

Marie Wingyee Lau

PERSONAL AND CONTACT INFO	Emails: lwymarie@ucolick.org, lwymarie@gmail.com Address: Dept of Astronomy, University of California, Santa Cruz, CA 95064 Homepage: http://www.ucolick.org/~lwymarie Languages: IDL, Python, Mathematica, English, Chinese Citizenship: Hong Kong SAR
RESEARCH INTERESTS	Circumgalactic medium, quasars, galaxy formation, quasar absorption lines, tidal disruption events, stellar abundances
EDUCATION	University of California, Santa Cruz , 2012 - Present <ul style="list-style-type: none">• Ph.D. Astronomy in progress• Thesis advisor: Prof. J. Xavier Prochaska• M.S. 2015 The Chinese University of Hong Kong , 2008 - 2012 <ul style="list-style-type: none">• B.S. Physics, with honors University of California, Santa Barbara , Winter - Spring 2011 <ul style="list-style-type: none">• Educational Abroad Program Reciprocity University of California, Berkeley , Summer 2009 <ul style="list-style-type: none">• Summer Sessions
HONORS AND AWARDS	<ul style="list-style-type: none">• NEXSI Fellowship, UC Santa Cruz, 2012• Regents' Fellowship, UC Santa Cruz, 2012• Student speech representative of the United College scholarship presentation ceremony, The Chinese University of Hong Kong, 2012• 8 scholarships totaling the full tuition, The Chinese University of Hong Kong, 2008 - 2012• Summer Undergraduate Research Fellowship, California Institute of Technology, 2011
TELESCOPE PROPOSALS AND OBSERVING	<ul style="list-style-type: none">• Principal Investigator on 4 successful Lick/Shane proposals, 2015 - 2017• Co-Investigator on many successful Lick/Shane proposals, Keck proposals, and ALMA proposals• Lead observer of ~ 50 nights on medium and large telescopes
PUBLICATIONS	<ul style="list-style-type: none">• Lau, M. W., Prochaska, J. X., & Hennawi, J. F., <i>Quasars Probing Quasars. IX. The Kinematics Of the Circumgalactic Medium Surrounding $z \sim 2$ Quasars</i>, submitted to The Astrophysical Journal, arXiv:• Mathur, S., et al. including Lau, M. W., <i>Space Telescope and Optical Reverberation Mapping Project. VII. Understanding the UV anomaly in NGC 5548 with X-Ray Spectroscopy</i>, submitted to The Astrophysical Journal, arXiv:1704.06345• Pei, L, et al. including Lau, M. W., <i>Space Telescope and Optical Reverberation Mapping Project. V. Optical Spectroscopic campaign and Emission-line Analysis for NGC 5548</i>, The Astrophysical Journal, Volume 837, Issue 2, article id. 131 (2017)• Lau, M. W., Prochaska, J. X., & Hennawi, J. F., <i>Quasars Probing Quasars. VIII. The Physical Properties of the Cool Circumgalactic Medium Surrounding $z \sim 2-3$ Massive Galaxies Hosting Quasars</i>, The Astrophysical Journal Supplement Series, Volume 226, Issue 2, article id. 25 (2016)• Cai, Z., Fan, X., Peirani, S., Bian, F., Frye, B., McGreer, I., Prochaska, J. X., Lau, M. W., Tejos, N., Ho, S., & Schneider, D. P., <i>MApping the Most Massive</i>

Overdensities Through Hydrogen (MAMMOTH) I: Methodology, The Astrophysical Journal, Volume 833, Issue 2, article id. 135 (2016)

- Rubin, K. H. R., Hennawi, J. F., Prochaska, J. X., Simcoe, R. A., Myers, A., & **Lau, M. W.**, *Dissecting the Gaseous Halos of $z \sim 2$ Damped Ly α Systems with Close Quasar Pairs*, The Astrophysical Journal, Volume 808, Issue 1, article id. 38 (2015)
- Prochaska, J. X., **Lau, M. W.**, & Hennawi, J. F., *Quasars Probing Quasars. VII. The Pinnacle of the Cool Circumgalactic medium Surrounds Massive $z \sim 2$ Galaxies*, The Astrophysical Journal, Volume 796, Issue 2, article id. 140 (2014)
- Prochaska, J. X., Hennawi, J. F., Lee, K.-G., Cantalupo, S., Bovy, J., Djorgovski, S. G., Ellison, S. L., **Lau, M. W.**, Martin, C. L., Myers, A., Rubin, K. H. R., % Simcoe, R. A., *Quasars Probing Quasars. VI. Excess HI Absorption within One Proper Mpc of $z \sim 2$ Quasars*, The Astrophysical Journal, Volume 776, Issue 2, article id. 136 (2013)
- Jiang, Y., Aumann, H. H, **Lau, M. W.**, & Yung Y. L., *Climate Change Sensitivity Evaluation from AIRS and IRIS measurements*, Proceedings of the SPIE, Volume 8153, id. 81531Z (2011)

CONTRIBUTED TALKS

- IMPS Winter Writing Workshop, UC Santa Cruz, 2016
- Unveiling the AGN - Galaxy Evolution Connection, Universidad de Concepción, 2015
- Santa Cruz Galaxy Formation Workshop, UC Santa Cruz, 2014
- Intergalactic Matters, Max-Planck-Institut für Astronomie, 2014
- Friday Lunchtime Astrophysics Seminar Hour, UC Santa Cruz, 2014
- GAstronomy lunch talk, UC Santa Barbara, 2011

SERVICE

- Referee for the Monthly Notices of the Royal Astronomical Society, 2015
- Organizer of prospective graduate student visit, UC Santa Cruz, 2015
- Vice-President and Publication of the United College Student Union Physics Society, The Chinese University of Hong Kong, 2009 - 2011
- Observer of United College Student Supervision Committee, The Chinese University of Hong Kong, 2010 - 2011

TEACHING, MENTORING AND OUTREACH

- Teaching Assistant for ASTR/PHYS 9B: Introduction to Research in Physics and Astrophysics, UC Santa Cruz, Spring 2017
- Teaching Assistant for ASTR 2: Overview of the Universe, UC Santa Cruz, Winter 2017, Fall 2016, Spring 2016, Winter 2016, Fall 2015
- Mentor for the Siemens Competition in Math, Science & Technology, project titled Surface Compositions of Red Giant Stars in Globular Clusters, 2016
- Primary Mentor for four high school interns under the Science Internship Program, UC Santa Cruz, 2017, 2016
- Teaching Assistant for California State Summer School for Mathematics and Science (COSMOS), 2017, 2016
- Teaching Assistant for ASTR 6: The Space-Age Solar System, UC Santa Cruz, Winter 2015
- Teaching Assistant for ASTR 1: Introduction to the Cosmos, UC Santa Cruz, Fall 2012

RESEARCH EXPERIENCES OUTSIDE OF ASTRONOMY

- Climate change sensitivity evaluation from spaceborne instrument measurements, with Prof. Yuk L. Yung, Caltech
- Determining cloud base and thickness from spaceborne spectroscopic imaging and lidar profiling techniques, with Dr Dong Wu, Goddard Space Flight Center

- Study on the occurrence of high winds and severe gusts during the onset of Northeast monsoon in Hong Kong, Hong Kong Observatory
- Mechanical vibration of thin plates (senior thesis), with Prof. Kenneth Young, The Chinese University of Hong Kong

ACADEMIC REFERENCES

- Prof. J. Xavier Prochaska, UCO/Lick Observatory, UC Santa Cruz, xavier@ucolick.org
- Prof. Graeme Smith, UCO/Lick Observatory, UC Santa Cruz, graeme@ucolick.org
- Prof. Enrico Ramirez-Ruiz, UCO/Lick Observatory, UC Santa Cruz, enrico@ucolick.org
- Prof. Joseph F. Hennawi, UC Santa Barbara, joe@physics.ucsb.edu