14th International Spring Seminar on Nuclear Physics

Cutting-edge developments in nuclear structure physics

Time	Duration	SUNDAY - May 18, 2025
5:00 PM	01:30:00	REGISTRATION
6:30 PM	01:30:00	WELCOME COCKLTAIL
Time	Duration	MONDAY - May 19, 2025
8:00 AM	1:00:00	REGISTRATION
9:00 AM	0:10:00	WELCOME
		Chairperson: Luigi Coraggio
9:10 AM	0:25:00	**Alexandra Gade** (Facility for Rare Isotope Beams, USA): Shell model meets in-beam gamma-ray spectroscopy on both sides of the nuclear chart
9:35 AM	0:25:00	**Alex B. Brown** (Facility for Rare Isotope Beams, USA): Structure of the calcium isotopes: past problems and future prospects
10:00 AM	0:25:00	**Simin Wang** (Fudan University, China): Revealing the Dynamics of Three-Body Decay
10:25 AM	0:25:00	**Elena Litvinova** (Western Michigan University, USA): Updates on the relativistic nuclear field theory: refining dynamical kernels of the nuclear response
10:50 AM	0:30:00	*Break*
		Chairperson: Antonio D'Onofrio
11:20 AM	0:25:00	**Tommaso Marchi** (Laboratori Nazionali di Legnaro-INFN, Italy): Highlights from INFN-LNL, the Status and the Future plans of the SPES project
11:45 AM	0:25:00	**Sebastian König** (North Carolina State University, USA): Extrapolation and emulation techniques for few-body resonances
12:10 PM	0:25:00	**Andrew Stuchbery** (Australian National University, Australia): Electromagnetic properties of atomic nuclei: the path to collectivity and the nature of pre-collective nuclei
12:35 PM	0:25:00	**Marek Ploszajczak** (GANIL, France): Atomic nucleus at the edge of stability
1:00 PM	0:25:00	**Paul Garrett** (University of Guelph, Canada): Shape Coexistence in the N≈60 isotopes in the Sr-Ru region
1:25 PM	1:25:00	*Lunch*
		Chairperson: Didier Beaumel
2:50 PM	0:25:00	**Costel Petrache** University Paris-Saclay, IJCLab-CNRS/IN2P3, France): Collectivity, shape coexistence and isomerism in lanthanide nuclei close to the proton drip line
3:15 PM	0:25:00	**Lotta Jokiniemi** (TRIUMF, Canada): Probing neutrinoless double-beta decay by nuclear observable
3:40 PM	0:20:00	**Jozsef Cseh** (HUN-REN Institute for Nuclear Research, Hungary): The multi-shell connection between the fundamental structure models
4:00 PM	0:20:00	**Songlin Lyu** (University of Campania, Italy): Muon Capture
4:20 PM	0:30:00	*Break*
		Chairperson: Peter Ring
4:50 PM	0:25:00	**Dimiter L. Balabansky** (ELI-NP and IFIN-HH, Romania): While waiting for γ beams at ELI-NP: The ELIGANT campaigns at IFIN-HH and at ELI-NP
5:15 PM	0:25:00	**Roelof Bijeker** (National Autonomous of Mexico, Mexico): Algebraic treatment of α-cluster nuclei
5:40 PM	0:25:00	**Dimitar Vasilev Tonev** (Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Science, Bulgaria): Nuclear Structure Investigations in the A ≈ 30 Mass Region
6:05 PM	0:20:00	**Bhoomika Maheshwari** (GANIL, France): Shell model understanding of nuclear isomerism
6:25 PM		END SESSION

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Time	Duration	TUESDAY - May 20 2025
		Chairperson: Alexandra Gade
9:00 AM	0:25:00	**Norbert Pietralla** (Technical University of Munich, Germany): Taking Photos of the Nuclear Giant Dipole Resonance
9:25 AM	0:25:00	**Ubirajara van Kolck** (ECT*, Italy): Improved Actions for Nuclear Effective Field Theories
9:50 AM	0:25:00	**Denis Lacroix** (IJCLab-Paris Saclay University, France): Variational methods with symmetry constraints for application of quantum computers to nuclear physics
10:15 AM	0:25:00	**James M. Allmond** (Oak Ridge National Laboratory, USA) : Recent results within the sd and fpg shells
10:40 AM	0:25:00	**Takayuki Miyagi** (University of Tsukuba, Japan): Nuclear electromagnetic properties from valence-space in-medium
11:05 AM	0:25:00	*Break*
		Chairperson: Paul Garrett
11:30 AM	0:25:00	**Tahara Otsuka** (University of Tokyo, Japan): A comprehensive view of nuclear shapes, rotations and vibrations from fully quantum mechanical perspectives
11:55 AM	0:25:00	**Magdalena Gorska** (GSI, Germany): Nuclear Structure Investigations at DESPEC
12:20 PM	0:25:00	**Tomohiro Uesaka** (RIKEN, Japan): Few-nucleon correlations near and beyond the neutron drip-line
12:45 PM	0:25:00	**Lorenzo Pagnanini** (GSSI, Italy): Assessing Spectral Shape of Forbidden Beta Decays with ACCESS and ASSOLO
1:10 PM	0:25:00	**Christian Forssén** (Chalmers University of Technology, Sweden): Precision nuclear theory
1:35 PM	1:15:00	*Lunch*
		Chairperson: Elena Litvinova
2:50 PM	0:25:00	**Gianluca Colò** (University of Milano, Italy): Energy Density Functionals for nuclei and astrophysical applications
3:15 PM	0:25:00	**Timothy Gray** (University of Tennessee, USA): Exploring nuclear structure near 100Sn with neutron knockout reactions
3:40 PM	0:20:00	**Francesco Marino** (Johannes Gutenberg University, Germany): Structure and electric dipole response of open-shell nuclei from coupled-cluster theory
4:00 PM	0:20:00	**Omar Nasr** (IJCLab, France): Resonances in 10He and the 6n system studied using SAMURAI
4:20 PM	0:30:00	*Break*
		Chairperson: Sebastian Koenig
4:50 PM	0:25:00	**Alessandro Spatafora** (Laboratori Nazionali del Sud-INFN and University of Catania, Italy)**:** The NUMEN project: a new way to provide data-driven information on neutrino-less double-beta decay nuclear matrix element
5:15 PM	0:25:00	**Anatoli Afanasiev** (Mississippi State University, USA): Recent progress in global optimizations of covariant energy density functionals
5:40 PM	0:20:00	**Duy-Duc Dao (**IPHC Strasbourg, France): Discrete Non-Orthogonal Shell Model: from mid-mass to heavy deformed nuclei
6:00 PM	0:20:00	**Alberto Scalesi** (Chalmers University of Technology, Sweden)**:** Ab Initio description of open-shell nuclei at polynomial cost
6:20 PM	0:20:00	**Elina Kauppinen** (University of Jyväskylä, Finland): New findings on neutrinoless double beta decay nuclear matrix elements using IBM-2
6:40 PM		END SESSION

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Time	Duration	WEDNESDAY - May 21, 2025
		Chairperson: Gianluca Colò
9:00 AM	0:25:00	**Melina Avila Coronado** (Argonne National Laboratory, USA): Exploring α-induced reactions: Direct measurements and their impact on Nuclear Astrophysics
9:25 AM	0:25:00	**Matteo Biassoni** (Università degli Studi di Milano-Bicocca, Italy): Present and future of the most sensitive techniques for double beta decay searches: an overview
9:50 AM	0:25:00	**Frédéric Nowacki** (IPHC, France): Isospin Symmetric Island of inversion at the N=Z line
10:15 AM	0:25:00	**Javier Menendez** (University of Barcelona, Spain): Toward simulating the nuclear shell model in a quantum computer
10:40 AM	0:25:00	**Giacomo de Angelis** (Laboratori Nazionali di Legnaro-INFN, Italy): Exotic structures and double-magicity at the proton drip-line
11:05 AM	0:30:00	*Break*
		Chairperson: Gianluca Imbriani
11:35 AM	0:25:00	**Michael Wiescher** (University of Notre Dame, USA): Nuclear Structure near Particle Thresholds - Evidence from Nuclear Astrophysics
12:00 PM	0:25:00	**Garrett B. King** (Washington University, USA): Recent developments in electron scattering with quantum Monte Carlo methods
12:25 PM	0:25:00	**Andrea Gottardo** (Laboratori Nazionali di Legnaro-INFN, Italy): The AGATA campaign at LNL: nuclear structure from high-resolution γ-ray spectroscopy
12:50 PM	0:25:00	**Maria Colonna** (Laboratori Nazionali del Sud-INFN, Italy): Probing two-body charge-exchange transition densities with heavy ion reactions
1:15 PM	0:25:00	**Alessandro Compagnucci** (GSSI, Italy): A new underground measurement of the 14N(p,γ)15O reaction at Bellotti Ion Beam Facility
1:40 PM		END SESSION
2:30 PM		EXCURSION

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Time	Duration	THURSDAY - May 22 2025
		Chairperson: Angela Gargano
8:45 AM	0:45:00	**Sara Pirrone** (Equal Opportunities Committee of the Italian Physical Society and INFN-Catania, Italy): Gender equality in STEM careers
		Chairperson: Maria Colonna
9:30 AM	0:25:00	**Riccardo Brugnera** (University of Padova, Italy): Neutrinoless double-beta decay search with the LEGEND experiment
9:55 AM	0:25:00	**Alessandro Roggero** (University of Trento, Italy): Nuclear response functions with quantum (inspired) algorithms
10:20 AM	0:25:00	**Calvin W. Johnson (**San Diego State University, USA): A weak entanglement approximation for nuclear structure
10:45 AM	0:25:00	**Hervé Savajols (**GANIL, France): Search for a neutron dark decay in 6He
11:10 AM	0:30:00	*Break*
		Chairperson: Ubirajara van Kolck
11:40 AM	0:25:00	**Emanuele Mereghetti** (Los Alamos National Laboratory, USA): Effective Field Theory approach for radiative corrections to superallowed beta decays
12:05 PM	0:25:00	**Hiroshi Watanabe** (Beihang University, China and Center for Exotic Nuclear Studies, South Korea): Fast-timing lifetime measurements of exotic nuclei with a large LaBr3(Ce) array: The first results from the IDATEN project
12:30 PM	0:25:00	**Jason Holt** (TRIUMF, Canada): Ab initio calculations for nuclear astrophysics and searches for new physics
12:55 PM	0:25:00	**Peter Ring** (Technical University of Munich, Germany**):** Shape coexistence in the superheavy nucleus 286No
1:20 PM	1:25:00	*Lunch*
		Chairperson: Nicola Lo Iudice
2:45 PM	0:25:00	**Daisuke Suzuki** (The University of Tokyo, Japan): Exploring nuclear structures beyond mean-field using radioactive isotope beams
3:10 PM	0:25:00	**František Knapp** (Charles University of Prague, Czech Republic): Extended Random Phase Approximation (ERPA) with modern NN+NNN interactions
3:35 PM	0:20:00	**Emanuele Costa** (University of Barcelona, Spain): A Quantum Annealing Protocol to Solve the Nuclear Shell Model
3:55 PM	0:20:00	**Zhicheng Xu** (Fudan University, China)**:** Ab initio effective operator with continuum
4:15 PM	0:25:00	**Maura Pavan** (University of Milano-Bicocca and INFN, Italy): CUPID
4:40 PM	0:30:00	*Break*
		Chairperson: Costel Petrache
5:10 PM	0:25:00	**Amiram Leviatan** (The Hebrew University, Israel)**:** Odd-mass Nb isotopes as a region of intertwined quantum phase transitions
5:35 PM	0:20:00	**Deni Vale** (Istrian University of Applied Sciences, Croatia): The first applications of the relativistic Second Tamm-Damncoff approximation in doubly-magic nuclei
5:55 PM	0:20:00	**Dorian Frycz** (University of Barcelona, Spain)**:** Shape coexistence in medium-mass nuclei
6:15 PM	0:20:00	**Vasileios Soukeras** (Laboratori Nazionali del Sud-INFN, Italy): Some insights on the He-4 mysteries from a- scattering measurements
6:35 PM		END SESSION
		SOCIAL DINNER

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Time	Duration	FRIDAY- May 23 2025
		Chairperson: Calvin W. Johnson
9:00 AM	0:25:00	**Jan Kvasil** (Charles University in Prague, Czech Republic): Pygmy resonance above excited states
9:25 AM	0:25:00	**Luca Girlanda** (University of Lecce and INFN, Italy): Freedom in the chiral three-nucleon force at N3LO
9:50 AM	0:25:00	**Chieh-Jen (Jerry) Yang** (ELI-NP, Romania): Nuclear Physics under the low-energy, high intensity frontier
10:15 AM	0:20:00	**Bakytzhan Urazbekov** (L.N. Gumilyov Eurasian National University, Kazazistan): Direct and two-step processes in single charge exchange reactions within a unified mode
10:35 AM	0:25:00	**Massimo Mannarelli** (Laboratori Nazionali del Gran Sasso - INFN, Italy): Emulating hadronic matter in extreme conditions
11:00 AM	0:25:00	**Tokuro Fukui** (Kyushu University, Japan): Uncovering the mechanism of chiral three-nucleon force in driving spin-orbit splitting
11:25 AM	0:30:00	*Break*
		Chairperson: Giacomo de Angelis
11:55 AM	0:20:00	**Petr Vesely** (Nuclear Physics Institute, Czech Academy of Sciencies, Czech Republic): Description of Double Beta Decay within EMPM and STDA
12:15 PM	0:25:00	**Chien-Yeah Seng** (Michigan State University, USA): High-Precision Determination of Radiative Corrections to Superallowed Nuclear Beta Decays
12:40 PM	0:20:00	**Marta Polettini (GSI, Gemany):** Approaching 100Sn: Structural evolution in 98,100Cd via lifetime measurements
1:00 PM	0:20:00	**Fanfei Zeng** (Laboratori Nazionali di Legnaro-INFN, Italy): Radioisotopes for monitoring the effects of Climate Change on marine Ecosystems: the REMO/ClimOcean project at SPES/LNL RIB facility
1:20 PM		END SESSION