

# *Gregory Mace*

## **Contact Information**

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## **Education**

Ph.D. Astrophysics, UC Los Angeles, Los Angeles, CA, *in progress*  
B.S. Astronomy, Northern Arizona University, Flagstaff, AZ, May 2008  
B.S. Physics, Northern Arizona University, Flagstaff, AZ, May 2008

## **Research Experience**

### **Dr. Lisa Prato, Lowell Observatory**

*Lowell Observatory Research Assistant* – Continuation of NASA Space Grant work reducing NIRSPEC data, observed at McDonald Observatory and on the Lowell 31-inch, tested reduction procedures, and published results. (8/2007 – 9/2008)  
*NASA Space Grant Research Assistant* – Reduced spectral data taken on the instruments CSHELL and NIRSPEC of young, low mass spectroscopic binary star systems; used REDSPEC and IDL procedures to determine precise mass ratios. (8/2007 – 4/2008)  
*NASA Space Grant Research Assistant* – Planned, acquired, and reduced JHK-band photometry of the star cluster IC348 with data taken on the instrument Mimir on the Perkins 1.8-meter telescope; reduced using custom IDL procedures and used color-color diagrams to determine infrared excess. (8/2005 – 4/2006)

### **Dr. David Koerner, Northern Arizona University**

*Research Assistant* – Processed Spitzer Space Telescope images to identify large 24 and 70 micron excess light emission to identify circumstellar disks around nearby stars. (12/2006 – 1/2007)  
*REU Research Assistant* – Established a database of infrared data for all known stars within 25pc of the Sun by compiling 2MASS and Spitzer database photometry. (5/2006 – 8/2006)

### **Dr. Thomas Robertson and Dr. Thomas Jordan, Ball State University**

*REU Research Assistant* – I acquired and reduced data for half a square degree of the sky near the galactic plane, taken on the 0.9-meter SARA telescope, using IRAF; used CaH photometry to separate M dwarf stars from M giants and determine the luminosity function for part of Selected Area 109. (5/2007 – 8/2007)

## **Memberships**

Sigma Pi Sigma: 5/2008-present  
AAS Junior Member: 2007-present  
Sigma Alpha Lambda Honors Organization: 2004-present

## Honors and Awards

Bedwell Physics Scholar: 2008-2009  
NASA Space Grant Recipient: 2007-2008  
Raytheon Physics Scholar: 2006-2007  
Junior Slipher Scholarship: 2005-2006  
NASA Space Grant Recipient: 2005-2006

## Observational Experience

I have observed with NIRSPEC on Keck II remotely from UCLA, the Lowell Observatory 72-inch Perkins and 31-inch telescopes, the Shane 3-meter at Lick employing AO and LGS, the SARA 0.9-meter telescope at Kitt Peak, and the McDonald 0.8-meter telescope. I received time as PI on the Lowell 31-inch telescope for 39 nights as part of automated queue observing, as well as 10 nights of classical observing on the McDonald Observatory 82-inch.

## References

- Dr. Lisa Prato, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001.  
lprato@lowell.edu (928-774-3358)
- Dr. Kathleen Eastwood, Department of Physics and Astronomy, Northern Arizona University, Box 6010 Flagstaff, AZ 86011-6010. Kathy.Eastwood@nau.edu (928-523-7159)
- Dr. Thomas Jordan, Department of Physics and Astronomy, Ball State University, Muncie, IN 47306. tjordan@bsu.edu (765-285-8867)
- Dr. David Koerner, Department of Physics and Astronomy, Northern Arizona University, Box 6010 Flagstaff, AZ 86011-6010. David.koerner@nau.edu (928-523-4562)
- Dr. Stephen Tegler, Department of Physics and Astronomy, Northern Arizona University, Box 6010 Flagstaff, AZ 86011-6010. Stephen.Tegler@nau.edu (928-523-9382)
- Dr. Thomas Robertson, Department of Physics and Astronomy, Ball State University, Muncie, IN, 47306. trobertson@bsu.edu (765-285-8869)

## Publications

- Mace, G.N.**, Prato, L., Wasserman, L., Schaefer, G., Franz, O., Simon, M., “The Highly Eccentric Pre- Main Sequence Spectroscopic Binary RX J0529.3+1210”, 2009, *AJ*, 137, 3487
- Mace, G.N.**, Jordan, T.M., Robertson, T. H., “The Luminosity Function of M Dwarf Stars in Selected Area 109”, 2008, *Journal of the Southeastern Association for Research in Astronomy*, vol.2, p.2-5, 2, 2
- Currie, T. et al. “Spitzer IRAC and JHK Observations of  $\eta$  and  $\chi$  Persei: Constraints on Protoplanetary Disk and Massive Cluster Evolution at  $\sim 10^7$  years”, 2007, *Astrophysical Journal*, 659, 599

## Talks and Presentations

Talk: Lowell Obs. Colloquium, “Mass Ratios of Young Spectroscopic Binaries”, 4 Sept. 2008

Poster: **Mace, G.N.**, Prato, L., Wasserman, L., Torres, G., & Mathieu, R. “The Spectroscopic Binary Mass Ratio in the Young Ophiuchus Triple NTTS 155808-2219”, 2009, Bulletin of the American Astronomical Society, 41, 213

Poster: **Mace, G.N.**, Prato, L., “RX J0529.3+1210: The Most Eccentric Pre-Main Sequence Spectroscopic Binary”, 2007, Bulletin of the American Astronomical Society, 38, 851

Poster: Robertson, T.H., **Mace, G.N.**, Jordan, T.M., “The Luminosity Function of Early M Dwarf Stars in Selected Area 109”, 2007, Bulletin of the American Astronomical Society, 38, 760

## Teaching Experience

Astronomy 3 Lab TA, “Nature on the Universe”, 2 Sections F08, 1 Section W09, S09

Astronomy 82 Discussion TA, “Astroph. II: Stellar Evo., Galaxies, and Cosmology”, S09

Astronomy 127 Discussion TA, “Stellar Atmospheres, Interiors, and Evolution”, W09