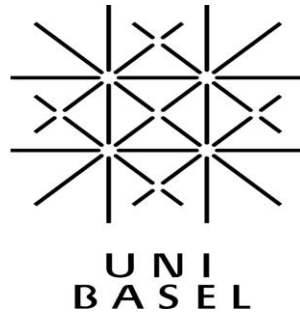


# 13<sup>th</sup> Russbach School on Nuclear Astrophysics



## PROGRAM

### Saturday, March 5

14:00 -- 19:00 Registration at Hotel-Landhaus Ausswinkl for early arrivals

### Sunday, March 6

14:00 -- 19:00 Registration at Hotel-Landhaus Ausswinkl

19:00 -- 19:45 Welcome cocktail

19:45 Dinner

## Monday, March 7

08:30 -- 08:50 The Organizers Welcome; information about the school

chairperson G. Angelou

08:50 -- 09:50 Ch. Iliadis Introduction to nuclear astrophysics (I)

**09:50 -- 10:10** Coffee Break

10:10 -- 11:00 Ch. Iliadis AcIntroduction to nuclear astrophysics (II)

11:00 -- 12:00 D. Yong Chemical abundances in the most metal-poor stars (I)

*13:30 -- 15:00 Visit of the Fossile Exhibition in Russbach-Gseng (booking after "Welcome")*

chairperson S. Bisterzo

16:00 -- 16:50 D. Yong Chemical abundances in the most metal-poor stars (II)

**16:50 -- 17:10** Coffee Break

17:10 -- 17:55 M.L. Sergi The Trojan Horse Method and its main features for experimental nuclear astrophysics

17:55 -- 18:25 M. La Cognata Application of the THM to resonance reactions and implications for stellar nucleosynthesis

18:25 --19:10 H. Yamaguchi Experimental study on astrophysics reactions with low-energy RI beams

19:10 -- 19:40 M. Lipoglavsek An alternative description of electron screening

**19:50** Dinner

20:45 Apres-ski party at the "Schirmbar"

## Tuesday, March 8

chairperson S. Cristallo

08:30 -- 09:25 R. Longland Nuclear astrophysics with stable particle beams

09:25 -- 10:10 De Sereville Astrophysical Studies with the ALTO's Split-Pole Spectrometer

**10:10—10:30** [Coffee Break](#)

10:30 -- 11:20 A. Banu Determination of key astrophysical photonuclear reaction cross sections towards understanding the origin of p-nuclei

11:20 -- 11:40 J. Mayer Partial cross sections of the  $^{92}\text{Mo}(p,\gamma)$  reaction and the  $\gamma$  strength of  $^{93}\text{Tc}$

11:40 -- 12:00 P. Scholz Experimental studies of the  $\alpha$  optical-model potential as nuclear-physics input for  $\gamma$ -process nucleosynthesis

chairperson A. Banu

15:45 -- 16:05 J. Dermigny  $\gamma$ -ray spectroscopy using a binned likelihood approach

16:05 -- 16:25 L. Downen The evaluation of  $^{29}\text{Si}(p,\gamma)^{30}\text{P}$  and its relevance to classical Nova presolar grains

16:25 -- 16:45 M.K. Sharma Measurements of reaction cross sections for compound and the pre-compound emission process by p-induced reactions

**16:45—17:05** [Coffee break](#)

17:05 -- 17:45 A.F. Fantina Probing properties of dense matter with neutron stars

17:45 -- 18:15 N. Stone Magnetism in neutron stars

**18:25** [Dinner](#)

19:30 Hike / transport to Franzl Alm; live music with "Daniel & Irmi"; dancing

## Wednesday, March 9

chairperson R. Longland

- 08:30 -- 09:10 M. Busso The s-process: a bit of everything
- 09:10 -- 10:00 S. Cristallo s-Processing in AGB stars: the last 10 years
- 10:00 -- 10:25 D. Kamath Abundances in evolved low-mass stars as observed after the AGB

### **10:25—10:45** Coffee Break

- 10:45 -- 11:20 U. Battino Application of a new simulation-based convective boundary mixing model for AGB star and accreting white dwarf evolution
- 11:20 -- 12:00 S. Bisterzo Galactic chemical evolution: the impact of AGB stars

*13:30 -- 15:00 Sleigh ride or cable-car to Hornspitz & GoGoSau (booking until Tuesday)*

chairperson M. La Cognata

- 16:00 -- 16:35 O. Tripella s-Processing on first principles and its observational constraints
- 16:35 -- 16:55 F.R. Pantaleo Status of the direct measurements of  $^{18}\text{O}(p,\gamma)^{19}\text{F}$  cross section at energies of astrophysical interest at LUNA
- 16:55-- 17:15 D. Piatti The  $^{22}\text{Ne}(p,\gamma)^{23}\text{Na}$  reaction studies at LUNA

### **17:15—17:35** Coffee Break

- 17:35 -- 17:55 S. Hunt Planned measurements of the  $^{22}\text{Ne}(\alpha,n)^{25}\text{Mg}$  and  $^{22}\text{Ne}(\alpha,\gamma)^{26}\text{Mg}$  reaction
- 17:55 -- 18:35 L. Trache Indirect experimental methods for nuclear astrophysics
- 18:35 -- 18:55 A.I. Chilug Experiments in IFIN-HH to determine reaction cross sections for the  $^{13}\text{C} + ^{12}\text{C}$  system through direct measurements at very low energies
- 18:55 -- 19:15 D. Tudor Measurement of  $^{13}\text{C} + ^{12}\text{C}$  fusion cross section at deep sub-barrier energies in IFIN-HH: activation measurements

### **19:35** Dinner

## Thursday, March 10

chairperson [M. Lipoglavsek](#)

- 08:30 -- 09:10 S. Kreim Precision mass measurements for nuclear astrophysics
- 09:10 -- 09:30 Z. Ge Mass measurements of exotic nuclei via storage rings in Asia and the impact on nuclear astrophysics -- Rare RI Ring at RIKEN and CSRe in IMP
- 09:30 -- 09:50 I. Murray Future prospects of mass measurements on neutron-rich nuclei at RIKEN SLOWRI utilizing MR-ToF

**09:50—10:10**      [Coffee break](#)

- 10:10 -- 10:55 A. Aprahamian Individual nuclear properties and their impact on r-process nucleosynthesis
- 10:55 -- 11:40 J. Duprat Primitive interplanetary samples: from cometary ices to Antarctic snow
- 11:40 -- 12:05 D. Kuzina Studies of the magnetic properties of sedimentary rocks for the detection of cosmic dust and magnetotactic bacteria

chairperson [D. Yong](#)

- 15:30 -- 16:20 U. Ott Isotope abundance anomalies in meteorites -- their recognition and interpretation

**16:20—16:40**      [Coffee break](#)

- 16:40 -- 17:25 K.-L. Kratz Ba isotopic compositions in metal-poor halo stars and presolar SiC X-grains
- 17:25 -- 17:55 K. Farouqi Low-metallicity stars and r-process variants
- 17:55 -- 18:50 G. Angelou Stellar ages in the Kepler era

**19:00**              [Dinner](#)

**20:00**              Live music; Alpen-Reggae with "Los Luceritos"; dancing



## Friday, March 11

chairperson A. Fantina

08:30 -- 09:25 J. Stone Low energy nuclear structure modeling: can it be improved ?

09:25 -- 10:10 N. Paar Relativistic nuclear energy density functional for astrophysical applications

**10:10 -- 10:30** [Coffee Break](#)

10:30 -- 11:15 P. Möller The new mass model FRDM(2012): benchmarks and evaluation

11:15 -- 12:00 T. Suzuki Nuclear weak rates at stellar environments: nucleosynthesis and evolution of stars

chairperson H. Yamaguchi

15:45 -- 16:30 T. Aumann The dipole response of exotic nuclei and the nuclear symmetry energy

16:30 -- 16:50 A. Revel Studies of neutron correlations towards the continuum

**16:50—17:10** [Coffee Break](#)

17:10 -- 17:30 H. Sasaki Collective neutrino-flavor oscillations and application to supernova nucleosynthesis

17:30 -- 18:15 R. Diehl Cosmic  $\gamma$ -ray spectroscopy: the INTEGRAL legacy

18:15 -- 18:45 N.N. Summary & concluding remarks

**19:00** [Dinner & Farewell party](#)