

Thea Kozakis

ASTROPHYSICIST · ASTROBIOLOGIST

National Space Institute, Technical University of Denmark, Lyngby, Denmark

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“Imagination will often carry us to worlds that never were, but without it we go nowhere.” - Carl Sagan

Education & Academic Positions

Postdoctoral Researcher

NATIONAL SPACE INSTITUTE, TECHNICAL UNIVERSITY OF DENMARK

- Postdoctoral fellowship with Exoplanet Group

Lyngby, Denmark

Sept 2020 - present

PhD Astrophysics

CARL SAGAN INSTITUTE, CORNELL UNIVERSITY

- Advisor: Lisa Kaltenegger
- Thesis: Stellar UV Environments and Planetary Habitability Throughout Stellar Evolution

Ithaca, New York, USA

May 2020

MS Astrophysics

CARL SAGAN INSTITUTE, CORNELL UNIVERSITY

- Advisor: Lisa Kaltenegger
- Funded by New York Space Grant

Ithaca, New York, USA

May 2017*

*medical exemption granted from the University for the 2015-2016 academic year

BS Astrophysics, BS Physics

COLLEGE OF CHARLESTON

- Advisor: Joseph Carson
- Thesis: Directly Imaging Planets Around High-Mass Stars
- Minor: Mathematics

Charleston, South Carolina, USA

May 2013

Research Interests

terrestrial planets, terrestrial planetary habitability, white dwarf planetary systems, photochemical/climate atmospheric modeling, effects of UV light on surface life, origins of life, planet-star interactions, biosignature modeling and detection

Academic Honors & Grants

2019	NASA New York Space Grant , NASA New York Space Grant Consortium	Cornell University
2017, 2018	Simons Collaboration on the Origins of Life Grant , Simons Foundation	Cornell University
2016	Eleanor York Prize , Astronomy and Space Sciences Department	Cornell University
2015	Exemplary Poster Award , Emerging Researchers in Exoplanet Science Symposium	Pennsylvania State University
2013-2014	NASA New York Space Grant , NASA New York Space Grant Consortium	Cornell University
2014, 2015	NSF Graduate Fellowship Honorable Mention , National Science Foundation	Cornell University
2013	Outstanding Undergraduate Research Award , South Carolina Academy of Science	College of Charleston
2013	Department Honors Award , Department of Physics & Astronomy	College of Charleston
2013	Outstanding Student Award , School of Sciences and Mathematics	College of Charleston
2012	Major Academic Year Support Grant , School of Sciences and Mathematics	College of Charleston
2012	Summer Undergraduate Research with Faculty Grant , School of Sciences and Mathematics	College of Charleston
2012	Goldwater Scholarship Honorable Mention , Scholarship & Excellence in Education Foundation	College of Charleston

Publications

T. Kozakis & L. Kaltenegger, 2020, *High resolution Spectra of Earth-Like Planets Orbiting Red Giant Host Stars*, AJ, 160, 225

L. Kaltenegger, R. J. MacDonald, **T. Kozakis**, et al., 2020, *The White Dwarf Opportunity: Robust Detections of Molecules in Earth-like Exoplanet Atmospheres with the James Webb Space Telescope*, ApJL, 901, L1

T. Kozakis, Z. Lin, L. Kaltenegger, 2020, *Planetary Spectra and Biosignatures of Earth-like Planets Orbiting in the White Dwarf Habitable Zone*, ApJL, 894, L6

T. Kozakis & L. Kaltenegger, 2019, *Atmospheres and UV Environments of Earth-like Planets throughout Post-main-sequence Evolution*, ApJ, 875, 99

T. Kozakis, L. Kaltenegger, & D.W. Hoard, 2018, *UV Surface Environments and Atmospheres of Earth-like Planets Orbiting White Dwarfs*, ApJ, 862, 69

T. Boyajian, ... **T. Kozakis**, et al., 2016, *Planet Hunters X. KIC 8462852: Where's the flux?*, MNRAS

J. Carson, C. Thalmann, M. Janson, **T. Kozakis**, et al., 2013, *Direct Imaging Discovery of a 'Super-Jupiter' Around the late B-Type Star κ And*, ApJL, 763, 32

Presentations

Valparaiso University Physics & Astronomy Colloquium, invited talk

Valparaiso University, Valparaiso,
Indiana, USA (online)

LIFE AFTER (STELLAR) DEATH: HABITABILITY AROUND WHITE DWARFS

March 2021

AAS Winter Meeting, talk

Online

LIFE AFTER (STELLAR) DEATH: HABITABILITY AROUND WHITE DWARFS

January 2021

MIT Exoplanet Tea, invited talk

MIT, Cambridge, Massachusetts,
USA (online)

LIFE AFTER (STELLAR) DEATH: HABITABILITY AROUND WHITE DWARFS

October 2020

Exoplanets III, talk

Heidelberg, Germany (online)

LIFE AFTER (STELLAR) DEATH: ATMOSPHERES AND BIOSIGNATURES OF EARTH-LIKE PLANETS ORBITING IN THE
HABITABLE ZONES OF WHITE DWARFS

July 2020

AAS Winter Meeting, dissertation talk

Honolulu, Hawai'i, USA

PLANETARY HABITABILITY AND BIOSIGNATURES THROUGHOUT STELLAR EVOLUTION

January 2020

Extreme Solar Systems IV, poster

Reykjavík, Iceland

DYING TO LIVE: POST-MAIN SEQUENCE HABITABILITY

August 2019

Exoclimates V, poster

University of Oxford, Oxford, UK

DYING TO LIVE: POST-MAIN SEQUENCE HABITABILITY

August 2019

Astrobiology Graduate Conference, talk

Salt Lake City, Utah, USA

ATMOSPHERES AND UV ENVIRONMENTS OF PLANETS THROUGHOUT POST-MAIN SEQUENCE EVOLUTION

July 2019

Emerging Researchers in Exoplanet Science Symposium, talk

Cornell University, Ithaca, New York,
USA

ATMOSPHERES AND UV ENVIRONMENTS OF PLANETS THROUGHOUT POST-MAIN SEQUENCE EVOLUTION

June 2019

AAS Winter Meeting, talk

Seattle, Washington, USA

HABITABILITY OF POST-MAIN SEQUENCE PLANETARY SYSTEMS

January 2019

Planetary Lunch Talk Series, talk

Cornell University, Ithaca, New York,
USA

LIFE AFTER (STELLAR) DEATH: HABITABILITY AROUND WHITE DWARFS

August 2018

Graduate Student/Post-Doctorate Seminar, talk

DYING TO LIVE: POST-MAIN SEQUENCE HABITABILITY

Cornell University, Ithaca, New York,
USA

August 2018

Cool Stars 20, poster

ATMOSPHERES AND UV GROUND ENVIRONMENT FOR PLANETS ORBITING RED GIANTS

Boston, Massachusetts, USA

August 2018

University of St Andrews, invited talk

UV SURFACE ENVIRONMENTS AND ATMOSPHERES OF EARTH-LIKE PLANETS ORBITING WHITE DWARFS

University of St Andrews, St
Andrews, UK

July 2018

University of Edinburgh, invited talk

UV SURFACE ENVIRONMENTS AND ATMOSPHERES OF EARTH-LIKE PLANETS ORBITING WHITE DWARFS

University of Edinburgh, Edinburgh,
UK

July 2018

Exoplanets II, poster

UV SURFACE ENVIRONMENTS AND ATMOSPHERES OF EARTH-LIKE PLANETS ORBITING WHITE DWARFS

Cambridge University, Cambridge,
UK

July 2018

Graduate Student/Post Doctorate Seminar, talk

DO YOU BELIEVE IN LIFE AFTER (STELLAR) DEATH?: WHITE DWARF HABITABILITY

Cornell University, Ithaca, New York,
USA

June 2018

Emerging Researchers in Exoplanet Science Symposium, poster

ATMOSPHERES AND UV GROUND ENVIRONMENT FOR PLANETS ORBITING RED GIANTS

Pennsylvania State University, State
College, Pennsylvania, USA

June 2018

Emerging Researchers in Exoplanet Science Symposium, talk

BIOSIGNATURES AND UV ENVIRONMENTS OF EARTH-LIKE PLANETS ORBITING WHITE DWARFS

Pennsylvania State University, State
College, Pennsylvania, USA

June 2017

Astrobiology Graduate Conference, talk

BIOSIGNATURES AND UV ENVIRONMENTS OF EARTH-LIKE PLANETS ORBITING WHITE DWARFS

Charlottesville, Virginia, USA

June 2017

Astrobiology Science Conference, poster

BIOSIGNATURES AND UV ENVIRONMENTS OF EARTH-LIKE PLANETS ORBITING WHITE DWARFS

Mesa, Arizona, USA

April 2017

Astrobiology Science Conference, poster

AGE ROTATION-ACTIVITY RELATIONSHIP OF KEPLER FIELD STARS

Chicago, Illinois, USA

June 2015

Emerging Researchers in Exoplanet Science Symposium, poster

AGE ROTATION-ACTIVITY RELATIONSHIP OF KEPLER FIELD STARS

Pennsylvania State University, State
College, Pennsylvania, USA

May 2015

South Carolina Academy of Science Conference, talk

DIRECT IMAGING DISCOVERY OF A 'SUPER-JUPITER' AROUND A LATE B-TYPE STAR

Columbia, South Carolina, USA

April 2013

AAS Winter Meeting, poster

THE SUBARU SEEDS IMAGING SEARCH FOR EXOPLANETS AROUND HIGH-MASS STARS

Long Beach, California, USA

January 2013

AAS Winter Meeting, poster

THE SUBARU SEEDS IMAGING SEARCH FOR EXOPLANETS AROUND HIGH-MASS STARS

Austin, TX, USA

January 2012

Teaching

Teaching Assistant: From New Worlds to Black Holes

LECTURER: DR LISA KALTENEGGER

Cornell University, Ithaca, NY, USA

Fall 2015 (Head TA), 2018

- Introductory astronomy class focusing on the Universe as a whole
- Organized other TAs, managed course website, and dealt with logistical issues
- Assisted in writing and grading homework assignments and exams
- Taught recitation sections and held office hours

Teaching Assistant: Our Solar System

LECTURERS: DRs STEVE SQUIRES AND PHIL NICHOLSON

- Introductory astronomy class focusing on the Solar System
- Taught recitation sections and lab sections and held office hours
- Assisted in writing and grading homework assignments and exams

Cornell University, Ithaca, NY, USA

Spring 2015

Teaching Assistant: A Spacecraft Tour of the Solar System: Science, Policy and Exploration

LECTURER: DR ALEXANDER HAYES

- Writing class focused on exploration of the Solar System
- Assisted in teaching students how to write popular science articles
- Graded written work and gave feedback and held office hours
- Managed course website

Cornell University, Ithaca, NY, USA

Fall 2014

Outreach

Expanding Your Horizons

Cornell University, Ithaca, NY, USA

WORKSHOP DESIGNER/ORGANIZER

2015-2020

- Yearly outreach event attended by middle school girls from New York to learn about the different STEM fields
- Part of the original astronomy workshop design team, team leader for the past 2 years
- Wrote yearly applications for event approval, recruit/train volunteers and run event

Mental Health Counselor Training (EARS)

Ithaca, NY, USA

CERTIFIED MENTAL HEALTH COUNSELOR/TRAINER

2015-2020

- Semester long training offered by EARS (Empathy Assistance and Referral Service), a walk-in mental health counseling program
- Give presentations on empathetic listening and communication skills to Cornell students of all levels
- Small group teaching of Cornell graduate students and post doctoral researchers skills of mental health counseling

Museum in the Dark

Ithaca, NY, USA

ORGANIZER

2014-2017

- Halloween-themed outreach event at a local museum with astronomy related demos
- Liaison between the museum and the astronomy department
- Recruited/trained volunteers to run science demos and obtained/organized all materials for the event

4-H Focus for Teens Workshop

Cornell University, Ithaca, NY, USA

ORGANIZER

2014-2017

- Summer outreach event for high school students in the New York 4-H program to attend STEM related workshops
- Helped design/modify the 3 day workshop
- Recruited/trained graduate student volunteers

Academic Service

Session chair

Honolulu, Hawai'i

AAS WINTER MEETING

January 2020

SOC/LOC/session chair

Cornell University

EMERGING RESEARCHERS IN EXOPLANET SCIENCE SYMPOSIUM

June 2019

LOC/session chair

Pennsylvania State University

EMERGING RESEARCHERS IN EXOPLANET SCIENCE SYMPOSIUM

June 2018

LOC/session chair

Yale University

EMERGING RESEARCHERS IN EXOPLANET SCIENCE SYMPOSIUM

June 2017

SOC/LOC/session chair

Cornell University

EMERGING RESEARCHERS IN EXOPLANET SCIENCE SYMPOSIUM

June 2016

Reviewer

Astrophysical Journal