Daniel Foreman-Mackey

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Associate Research Scientist, Center for Computational Astronomy, Flatiron Institute

Professional preparation

2017–, Associate Research Scientist, Flatiron Institute.

2015–2017, Sagan Postdoctoral Fellow, University of Washington.

PhD 2015, Department of Physics, New York University. Advisor: Hogg

MSc 2010, Department of Physics, Queen's University, Canada. Advisor: Widrow

BSc 2008, Department of Physics, McGill University, Canada.

Selected publications

6 **Foreman-Mackey, Daniel**; Morton, Timothy D.; Hogg, David W.; Agol, Eric; & Schölkopf, Bernhard, 2016, *The Population of Long-period Transiting Exoplanets*, The Astronomical Journal, **152**, 206 (arXiv:1607.08237) [63 citations]

5 **Foreman-Mackey, Daniel**, 2016, *corner.py: Scatterplot matrices in Python*, The Journal of Open Source Software, **1**, 2 [1060 citations]

4 Montet, Benjamin T.; Morton, Timothy D.; **Foreman-Mackey, Daniel**; Johnson, John Asher; *et al.*, 2015, *Stellar and Planetary Properties of K2 Campaign 1 Candidates and Validation of 17 Planets, Including a Planet Receiving Earth-like Insolation*, The Astrophysical Journal, **809**, 25 (arXiv:1503.07866) [102 citations]

3 **Foreman-Mackey, Daniel**; Montet, Benjamin T.; Hogg, David W.; Morton, Timothy D.; *et al.*, 2015, *A Systematic Search for Transiting Planets in the K2 Data*, The Astrophysical Journal, **806**, 215 (arXiv:1502.04715) [101 citations]

2 **Foreman-Mackey, Daniel**; Hogg, David W.; & Morton, Timothy D., 2014, *Exoplanet Population Inference and the Abundance of Earth Analogs from Noisy, Incomplete Catalogs*, The Astrophysical Journal, **795**, 64 (arXiv:1406.3020) [181 citations]

1 **Foreman-Mackey, Daniel**; Hogg, David W.; Lang, Dustin; & Goodman, Jonathan, 2013, *emcee: The MCMC Hammer*, Publications of the Astronomical Society of the Pacific, **125**, 306 (arXiv:1202.3665) [5220 citations]

Popular open-source software

emcee — MCMC sampling in Python. Popular in astronomy; the paper has over 1000 citations. `emcee.readthedocs.io`

george — Blazingly fast Gaussian processes for regression. Implemented in C++ and Python bindings. Joint work with applied mathematicians at NYU. `george.readthedocs.io`

celerite — Scalable computations for Gaussian process regression for one-dimensional problems. `celerite.readthedocs.io`

corner.py — Simple corner plots (or scatterplot matrices) in Python. `corner.readthedocs.io`