Nuclear Photonics 2018

June 24-29, 2018 • Brasov, Romania

SUNDAY		**24/ 6 /2018**
13:00 – 16:00		Visit ELI-NP and Registration
16:00 – 20:00		Transport to Brasov
MONDAY		**25/ 6 /2018**
01. Opening		
08:00 – 09:00		Registration
09:00 – 10:10		**01.1 Official Welcome**
10:10 – 10:40		Coffee break
02. Tutorial talks | *Chair: C.A. Ur*		
10:40 – 11:15	02.1 | C. Barty	Ultrahigh intensity laser activities around the world
11:15 – 11:50	02.2 | P. McKenna	Laser-driven ion acceleration
11:50 – 12:25	02.3 | R. Hajima	Accelerator-based gamma sources: review and perspectives
12:25 – 13:00	02.4 | A. Zilges	Photonuclear physics
13:00 – 14:20		Lunch
03. Keynote lecture | *Chair: N.V. Zamfir*		
14:20 – 15:10	03.1 | G. Mourou	Getting beyond the laser field horizon: the single cycle high energy pulse short cut
04. ELI facilities and research programs | *Chair: D. Stutman*		
15:10 – 15:35	04.1 | K. Tanaka	Where does ELI–NP stand now?
15:35 – 16:00	04.2 | D. Charalambidis	News from ELI-ALPS
16:00 – 16:30		Coffee break
05. Fundamental Nuclear Structure and Low-Energy QCD physics | *Chair: D. Balabanski*		
16:30 – 16:55	05.1 | C. Howell	Low-energy QCD research at HIγS
16:55 – 17:20	05.2 | D. Savran	Investigation of the Pygmy Dipole Resonance with photon beams
17:20 – 17:40	05.3 | V. Werner	Decay characteristics of the nuclear scissors mode from Compton-back-scattering
17:40 – 18:00	05.4 | N. Tsoneva	Spectral features of Electric and Magnetic Dipole and Quadrupole Modes
18:00 – 18:20	05.5 | A. Tamii	Electric Dipole Response of nuclei studied by proton scattering
18:20 – 18:40	05.6 J. Isaak	Study of photon strength functions via (g,g'g") reactions using quasi-monochromatic gamma-ray beams
19:00 – 21:00		Welcome
TUESDAY		**26/ 6 /2018**
06. High Intensity laser-plasma interaction | *Chair: P. McKenna*		
08:30 – 08:55	06.1 | C.H. Nam	Performance and applications of multi-PW laser at CoReLS
08:55 – 09:20	06.2 | G. Cheriaux	Hybrid OPCPA/Glass 10 PW laser at 1 shot a minute
09:20 – 09:40	06.3 | A. Gonoskov	Radiation-dominated particle and plasma dynamics
09:40 – 10:00	06.4 | B. F. Shen	Planned experiments with Shanghai Super-intense Ultrafast Laser Facility and the Station of Extreme Light
10:00 – 10:20	06.5 | T.J. Xu	Quasi-monoenergetic positron beam generation and acceleration based on laser-accelerated electrons
10:20 – 10:50		Coffee break

MONDAY

TUESDAY

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07. Physics with Laser Compton Backscattering sources | *Chair: A. Zilges*		
10:50 – 11:15	07.1 | P. von Neumann-Cosel	Dipole Response in nuclei – Real vs. Virtual photon probes
11:15 – 11:40	07.2 | F. Camera	Photonuclear studies with gamma beams
11:40 – 12:00	07.3 | M. Krzysiek	Characterization of Giant Dipole Resonance excitation mode using photon probes at ELI-NP
12:00 – 12:20	07.4 | O. Gorbachenko	Renewed database of GDR parameters of ground-state photoabsorption
12:20 – 12:40	07.5 | I. Gheorghe	Photoneutron measurements for IAEA CRP on updating the current photonuclear data library
12:40 – 14:00		Lunch
08. Laser plasma nuclear physics | *Chair: C.H. Nam*		
14:00 – 14:25	08.1 | J. Koga	Progress towards calculating higher order Delbrück scattering and prospects for measurements
14:25 – 14:50	08.2 | F. Hannachi	Nuclear excitations in plasma
14:50 – 15:10	08.3 | K. Spohr	Day-1 laser driven nuclear experiments at ELI-NP
15:10 – 15:30	08.4 | A. Savel'ev	Near threshold photonuclear reactions with high intensity lasers
15:30 – 15:50	08.5 | J. Benlliure	Laser-induced radioisotope production at L2A2
15:50 – 16:10	08.6 | Z.Q. Zhao	Nano-structure for advanced laser-plasma X-ray source
16:10 – 16:40		Coffee break
09. High intensity lasers and QED | *Chair: K. Krushelnick*		
16:40 – 17:05	09.1 | A. Arefiev	Leveraging extreme laser-driven magnetic fields for efficient generation of gamma-ray beams
17:05 – 17:30	09.2 | M. Marklund	New routes to high-energy photon generation in laser-matter interactions
17:30 – 17:50	09.3 | T. Blackburn	Launching QED cascades in high-intensity laser pulses
17:50 – 18:10	09.4 | Y. Nakamiya	Probing vacuum birefringence with 10 PW laser and 1 GeV gamma-rays at ELI-NP
18:10 – 18:30	09.5 | W. Luo	Dense pair plasma generation and nonlinear QED physics with 10PW scale lasers
19:00 – 21:00		Poster session
WEDNESDAY		**27/ 6 /2018**
10. High intensity laser-plasma interaction | *Chair: C.J. Barty*		
08:30 – 08:55	10.1 | K. Krushelnick	Relativistic laser plasma interaction experiments at the University of Michigan
08:55 – 09:20	10.2 | J. H. Shin	Development of electron accelerator and gamma-ray sources with 4-PW laser
09:20 – 09:40	10.3 | J. Wheeler	Advancements in extreme laser pulse compression with applications for Nuclear Photonics
09:40 – 10:00	10.4 | M. Kando	Electron beam and plasma monitors for staging laser acceleration experiments at LAPLACIAN
10:00 – 10:20	10.5 | M. Nishiuchi	Measurement of the sheath field strength by the charge state of heavy ions as a probe
10:20 – 10:50		Coffee break
11. Laser plasma nuclear physics | *Chair: K.A. Tanaka*		
10:50 – 11:15	11.1 | L. Volpe	Laser-driven plasmas, particle and radiation beams @ CLPU "The first User access on VEGA"
11:15 – 11:40	11.2 | J. Fuchs	Pulsed high-brightness neutrons delivered by multi-PW lasers for neutron interactions investigations
11:40 – 12:05	11.3 | F. Albert	High–energy density science applications x-ray and gamma-ray sources from laser-wakefield acceleration

TUESDAY

WEDNESDAY

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12:05 – 12:25	11.4 | A. Yogo	Demonstration of neutron radiography driven by a single laser pulse
12:25 – 12:45	11.5 | V. Bychenkov	Laser acceleration of charged particles from low-density targets for nuclear and gamma sources
12:45 – 14:30		Lunch
14:30 – 18:00		Teaming and Networking
THURSDAY		**28/ 6 /2018**
12. New perspectives for gamma beam systems | *Chair: C. Howell*		
08:30 – 08:55	12.1 | C.X. Tang	An overview of the activities of inverse Compton Scattering sources in China
08:55 – 09:20	12.2 | S. Gales	New opportunities in Nuclear Physics with multi PW high power lasers and multi-MeV monochromatic and brilliant gamma beams
09:20 – 09:40	12.3 | X. Davoine	Simulation of a brilliant betatron gamma-ray source from a two-stage wakefield accelerator
09:40 – 10:00	12.4 | D. Mihalcea	High intensity monoenergetic Compton Backscattered gamma-ray source at Fermilab FAST facility
10:00 – 10:20	12.5 | A. Murokh	Optical energy recovery Linac ICS gamma-ray source
10:20 – 10:50		Coffee break
13. Laser plasma nuclear physics | *Chair: J.Fuchs*		
10:50 – 11:15	13.1 | S. Le Pape	Toward a burning plasma state using diamond ablator inertially confined fusion (ICF) implosions on the National Ignition Facility (NIF)
11:15 – 11:40	13.2 | S. Regan	Laser-direct-drive inertial confinement fusion research on OMEGA
11:40 – 12:05	13.3 | J. Hartmann	Application and potential of laser–accelerated ion bunches
12:05 – 12:25	13.4 | L. Giuffrida	New targets for enhancing pB nuclear fusion reaction at the PALS facility
12:25 – 12:40	13.5 | F. Lindner	Laser-driven acceleration of gold ions in preparation of the fission-fusion reaction scheme
12:40 – 14:00		Lunch
14. Laser-driven particle acceleration | *Chair: L. Volpe*		
14:00 – 14:25	14.1 | S. Kar	Development and application of laser-driven neutron sources
14:25 – 14:50	14.2 | D. Neely	Deuterium layer laser driven acceleration and neutron production
14:50 – 15:10	14.3 | D. Doria	Carbon ion acceleration via ultra-short laser pulse employing ultra-thin foils
15:10 – 15:30	14.4 | M. Passoni	Enhanced laser-driven ion sources for nuclear and material science applications
15:30 – 15:45	14.5 | J. Magnusson	Prospects for laser-driven ion acceleration through controlled displacement of electrons by standing waves
15:45 – 16:00	14.6 | A. Hutzen	Polarized proton beams from laser-induced plasmas
16:00 – 16:30		Coffee break
15. Fundamental Nuclear Structure | *Chair: S. Gales*		
16:30 – 16:45	15.1| J. Wilhelmy	Investigation of the γ-ray strength function of 87Rb
16:45 – 17:00	15.2 | M. Muscher	Study of the dipole response in 142Ce
17:00 – 17:15	15.3 | U. Gayer	Precision nuclear structure for 0vbb decay using second-generation gamma-ray beams
17:15 – 17:30	15.4 | T. Beck	Probing the E2 properties of the scissors mode with real photons

THURSDAY

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17:30 – 17:45	15.5 | J. Silano	Validating the Bohr Hypothesis: measuring the energy evolution of fission-product yields from photon-induced fission of 240Pu
17:45 – 18:05	15.6 | T. Ebisuzaki	Accreting intermediate mass blackhole in M82 starburst Galaxy: A ZeV linear accelerator for ultra high energy cosmic rays
19:00 – 20:00		Visit Black Church
20:00		Dinner
FRIDAY		**29/ 6 /2018**
16. Applications with gamma beams and high-power lasers | *Chair: M. Roth*		
08:30 – 08:50	16.1 | H. Ohgaki	Demonstration of NRF-CT imaging by Laser Compton Backscattering gamma-rays in UVSOR
08:50 – 09:10	16.2 | C. Brenner	Laser-driven x-rays and neutrons for application in nuclear waste management imaging and material inspection
09:10 – 09:30	16.3 | I. Carter	Non-destructive detection of gold in ores using gamma activation analysis
09:30 – 09:50	16.4 | M. Gunther	Gamma-ray refractive lens systems for the MeV energy range
09:50 – 10:10	16.5 | S. Miyamoto	Non-distructive inspection of material defect by positron generated by laser compton scattering gamma-ray beam
10:10 – 10:40	Coffee break	
17. Nuclear photonics and related fields | *Chair: R. Hajima*		
10:40 – 11:05	16.6 | M. Roth	Nuclear Photonics activities at the Technische Universität Darmstadt
11:05 – 11:25	17.1 | S. Charisopoulos	IAEA activities in support of the accelerator-based research and applications
11:25 – 11:45	17.2 | T. Togashi	High-field science platform in X-ray free electron laser SACLA
11:45 – 12:05	17.3 | P. Vasos	New biomedical research directions with high-power lasers at ELI-NP
12:05– 12:25	17.4 | H. ur Rehman	A comprehensive photon-and-neutron hybrid transmutation study of long-living fission products
18. Closing		
12:25– 13:00		Concluding remarks
13:00– 14:00		Lunch
15:00		Transport to Otopeni and Bucharest center

FRIDAY