

FRIDAY, DEC 4

CN-5 TURBULENCE

- 13:00 **Thorsten Naab (MPA)**
Overview
- 13:25 **Naveen Yadav (MPA)**
3D supernovae progenitor models
- 13:50 **Ulrich Steinwandel (USM/LMU)**
Supernovae feedback in the turbulent interstellar medium
- 14:15 **Linda Tacconi (MPE) PRIZE WINNER TALK**
Foreign member of the Royal Swedish Academy recognizing her exceptional research in millimetre astronomy and her efforts to promote European astronomy.
- 14:55 Tea and Coffee Break

CN-7 MATTER UNDER EXTREME CONDITIONS

- 15:30 **Laura Fabbietti (TUM)**
Overview
- 15:55 **Bernhard Hohlweger (TUM)**
Studying the strong interaction of stable and unstable hadrons at the LHC
- 16:20 **Robert Bollig (MPA)**
3D Supernovae explosions of perturbed progenitors and the effects of muonization
- 16:45 End of Session

WEDNESDAY, DEC 9

- 14:00 **Thomas Kuhr (LMU)**
RU-A Overview: Fundamental particles and forces
- 14:25 **Thibaud Humair (MPP)**
RU-A Highlight: Status of Belle II, first results and prospects
- 14:50 **Andreas Weiler (TUM)**
RU-B Overview: Particles and the cosmos
- 15:15 **Christoph Wiesinger (TUM)**
RU-B Highlight: No neutrinos not found
- 15:40 Tea and Coffee Break
- 16:00 **Joseph Mohr, Jochen Weller (LMU)**
RU-C Overview: Origins and evolution of Large Scale Structure
- 16:25 **Volker Springel (MPA)**
RU-D Overview: From the Large Scale Structure to galaxies, stars and planets
- 16:50 **Dieter Braun (LMU)**
- 17:15 End of Session

THURSDAY, DEC 10

ANNUAL GENERAL ASSEMBLY OF ALL CLUSTER MEMBERS

- 15:00 **Andreas Burkert (LMU), Stephan Paul (TUM)**
ORIGINS Summary
- 15:20 **Katharina Langosch (ORIGINS), Alice Smith-Gicklhorn (ORIGINS), Ina Haneburger (MIAPP)**
Administration, Scientific Coordination, Public Outreach & Website
- 15:50 **Andreas Weiler (TUM), Rolf Kudritzki (LMU)**
MIAPP Summary
- 16:05 **Dieter Braun (LMU)**
IDSL Plans
- 16:20 **Martin Losekamm/Sebastian Ruckerl (TUM)**
LRSM Summary
- 16:35 **Klaus Dolag (USM/LMU)**
C2PAP Summary
- 16:50 **Allen Caldwell (MPP)**
ODSL Summary
- 17:05 End of Session

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Science Afternoons

Astro-, Bio- & Particle Physics

THE VIRTUAL SCIENCE MEETING OF
THE EXCELLENCE CLUSTER ORIGINS

November 23 – 25
December 1, 4, 9, 10 2020

<https://tum-conf.zoom.us/j/96244041673>

Meeting ID: 962 4404 1673

Passcode: 285451



MONDAY, NOV 23

OPENING

13:00 **Andreas Burkert (LMU) / Stephan Paul (TUM)**

CN-2 PLANETS AND OTHER HABITATS

13:10 **Barbara Ercolano (LMU)**

Understanding planet formation in the context of emergence and survival of the first building blocks of life

13:35 **Oliver Trapp (LMU)**

Triggering chemical evolution

14:00 **Jana Steuer/Hanna Kellermann (LMU)**

FOCES spectrograph on Wendelstein - detection of exoplanets, combination with TESS data.

14:25 **Til Birnstiel (LMU) PRIZE WINNER TALK**

2020 Astrophysical Software Award of the German Astronomical Society for the software he developed for modelling the temporal and spatial evolution of dust in protoplanetary disks.

14:50 Tea and Coffee Break

ORIGINS PhD AWARD 2020 (THEORY)

15:10 **Roland Diehl (MPE)**

Laudatio to Christian Vogl

15:20 **Christian Vogl (TUM, MPA)**

Cosmological distances of type II supernovae from radiative transfer modelling

CN-4 DARK ENERGY

16:00 **Ariel Sanchez (MPE)**

Overview

16:25 **Paolo Campeti (MPA)**

Towards precision measurements of the primordial power spectrum of gravitational waves

16:50 **Alex Barreira (ORIGINS Fellow)**

The importance of galaxy bias on primordial non-gaussianity constraints

17:15 End of Session

TUESDAY, NOV 24

CN-8 EMERGENCE OF STRUCTURE

13:00 **Erwin Frey (LMU)**

Overview

13:25 **Petra Schwille (MPIB)**

Is there a "hydrogen atom" of biology?

13:50 **Ulrich Gerland (TUM)**

Prebiotic "kinetic error filtering" mechanism

14:15 **Job Boekhoven (TUM) ERC Starting Grant**

Active droplets as a platform to study the origin of molecular compartments

14:40 Tea and Coffee Break

ORIGINS PhD AWARD 2020 (EXPERIMENT)

15:10 **Erich Sackmann (TUM)**

Laudatio to Beatrice Ramm

15:20 **Beatrice Ramm (MPIB, LMU, Princeton)**

Self-organization and molecular transport by a biochemical reaction-diffusion system

16:00 End of Session

WEDNESDAY, NOV 25

CN-1 BLACK HOLES

13:00 **Dieter Lüst (MPP, LMU)**

Overview

13:25 **Ioannis Lavdas (LMU)**

Hawking radiation and the Page curve

13:50 **Andrea Merloni (MPE)**

SRG/eROSITA detection of large-scale X-ray bubbles in the Milky Way halo

14:15 **Julien Wolf (MPE)**

Finding high-redshift quasars with eROSITA

14:40 **Jakob Knollmüller (ODSL)**

Imaging in space, time & frequency: M87* as movie

15:05 Tea and Coffee Break

CN-6 COSMIC ACCELERATORS

15:30 **Frank Jenko (IPP)**

Overview

15:55 **Christian Haack (TUM)**

Detection of an astrophysical antineutrino via the Glashow resonance with IceCube

16:20 **Martin Weidl (IPP)**

Simulations of misaligned electron injection into a proton-driven plasma wakefield accelerator

16:45 **Francesca Capel (ODSL)**

Multi-messenger astrophysics through hierarchical modeling

17:10 End of Session

TUESDAY, DEC 1

CN-3 DARK MATTER

13:00 **Mathias Garny (TUM)**

Overview

13:25 **Kai Urban (TUM)**

Sommerfeld-corrected relic abundances of wino dark matter with NLO electroweak potentials

13:50 **Volker Springel (MPA) PRIZE WINNER TALK**

2020 Gruber Cosmology Prize for his defining contributions to cosmological simulations

14:30 **Andreas Burkert (USM/LMU)**

Fuzzy dark matter and the challenge of dark matter halo cores

14:55 **Klaus Dolag (C2PAP/LMU) ERC Advanced Grant**

THE COMPLEX nature of the intra cluster medium

15:20 Tea and Coffee Break

15:45 **Richard Ellis (SAC, University College London) EXTERNAL HIGHLIGHT TALK**

Probing cosmic dawn: Age-dating galaxies in the reionisation era

16:25 End of Session