

Day 1 - Monday 17 July

08:30 – 08:50 Registration

08:50 – 09:00 Welcome & Practical Info

09:00 – 09:30 OPENING TALK: XANDER TIELENS

GAS-DUST PROCESSES: EXPERIMENTS AND THEORY - CHAIR: WING-FAI THI

09:30 – 10:10 **Guillermo Muñoz-Caro (I)** Dust grains processes: experiments

10:10 – 10:30 Beate Patzer Small molecular clusters in astrophysical dust formation processes

10:30 – 11:00 Coffee Break

11:00 – 11:20 Andreas Füglistaler Solid H₂ in the ISM: Gravitational Stability of Fluids in a Phase Transition

11:20 – 12:00 **Stephanie Cazaux (I)** Dust and ice in star forming regions

12:00 – 12:20 Yves Ellinger Modelling gas-surface processes: Theory and experiment for adsorption energies determination of nitrile/isonitrile isomers

12:20 – 13:40 Lunch

13:40 – 14:20 **Laurent Wiesenfeld (I)** Theory of Gas Phase Scattering and Reactivity for Astrochemistry

14:20 – 15:00 **Dieter Gerlich (I)** Astrochemistry in temperature variable ion traps

15:00 – 15:30 Coffee Break

NUMERICAL CODES I - CHAIR: TOMMASO GRASSI

15:30 – 16:10 **Valentine Wakelam (I)** Status on gas-grain chemical models for astrochemistry

16:10 – 16:30 Dominique Maffucci The Gas Grain Chemistry of Translucent Molecular Clouds

16:30 – 16:50 Nanase Harada Chemistry in young stellar objects with grain growth

16:50 – 18:30 Short poster presentation + Poster Session

Day 2 - Tuesday 18 July

NUMERICAL CODES II - CHAIR: STEFANO BOVINO

09:00 – 09:40 **Dmitry Semenov (I)** Public astrochemical tools with dust surface processes and how to use them properly

09:40 – 10:00 Tommaso Grassi KROME: a tool for microphysics

10:00 – 10:20 Thomas Haworth Photochemical-hydrodynamics with TORUS-3DPDR

10:20 – 10:40 Jonathan Holdship Chemical Modelling with UCLCHEM

10:40 – 11:10 Coffee Break

11:10 – 11:30 Franck Le Petit Hot chemistry in PDRs & the Interstellar Medium DataBase

11:30 – 11:50 Ankan Das Complex Deuterated Species in the Interstellar Medium

11:50 – 12:30 **Simon Portegies-Zwart (I)** The Astronomical Multipurpose Software Environment

12:30 – 13:50 Lunch

13:50 – 14:50 DISCUSSION ON PUBLIC TOOLS, DATABASES, AND BENCHMARKS

14:50 – 15:00 QUICK COFFEE BREAK

CHEMISTRY IN HYDRODYNAMICAL SIMULATIONS I - CHAIR: DOMINIK SCHLEICHER

15:00 – 15:40 **Paul Clark (I)** Chemistry/microphysics in hydrodynamical simulations

15:40 – 16:00 Rafeel Riaz Primordial star formation using GRADSPH-KROME

16:00 – 16:20 Pierre Marchand Non-ideal MHD in star formation

16:20 – 16:40 Jels Boulanger The intricate interplay of physics and chemistry: an AGB story

16:40 – 17:00 John Ilee The influence of dynamic evolution on the chemistry of protoplanetary discs

18:00 – 19:00 Social Event: Ratsherrn Brewery Tour & Tasting

19:30 – 23:00 Social Dinner @ NordEvent Panorama Deck

Day 3 - Wednesday 19 July

CHEMISTRY IN HYDRODYNAMICAL SIMULATIONS II - CHAIR: DANIEL SEIFRIED

09:00 – 09:40	Troels Haugbølle (I)	Towards a complete model for H-C-O chemistry in the ISM
09:40 – 10:00	Seyit Hocuk	Chemical signatures in magnetized cloud cores
10:00 – 10:20	Bastian Körtgen	Deuterium fractionation and H ₂ D ⁺ evolution in magnetised and turbulent filaments and their substructures
10:20 – 10:40	Bo Zhao	Effect of Grain Size & Freeze-out on Non-ideal MHD Diffusivities.

10:40 – 11:10 Coffee Break

11:10 – 11:30	Maria Kirsanova	Chemo-dynamical simulations of HII regions with non-frozen dust
11:30 – 11:50	Jon Ramsey	Constraining the accretion regions of meteorites via astrochemical modelling of protoplanetary disks
11:50 – 12:10	Alessandro Lupi	Molecular gas chemistry and radiation transport with mesh-less hydrodynamics
12:10 – 12:30	Olli Sipilä	Hydrodynamics with gas-grain chemistry and radiative transfer: comparing dynamical and static models

12:30 – 13:50 Lunch

OBSERVATIONS: REAL VS SYNTHETIC - CHAIR: ROBI BANERJEE

13:50 – 14:30	David Neufeld (I)	Modeling observations
14:30 – 14:50	Amelia Stutz	Chemistry in high line-mass filaments
14:50 – 15:10	Asunción Fuente	Gas phase elemental abundances in molecular clouds (GEMS)
15:10 – 15:30	Victor Rivilla	Phosphorus: the missing prebiotic element. How to detect and model it.

15:30 – 16:00 Coffee Break

16:00 – 16:20	Tom Douglas	Post-processing of existing hydrodynamic simulations with chemical networks
16:20 – 16:40	Rachael Spowage	Synthetic observations of the transition to coherence: the role of turbulence, magnetic fields and initial conditions
16:40 – 17:00	Seamus Clarke	Synthetic observations of filaments: the problems of mapping from PPV to PPP

17:00 – 17:20 SUMMARY TALK - PAOLA CASELLI

17:20 – 18:30 FINAL DISCUSSION - MODERATORS: PAOLA CASELLI & STEFANO BOVINO