K. 2016, “The systematics of strong lens modeling

quantified: the effects of constraint selection and redshift information on magnification, mass, and multiple image predictability”, *ApJ*, 832, 82.

11. Meneghetti, M. + 22 others (**Johnson, T. L.** included) 2016, “The Frontier Fields Lens Modeling Comparison Project”, arXiv eprints:1606.04548, submitted to MNRAS.
10. Rigby, J. R.; Bayliss, M. B.; Gladders, M. D.; Sharon, K.; Wuyts, E.; Dahle, H.; **Johnson, T.**; Pea-Guerrero, M. “CIII] emission in star-forming galaxies near and far. 2015, *ApJ*, 814, 6.
9. Treu, T. + 27 others (**Johnson, T. L.** included) 2015, ““Refsdal” meets Popper: comparing predictions of the re-appearance of the multiply imaged supernova behind MACSJ1149.5+2223”, *ApJ*, 817, 60.
8. Rodney, S. A. + 29 others (**Johnson, T. L.** included) 2015, “Illuminating a Dark Lens : A Type Ia Supernova Magnified by the Frontier Fields Galaxy Cluster Abell 2744”, *ApJ*, 811, 70
7. Bayliss, M. B., Sharon, K. & **Johnson, T. L.** 2014, “Quantifying the Impact of Cosmological Parameter Uncertainties on Strong Lensing Models With an Eye Toward the Frontier Fields”, *ApJL*, 802, 8
6. Sharon, K., & **Johnson, T. L.** 2015, “Revised Lens Model for the Multiply-Imaged Lensed Supernova, ‘SN Refsdal’, in MACS J1149+2223”, *ApJL*, 800, 26
5. **Johnson, T. L.**, Sharon, K., Bayliss, M. B., Gladders, M. D., Coe, D., Ebeling, H. 2014, “Lens Models and Magnification Maps of the Six Hubble Frontier Fields Clusters”, *ApJ*, 797, 48
4. Sharon, K., Gladders, M. D., Rigby, J. R., Wuyts, E., Bayliss, M. B., **Johnson, T. L.**, Florian, M. K., Dahle, H. 2014, “The Mass Distribution of the Strong Lensing Cluster SDSS J1531+3414”, *ApJ*, 795, 50
3. Bayliss, M. B., Rigby, J. R., Sharon, K., Wuyts, E., Florian, M., Gladders, M. D., **Johnson, T.**, Oguri, M. 2014, “The Physical Conditions, Metallicity and Metal Abundance Ratios in a Highly Magnified Galaxy at $z = 3.625$ ”, *ApJ*, 790, 144
2. Bayliss, M. B., **Johnson, T.**, Gladders, M. D., Sharon, K., & Oguri, M. 2014, “Line-of-sight Structure toward Strong Lensing Galaxy Clusters”, *ApJ*, 783, 41
1. Roy, N., Chomiuk, L., Sokoloski, J. L., Weston, J., Rupen, M. P., **Johnson, T.**, Krauss, M. I., Nelson, T., Mukai, K., Mioduszewski, A., Bode, M. F. , Eyres, S. P. S., O’Brien, T. J. 2012, “Radio studies of novae: a current status report and highlights of new results”, *Bulletin of the Astronomical Society of India*, 40, 293