Paolo Turri

CURRICULUM VITAE

Astronomy Department
UC Berkeley
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Research Interests

Stellar astrometry and photometry, adaptive optics, PSF reconstruction, Galactic Center, globular clusters, stellar populations, astronomical instrumentation, astronomical imaging, observational strategies, data analysis software.

Education

Ph.D. in Astronomy, *University of Victoria*. **2017**
Thesis: "Advancing next generation adaptive optics in astronomy: From the lab to the sky"
Advisors: Alan W. McConnachie, David R. Andersen

M.Sc. in Astrophysics and Space Physics, *University of Trieste*. **2012**
Thesis: "Sky coverage of a multi-conjugate adaptive optics system using only natural guide stars on Extremely Large Telescopes"
Advisors: Roberto Ragazzoni, Giorgio Sedmak

B.Sc. in Astronomy, *University of Padova*. **2007**
Thesis: "The optical design of an experimental rigid corrector for static aberrations at the VLT prime focus"
Advisors: Roberto Ragazzoni, Giampaolo Piotto

Research Appointments

Postdoctoral Researcher, *University of California, Berkeley*. **2017–**
Advisor: Jessica R. Lu

Professional Activities

Gemini North Adaptive Optics Science Team member **2019–**
TMT IRIS Science Team member **2018–**
Canadian Time Allocation Committee (CanTAC) referee **2018**

Awards

Canadian Astronomical Society Board Award for Best Student Talk **2015**

Students Mentoring

Mojtaba Taheri, *University of Victoria*, PhD. **2015–2017**
Advisors: David R. Andersen and Alan W. McConnachie. Served as student advisor

Steve Robinson, *UC Berkeley*, Undergraduate. **2018**
Advisor: Jessica R. Lu. Served as postdoc advisor

Teaching Experience

Professional Development Program, *UC Santa Cruz*. **2018**
Training in scientific teaching by the Institute for Scientist & Engineer Educators, with practical teaching experience

Teaching Assistant, *University of Victoria*. **2013–2016**
Astr250: Introduction to Astrophysics

Teaching Assistant, *University of Victoria*. **2013**
Astr102: Exploring the Cosmos

Talks and Posters

Invited Talks

Seminar at TMT offices **2018**
Pasadena (CA), United States

MAVIS Science and Technical Workshop **2018**
Sydney, Australia

Colloquium at Gemini South Observatory **2016**
La Serena, Chile

Colloquium at Department of Physics and Astronomy **2014**
Bologna, Italy

Contributed Talks

TMT Science Forum **2018**
Pasadena (CA), United States

Center for Adaptive Optics, Fall Science Retreat **2018**
Lake Arrowhead (CA), United States

UC Galactic Center Group Workshop **2017**
Los Angeles (CA), United States

Center for Adaptive Optics, Fall Science Retreat **2017**
Lake Arrowhead (CA), United States

Space Telescope Science Institute, PSF Fitting Workshop **2017**
Baltimore (MD), United States

SPIE Conference, Astronomical Telescopes + Instrumentation **2016**
Edinburgh, United Kingdom

Adaptive Optics for Extremely Large Telescopes Conference **2015**
Lake Arrowhead (CA), United States

Annual Meeting of the Canadian Astronomical Society **2015**
Hamilton (ON), Canada

Posters

SPIE Conference, Astronomical Telescopes + Instrumentation **2014**
Montreal (QC), Canada

Invited Research Visits

Gemini Observatory – Southern Operations Center, *La Serena, Chile*. **2016**
Analysis of the GeMS/GSAOI performance

Università di Bologna – Department of Astronomy, *Bologna, Italy*. **2014**
Data reduction procedures for MCAO images

Public Outreach

Royal Astronomical Society of Canada, *Victoria, Canada*. **2016**
Talk on the history of adaptive optics at the Annual General Meeting

Royal Astronomical Society of Canada, *Victoria, Canada*. **2015**
Public talk at the Dominion Astrophysical Observatory on adaptive optics and the Thirty Meter Telescope

Gruppo Astrofili Polesani, *Rovigo, Italy*. **2014**
Public talk on globular clusters and adaptive optics

Legio I Italica, *Rovigo, Italy*. **2007–2012**
Public presentations and school lectures on ancient and classical astronomy, mathematics and natural sciences

Gruppo Astrofili Polesani, *Rovigo, Italy*. **1999–2008**
Amateur astronomer, organizer of the public evenings at the local astronomical observatory, telescope operator, planetarium operator, member of the Board of Directors

References

Jessica R. Lu (Advisor), *UC Berkeley – Department of Astronomy (USA)*.
jlu.astro@berkeley.edu

Alan W. McConnachie (Advisor), *NRC Herzberg – Astrophysics (Canada)*.
alan.mcconnachie@nrc-cnrc.gc.ca

David R. Andersen (Advisor), *NRC Herzberg – Astrophysics (Canada)*.
david.andersen@nrc-cnrc.gc.ca

Peter B. Stetson, *NRC Herzberg – Astrophysics (Canada)*.
peter.stetson@nrc-cnrc.gc.ca

Giuliana Fiorentino, *INAF – Osservatorio Astronomico di Bologna (Italy)*.
giuliana.fiorentino@oabo.inaf.it

List of Publications

Refereed

E. Mieda, J.-P. Véran, M. Rosensteiner, **P. Turri**, D. Andersen, G. Herriot, O. Lardière, P. Spanò. "Multiconjugate adaptive optics simulator for the Thirty Meter Telescope: design, implementation, and results". *JATIS*, 4:049002, 2018

P. Turri, A. W. McConnachie, P. B. Stetson, G. Fiorentino, D. R Andersen, G. Bono, D. Massari and J.-P. Véran. "Optimal stellar photometry for multi-conjugate adaptive optics systems using science-based metrics". *AJ*, 153:199, 2017

D. Massari, G. Fiorentino, A. McConnachie, A. Bellini, E. Tolstoy, **P. Turri**, D. Andersen, G. Bono, P. B. Stetson and J.-P. Véran. "Astrometry with MCAO: HST-GeMS proper motions in the globular cluster NGC 6681". *A&A*, 595:L2, 2016

D. Massari, G. Fiorentino, A. McConnachie, G. Bono, M. Dall'Ora, I. Ferraro, G. Iannicola, P. B. Stetson, **P. Turri** and E. Tolstoy. "GeMS MCAO observations of the Galactic globular cluster NGC 2808: the absolute age". *A&A*, 586:A51, 2016

P. Turri, A. W. McConnachie, P. B. Stetson, G. Fiorentino, D. R Andersen, J.-P. Véran and G. Bono. "Toward precision photometry for the ELT era: the double subgiant branch of NGC 1851 observed with the Gemini/GeMS MCAO system". *ApJL*, 811:L15, 2015

Conference Proceedings

T. Do, A. Ciurlo, G. Witzel, J. Lu, **P. Turri**, M. Fitzgerald, R. Campbell, J. Lyke, A. Ghez. "Point-spread function reconstruction for integral-field spectrograph data". *Proc. SPIE*, 10703:107030I, 2018

A. Ciurlo, T. Do, G. Witzel, J. Lu, J. Lyke, M. P. Fitzgerald, A. Ghez, R. Campbell and **P. Turri**. "Off-axis PSF reconstruction for integral field spectrograph: instrumental aberrations and application to Keck/OSIRIS data". *Proc. SPIE*, 10703:107031O, 2018

P. Turri, A, W. McConnachie, P. B. Stetson, D. R. Andersen, J.-P. Véran, G. Fiorentino and D. Massari. "Photometric techniques, performance and PSF characterization of GeMS". *Proc. SPIE*, 9909:990907, 2016

M. Rosensteiner, **P. Turri**, E. Mieda, J.-P. Véran, D. R. Andersen and G. Herriot. "On the verification of NFIRAOS algorithms and performance on the HeNOS bench". *Proc. SPIE*, 9909:990949, 2016

D. Massari, G. Fiorentino, E. Tolstoy, A. McConnachie, R. Stuik, L. Schreiber, D. Andersen, Y. Clénet, R. Davies, D. Gratadour, K. Kuijken, R. Navarro, J.-U. Pott, G. Rodeghiero, **P. Turri** and G. V. Kleijn. "High-precision astrometry towards ELTs". *Proc. SPIE*, 9909:99091G, 2016

G. Fiorentino, D. Massari, A. McConnachie, P. B. Stetson, G. Bono, **P. Turri**, D. Andersen, J.-P. Véran, E. Diolaiti, L. Schreiber, P. Ciliegi, M. Bellazzini, E. Tolstoy, M. Monelli, G. Iannicola, I. Ferraro and V. Testa. "Stellar photometry with multi conjugate adaptive optics". *Proc. SPIE*, 9909:990906, 2016

P. Turri, A. W. McConnachie, P. B. Stetson, G. Fiorentino and D. Andersen. "Precise and deep photometry from the ground: on-sky science performance of MCAO". *Adaptive Optics for Extremely Large Telescopes 4 - Conference Proceedings*, 31537, 2015

M. Rosensteiner, **P. Turri**, J.-P. Véran, D. Andersen, P. Spanò and G. Herriot. "Laboratory tests on HeNOS, the MCAO test bench for NFIRAOS". *Adaptive Optics for Extremely Large Telescopes 4 - Conference Proceedings*, 31542, 2015

P. Turri, D. R. Andersen, J.-P. Véran, P. Spanò, M. Rosensteiner and E. A. McVeigh. "An MCAO test bench for NFIRAOS". *Proc. SPIE*, 9148:91485Y, 2014

P. Turri, A. W. McConnachie, P. B. Stetson, G. Fiorentino, D. R. Andersen, G. Bono and J.-P. Véran. "Photometric performance of LGS MCAO with science-based metrics: first results from Gemini/GeMS observations of Galactic globular clusters". *Proc. SPIE*, 9148:91483V, 2014