Thomas Barclay

Curriculum Vitae

NASA Ames Research Center
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Research Focus

I use data from space and ground-based telescopes to infer properties of exoplanets and their host stars. This has led to a number of major discoveries including the detection of the smallest known planet. I am also a keen enabler of science exemplified by my leadership position in the Kepler science community..

Experience

2014–present **Director**, *Kepler Guest Observer Office*, NASA Ames Research Center.
The Kepler Guest Observer Office, under my direction, is responsible for identifying new areas of Kepler-driven research, working with NASA HQ to develop proposal calls and organizing the review proposals from the community. My team also lead Kepler driven investigations, provide critical support to the community through the Kepler Science Center Help Desk and develop of open source community software to enhance output from Kepler data sets.

2011–2014 **Research Scientist**, *Kepler Guest Observer Office*, NASA Ames Research Center.
I supported the work of NASA's Kepler project through the development of data analysis software, running the Kepler Science Center help desk and leading the proposal review and target selection processes.

Education

2007–2011 **Doctor of Philosophy**, *Astrophysics*, University College London, UK.
Thesis: Searching for Variable Sources in the Rapid Temporal Survey

2006–2007 **Master of Science**, *Astronomy and Radio Astronomy*, Univ. of Manchester, UK.
Thesis: Anomalous Emission in LDN1622

2002–2006 **Bachelor of Science (hons.)**, *Physics with Astrophysics*, University of Leeds, UK.

Awards and grants

2015 **Keck Principal Investigator Data Award**, *PI: Barclay*, $16,000.
Confirming the first Earth-like exoplanets

2014 **NASA Group Achievement Award**, *NASA ARC Family*.

2014 **NASA Tech Brief Award**, *Barclay*.
Kepler Community Data Analysis Tools

2014 **The National Space Club's Robert H. Goddard Trophy**, *Kepler Team*.

2014 **NASA Cooperative Agreement**, *PI: Barclay*, $1,521,000.
Astrophysical Research Utilizing Kepler Telescope Data And Kepler Guest Observer Program Research, funded over 4 year duration

2014 **Keck Principal Investigator Data Award**, *PI: Barclay*, $16,000.
Confirming the first Earth-like exoplanets

2013 **The National Space Club's The Nelson P. Jackson Aerospace Award**, *Kepler Team*.

2013 **Keck Principal Investigator Data Award**, *PI: Barclay*, $13,500.
Confirming the first Earth-like exoplanets

2012 **Space Frontier Foundation's Vision to Reality Award**, *Kepler Team*.

2012 **Astronomical Society of the Pacific's Maria & Eric Muhlman Award**, *Kepler Science Team*.

2012 **Aviation Week Laureate Award**, *Kepler Team*.

2012 **NASA Software Release Award**, *Barclay*.
Kepler Community Data Analysis Tools

2012 **The Space Foundation's John L. "Jack" Swigert Jr. Award for Space Exploration**, *Kepler Team*.

2012 **Kepler Guest Observer Cycle 4**, *PI: Wood*, $29,500.
Cataclysmic Variables in the Kepler Field

2011 **Astrophysics Data Analysis**, *PI: Metcalfe*, $415,000.
Asteroseismic Tools and Analysis of Solar-like Oscillations in Archival Kepler Data

Observing Proposals Awarded Time

2015 Confirming the First Earth-like Planets, 10-m Keck-II (PI)

2014 Confirming the First Earth-like Planets, 10-m Keck-II (PI)

2014 Radial Velocity Detection of Transiting Exoplanets, SALT High Resolution Spectrgraph Commissioning Time (co-I)

2013 Confirming the First Earth-like Planets, 10-m Keck-II (PI)

2012 Asteroseismology Of Bright Solar-type Stars, Kepler GO Cycle 4 (PI)

2012 Short Period Variables Identified By The Rapid Temporal Survey, Kepler GO Cycle 4 (PI)

2011 Short cadence observations of possible PG1159 type variable star, Kepler DDT (PI)

2010 Photo-Polarimetry Observations of AM CVn systems: A Search for Magnetic Fields, Nordic Optical Telescope (PI)

2010 The long-term variability of AM CVn systems, Liverpool Telescope (PI)

Invited Colloquia and Seminars

2015 Colorado Scientific Society 2015 Emmons Lecture

2014 Aahus University; Academia Sinica, Taiwan; Chicago Ideas Week Edison Talk; National Academy of Science Distinctive Voices Lecture; NASA Exoplanet Science Inst.; Oracle Corp.; San Francisco State

2013 UC Berkeley; California Institute of Technology; NASA Exoplanet Science Inst.; NASA Jet Propulsion Lab.; New York Uni.; San Diego State; Yale Uni.

Community Service

2014	Scientific reviewer for NASA Exoplanets Research Program
2014	Scientific reviewer for NASA Astrobiology Institute CAN7
2013	Co-author of the NASA Senior Review proposal for K2
2013	Technical reviewer for the NASA Kepler Guest Observer Program Cycle 5
2012	Scientific reviewer for the NASA Astrophysics Data Analysis Program
2012	Session Chair at the 220th AAS Meeting in Anchorage, Alaska
2012–	Referee for the Astrophysical Journal
2010	Organizing committee member for the International Meteor Conference, Armagh, Northern Ireland

Professional Membership

Full Member	American Astronomical Society
Member	AAS Division for Planetary Sciences
Fellow	Royal Astronomical Society
Member	Kepler Science Working Group
Member	Kepler Eclipsing Binary Working Group
Member	Kepler Multi-Planet Working Group
Member	Kepler Asteroseismic Science Consortium

Publications

69 refereed publication, *including 4 in Nature and 3 in Science*, 2500+ total citations.

First Author Publications

Barclay et al., *Radial velocity observations and light curve noise modeling confirm that Kepler-91b is a giant planet orbiting a giant star*, ApJ, 2015.

Barclay et al., *A Super-Earth-sized Planet Orbiting in or Near the Habitable Zone around a Sun-like Star*, ApJ, 2013.

Barclay et al., *A Sub-Mercury-Sized Exoplanet*, Nature, 2013.

Barclay et al., *Photometrically Derived Masses and Radii of the Planet and Star in the TrES-2 System*, ApJ, 2012.

Barclay et al., *Serendipitous Kepler Observations of a Background Dwarf Nova of SU UMa Type*, MNRAS, 2012.

Barclay et al., *Stellar Variability on Time-Scales of Minutes: Results From the First 5 yr of the Rapid Temporal Survey*, MNRAS, 2011.

Select Others

Quintana, Barclay, et al., *An Earth-sized planet in the habitable zone of a cool star*, Science, 2014.

Borucki et al., *Kepler-62: A five-planet system with planets of 1.4 and 1.6 Earth-radii in the Habitable Zone*, Science, 2013.

Batalha, Rowe, Bryson, Barclay et al., *Planetary Candidates Observed by Kepler. III. Analysis of the First 16 Months of Data*, ApJS, 2013.

Orosz et al., *Kepler-47: A transiting circumbinary multiplanet system*, Science, 2012.

Sanchis-Ojeda, Fabrycky, Winn, Barclay et al., *Alignment of the stellar spin with the orbits of a three-planet system*, Nature, 2012.

Fressin et al., *Two Earth-sized planets orbiting Kepler- 20*, Nature, 2012.

Welsh et al., *Transiting circumbinary planets Kepler-34 b and Kepler-35 b*, Nature, 2012.