



Nuclear Photonics 2016 – The 1st international conference devoted entirely to the pursuit of nuclear science and applications with photons.

Introduction:

Nuclear Photonics or the pursuit of photon-based nuclear science and applications is a rapidly evolving field of study that is being enabled by the development of ultra-bright, quasi-mono-energetic gamma-ray sources based on laser-Compton scattering and by the worldwide development of ultrahigh intensity lasers capable of producing field strengths of relevance to nuclear interactions. According to the last census of the International Committee on Ultrahigh Intensity Lasers (ICUIL – www.icuil.org), facilities and ongoing construction projects of relevance represent a global investment in excess of \$4B.

Nuclear Photonics 2016 aims to bring together experts in gamma-ray source development, ultrahigh intensity laser development, nuclear physics and nuclear-related applications. Nuclear-related topics to be covered will include;

- fundamental nuclear science and spectroscopy,
- nuclear medicine including radiography and radiotherapy,
- industrial non-destructive material imaging and evaluation,
- isotope-specific, nuclear materials detection and management,
- photo-fission and materials transmutation,
- photon-based production of rare isotopes,
- photon-enabled pulsed neutron generation and science,
- photon-enabled pulsed positron generation and science,
- photon-based hadron beams and applications,
- nuclear astrophysics
- gamma-ray science above the giant dipole resonance

Sessions covering all aspects of the enabling, mono-energetic gamma-ray technology are also planned and will include; development of compact accelerators, optimization of laser-Compton interactions, detector systems for bright gamma beams, gamma-ray monochromators, gamma-ray optics, next-generation laser technology for gamma-beam systems, novel photoguns, etc. Similarly sessions covering the key aspects of the enabling ultrahigh intensity laser technology are also planned and will include; overviews of state-of-the art capabilities, advances in beam focusing and transport, novel pulse diagnostics, methods for control of pulse contrast, development of high average power, intense laser systems, etc. Special effort will be made to integrate applications and machine development sessions so that each may motivate the other with respect to the development of nuclear photonics as a new scientific discipline.



Conference Details:

Nuclear Photonics 2016 will be held from October 16th through 21st at the Monterey Plaza Hotel in Monterey, California. Monterey can be reached by regional jet or via car in about 90 minutes from any of the San Francisco Bay Area airports. The Monterey Plaza Hotel is located bay side and has open areas directly over the water of Monterey Bay. The location is also next door to Monterey's Cannery Row and the Monterey Bay Aquarium. The meeting will facilitate interactions between all participants via communal meals, breaks and social events. A conference banquet is currently being planned for Wednesday evening at the Monterey Bay Aquarium.



The Monterey Plaza Hotel and Spa - Site of Nuclear Photonics 2016

Possible pre and/or post conference excursions include visits to the National Ignition Facility at the Lawrence Livermore National Laboratory and/or the Linear Coherent Light Source at the SLAC National Accelerator Laboratory.



A broad international committee has been assembled to provide guidance with respect to the meeting and technical program.

General Chairs for Nuclear Photonics 2016

Dr. Christopher Barty - Lawrence Livermore National Laboratory, USA

Dr. Ryoichi Hajima - National Institutes for Quantum & Radiological Science and Technology, Japan

Prof. Norbert Pietralla - Technische Universität Darmstadt, Germany

Program chairs for Nuclear Photonics 2016

Prof. Calvin Howell – Duke University & Triangle Universities Nuclear Laboratory (TUNL), USA

Prof. Markus Roth - Technische Universität Darmstadt, Germany

Program Committee Members for Nuclear Photonics 2016

Prof. Andrei Afanasev - George Washington University, USA

Dr. Michael Fazio - SLAC National Accelerator Laboratory, USA

Dr. Sydney Gales - Extreme Light Infrastructure Nuclear Physics, Romania

Dr. Cameron Geddes - Lawrence Berkeley National Laboratory, USA

Prof. Fazia Hannachi - University of Bordeaux, France

Dr. Kiminori Kondo - Institutes for Quantum & Radiological Science and Applications, Japan

Prof. Paul McKenna - University of Strathclyde, United Kingdom

Dr. Catalin Miron - Extreme Light Infrastructure Delivery Consortium, Europe

Prof. Shuji Miyamoto - University of Hyogo, Japan

Prof. Takashi Nakano - Osaka University, Japan

Prof. Hideaki Ohgaki - Kyoto University, Japan

Dr. Anton Tonchev - Lawrence Livermore National Laboratory, USA

Prof. Donald Umstadter - University of Nebraska, USA

Prof. Ying K. Wu - Duke University and Triangle Universities Nuclear Laboratory (TUNL), USA

Prof. Andreas Zilges - Universität zu Köln, Germany

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