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Mario Damiano

Ph.D. in Astrophysics

Education

2018 **Ph.D. in Astrophysics**, *University College London (UCL)*, Data analysis of space and ground observations of exoplanetary atmosphere using Machine Learning algorithms.
London, England, UK.

2015 **MSc Physics (Astrophysics)**, *University of Palermo (UNIPA)*, thesis title: Exoplanetary atmosphere: high resolution spectrum with instruments iLocater and HIRES, Summa cum laude.
Palermo, Italy.

2013 **BSc Physics Science**, *University of Palermo (UNIPA)*, thesis title: Exoplanets and stellar activity on IR-band, First-class.
Palermo, Italy.

Professional experience

2018 **JPL Postdoctoral Fellow**, *Jet Propulsion Laboratory – California Institute of Technology*.
CA, United States

2015 **Research Associate**, *National Institute of Astrophysics Palermo Observatory (INAF-OAPa)*.
Palermo, Italy

Research interests

- Composition and dynamic of exoplanetary atmospheres;
- Spectroscopic data analysis of observations taken from space and ground facilities;
- Spectral interpretation through information retrieval process;
- Deep learning algorithm for data analysis.

Selected Awards

- JPL Postdoctoral Fellowship at NASA/JPL, 2018
- Ph.D. studentship, European Research Council (ERC) and National Institute of Astrophysics (INAF), 2015

Languages

Italian	Native	*Mother Tongue*
English	Proficient	*Daily practice*

Publications list

First Author

A Principal Component Analysis-based Method to Analyze High-resolution Spectroscopic Data on Exoplanets
Damiano, M., Micela, G., Tinetti, G., ApJ, 878, 153, June 2019.
DOI:https://doi.org/10.3847/1538-4357/ab22b2

Near-IR transmission spectrum of HAT-P-32 b using HST/WFC3.
Damiano, M., Morello, G., Tsiaras, A., Zingales, T., Tinetti, G., AJ, 154, 39, Jul 2017.

DOI: 10.3847/1538-3881/aa738b

Co-Author

A Population Study of Gaseous Exoplanets,
A. Tsiaras, I. P. Waldmann, T. Zingales, M. Rocchetto, G. Morello, **M. Damiano,**, K. Karpouzas, G. Tinetti, L. K. McKemmish, J. Tennyson, and S. N. Yurchenko, AJ, 155, 156, Mar 2018.
DOI: 10.3847/1538-3881/aaaf75

A New Approach to Analyzing HST Spatial Scans: The Transmission Spectrum of HD 209458 b,
Tsiaras, A.; Waldmann, I. P.; Rocchetto, M.; Varley, R.; Morello, G.; **Damiano, M.**; Tinetti, G., ApJ, 832, 202, Dec 2016.
DOI: 10.3847/0004-637X/832/2/202

Detection of an Atmosphere Around the Super-Earth 55 Cancri e,
Tsiaras, A.; Rocchetto, M.; Waldmann, I. P.; Venot, O.; Varley, R.; Morello, G.; **Damiano, M.**; Tinetti, G.; Barton, E. J.; Yurchenko, S. N.; Tennyson, J., ApJ, 820, 99, Apr 2016.
DOI: 10.3847/0004-637X/820/2/99

Presentations

Talks at conference and seminars:

- Talk at Division Planetary Science (DPS) 51 / European Planetary Science Congress (EPSC) 14, Geneva, Switzerland. September 2019.
- Invited seminar Yuk luncheon seminar, California Institute of Technology, CA, USA. April 2019.
- Invited seminar JPL luncheon seminar, Jet Propulsion Laboratory, CA, USA. February 2019.
- Talk at Centre for Planetary Science (CPS) meeting, Mullard Space Science Laboratory (MSSL), England, UK. June 2018.
- Invited talk at University College London (UCL), "Workshop for cooperation with Indian Astrophysics Community", London, England, UK. May 2018.
- Talk at European Planetary Science Congress (EPSC) 12, Riga, Latvia. September 2017.
- Talk at 10^{th} GAPS2.0 meeting, Palermo, Italy. May 2017.
- Invited seminar INAF-Astronomical Observatory Palermo (INAF-OAPa), Palermo, Italy. January 2017.
- Talk at Division for Planetary Sciences (DPS) 48 / European Planetary Science Congress (EPSC) 11, Pasadena, CA, USA. October 2016.

IT Skills

Coding Python, C, Matlab
OS MacOS (preferred), Linux, Windows
Text editing LaTeX, Microsoft Office, Apple Softwares

Other information

Online courses Advanced Courses on Udemy platform on Machine Learning (ML) and Deep Learning (DL) for Python.

Tutoring activity Supervised master student for data analysis project on high resolution spectroscopic observations. October 2017. Palermo, Italy.