

ChETEC Zagreb Nucleosynthesis software pipeline training school



Monday 31 August 2020 - Wednesday 2 September 2020

Other Institutes

Scientific Programme

All times are Zagreb (CEST) time (same as Paris)

Friday 28th August

10h30: Zoom room opens

11h00-13h00 Troubleshooting issues for labs pre-requisites and homework.

Monday 31st August

Morning:

9h30: Zoom room opens

9h45: Welcome and school overview

Prof Raphael Hirschi (Keele University, UK; ChETEC Action chair)

10h00-11h00: **Lecture 1:** Stellar evolution and related nucleosynthesis processes (fusion chains and cycles & main and weak s process)

Prof Amanda Karakas (Monash University, Australia)

11h30-12h30: **Lecture 2:** Stellar explosions and related nucleosynthesis processes (neutrino-driven and r-process nucleosynthesis) [slides will be uploaded at a later date]

Prof Carla Frohlich (North Carolina State University, US)

Afternoon:

14h00-17h00: **Stellar evolution lab** with MESA

Led by Dr Umberto Battino (University of Edinburgh, UK)

Demonstrator: Etienne Kaiser (Keele University, UK)

Pre-requisites: instructions + input data (m13.dat)

Lab instructions: [click on this link](#)

Tuesday 1st September

Morning

9h45: Zoom room opens

10h00-11h00: **Lecture 1:** Nuclear Physics theory [slides link emailed to participants]

Dr Thomas Rauscher (University of Basel, CH)

11h30-12h30: **Lecture 2:** Nuclear Physics experiments

Dr Alison Laird (University of York, UK)

Afternoon

15h00-18h00: Nucleosynthesis lab with Nugrid's PPN

Ondrea Clarkson (University of Victoria, Canada)

Demonstrators: Tom Lawson (University of Hull, UK), Raphael Hirschi (Keele University, UK)

Pre-requisites: You will need to have a github account in order to log in to the UVIC Astrohub (public & outreach) that will be used for the PPN lab. Here are the pre-school instructions to follow for the PPN lab.

Lab instruction: follow the Python notebooks that you can find in the sub-directories LabP1 (Lab1_intro.ipynb) and LabP2 (LabP2.ipynb) inside the chetec_labs_20 directory you cloned.

Wednesday 2nd September

Morning

9h45: Zoom room opens

10h00-11h00: **Lecture 1:** Abundance observations

Dr Camilla J. Hansen (MPIA, Heidelberg, Germany)

11h30: zoom "group picture"

11h30-12h30: **Lecture 2:** Galactic Chemical Evolution

Prof Brad K. Gibson (University of Hull, UK)

Afternoon

15h00-18h00: GCE lab with NuPYCEE

Led by Dr Benoit Cote (Konkoly Observatory, Hungary)

Demonstrators: Tom Lawson (University of Hull, UK), Andres Yague (Konkoly Observatory, Hungary)

Pre-requisites: You will be able to use the same Astrohub as for the PPN lab or download the NuPyCEE code: instructions.

Lab instructions: instructions & presentation.