

The 10th European Summer School on Experimental Nuclear Astrophysics
Catania, INFN-LNS
16-23/06/2019

Sunday, 16/06/2019

08:00-18:00 Arrivals

Monday, 17/06/2019

08:45-09:15 Welcome from authorities

-Chairman: S. Cherubini

09:15-10:05 **F. Hammache** “Introduction to experimental nuclear astrophysics”

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10:55-11:20 Coffee Break

11:20-12:10 **S. Degl’Innocenti** “Stellar Evolution and standard solar models”

12:10-13:00 **S. Degl’Innocenti** “Stellar Evolution and standard solar models”

13:00 Lunch

-Chairman: S. Kubono

14:30-15:15 **I. Vidana** “Short Introduction to the Physics of Neutron Stars”

15:15-16:00 **P. Prati** “Underground Nuclear Astrophysics: pushing direct measurements toward the Gamow window”

16:00-16:30 Coffee Break

16:30-17:15 **L. Gialanella** “Recoil separators for nuclear astrophysics: the role of ERNA”

17:15-18:15 **Young Researchers Session**

18:30 Welcome Cocktail

Tuesday, 18/06/2019

-Chairman: C. Bertulani

09:00-09:50 **B. Fields** “Primordial Nucleosynthesis after Planck: Concordance, Discordance, and Dark Matters”

09:50-10:40 **B. Fields** “Primordial Nucleosynthesis after Planck: Concordance, Discordance, and Dark Matters”

10:40-11:00 Coffee Break

11:00-11:50 **A. Coc** “Precision big bang nucleosynthesis with the new code PRIMAT”

11:50-12:40 **M. Famiano** “Connection between nuclear physics and origin of life”

12:40-13:30 **S. Kubono** “Heavy Element Synthesis under Explosive Burning on Neutron Stars”

13:30-14:30 Lunch

-Chairman: L. Trache

14:30-15:15 **M. Mazzocco** “RIB: production and experiments”

15:15-16:00 **M. Lipoglavsek** “Electron screening in nuclear astrophysics”

16:00-16:30 Coffee Break

16:30-17:15 **A. Bonasera** “Nuclear reactions in laser induced plasmas”

17:15-18:00 **M. Gai** “ ^8Be : Confronting ab-initio Nuclear Theory and Data on Big Bang Nucleosynthesis”

18:00-19:00 **Young Researchers Session**

Wednesday, 19/06/2019

-Chairman: F. Hammache

09:00-09:50 **C. Bertulani** “Neutron skins, symmetry energy, and neutron stars”

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10:40-11:00 Coffee Break

11:00-11:50 **M. La Cognata** “THM for resonant reactions”

11:50-12:40 **N. De Sereville** “Transfer reactions for nuclear astrophysics”

12:40-13:30 **T. Motobayashi** “Coulomb dissociation method for radiative capture of astrophysical interest”

13:30-14:30 Lunch

15:00-20:00 **Social Excursion**

Thursday, 20/06/2019

-Chairman: M. Della Valle

09:00-09:50 **A. Chieffi** “Stellar evolution for massive stars”

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10:40-11:00 Coffee Break

11:00-11:50 **M. Limongi** “Explosive Nucleosynthesis in Core Collapse Supernovae”

11:50-12:40 **M. Busso** “AGB and meteoritical grains”

12:40-13:30 **Z. Fulop** “Activation Method for nuclear astrophysics”

13:30-14:30 Lunch

-Chairman: K.L. Kratz

14:30-15:20 **T. Kajino** “Neutrino induced nucleosynthesis”

15:20-16:10 **T. Kajino** “Neutrino induced nucleosynthesis”

16:10-17:00 **S. V. Harissopulos** “In beam cross section measurements of capture reactions relevant to p-process: the nuclear astrophysics program of the CALIBRA project”

17:00-17:30 Coffee break

17:30 **INFN-LNS: Visiting tour**

Friday, 21/06/2019

-Chairman: M. Busso

09:00-09:50 **K.L. Kratz** “Nucleosynthesis of light trans-Fe r-, p- and s-isotopes: Implications from presolar SiC X-grains”

09:50-10:40 **M. El Eid** “Star Formation under Cosmological Conditions”

10:40-11:00 Coffee Break

11:00-11:50 **M. Punturo** “Achievements and perspectives of the Gravitational wave astronomy - Einstein Telescope”

11:50-12:40 **N. Nishimura** “r-Process nucleosynthesis in realistic astrophysical scenarios”

12:40-13:10 **A. Mengoni** “Nuclear astrophysics activities at the n_TOF facility at CERN”

13:10-14:30 Lunch

-Chairman: N. Soic

14:30-15:00 **M. della Valle** “SN from an observation perspective”

15:00-15:30 **J. Mrazek** “Experiments via the ANC method”

15:30-16:00 **L. Trache** “Nuclear astrophysics studies at NIPNE”

16:00-17:00 **Young Researchers Session**

17:00-17:30 Coffee Break

20:00-22:00 Social Dinner

Saturday, 22/06/2019

-Chairman: A. Bonasera

09:00-09:50 **N. Soic** “Role of clustering in nuclear Astrophysics”

09:50-10:40 **R. Yarmukhamedov** “Dispersion (asymptotic) theory of charged-particle transfer reactions and nuclear astrophysics”

10:40-11:00 Coffee Break

11:00-11:50 **Young Researchers Session**

11:50-12:20 **S. Tudisco** “Silicon Carbide detectors: a concrete perspective for nuclear Astrophysics activities”

12:20-12:50 **F. Consoli** “Advanced diagnostics for experiments of laser-matter interaction of astrophysical interest”

12:50-13:20 **D. Mascali** “The PANDORA project: an experimental setup for measuring in-plasma β -decays of astrophysical interest”

13:25-14:30 Lunch

-Chairman: M. Mazzocco

14:30-15:30 **Young Researchers Session**

Concluding remarks

YOUNG SPEAKERS CALENDAR

Monday 17th June

17:15-18:15 Young Researchers Session

17:15 – 17:30 C. Sengupta

Elastic Scattering of ^8Li on heavy and medium mass targets with SOLEROO capability at ANU

17:30 – 17:45 A. K. Mondal

Effect of compound nuclear reaction mechanism in $^{12}\text{C}(^6\text{Li},d)$ reaction at sub-Coulomb energy

17:45 – 18:00 R. S. Sidhu

Bound state beta-decay of $^{205}\text{Tl}^{81+}$ ions

18:00 – 18:15 T. Petruse

Preliminary results for the $^{19}\text{F}(p,\alpha)^{16}\text{O}$ reaction cross section measured at INFN-LNS

Tuesday 18th June

18:00-19:00 Young Researchers Session

18:00 – 18:15 Sathi Sharma

Study of $^{14}\text{N}(p,)^{15}\text{O}$ resonance reaction at $E_{\text{lab}}=278\text{keV}$

18:15 – 18:30 G. Gallina

Characterization and development of the next generation of VUV low-light sensors for astrophysics applications

18:30 – 18:45 S. Perrotta

How do charged environments affect low-energy fusion rates? Screening effects in laser-induced non-neutral plasmas

18:45 – 19:00 I. Tisma

Astrophysical S-factor for the $2\text{H}(p,\gamma)^3\text{He}$ reaction at big-bang nucleosynthesis energies

Friday 21th June

16:00-17:00 Young Researchers Session

16:00 – 16:15 N. Oulebsir

New Astrophysical factor and reaction rate of $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$

16:15 – 16:30 R. Jain

Sensitivity Studies of Fusion Reactions in the Crusts of Accreting Neutron Stars

16:30 – 16:45 C. Spampinato

Study of $^3\text{He}(n, p)^3\text{H}$ reaction at cosmological energies with Trojan Horse Method

16:45 – 17:00 B. Vilagos

The isolation time of the Solar System

Saturday 22th June

11:00-11:50 Young Researchers Session

11:00 – 11:15 Y. Luo

Can Inhomogeneous Primordial Magnetic Field Affect Nucleosynthesis in the Early Universe?

11:15 – 11:30 A. Spiridon

Transfer reactions as an Indirect Method in Nuclear Astrophysics

11:30 – 11:45 K. I. Tursunmakatov

Determination of the asymptotic normalization coefficient (nuclear vertex constant) for $\alpha + d \rightarrow {}^6\text{Li}$ from the new direct measured $d(\alpha,\gamma){}^6\text{Li}$ data and its implication for extrapolating the $d(\alpha,\gamma){}^6\text{Li}$ astrophysical s factor at extremely low energies

14:30-15:30 Young Researchers Session

14:30 – 14:45 C. Altana

14:45 – 15:00 E. Naselli

Multidiagnostics setups for Magnetoplasmas devoted to Astrophysics and Nuclear Astrophysics Research in Compact Traps

15:00 – 15:15 E. Masha

Study of the ${}^{22}\text{Ne}(\alpha,\gamma){}^{26}\text{Mg}$ reaction at LUNA

15:15 – 15:30 V. Y. Kozhevnikov

The apokamp gas discharge phenomenon: experimental and theoretical backgrounds

15:30 – 15:45 A. A. Oliva

Study of the neutron induced reaction ${}^{17}\text{O}(n,\alpha){}^{14}\text{C}$ at astrophysical energies via the Trojan Horse Method