

**The 11<sup>th</sup> European Summer School on Experimental Nuclear Astrophysics**  
**Aula “E. Migneco”, INFN-LNS, Catania**  
**12-19/06/2022**

**Sunday, 12/06/2022**

08:00-18:00 Arrivals

**Monday, 13/06/2022**

09:00-09:30 Welcome address

09:30-09:40 Remembering our common friends (S. Bishop, F. Käppeler, J.W. Truran, R. Yarmukhamedov)

**-Chairman:** *tba*

09:45-10:35 **C. Iliadis** “Introduction to experimental nuclear astrophysics”

10:35-10:55 Coffee Break

10:55-11:45 **C. Iliadis** “Introduction to experimental nuclear astrophysics”

11:45-12:35 **S. Palmerini** “Basic principles of stellar evolution”

12:35-13:25 **S. Palmerini** “Basic principles of stellar evolution”

13:25-15:00 Lunch

**-Chairman:** *tba*

15:00-15:50 **C. Massimi** “Nuclear astrophysics activities at the n\_TOF facility at CERN”

15:50-16:40 **G. Imbriani** “Underground Nuclear Astrophysics: pushing direct measurements toward the Gamow window”

16:40-17:00 Coffee Break

17:00-17:50 **R. Buompane** “Recoil separators for nuclear astrophysics: the role of ERNA”

17:50-18:35 **Young Researchers Session (3)**

18:45 Welcome Cocktail

**Tuesday, 14/06/2022**

**-Chairman:** *tba*

09:00-09:50 **C. Bertulani** “Primordial Nucleosynthesis”

09:50-10:40 **C. Bertulani** “Primordial Nucleosynthesis: primordial abundances evaluation”

10:40-11:00 Coffee Break

11:00-11:50 **M. Mazzocco** “RIB: production and experiments at INFN-LNL”

11:50-12:40 **A. Cvetinovic** “Electron screening in nuclear astrophysics”

12:40-13:10 **Young Researchers Session (2)**

13:10-14:30 Lunch

**15:00-23:00 Trip to Piazza Armerina and dinner**

**Wednesday, 15/06/2022**

**-Chairman:** *tba*

09:00-09:50 **J. José** “Explosive Nucleosynthesis”

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10:40-11:00 *Coffee Break and School Picture*

11:00-11:50 **M. Busso** “Magnetic AGB stars”

11:50-12:40 **D. Mengoni** “Surrogate reactions: method and possibilities”

12:40-12:55 **Young Researchers Session (1)**

13:00-14:30 Lunch

**-Chairman:** *tba*

14:30-15:20 **P. Adsley** “Transfer reactions for nuclear astrophysics”

15:20-16:20 **Young Researchers Session (4)**

16:20-17:00 **D. Bemmerer** “CHETEC-INFRA opportunity” & “Nuclear astrophysics in a shallow underground lab, challenges and opportunities”

17:10 Break and Transfer to Catania

18:00-20:00 **Public lecture of prof. J. Bell** “The discovery of pulsars – a graduate student’s tale”

### Thursday, 16/06/2022

**-Chairman:** *tba*

09:00-09:50 **S. Typel** “Indirect methods in nuclear astrophysics”

09:50-10:40 **S. Romano** “THM for experimental nuclear astrophysics”

10:40-11:00 Coffee Break

11:00-11:50 **D. Santonocito** “The PANDORA project: an experimental setup for measuring in-plasma  $\beta$ -decays of astrophysical interest”

11:50-12:40 **S. Cristallo** “Neutron capture in stellar nucleosynthesis”

12:40-13:10 **Young Researchers Session (2)**

13:10-14:30 Lunch

**-Chairman:** *tba*

14:30-15:20 **K.L. Kratz** “Supernovae or Kilonovae? Implications from observations and calculations”

15:20-16:10 **H. Yamaguchi** “RIB induced reactions”

16:10-17:10 **Young Researchers Session (4)**

17:10-17:30 Coffee break

17:30-18:00 **Young Researchers Session (2)**

### Friday, 17/06/2022

**-Chairman:** *tba*

09:00-09:50 **R. DeBoer** “R-matrix for nuclear astrophysics: the  $^{13}\text{C}(\text{a},\text{n})$  case”

09:50-10:40 **B. Bastin** “Dark boson: the New JEDI experiment”

10:40-11:00 Coffee Break

11:00-11:50 **A. Bonasera** “Nuclear reactions in laser induced plasmas”

11:50-12:40 **D. Balabansky** “Physics studies at ELI”

12:40-13:10 **Young Researchers Session (2)**

13:10-15:00 Lunch

**-Chairman:** *tba*

15:00-15:50 **L. Trache** “Nuclear astrophysics studies at NIPNE”

15:50-16:40 **M. Williams** “Studying Astrophysical Reaction Rates using Inverse Kinematics Techniques”

16:40-18:10 **Young Researchers Session (6)**

18:10-22:00 Bus transfer to the “Cantina Barone di Villagrande” for the social dinner

### Saturday, 18/06/2022, Aula Azzurra

**-Chairman:** *tba*

09:00-09:50 **G. D’Agata** “ANC method: experimental approach and recent results”

09:50-10:40 **G. Petringa** “Laser induced fusion reactions”

10:40-11:10 *tba*

11:10-11:40 **Young Researchers Session (2)**

11:40-13:00 Brunch

13:00-14:00 **Young Researchers Session (4)**

14:00-14:30 **Summary of the school and concluding remarks**