

# **Conference on Neutrino and Nuclear Physics (CNNP2017)**

**Sunday 15 October 2017 - Saturday 21 October 2017**

**Monastero dei Benedettini, University of Catania, Catania, Italy**

## **Programme**

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# Sunday 15 October 2017

**Registration - Hall (19:00-20:30)**

**Welcome dinner - Foyer (20:30-23:15)**

# Monday 16 October 2017

## Registration - Auditorium (08:00-08:30)

### Plenary - Auditorium (08:30-11:00)

- **Conveners:** FREKERS, Dieter

time	title	presenter
08:30	Istitutional welcome	
09:00	Open questions in neutrino physics	IACHELLO, Francesco
09:30	Experimental nuclear structure studies for neutrino physics	EJIRI, Hiro
10:00	Favored neutrinoless double beta decay mechanisms and associated nuclear matrix elements	SIMKOVIC, Fedor
10:30	The Sun and solar neutrinos	VILLANTE, Francesco Lorenzo

## Coffee break - Chiostro di Levante (11:00-11:30)

### Plenary - Auditorium (11:30-13:00)

- **Conveners:** Smirnov, Alexei

time	title	presenter
11:30	Status and Perspectives of Solar Neutrino Research at Super-Kamiokande	SMY, Michael
12:00	Probing Nuclear Beta-Decay by Heavy Ion Charge Exchange Reactions	LENSKE, Horst
12:30	The CONUS coherent neutrino scattering experiment	LINDNER, Manfred

## Lunch - Chiostro di Levante (13:00-14:30)

### Parallel - Coro di Notte (14:30-15:30)

- **Conveners:** Brofferio, Chiara

time	title	presenter
14:30	Revisiting the nuclear beta decay input in the reactor anomaly	HAYEN, Leendert
14:50	A Multi-Pixel Photon Counter detector prototype for direct detection of scintillation light in liquid xenon.	DI GIOVANNI, ADRIANO
15:10	A NaI-based cryogenic scintillating calorimeter: status and results of the COSINUS project	DI MARCO, Natalia

### Parallel - Auditorium (14:30-15:50)

- **Conveners:** Galindo-Uribarri, Alfredo

time	title	presenter
14:30	EXPERIMENTS ON THE COMPETITIVE DOUBLE-GAMMA DECAY	PIETRALLA, Norbert
14:50	Fragment Z-Yield Distributions in Thermal-Neutron Induced Fission Reactions Relevant for Reactor Antineutrino Research, re-measured by using Calorimetric Low-Temperature Detectors	EGELHOF, Peter
15:10	Neutrino interactions with nucleons and nuclei in the few-GeV region	ALVAREZ RUSO, Luis
15:30	Double-Beta Decay of Medium-Mass Nuclei within the Realistic Shell Model	CORAGGIO, Luigi

**Coffee break - Chiostro di Levante (15:50-16:20)****Plenary - Auditorium (16:20-18:20)****- Conveners: Pirronello, Valerio**

time title

presenter

time	title	presenter
16:20	Neutrino mass from cosmological surveys	LAHAV, Ofer
16:50	Investigation of rare nuclear decays by using scintillation detectors	DANEVICH, Fedor
17:20	Probing Nuclear Correlations with Direct Reactions	POTEL AGUILAR, Gregory

**Benedictine Monastery or Ursino Castle Tour - (19:00-20:30)**

## Tuesday 17 October 2017

### **Plenary - Auditorium (09:00-11:00)**

- Conveners: Lindner, Manfred

time	title	presenter
09:00	Quenching of gA in beta and double beta decays: A review	SUHONEN, Jouni
09:30	EXO-200 results and status of the nEXO double beta decay experiments	GRATTA, Giorgio
10:00	Testing creation of matter with neutrinoless double beta decay	VISSANI, Francesco
10:30	The direct neutrino mass search with KATRIN	WEINHEIMER, Christian

### **Coffee break - Chiostro di Levante (11:00-11:30)**

### **Plenary - Auditorium (11:30-13:00)**

- Conveners: Iachello, Francesco

time	title	presenter
11:30	Direct neutrino mass measurement by the HOLMES experiment	NUCCIOTTI, Angelo Enrico Lodovico
12:00	The XENON1T Dark Matter Experiment at LNGS	APRILE, Elena
12:30	Neutrino Collective Oscillation and Mass Hierarchy, and their Impact on Supernova Nucleosynthesis	KAJINO, Taka

### **Lunch - Chiostro di Levante (13:00-14:30)**

### **Parallel - Coro di Notte (14:30-15:50)**

- Conveners: Bernabei, Rita

time	title	presenter
14:30	The Electron Capture in Ho-163 experiment	GASTALDO, Loredana
14:50	The Digital Optical Module of the KM3NeT project	LEONORA, Emanuele
15:10	Pinpointing astrophysical bursts of low-energy neutrinos with a network of detectors	PAGLIAROLI, Giulia
15:30	The SoLid experiment searching for anti-neutrinos short baseline oscillations at SCK•CEN BR2 reactor	BONGRAND, Mathieu

### **Parallel - Auditorium (14:30-15:50)**

- Conveners: Lubian Rios, Jesus

time	title	presenter
14:30	Double Gamow-Teller transition of Ca-48 and its relation to neutrinoless double-beta decay	MENENDEZ, Javier
14:50	The CUORE and CUORE 0 experiments at LNGS	BROFFERIO, Chiara
15:10	The ENUBET project: high precision neutrino flux measurements in conventional neutrino beams	POZZATO, Michele
15:30	Double charge-exchange reactions and the effect of transfer	LAY VALERA, José Antonio

**Coffee break - Chiostro di Levante (15:50-16:20)****Plenary - Auditorium (16:20-18:20)****- Conveners: Lahav, Ofer**

time	title	presenter
16:20	IBM approaches for 0nbb nuclear matrix elements	BAREA, Jose
16:50	Status and perspectives of the JUNO experiment	RANUCCI, Giacchino
17:20	Exploring nuclear structure by double charge exchange reactions in Japan	YAKO, Kentaro

**Benedictine Monastery tour - (19:00-21:00)**

## Wednesday 18 October 2017

### **Plenary - Auditorium (09:00-10:30)**

- Conveners: Masiero, Antonio

time	title	presenter
09:00	PRECISION NUCLEAR MASS MEASUREMENTS: PRESENT AND FUTURE FOR NUCLEAR STRUCTURE, ASTROPHYSICS AND NEUTRINO PHYSICS STUDIES	BLAUM, Klaus
09:30	New results on solar neutrinos from Borexino	ZAVATARELLI, Sandra
10:00	Experimental search of neutrinoless double-beta decay in $^{130}\text{Te}$	CREMONESI, Oliviero

### **Coffee break - Chiostro di Levante (10:30-11:00)**

### **Plenary - Auditorium (11:00-12:30)**

- Conveners: Aprile, Elena

time	title	presenter
11:00	New results on the Be-8 anomaly	KRASZNAHORKAY, Attila
11:30	Double Beta Decay Topology with NEMO-3 and SuperNEMO	SAAKYAN, Ruben
12:00	Determination of the neutrino mass by electron capture in $^{163}\text{Holmium}$	FAESSLER, Amand

### **Lunch - Chiostro di Levante (12:30-14:30)**

### **Excursions or Benedictine Monastery Tour - (15:00-19:00)**

### **Opera at Bellini Theatre - (20:30-23:30)**



## Thursday 19 October 2017

### **Plenary - Auditorium (09:00-11:00)**

- **Conveners: Migneco, Emilio**

time	title	presenter
09:00	3D Modelling of Supernovae: Status and Perspectives	JANKA, Hans-Thomas
09:30	Study of 2- states in atomic nuclei and connection with double beta decay	AKIMUNE, Hidetoshi
10:00	Neutrino astrophysics and cosmology in connection with nuclear physics	VOLPE, Cristina
10:30	Coherent Elastic Neutrino-Nucleus Scattering	SCHOLBERG, Kate

### **Coffee break - Chiostro di Levante (11:00-11:30)**

### **Plenary - Auditorium (11:30-13:00)**

- **Conveners: Lenske, Horst**

time	title	presenter
11:30	KM3NeT/ORCA: status and perspectives for measuring the neutrino mass hierarchy and other oscillation parameters (on behalf of the KM3NeT Collaboration)	VAN ELEWYCK, Veronique
12:00	New results from the NUMEN experiment	CARBONE, Diana
12:30	Oscillations Beyond Three-Neutrino Mixing	GIUNTI, Carlo

### **Lunch - Chiostro di Levante (13:00-14:30)**

### **Parallel - Coro di Notte (14:30-16:10)**

- **Conveners: Broglia, Ricardo**

time	title	presenter
14:30	Neutrinos Physics at ORNL and PROSPECT Experiment Status	GALINDO-URIBARRI, Alfredo
14:50	Probing neutrino mass and mass ordering with supernova neutrinos	YUFENG, Li
15:10	Detecting electron neutrinos from solar dark matter annihilation by JUNO	GUO, Wan-lei
15:30	New spectrometer projects for challenging particle-gamma measurements of nuclear reactions	DE OLIVEIRA, Jose Roberto Brandao
15:50	The nuSTORM experiment	LONG, Ken

### **Parallel - Auditorium (14:30-16:10)**

- **Conveners: Pietralla, Norbert**

time	title	presenter
14:30	Shape Mixing in Onbb Candidates	WERNER, Volker
14:50	First Results from the Majorana Demonstrator	DETWILER, Jason
15:10	Competition between long-range collective and short-range pairing correlations in two-neutron transfer reactions	LUBIAN RIOS, Jesus
15:30	The SPES radioactive ion beam facility and search for physics beyond the SM	DE ANGELIS, Giacomo
15:50	Neutrinoless double beta decay: the CUPID-0 experiment.	PAVAN, Maura

**Coffee - Chiostro di Levante (16:10-16:40)****Poster session - Chiostro di Levante (16:40-18:40)**

title	presenter	board
<b>Breakdown of Isobaric Multiplet Mass Equation: Charge-Violating Nuclear Interactions in Nuclear Medium</b>	DONG, Jianmin	
<b>Characterization of the microwave multiplexing readout and TESs for HOLMES</b>	FERRI, Elena	
<b>Effective neutrino charges in a medium</b>	LOZA, Jose Antonio D'OLIVO, Juan Carlos	
<b>Neutrino-Nucleon Scattering in Proto-Neutron Stars</b>	GUO, Wenmei	
<b>Exchange-Correlations Effects on Dense Astrophysical Plasma Expansion</b>	FERMOUS, Rachid	
<b>FFLO state in asymmetric nuclear matter</b>	SHANG, Xinle	
<b>Focal Plane Detector Tracker with Optical Read-Out for the NUMEN experiment</b>	GALLO, Giuseppe	
<b>JUNO Facility and Detector Design</b>	LI, XIAONAN	
<b>Light yield studies for SoLid phase I</b>	BOURSETTE, Delphine	
<b>Making an High Technology LaBr<sub>3</sub>:Ce Detector by Changing Some Characteristics for NUMEN</b>	SOLAKCI, Selçuk Oktay	
<b>Measurements of contribution of B<sup>+</sup> decay emission in heavy ion interactions</b>	SHARMA, MANOJ KUMAR	
<b>Neutrinos and Probes of High Scale Physics</b>	AHL LAAMARA, Rachid	
<b>Overview on the Study and Design of the target for the NUMEN Experiment</b>	PINNA, Federico	
<b>PROBING BETA DECAY MATRIX ELEMENTS THROUGH HEAVY ION CHARGE EXCHANGE REACTIONS</b>	BELLONE, jessica ilaria	
<b>Particle-number fluctuation effect on the matter radii of odd-mass neutron-deficient nuclei in the isovector pairing case</b>	DOUICI, Mohamed	
<b>Reduction of <sup>10</sup>C background for the KamLAND-Zen experiment</b>	HAYASHIDA, Shingo	
<b>Solar neutrino analysis with the Borexino detector</b>	REDCHUK, Mariia	
<b>The <sup>116</sup>Cd(<sup>20</sup>Ne,<sup>20</sup>O) <sup>116</sup>Sn reaction at 15 A MeV within the NUMEN project</b>	CALABRESE, Salvatore	
<b>The front-end for the new focal plane detector of the NUMEN experiment</b>	BONGIOVANNI, Daniele Giuseppe	
<b>The read-out and data transmission for the new focal plane detector of the NUMEN experiment</b>	BONANNO, Danilo Luigi	
<b>Three-body force effect on the properties of neutron-rich nuclear matter</b>	ZUO, Wei	
<b>Electrons for Neutrinos</b>	PAPADOPOULOU, Afroditi	
<b>Post-stripper study for the (<sup>20</sup>Ne,<sup>20</sup>O) double charge exchange reactions at zero degrees within the NUMEN experiment</b>	SANTAGATI, Gianluca	
<b>Transfer reaction channels for the system <sup>18</sup>O + <sup>116</sup>Sn under NUMEN project</b>	DESHMUKH, Nikit Nitin	
<b>New Beam lines for NUMEN experiments at INFN-LNS</b>	RUSSO, Antonio Domenico	
<b>Discovery potential for directional Dark Matter detection with nuclear emulsions</b>	GULER, Ali Murat Guler NEWSDM, Collaboration	
<b>SiCilia- Silicon Carbide Detectors for Intense Luminosity Investigations and Applications</b>	LITRICO, Grazia	

<b>One neutron transfer reaction of <math>^{64}\text{Ni}</math> and <math>^{64}\text{Ni}</math> in the microscopic IBFM-2</b>	GARCIA TECOCOATZI, Hugo	
<b>Two neutron transfer reaction of <math>^{64}\text{Ni}</math> and <math>^{66}\text{Ni}</math> in the microscopic IBM-2</b>	MAGANA VSEVOLODOVNA, Ruslan Idelfonso	
<b>First results of the KM3NeT/ARCA detector</b>	FERRARA, Giovanna	

**Social Dinner - (19:30-21:30)**

## Friday 20 October 2017

### Plenary - Auditorium (09:00-11:00)

- Conveners: Insolia, Antonio

time	title	presenter
09:00	Prospects in neutrinoless double beta decay	SCHÖNERT, Stefan
09:30	Geo-neutrino : experimental status and perspectives	SMIRNOV, Oleg
10:00	Project 8: Status and Update	FORMAGGIO, Joseph
10:30	Theory of neutrino masses and mixing	SMIRNOV, Alexei

### Coffee - Chiostro di Levante (11:00-11:30)

### Plenary - Auditorium (11:30-13:00)

- Conveners: Ejiri, Hiro

time	title	presenter
11:30	Low-energy neutrino experiment at Jinping	WANG, Zhe
12:00	The HALO and HALO-1kT Supernova Detectors	VIRTUE, Clarence
12:30	The SOX experiment at LNGS for the search of sterile neutrinos	PALLAVICINI, Marco

### Lunch - Chiostro di Levante (13:00-14:30)

### Parallel - Auditorium (14:30-15:50)

- Conveners: Pallavicini, Marco

time	title	presenter
14:30	A new experimental facility for nuclear structure studies relevant for neutrino physics	NEVELING, Retief
14:50	Nuclear structure studies relevant to double beta decay of $^{136}\text{Xe}$	REBEIRO, BERNADETTE
15:10	Double-Beta Decay with Emission of Single Electron	BABIC, Andrej
15:30	Neutron-proton pairing and double-beta decay nuclear matrix element	HINOHARA, Nobuo

### Parallel - Coro di Notte (14:30-16:10)

- Conveners: Bellini, Vincenzo

time	title	presenter
14:30	Study Of EoS Dependence of SNe via Relic Supernova Neutrino Spectrum	HIDAKA, J.
14:50	Upgrade of the ICARUS T600 Time Projection Chamber (on behalf of the ICARUS Collaboration)	TORTORICI, Francesco
15:10	Status of the R for the NUMEN experiment	LO PRESTI, Domenico
15:30	Search for eV Sterile Neutrinos – The Stereo Experiment	MINOTTI, Alessandro
15:50	Numerical characterization of the ARAPUCA: a new approach for LAr scintillation light detection	MARINHO, Franciole

### Visit to INFN-Laboratori Nazionali del Sud and "Award Dinner" - (16:20-22:00)

## Saturday 21 October 2017

### **Plenary - Auditorium (09:00-11:40)**

- **Conveners: Cuttone, Giacomo**

time	title	presenter
09:30	DAMA/LIBRA results and perspectives	BERNABEI, Rita
10:00	Novel approaches to the nuclear physics of double beta decay	FREKERS, Dieter
10:30	Developments and applications of Micro-Pattern Gaseous Detectors (MPGD): a concise review.	CORTESI, Marco
11:00	Structure of proton-rich nuclei via mirror beta decay and charge exchange reactions	ORRIGO, Sonja
11:30	Conclusions and announcement of CNNP next edition	

### **Lunch - Chostro di Levante (12:00-13:30)**

### **Benedictine Monastery Tour - (15:00-16:00)**