

Robert C. Morehead | Curriculum Vitæ

Department of Astronomy & Astrophysics – Center for Exoplanets and Habitable Worlds
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Education

The Pennsylvania State University <i>Doctoral Candidate, Astronomy & Astrophysics</i> Advisor: Eric B. Ford	University Park, PA 2013–2014
The University of Florida <i>Master of Science, Astronomy</i> Advisor: Eric B. Ford	Gainesville, FL 2009–2013
Columbia University <i>Bachelor of Science, Astrophysics</i> Advisor: Caleb Scharf	New York, NY 2006–2009
South Puget Sound Community College	Olympia, WA 2004–2006

Research

Transiting exoplanets, multiple transiting planet systems and their architectures, planet population inference, planet candidate validation, approximate Bayesian computation

Research Experience

The Pennsylvania State University <i>Graduate Research Assistant</i> Supervisor: Eric B. Ford	University Park, PA 2014
The Pennsylvania State University <i>National Science Foundation Graduate Research Fellow</i> Supervisor: Eric B. Ford	University Park, PA 2013–2014
The University of Florida <i>National Science Foundation Graduate Research Fellow</i> Supervisor: Eric B. Ford	Gainesville, FL 2011–2013
The University of Florida <i>Graduate Research Assistant</i>	Gainesville, FL 2011

Supervisor: Eric B. Ford

Columbia Astrophysics Laboratory

Lab Assistant II

Supervisor: Arlin P. Crotts

New York, NY

2007–2009

Teaching Experience

The University of Florida

Graduate Teaching Assistant

Gainesville, FL

2009–2010

AST 1022L: Astronomy Laboratory - Instructor 5 Sections

AST 3018: Astronomy and Astrophysics 1 - Assistant 1 Section

AST 2037: Life in the Universe (Guest Lectures)

Awards and Honors

2013: Homer F. Braddock and Nellie H. and Oscar L. Roberts Fellowship
Eberly College of Science, The Pennsylvania State University

2011–2014: National Science Foundation Graduate Research Fellowship

2009: Ruth Hay and Hans Schrader Astronomy Fellowship
College of Liberal Arts and Sciences, University of Florida

2005: Phi Theta Kappa
South Puget Sound Community College

Publications

Publications with Significant Contribution.....

- **Transit timing observations from Kepler - VII. Confirmation of 27 planets in 13 multiplanet systems via transit timing variations and orbital stability**
Steffen, J. H., Fabrycky, D. C., Agol, E., Ford, E. B., **Morehead, R. C.**, Cochran, W. D., Lissauer, J. J., Adams, E. R., Borucki, W. J., Bryson, S., et al. Monthly Notices of the Royal Astronomical Society, Volume 428, Issue 2, p.1077-1087
- **Constraining the false positive rate for Kepler planet candidates with multicolour photometry from the GTC**
Colón, K. D., Ford, E. B., **Morehead, R. C.** Monthly Notices of the Royal Astronomical Society, Volume 426, Issue 1, pp. 342-353.
- **Transit Timing Observations from Kepler. II. Confirmation of Two Multiplanet Systems via a Non-parametric Correlation Analysis**
Ford, E. B., Fabrycky, D. C., Steffen, J. H., Carter, J. A., Fressin, F., Holman, M. J., Lissauer, J. J., Moorhead, A. V., **Morehead, R. C.**, Ragozzine, D., et al. The Astrophysical Journal, Volume 750, Issue 2, article id. 113, 18 pp. (2012).
- **Kepler's candidate multiple transiting planets (Lissauer+, 2011)**
Lissauer, J. J., Ragozzine, D., Fabrycky, D. C., Steffen, J. H., Ford, E. B., Jenkins, J. M., Shporer, A., Holman, M. J., Rowe, J. F., Quintana, E. V., et al. VizieR On-line Data Catalog: J/ApJS/197/8. Originally published in: 2011ApJS..197....8L
- **Architecture and Dynamics of Kepler's Candidate Multiple Transiting Planet Systems**
Lissauer, J. J., Ragozzine, D., Fabrycky, D. C., Steffen, J. H., Ford, E. B., Jenkins, J. M., Shporer, A., Holman, M. J., Rowe, J. F., Quintana, E. V., et al. The Astrophysical Journal Supplement, Volume 197, Issue 1, article id. 8, 26 pp. (2011).
- **The Distribution of Transit Durations for Kepler Planet Candidates and Implications for Their Orbital Eccentricities**
Moorhead, A. V., Ford, E. B., **Morehead, R. C.**, Rowe, J., Borucki, W. J., Batalha, N. M., Bryson, S. T., Caldwell, D. A., Fabrycky, D. C., Gautier, T. N., III, et al. The Astrophysical Journal Supplement, Volume 197, Issue 1, article id. 1, 15 pp. (2011).
- **A closely packed system of low-mass, low-density planets transiting Kepler-11**
Lissauer, J. J., Fabrycky, D. C., Ford, E. B., Borucki, W. J., Fressin, F., Marcy, G. W., Orosz, J. A., Rowe, J. F., Torres, G., Welsh, W. F., et al. Nature, Volume 470, Issue 7332, pp. 53-58 (2011).

- **The Architectures of Planetary Systems from Transit Observations**
Ford, E. B., Fabrycky, D. C., Holman, M. J., Lissauer, J. J., Moorhead, A. V., **Morehead, R. C.**, Ragozzine, D., Steffen, J. H., Koch, D., Kepler Science Team American Astronomical Society, AAS Meeting #217, #103.05; Bulletin of the American Astronomical Society, Vol. 43, 2011
- **Five Kepler Target Stars That Show Multiple Transiting Exoplanet Candidates**
Steffen, J. H., Batalha, N. M., Borucki, W. J., Buchhave, L. A., Caldwell, D. A., Cochran, W. D., Endl, M., Fabrycky, D. C., Fressin, F., Ford, E. B., et al. The Astrophysical Journal, Volume 725, Issue 1, pp. 1226-1241 (2010).
- **Kepler-9: A System of Multiple Planets Transiting a Sun-Like Star, Confirmed by Timing Variations**
Holman, M. J., Fabrycky, D. C., Ragozzine, D., Ford, E. B., Steffen, J. H., Welsh, W. F., Lissauer, J. J., Latham, D. W., Marcy, G. W., Walkowicz, L. M., et al. Science, Volume 330, Issue 6000, pp. 51- (2010).
- **Discovery of a Low-mass Companion to a Metal-rich F Star with the MARVELS Pilot Project**
Fleming, S. W., Ge, J., Mahadevan, S., Lee, B., Eastman, J. D., Siverd, R. J., Gaudi, B. S., Niedzielski, A., Sivarani, T., Stassun, K. G., et al. The Astrophysical Journal, Volume 718, Issue 2, pp. 1186-1199 (2010).

Other Peer-Reviewed Publications.....

- **Architecture of Kepler’s Multi-transiting Systems. II. New Investigations with Twice as Many Candidates**
Fabrycky, D. C., Lissauer, J. J., Ragozzine, D., Rowe, J. F., Steffen, J. H., Agol, E., Barclay, T., Batalha, N., Borucki, W., Ciardi, D. R., et al. The Astrophysical Journal, Volume 790, Issue 2, article id. 146, 12 pp. (2014).
- **Planetary Candidates Observed by Kepler IV: Planet Sample from Q1-Q8 (22 Months)**
Burke, C. J., Bryson, S. T., Mullally, F., Rowe, J. F., Christiansen, J. L., Thompson, S. E., Coughlin, J. L., Haas, M. R., Batalha, N. M., Caldwell, D. A., et al. The Astrophysical Journal Supplement, Volume 210, Issue 2, article id. 19, 12 pp. (2014).
- **Planet Occurrence within 0.25 AU of Solar-type Stars from Kepler**
Howard, A. W., Marcy, G. W., Bryson, S. T., Jenkins, J. M., Rowe, J. F., Batalha, N. M., Borucki, W. J., Koch, D. G., Dunham, E. W., Gautier, T. N., III, et al. The Astrophysical Journal Supplement, Volume 201, Issue 2, article id. 15, 20 pp. (2012).
- **Almost All of Kepler’s Multiple-planet Candidates Are Planets**
Lissauer, J. J., Marcy, G. W., Rowe, J. F., Bryson, S. T., Adams, E., Buchhave, L. A., Ciardi, D. R., Cochran, W. D., Fabrycky, D. C., Ford, E. B., et al. The Astrophysical Journal, Volume 750, Issue 2, article id. 112, 15 pp. (2012).
- **Kepler’s First Rocky Planet: Kepler-10b**
Batalha, N. M., Borucki, W. J., Bryson, S. T., Buchhave, L. A., Caldwell, D. A., Christensen-Dalsgaard, J., Ciardi, D., Dunham, E. W., Fressin, F., Gautier, T. N., III, et al. The Astrophysical Journal, Volume 729, Issue 1, article id. 27, 21 pp. (2011).
- **Ground-based Multisite Observations of Two Transits of HD 80606b**
Shporer, A., Winn, J. N., Dreizler, S., Colón, K. D., Wood-Vasey, W. M., Choi, P. I., Morley, C., Moutou, C., Welsh, W. F., Pollaco, D., et al. The Astrophysical Journal, Volume 722, Issue 1, pp. 880-887 (2010).

Conference Abstracts.....

- **A Test of Stellar Cohabitation in Multiple Transiting Planet Systems**
Morehead, R. C., Ford, E. B. American Astronomical Society, AAS Meeting #221, #343.04
- **Enhancing Multiple-Transiting Planet System Validation with Transit Duration Ratios**
Morehead, R. C., Ford, E. B., Prša, A., Ragozzine, D. American Astronomical Society, ESS meeting #2, #28.01
- **Validation of Candidate Multiple-Transiting Planet Systems and Assessing Possible False Positives based on Photometric Observables**
Morehead, R., Ford, E. B., Kepler Science Team American Astronomical Society, AAS Meeting #217, #140.09; Bulletin of the American Astronomical Society, Vol. 43, 2011
- **The Distribution of Orbital Eccentricities for Kepler Planet Candidates**
Moorhead, A., Ford, E. B., **Morehead, R.**, Kepler Science Team American Astronomical Society, AAS Meeting #217, #103.06; Bulletin of the American Astronomical Society, Vol. 43, 2011
- **Status of a Program Monitoring Optical Lunar Surface Transients**
Crotts, A. P. S., Berger, A., Cecil, G., Cseresnjcs, P., Ebel, D., Hickson, P., Joner, M., Pfrommer, T., Marka, S., **Morehead, R.**, et al. 40th Lunar and Planetary Science Conference, (Lunar and Planetary Science XL), held March 23-27, 2009 in The Woodlands, Texas, id.2373