



LEVERHULME CENTRE FOR LIFE IN THE UNIVERSE

LCLU Annual Science Day 2024

King's College

King's Parade, Cambridge

Friday, 15 March

*All Talks and presentations will take place at
King's College, The Keynes Lecture Theatre with
refreshments and lunch in the Chetwynd Room*

Programme

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Venue: *King's College, The Keynes Lecture Theatre*

- 9:00 - 10:00** Registration & coffee
10:00 Welcome to Annual Science Day 2024
by Dr Emily Mitchell
10:05 - 10:35 Keynote speech by Dr Karina Nakashima
Coacervate droplets: minimal, yet complex protocells
10:30 - 11:00 Coffee break, Poster Presentations

Session I: On the search for life (11:00 – 12:00)

- 11:00 - 11:15** **Philipp Spillman (History and Philosophy of Science)** What Does it Mean to Search for Earth-Like Life?
11:15 - 11:30 **Princess Buma-at (Zoology)**
Putative algal microfossils from the Ediacaran Doushantuo Formation
11:30 - 11:45 **Philip Vixseboxse (Earth Sciences)**
An exogenous enzymatic control on soft-tissue preservation in the early animal fossil record
11:45 - 12:00 **Savvas Constantinou (Institute of Astronomy)** Exoplanetary Atmospheric Retrievals with Transit Spectroscopy in the JWST Era
12:00 - 13:00 **Break:** Photo and lunch at *the Chetwynd Room*

Session II: Just like home? (13:00 - 14:00)

- 13:00 - 13:15** **Janna K. Mueller (Department of History and Philosophy of Science)**
Imagining Inhabitability and Classifying the Cosmos: Early 19th Century Debates on Extraterrestrial Life
13:15 - 13:30 **Greg Cooke (Institute of Astronomy)**
Lethal surface ozone concentrations are possible on habitable zone exoplanets
13:30 - 13:45 **Fred Simmons (Faculty of Divinity)**
Fine-Tuning and the Philosophical Significance of Life in the Universe
13:45 - 14:00 **Edouard Barrier (Institute of Astronomy)**
Convection in exoplanet atmospheres
14:00 – 14:30 **Break:** Coffee, poster presentations

Session III: Forming, mining, and impacting worlds (14:30 – 15:30)

- 14:00 - 14:15** **Nathan Magnan (DAMTP)**
Planet formation by the streaming instability
14:15 - 14:30 **Laura Rogers (Institute of Astronomy)**
Using polluted white dwarfs to probe the bulk composition and geological history of exoplanetary material
14:30 - 14:45 **Catriona McDonald (Institute of Astronomy)**
Delivering prebiotic feedstocks with cometary impacts
14:45 - 15:00 **Ross Findlay (Earth Sciences)**
Understanding Early Formed Asteroids: Correlating Petrography with Geochemistry
15:30 - 16:00 **Break:** Coffee, poster presentations

Session IV: From Spark to Species (16:00 - 17:00)

- 16:00 - 16:15** **Arsham Nejad Kourki (History and Philosophy of Science)**
Transitions in Structural Complexity: a new approach to the history of life on Earth
- 16:15 - 16:30** **Ziwei Liu (Earth Sciences)**
Can Manganese (II) promote prebiotically plausible non-enzymatic RNA ligation reactions?
- 16:30 - 16:45** **Lukas Rossmannith (Physics)**
Investigating the impact of Stellar Flaring on Nitroprusside formation
- 16:45 - 17:00** **Euan Furness (Zoology)**
The Neoproterozoic carbon cycle and the origin of animals
- 17:00 - 17:30** **Break:** Coffee and posters
- 17:30 - 18:00** **End of the Annual Science Day Keynote presentation**
Prof Nikku Madhusudhan on
The Hycean Paradigm in the Search for Life Elsewhere
- 18:00 - 19:30** Closing remarks, prizes and reception

*For any questions and enquiries, please contact LCLU Admin: admin@lclu.cam.ac.uk