

Proceedings of  
2<sup>nd</sup> International Conference on

# ATOMIC AND NUCLEAR PHYSICS

November 08-09, 2017 | Las Vegas, USA



08:00-08:30 Registrations

Conference Hall: Paramount Room

conference**series**.com 08:30-08:55

# Opening Ceremony

## Keynote Forum

- 08:55-09:00 Introduction
- 09:00-09:40 Title: **Siebert's curse and redemption: Taming and domesticating divergent wave functions**  
Peter Winkler, University of Nevada, USA
- 09:40-10:20 Title: **Modeling tokamak boundary plasma turbulence and its role in setting divertor heat flux widths**  
Xueqiao Xu, Lawrence Livermore National Laboratory, USA
- 10:20-11:00 Title: **What does an atomic nucleus look like?**  
Xiaodong Li, National University of Defense Technology, China

## Panel Discussion

Networking & Refreshment Break 11:00-11:20 @ Pre-Function Space

### Sessions:

Atomic Physics | Atomic Spectroscopy | Nanotechnology

Session Chair: Alexander V Chaplik, Rzhanov Institute of Semiconductor Physics, Russia

Session Co-chair: Manuel Bautista, Western Michigan University, USA

### Session Introduction

- 11:20-11:45 Title: **Effect of the electron-electron interaction on the Raman scattering in quantum rings**  
Alexander V Chaplik, Rzhanov Institute of Semiconductor Physics, Russia
- 11:45-12:10 Title: **An atomistic view of the universe**  
Manuel Bautista, Western Michigan University, USA
- 12:10-12:35 Title: **To understand atomic nucleus from a new nuclear structure model**  
Xiaodong Li, National University of Defense Technology, China
- 12:35-13:00 Title: **Recent research progress about the source term study on irradiated graphite spheres of HTR-10**  
Feng Xie, Tsinghua University, China

## Panel Discussion

Group Photo 13:00-13:10

Lunch Break 13:10-14:10 @ Renaissance III

- 14:10-14:35 Title: **Mechanical self-assembly of highly-folded graphene oxides for ultralarge deforming actuators**  
Zengyong Chu, National University of Defense Technology, China
- 14:35-15:00 Title: **Calculations with parametric CI-MBPT method of properties of complex atoms**  
Igor M Savukov, Los Alamos National Laboratory, USA
- 15:00-15:25 Title: **Structural, microstructural and thermal characterization of Fe-doped ZnO powder nanostructures prepared by mechanical alloying**  
Oudjertli Salah, Université of Badji Mokhtar, Algeria
- 15:25-15:50 Title: **Atomic spectroscopy of Si bolidium narcosum at negative temperature**  
Arn Olds Ikkema, FAS Institute, Finland

## Panel Discussion

Networking & Refreshment Break 15:50-16:10 @ Pre-Function Space

Poster Presentations 16:10-16:40 @ Pre-Function Space

Poster Judge: Alexander V Chaplik, Rzhanov Institute of Semiconductor Physics, Russia

- ANP-1 Title: **Zeeman spectra of Ti I in a facing target sputtering system**  
Nobuo Nishimiya, Tokyo Polytechnic University, Japan
- ANP-2 Title: **Isotope shift of Ti spectrum in a facing target sputtering system**  
Shinji Kobayashi, Tokyo Polytechnic University, Japan

## Panel Discussion

## Keynote Forum

- 09:00-09:40 **Title: Generalizing the harmonic oscillator and Fourier analysis: An infinite family of mutually unbiased bases**  
Donald J Kouri, University of Houston, USA
- 09:40-10:20 **Title: Research activity on experimental nuclear physics aided by atomic physics**  
Masayoshi Tanaka, Kobe Tokiwa University, Japan
- 10:20-11:00 **Title: Non-particle vlasov codes: Key issues and impact on plasma turbulence modeling for thermonuclear fusion**  
Alain Ghizzo, University of Lorraine, France

## Panel Discussion

Networking and Refreshment Break 11:00-11:20 @ Pre-Function Space

## Sessions:

Nuclear Physics | Nuclear Fission and Fusion | Nuclear Medicine Physics

Session Chair: Masayoshi Tanaka, Kobe Tokiwa University, Japan

Session Co-chair: R A Radhi, University of Baghdad, Iraq

## Session Introduction

- 11:20-11:45 **Title: Progress in creation of hyperpolarized nuclei for highly sensitive MRI**  
Masayoshi Tanaka, Kobe Tokiwa University, Japan
- 11:45-12:10 **Title: Calculation of quadrupole transition rates in cross sd-pf shell isotopes (Si, S and Ar)**  
R A Radhi, University of Baghdad, Iraq
- 12:10-12:35 **Title: Optical control of electron emission at the attosecond timescale**  
G M Laurent, Auburn University, USA

## Panel Discussion

Lunch Break 12:35-13:35 @ Renaissance III

- 13:35-14:00 **Title: Radionuclides release behaviors unique to the Fukushima Daiichi nuclear power plants accident**  
Akihide Hidaka, Japan Atomic Energy Agency, Japan
- 14:00-14:25 **Title: Kinetic waves induced by electron trapping in stimulated Raman scattering in laser-plasma interaction**  
Alain Ghizzo, University of Lorraine, France
- 14:25-14:50 **Title: Applications of the proton induced x-ray emission (PIXE) technique for elemental analysis of materials**  
Gregory Lapicki, East Carolina University, USA
- 14:50-15:15 **Title: Transition from mesoscopy of low levels of the liquid-drop model of nucleus to macroscopy of critical mass of uranium and plutonium with regard to partition theory**  
V P Maslov, National Research University, Russia
- 15:15-15:40 **Title: Source velocity at relativistic beams of  $^4\text{He}$**   
S P Avdeyev, Joint Institute for Nuclear Research, Russia
- 15:40-16:05 **Title: How atomic nucleus behaves around its limit of existence and its impact on explosive burning in the cosmos**  
Ushasi Datta, Saha Institute of Nuclear Physics, India

## Panel Discussion

Networking &amp; Refreshments Break 16:05-16:25 @ Pre-Function Space

## Video Presentations

- 16:25-16:40 **Title: Long term beam dynamics and ion kinetics in ultra-low energy storage rings**  
Alexander Papash, Karlsruhe Institute of Technology, Germany
- 16:40-16:55 **Title: Few-body physics of quasi-one dimensional atomic gases**  
Shahpoor Saeidian, Institute for Advanced Studies in Basic Sciences, Iran

## Panel Discussion

Awards &amp; Closing Ceremony