


CURRICULUM VITAE
THEODORA KARALIDI

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Education

Ph.D, Astrophysics, Leiden Observatory, the Netherlands, 2013.
M.Sc., Astrophysics, Utrecht University, the Netherlands, 2008.
B.Sc., Physics, National and Kappodistrian University of Athens, Greece, 2006.

Appointments

Assistant Professor, Department of Physics, University of Central Florida, USA, 4111 Libra Drive, Orlando, FL 32816, **02/2019–today**.
Postdoctoral Researcher, Department of Astronomy and Astrophysics, University of California Santa Cruz, 1156 High Street, Santa Cruz, CA, 95064, **09/2017–01/2019**.
Postdoctoral Researcher, Steward Observatory, University of Arizona, 933 N Cherry Ave, Tucson, AZ, 85719, **06/2013–09/2017**.

Refereed Publications

Millar-Blanchaer, Girard, **Karalidi**, Marley, van Holsten, Sengupta, Mawet, Kataria, Snik, de Boer, Jensen-Klem, Vigan and Hinkley: "Detection of polarization due to cloud bands in the nearby Luhman 16 brown dwarf binary", the *Astronomical Journal*, 894, 42

Zhou, Apai, Bedin, Lew, Schneider, Burgasser, Manjavacas, **Karalidi**, Metchev, Miles-Páez, Cowan, Lowrance and Radigan "Cloud Atlas: High-precision HST/WFC3/IR Time-resolved Observations of Directly Imaged Exoplanet HD 106906b", *The Astronomical Journal*, Volume 159, Issue 4, id.140

Lew, Apai, Zhou, Radigan, Marley, Schneider, Cowan, Miles-Páez, Manjavacas, **Karalidi**, Bedin, Lowrance, Burgasser: "Cloud Atlas: Weak color modulations due to rotation in the planetary-mass companion GU Psc b and 11 other brown dwarfs from L5 to T8", the *Astronomical Journal*, Volume 159, Issue 3, id.125

Zhou, Apai, Bedin, Lew, Schneider, Burgasser, Manjavacas, **Karalidi**, Metchev, Miles-Paez, Cowan, Lowrance, Radigan: "Cloud Atlas: High-precision HST/WFC3/IR Time-resolved Observations of Directly Imaged Exoplanet HD 106906b", *The Astronomical Journal*, Volume 159, Issue 4, id.140

Miles-Paez, Metchev, Apai, Zhou, Manjavacas, **Karalidi**, Lew, Burgasser, Bedin, Cowan: "Cloud Atlas: Variability in and out of the Water Band in the Planetary-mass HD 203030B Points

to Cloud Sedimentation in Low-gravity L Dwarfs”, 2019, The Astrophysical Journal, Volume 883, Issue 2, article id. 181

Manjavacas, Apai, Lew, Zhou, Schneider, Burgasser, **Karalidi**, Miles-Paez, Lowrance, Cowan, Bedin, Marley, Metchev, Radigan: ”Cloud Atlas: Rotational Spectral Modulations and Potential Sulfide Clouds in the Planetary-mass, Late T-type Companion Ross 458C”, 2019, The Astrophysical Journal Letters, Volume 875, Issue 2, article id. L15

Zhou, Apai, Lew, Schneider, Manjavacas, Bedin, Cowan, Marley, Radigan, **Karalidi**: ”Cloud Atlas: High-contrast Time-resolved Observations of Planetary-mass Companions”, 2019, The Astronomical Journal, Volume 157, Issue 3, article id. 128

Manjavacas, Apai, Zhou, Lew, Schneider, Metchev, Miles-Páez, Radigan, Marley, Cowan, **Karalidi**, Burgasser, Bedin, Lowrance, Kauffmann: ”Cloud Atlas: Hubble Space Telescope Near-infrared Spectral Library of Brown Dwarfs, Planetary-mass Companions, and Hot Jupiters”, 2019, The Astronomical Journal, Volume 157, Issue 3, article id. 101

Zhou, Apai, Metchev, Lew, Schneider, Marley, **Karalidi**, Manjavacas, Bedin, Cowan, Miles-Páez, Lowrance, Radigan, Burgasser: ”Cloud Atlas: Rotational Modulations in the L/T Transition Brown Dwarf Companion HN Peg B”, 2018, The Astronomical Journal, Volume 155, Issue 3, article id. 132

Manjavacas, Apai, Zhou, **Karalidi**, Lew, Schneider, Cowan, Metchev, Miles-Paez, Burgasser, Radigan, Bedin, Lowrance, Marley: ”Cloud Atlas: Discovery of Rotational Spectral Modulations in a Low-mass, L-type Brown Dwarf Companion to a Star”, 2018, The Astronomical Journal, Volume 155, Issue 1, article id. 11

Schlawin, Burgasser, **Karalidi**, Gizis, Teske: ”Spectral Variability of Two Rapidly Rotating Brown Dwarfs: 2MASS J08354256-0819237 and 2MASS J18212815+1414010”, 2017, The Astrophysical Journal, Volume 849, Issue 2, article id. 163

Apai, **Karalidi**, Marley, Yang, Flateau, Metchev, Cowan, Buenzli, Burgasser, Radigan, Artigau, Lowrance: ”Zones, Spots, and Planetary-Scale Waves Beating in Brown Dwarf Atmospheres”, 2017, Science, 357, issue 6352.

Lew, Apai, Zhou, Schneider, Burgasser, **Karalidi**, Yang, Marley, Cowan, Bedin, Metchev, Radigan, Lowrance: ”Cloud Atlas: Discovery of Patchy Clouds and High-amplitude Rotational Modulations in a Young, Extremely Red L-type Brown Dwarf”, 2016, The Astrophysical Journal, Volume 826, Issue 1, article id. 8

Yang, Apai, Marley, **Karalidi**, Flateau, Showman, Metchev, Buenzli, Radigan, Artigau, Lowrance, Burgasser: ”Extrasolar Storms: Pressure-dependent Changes in Light-curve Phase in Brown

Dwarfs from Simultaneous HST and Spitzer Observations”, 2016, The Astrophysical Journal, Volume 826, Issue 1, article id. 8

Karalidi, Apai, Marley, Buenzli: “Maps of Evolving Cloud Structures in Luhman 16AB from HST Time-resolved Spectroscopy”, 2016, The Astrophysical Journal, 825, 2, ID 90.

Karalidi, Apai, Schneider, Hanson, Pasachoff: “Aeolus: A Markov-Chain Monte Carlo code for mapping ultracool atmospheres. An application on Jupiter and brown dwarf HST light curves”, 2015, The Astrophysical Journal, 814, 1, ID 65.

Yang, Apai, Marley, Saumon, Morley, Buenzli, Artigau, Radigan, Metchev, Burgasser, Mohanty, Lowrance, Showman, **Karalidi**, Fplateau, Heinze: “HST Rotational Spectral Mapping of Two L-type Brown Dwarfs: Variability in and out of Water Bands indicates High-altitude Haze Layers”, 2015, The Astrophysical Journal Letters, Volume 798, Issue 1, article id. L13

Karalidi, Stam, Guirado: “Flux and polarization signals of spatially inhomogeneous gaseous exoplanets”, 2013, Astronomy & Astrophysics, 555, A127.

Karalidi, Stam, Snik, Bagnulo, Sparks, Keller: “Observing the Earth as an exoplanet with LOUPE, the lunar observatory for unresolved polarimetry of Earth”, 2012, Planetary and Space Science, Volume 74, Issue 1

Karalidi, Stam, Hovenier: “Looking for the rainbow on exoplanets”, 2012, Astronomy & Astrophysics, 548, A90.

de Kok, Stam, **Karalidi**: “Characterizing exoplanetary Atmospheres through infrared polarimetry”, 2011, The Astrophysical Journal, 741, 1, ID 59

Karalidi, Stam, Hovenier: “Flux and polarization spectra of Water clouds on exoplanets”, 2011, Astronomy & Astrophysics, 530, A69+

Snik, **Karalidi**, Keller: “Spectral modulation for full linear polarimetry”, 2011, Applied Optics; Applied Optics, 48, 7, pp. 1337- 1346

Non-refereed publications (more than 10 contributors)

Apai et al. “Mapping Ultracool Atmospheres: Time-domain Observations of Brown Dwarfs and Exoplanets”, 2019, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers, no. 204; Bulletin of the American Astronomical Society, Vol. 51, Issue 3, id. 204

Apai et al.: “Exploring Other Worlds: Science Questions for Future Direct Imaging Missions (EXOPAG SAG15 Report)”, 2017

Proposals and observation time awarded:

NASA Habitable Worlds, 2019, PI: Karalidi, Science-PI: Bott, coI: Kataria

Hubble Space Telescope Cycle 28, 2020, PI: Karalidi; coIs: Apai, Harrington, Lew, Marley, Millar-Blanchaer

Keck DDT 2020A, PI: Manjavacas, coIs: Miles-Paez, Karalidi, Sanchez Bejar

Spitzer time 2019, PI: Vos, coIs: Liu, Karalidi, Dupuy, Allers, Biller

IRTF time 2017, PI: Burgasser, coIs: Schlawin, Gizis, Karalidi, Teske

Hubble Space Telescope Cycle 23 and K2 time, 2015, GO 14195, PI: Gizis, coIs: Casewell, Fortney, Hammel, Irwin, Karalidi, Lissauer, Marley, Rowe, Simon

Hubble Space Telescope Cycle 23 time, 2015, GO 14241, PI: Apai, coIs: Bedin, Burgasser, Cowan, Karalidi, Lew, Lowrance, Marley, Metchev, Radigan, Schneider, Yang, Zhou

Hubble Space Telescope Cycle 23, 2015, Theory id.14278, PI: Apai, coIs: Karalidi, Marley

Oral presentations

Cloud Academy II: Les Houches School of Physics, Les Houches, France, 2020 (invited; postponed due to COVID-19 outbreak)

Lorentz Center workshop: Directly Imagine Exoplanets in Polarized light with ELTS, Leiden, the Netherlands, 2019 (co-organizer)

AAS winter meeting 2019, Seattle, WA, 2019 (contributed)

Jet Propulsion Laboratory astronomy colloquium, Pasadena, CA, 2018 (invited)

Multi-Dimensional Characterization of Distant Worlds, University of Michigan, Ann Arbor, MI, 2018 (invited)

Enabling Transiting Exoplanet Observations with JWST, STScI, Baltimore, MD, 2017 (invited)

Exoclimates 2016, Quest University, Squamish, Canada, 2016 (contributed)

Kavli summer program in Astrophysics 2016: Exoplanetary Atmospheres, UC Santa Cruz, USA, 2016 (invited)

NASA Ames, Moffett Field, Mountain View, CA, USA, 2016 (invited)

Pathways towards Presentations habitable Planets II, Satellite Session “Mapping Other Worlds”, Bern, Switzerland, 2015 (contributed)

Steward Observatory internal symposium, Tucson, AZ, USA, 2015 (contributed)

Origins seminar, University of Arizona, Tucson, AZ, USA, 2013 (contributed)

FLASH talk, NOAO, Tucson, AZ, USA, 2013 (contributed)

European Planetary Science Conference, Madrid, Spain, 2012 (contributed)

ESA’s Scientific Preparations for Lunar Exploration workshop, ESTEC, the Netherlands, 2012 (contributed)

SRON PhD forum, Groningen, the Netherlands, 2012 (contributed)

Dutch exoplanet society meeting, Leiden, the Netherlands, 2010 (contributed)

SRON Science Days annual conference, Dalfsen, the Netherlands, 2009 (contributed)

7th Conference of the Hellenic Astronomical Society, Hel. A. S., Kefallonia, Greece, 2005 (contributed)

Conference Abstracts & Posters (** denotes (co)-supervised students)

”Modeling the Earth as an exoplanet using Earthshine observations”, Gordon**, Karalidi, the Exoplanets in Our Backyard: Solar System and Exoplanet Synergies on Planetary Formation, Evolution, and Habitability workshop, Houston, Texas, 2020

”The HST K2 View of Uranus”, Gizis, Rowe, Marley, Simon, **Karalidi**, Harty, American Astronomical Society meeting #235, id. 278.03. Bulletin of the American Astronomical Society, Vol. 52, No. 1

”Cloud Atlas: Unraveling the Vertical Cloud Structure in Ultracool Atmospheres with Self-consistent Heterogeneous Cloud Models”, Lew, Marley, Apai, Zhou, Cowan, Schneider, **Karalidi**, Manjavacas, Bedin, EPSC-DPS Joint Meeting 2019, held 15-20 September 2019 in Geneva, Switzerland, id. EPSC-DPS2019-1058

”Modeling Super-Earth Atmospheres in Preparation for Upcoming Extremely Large Telescopes”, Thompson**, Fortney, Skemer, Robinson, **Karalidi**, Sallum, American Astronomical Society, AAS Meeting #233, id.326.03

- "Comparing Earthshine Observations to Models of Earth-as-an-Exoplanet", Tasker**, **Karalidi**, Fortney, American Astronomical Society, AAS Meeting #233, id.247.12
- "The Spectropolarimeter for Planetary Exploration: SPEX", Laan, Stam, Snik, **Karalidi**, Keller, ter Horst, Navarro, Oomen, de Vries, Hoogeveen, Proceedings of the SPIE, Volume 10566, id. 105662G 7 pp. (2017)
- "Precision Spectral Variability of L Dwarfs from the Ground", Burgasser, Schlawin, Teske, **Karalidi**, Gizis, American Astronomical Society, AAS Meeting #229, id.408.01
- "Mapping the atmospheres of other worlds", **Karalidi**, Apai, Search for Life Beyond the Solar System. Exoplanets, Biosignatures Instruments. Online at <http://www.ebi2014.org>, id.P2.22
- "Spectral Mapping and Long-Term Monitoring: Details and Dynamics of Condensate Cloud Layers", Apai, Buenzli, Fplateau, Metchev, Radigan, Marley, Showman, Reid, Yang, Heinze, **Karalidi**, Burgasser, Lowrance, Artigau, Mohanty; Spitzer Exploration Science Team: Extrasolar Storms, American Astronomical Society, AAS Meeting #223, id.425.05
- "Polarimetry for rocky exoplanet characterization", Stam and **Karalidi**, EGU General Assembly 2013, held 7-12 April, 2013 in Vienna, Austria, id. EGU2013-12850
- "Searching for signs of habitability with LOUPE, the Lunar Observatory of Unresolved Polarimetry of Earth", Karalidi, Stam, Snik, Bagnulo, Sparks, Keller, European Planetary Science Congress 2012, held 23-28 September, 2012 in Madrid, Spain, id. EPSC2012-537
- "Observing the Earth as an exoplanet", **Karalidi**, Stam, Snik, Keller, Sparks, Bagnulo, EGU General Assembly 2012, held 22-27 April, 2012 in Vienna, Austria., p.10571
- "Signatures of Water Clouds on Exoplanets: Numerical Simulations", **Karalidi**, Stam, Keller, Molecules in the Atmospheres of Extrasolar Planets, proceedings of a conference held at Observatoire de Paris, Paris, France 19-21 November, 2008. ASP Conference Series, Vol. 450. Edited by J.P. Beaulieu, S. Dieteres, and G. Tinetti. San Francisco: Astronomical Society of the Pacific, 2011., p.101
- "Characterizing exoplanetary atmospheres through infrared polarimetry", de Kok, Stam, **Karalidi**, EPSC-DPS Joint Meeting 2011, held 2-7 October 2011 in Nantes, France. <http://meetings.copernicus.org/epsc-dps2011>, p.553
- "Flux and Polarization Signals of Water Clouds on Earth-Like Exoplanets", **Karalidi**, Stam, Hovenier, Pathways Towards Habitable Planets, proceedings of a workshop held 14 to 18 September 2009 in Barcelona, Spain. Edited by Vincent Coudé du Foresto, Dawn M.

Gelino, and Ignasi Ribas. San Francisco: Astronomical Society of the Pacific, p.466

”Polarimetry of Mars with SPEX, an Innovative Spectropolarimeter”, Stam, Laan, Snik, **Karalidi**, Keller, Ter Horst, Navarro, Aas, de Vries, Oomen, Hoogeveen, Third International Workshop on The Mars Atmosphere: Modeling and Observations, held November 10-13, 2008 in Williamsburg, Virginia. LPI Contribution No. 1447, p.9078

”SPEX: an in-orbit spectropolarimeter for planetary exploration”, Snik, **Karalidi**, Keller, Laan, ter Horst, Navarro, Stam, Aas, de Vries, Oomen, Hoogeveen, Space Telescopes and Instrumentation 2008: Optical, Infrared, and Millimeter. Edited by Oschmann, Jacobus M., Jr.; de Graauw, Mattheus W. M.; MacEwen, Howard A. Proceedings of the SPIE, Volume 7010, article id. 701015, 10 pp. (2008)

”Long-term Cosmic-ray Modulation during Solar Cycle 23”, Mavromichalaki, Paouris, **Karalidi**, RECENT ADVANCES IN ASTRONOMY AND ASTROPHYSICS: 7th International Conference of the Hellenic Astronomical Society. AIP Conference Proceedings, Volume 848, pp. 184-193 (2006)

Service

Referee journals ApJ, AJ

Co-organizer of the Lorentz Center workshop “Directly Imaging Exoplanets in Polarized Light with ELTs”, Leiden, the Netherlands, 2019

Serves in UCF Physics Department Outreach committee, Graduate Curriculum & Affairs committee and Webpage and Social Media committee

Served in NASA telescope Time Allocation Committees

Served in NASA Roses panels

Co-organizer of the Planetary Science Journal Club, Department of Physics, University of Central Florida 2019–today

Organizer of the joint Steward Observatory and Lunar and Planetary Laboratory “Origins” seminar <http://eos-nexus.org/origins-seminar/> 2014-2017

Public outreach

Rijksmuseum Boerhaave - the Lorentz Center public lecture, Leiden, the Netherlands, winter 2019 (sold out)

Physics Career Day UCF 2019 - oral presentation

Bayview Salon and fundraiser, Bayview, CA, winter 2017

Public Evening Lecture Series talk, University of Arizona, winter 2016

Contributor in the EOS blog <http://eos-nexus.org/eos-blog/>

Astronomy on Tap talk, Borderlands Brewery, Tucson, AZ, winter 2015

Magazines and newspaper articles featuring my work on exoplanets (Experiment NL 2013, Volkskrant April 2013, SRONnieuws)