

Session Program

15-16 Oct 2026

**Representative Signatures in Data Analysis -
Epistemological Reflections**

Deep learning and scientific realism

Lamarr/RC Trust Dortmund, JvF25/3-303 - Conference Room

Friday 16 October

11:45

Deep learning and scientific realism

Session | Location: Lamarr/RC Trust Dortmund, JvF25/3-303 - Conference Room

11:45–12:30 **The Prospects for Realism in AI-Driven Science: The Case of Exoplanet Detection**

Speaker

Dr Mahdi Khalili

12:30

14:00

Deep learning and scientific realism

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14:00–14:45

What can we learn from hallucination? Scientific realism and models in astrophysics in the age of the AI

Speaker

Dr Silvia De Bianchi

14:45–15:30 **The Explanation–Justification Gap in Deep Learning Astroparticle Physics**

Speaker

Dr Koray Karaca

15:30

15:45

Deep learning and scientific realism

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15:45–16:30

Does machine-learning-driven scientific discovery pose new challenges to the No Miracles Argument?

Speaker

Dr Johannes Mierau

16:30