

**IWM-EC 2018**

22<sup>nd</sup> - 25<sup>th</sup> May 2018  
Catania, Italy

International Workshop on  
Multi facets of  
Eos and Clustering

## **Scientific Program**

## Tuesday - May 22<sup>nd</sup>

8:15 Bus from City centre (Piazza Stesicoro)

"Aula Magna" Seminar Room - Dipartimento di Fisica e Astronomia

9:00 Registration at workshop desk

9:45 Welcome of the Institutions

G. Cuttone - INFN Laboratori Nazionali del Sud, Catania

A. Insolia - INFN Sezione di Catania

V. Pirronello - Dipartimento di Fisica e Astronomia, Catania

10:00 - 12:15 Chair: A. Pagano - INFN Sezione di Catania, Italy

### *Recent Results of CHIMERA and INDRA*

10:00 E. De Filippo - INFN Sezione di Catania, Italy

*Results and recent advances with the CHIMERA and FARCOS detectors*

10:45 O. Lopez - LPC, Caen, France

*Hot news from INDRA and the next scientific INDRA+FAZIA program at GANIL*

### *New experimental tools and detection techniques (I)*

11:30 T. Isobe - RIKEN Nishina Center, Wako, Japan

*The SnRIT and pion detectors in RIKEN for the experimental study of symmetry energy with heavy ion collisions*

12:30 - 14:00 Lunch at Laboratori Nazionali del Sud Guest House

Main Conference Room Laboratori Nazionali del Sud

14:00 - 16:00 Chair: B. Borderie - IPN Orsay, France

### *New experimental tools and detection techniques (II)*

14:00 D. Gruyer - ENSICAEN, UNICAEN, CNRS/IN2P3, LPC, Caen, France  
*New trends in mass identification with telescope detectors*

14:45 S. Valdrè - INFN Sezione di Firenze, Italy  
*Time of flight identification with FAZIA*

15:10 C. Guazzoni - Politecnico di Milano & INFN Sezione di Milano, Italy  
*Versatile multichannel CMOS front-end with selectable full-scale dynamics from 90 MeV up to 2 GeV for the readout of detector's signals in nuclear physics experiments*

15:35 S. M. Valle - INFN Sezione di Bologna, Italy  
*FOOT (FragmentatiOn Of Target) Experiment*

16:00 - 16:30 Coffee break

16:30 - 18:05 Chair: A. McIntosh - Texas A&M University, USA

***Isospin effects in Nuclear Reactions (I)***

16:30 S. Yennello - Texas A&M University, USA

*Isospin effects in nuclear reactions*

17:15 S. Piantelli - INFN Sezione di Firenze, Italy

*Recent results of the ISOFAZIA experiment*

17:40 A. Camaiani - INFN Sezione di Firenze, Italy

*Study of the N=Z fragment production in the  $^{40,48}\text{Ca}+^{40,48}\text{Ca}$  at 35 MeV/u with FAZIA detector*

18:30 Welcome Cocktail and Concert

in "Aula Magna" Seminar Room - Dipartimento di Fisica e Astronomia

21:00 Bus for City centre

**Wednesday - May 23<sup>rd</sup>**

8:15 Bus from City centre (Piazza Stesicoro)

Main Conference Room Laboratori Nazionali del Sud

9:00 - 11:00 Chair: F. Gramegna - INFN LNL, Legnaro, Italy

***Isospin effects in Nuclear Reactions (II)***

9:00 A. S. Umar - Physics and Astronomy Vanderbilt University, USA

*Equilibration dynamics and isospin effects in nuclear reactions*

9:25 A. Chbihi - GANIL, Caen, France

*Influence of neutron enrichment on de-excitation properties of palladium isotopes*

***Current trend for Fission***

9:50 M. Caamano - Universidade de Santiago de Compostela, Spain

*Fission in Inverse kinematics: A new window to experimental observables*

10:35 L. Audouin - IPN Orsay, France

*Fission in inverse kinematics: recent results and perspectives*

11:00 - 11:30 Coffee break

11:30 - 13:05 Chair: K. Mazurek - INP Krakow

11:30 D. Lacroix - IPN Orsay, France

*Current trends in the microscopic description of fission*

12:15 B. Gnoffo - DFA and INFN Sezione di Catania, Italy

*Isospin influence on the Intermediate Mass Fragments dynamical emission at Fermi energy and at low energy*

12:40 M. Colonna - INFN Laboratori Nazionali del Sud, Catania, Italy  
*Competition between fusion and quasifission processes in heavy ion collisions close to the Coulomb barrier*

13:05 - 14:30 Lunch

14:30 - 16:05 Chair: F. Rizzo - INFN LNS, Catania, Italy

### ***Exploring Nuclear Equation of State (I)***

14:30 I. Vidana - INFN Sezione di Catania, Italy

*The nuclear equation of state: from experiments to astrophysical observations accompanied by the hand of theory*

15:15 A. Le Fevre - GSI, Darmstadt, Germany

*On the Origin of the Elliptic Flow and its Dependence on the Equation of State in Heavy Ion Reactions at Intermediate Energies*

15:40 E.V. Pagano - INFN Sezione di Catania, Italy

*The NARCos Project*

### ***Poster Session***

16.15 - 16.45 Short Clips moderated by S. Yennello - TAMU, USA

F. Favela - INFN Sezione di Catania, Italy

*A general ideal multifragmentation kinematics algorithm for nuclear physics, a binary reaction approach*

I. Lombardo - INFN Sezione di Catania, Italy

*Cluster states in  $^{13}\text{C}$  investigated with nuclear reactions induced by  $\alpha$  particles on  $^9\text{Be}$*

N.S. Martorana - DFA and INFN LNS, Catania, Italy

*On the nature of the low-energy  $E1$  strength in the unstable nucleus  $^{68}\text{Ni}$*

F. Torabi - University of Mazandaran, Babolsar, Iran

*Study of nuclear matter property in heavy-ion fusion reactions*

M. Vigilante - Università and INFN Sezione di Napoli

*Opportunities of studying clustering in nuclei with the TTT3 tandem accelerator in Napoli*

16.45 - 18.00 Poster exhibition with coffee

## Thursday - May 24th

8:15 Bus from City centre (Piazza Stesicoro)

Main Conference Room Laboratori Nazionali del Sud

9:00 - 11:00 Chair: M. Colonna - INFN LNS, Catania, Italy

### *Exploring Nuclear Equation of State (II)*

9:00 J. Lukasik - IFJ PAN, Krakow, Poland  
*Constraints on the density dependence of the symmetry energy*

9:45 E. Bonnet - Subatech, Nantes, France  
*Characterization of the nuclear gas phase produced in HI collisions*

10:10 M. Henri - ENSICAEN, CNRS/IN2P3, LPC, Caen, Francia  
*Transport properties in the Fermi energy domain*

10:35 H. Wolter - University of Munich, Germany  
*Comparison of transport codes in box calculations*

11:00 - 11:30 Coffee break

11:30 - 13:30 Chair: S. Typel - Technical Uni Darmstadt, Germany

### *Correlations and clustering phenomena (I)*

11:30 S. Szilner - Ruder Boskovic Institute, Zagreb, Croatia  
*Probing nucleon-nucleon correlations in heavy ion transfer reactions*

12:15 A. Di Pietro - INFN Laboratori Nazionali Sud, Catania, Italy  
*Exotic Clustering Investigation in 13B and 14C Nuclei*

12:40 M. Cicerchia - INFN LNL and University of Padova, Italy  
*A study on four reactions forming the  $^{46}\text{Ti}^*$*

13:05 L. Quattrocchi - DFA and INFN Sezione di Catania, Italy  
*Decay of  $^{12}\text{C}$  excited states produced in Heavy Ion Collisions at intermediate energies*

13.30 - 15:00 Lunch

15:00 - 17:05 Chair: R. Bougault - LPC, Caen, France

### *Dynamics and structure in heavy-ion collisions*

15:00 A. Rodriguez - Texas A&M University, USA  
*Equilibration Chronometry and Reaction Dynamics*

15:25 P. Napolitani - IPN Orsay, France  
*How nuclear jets form and disintegrate into clusters in heavy-ion collisions*

15:50 V. De la Mota - Subatech, Nantes, France  
*Extensions of mean-field descriptions in dynamical processes of nucleonic degrees of freedom*

16:15 W. Trautmann - GSI Darmstadt, Germany  
*Dynamical properties and secondary decay effects of projectile fragmentation in  $^{124}\text{Sn}$ ,  $^{107}\text{Sn}+^{120}\text{Sn}$  collisions at 600 MeV/nucleon*

17:00 Bus to city centre

19:30 Visit to Terme Achilleane - meeting at Museo Diocesiano

20:30 Social dinner at Museo Diocesiano

## Friday - May 25<sup>th</sup>

8:15 Bus from City centre (Piazza Stesicoro)

"Aula Magna" Dipartimento di Fisica e Astronomia

9:00 - 10:35 Chair: H. Wolter - University of Munich, Germany

### *Correlations and clustering phenomena (II)*

9:00 S. Typel - Technical University Darmstadt, Germany  
*Clustering in dilute matter with medium effects*

9:45 W. Roepke - University of Rostock, Germany  
*Few-nucleon correlations in nuclei and nuclear matter*

10:10 K. Schmidt - University of Silesia, Chorzow, Poland  
*Temperature and density of hot decaying  $^{40}\text{Ca}$  and  $^{28}\text{Si}$*

### *10:40 Award of Best Poster Prizes*

11:00 - 11:30 Coffee break

11:30 - 13:05 Chair: G. Cardella - INFN Sezione di Catania

### *New experimental tools and detection techniques (III)*

11.30 T. Marchi - INFN Laboratori Nazionali di Legnaro, Italy  
*Active Targets and Time Projection chambers as new tools for probing EoS and clustering*

12:15 F. Gramegna - INFN Laboratori Nazionali di Legnaro, Italy  
*Status of the SPES project @ LNL and its scientific and technological challenges.*

12:40 D. Santonocito - INFN Laboratori Nazionali Sud, Catania, Italy  
*Upgrade of experimental facilities @ LNS*

*Closing of the workshop*

13.05 Lunch at Aula Magna Dipartimento Fisica

14:00 Visit of Laboratori Nazionali del Sud

14:30 Bus to city centre and airport