

54<sup>th</sup> ASRC International Workshop  
**Sakura-2019 “Nuclear Fission and Structure of Exotic Nuclei”**  
 Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan  
 25 – 27 March 2019  
<https://asrc.jaea.go.jp/soshiki/gr/HENS-gr/workshop9/index9.html>

**25<sup>th</sup> March (Monday)**

8:40 – 9:15	Registration	
9:15 – 9:20	Katsuhisa Nishio ASRC, JAEA	Opening
9:20 – 9:25	Makoto Oka Director General of ASRC, JAEA	Welcome address
Chair : Katsuhisa Nishio, JAEA		
9:25 – 9:50	Mamiko Nishiuchi (25) Kansai Photon Science Institute, QST	Extreme plasma as an ion source produced by high intensity laser pulses interaction with solid density targets
9:50 – 10:15	Kentaro Hirose (25) ASRC, JAEA	Fission experiments using <sup>254</sup> Es target at the JAEA tandem
10:15 – 10:35	Paul Stevenson (20) University of Surrey	Superheavy dynamics with time-dependent Hartree-Fock
Coffee break (10:35 – 11:00)		
11:00 – 11:20	Eiji Ideguchi (20) RCNP, Osaka University	Nuclear structure studies of <sup>254</sup> Es region by Coulomb excitation gamma-ray spectroscopy
11:20 – 11:40	Jørgen Randrup (20) LBNL	Fission studies with microscopic level densities I: Fragment mass distributions and kinetic energies
11:40 – 12:00	Sven Åberg (20) Lund University	Fission studies with microscopic level densities II: Microscopic description of energy partition in fission
Lunch (12:00 – 13:00)		
Chair : Masato Asai, JAEA		
13:00 – 13:25	Andrei Andreyev (25) Univ. of York / JAEA	β-delayed fission study of isomers in <sup>188</sup> Bi employing isomer-selective laser ionization
13:25 – 13:50	Cedric Simenel (25) Australian National University	Role of octupole deformed shell effects on the fission of nuclei in the mercury region
13:50 – 14:10	Igor Tsekhanovich (20) Bordeaux University / CENBG	Fission modes in <sup>178</sup> Pt
Coffee break (14:10 – 14:35)		
14:35 – 15:00	Jutta Escher (25) LLNL	Cosmic cauldrons and exotic nuclei: New reaction theory developments for determining unknown cross sections
15:00 – 15:20	Ana Henriques (20) Bordeaux University / CENBG	Present and future investigations using the surrogate-reaction method
15:20 – 15:40	Satoshi Chiba (20) Tokyo Institute of Technology	Study on formation mechanisms of Z=120 elements with a hybrid model
15:40 – 16:00	Gurgen Adamian (20) Bogoliubov Laboratory of Theoretical Physics	Suggestion for examination of a role of multi-chance fission
Coffee break (16:00 – 16:25)		

Chair : Kazuki Yoshida, JAEA		
16:25 – 16:50	Peter Möller (25) PMSCG, Los Alamos	Asymmetric fission across the chart: From its saddle origins to fragment isotopic yields
16:50 – 17:10	Andreas Oberstedt (20) ELI-NP	Systematic study of prompt gamma-ray emission from various fission reactions
17:10 – 17:30	Chikako Ishizuka (20) Tokyo Institute of Technology	Correlated transitions in TKE and mass distributions of fission fragments described by 4-D Langevin equation
17:30 – 17:50	Julien Taieb (20) CEA/DAM	Prompt fission neutrons in $^{239}\text{Pu}(n,f)$ reaction
Social Dinner : Restaurant “Uoyasu”, Tokai (18:30 – 20:30)		

## 26<sup>th</sup> March (Tuesday)

Chair : Andrei Andreyev Univ. of York /JAEA		
9:00 – 9:25	Kouji Morimoto (25) RIKEN Nishina Center	Superheavy element research at RIKEN Nishina Center
9:25 – 9:50	Jacklyn Gates (25) LBNL	Superheavy element studies at LBNL
9:50 – 10:10	Roderick Clark (20) LBNL	Alpha decay and fission of high-K Isomers
Coffee break (10:10 – 10:35)		
10:35 – 11:00	Takaharu Otsuka (25) RIKEN Nishina Center / University of Tokyo	Heavy nuclei and monopole-quadrupole correlations
11:00 – 11:20	Stanislav Antalic (20) Comenius University in Bratislava	Decay spectroscopy in rutherfordium region (Z=104) at SHIP
11:20 – 11:40	Kouichi Hagino (20) Tohoku University	Heavy-ion fusion reactions of deformed nuclei: from the medium-heavy to the superheavy regions
11:40 – 12:00	Zachary Matheson (20) Michigan State University	Cluster formation and emission in $^{294}\text{Og}$
Workshop Photo (12:00 – 12:05) Lunch (12:05 – 13:10)		
Chair : Hiroyuki Koura, JAEA		
13:10 – 13:35	David Hinde (25) Australian National University	Recent experimental results from Australia investigating quasifission dynamics
13:35 – 13:55	Yoshihiro Aritomo (20) Kindai University	Dynamical model of the nuclear transfer reaction in heavy system
13:55 – 14:15	Oleg Tarasov (20) NSCL /Michigan State University	Fission reactions to produce rare isotopes
14:15 – 14:35	Alexander Svirikhin (20) Flerov Laboratory of Nuclear Reactions	Velocity filter SHELS at the U400 FLNR cyclotron: performance and experimental results
Coffee Break (14:35 – 15:00)		
15:00 – 15:25	Sophia Heinz (25) GSI Helmholtz Centre	Quasi-fission as a source for new exotic nuclei ?
15:25 – 15:45	Nikolai Antonenko (20) Bogoliubov Laboratory of Theoretical Physics	Charge distributions of fission fragments of low- and high-energy fission of Fm, No, and Rf isotopes

15:45 – 16:05	Joonas Konki (20) CERN	The new isotopes $^{240}\text{Es}$ and $^{236}\text{Bk}$ : towards saturation of the EC-delayed fission probability
16:05 – 16:25	Pavol Mošat' (20) Comenius University in Bratislava	Total kinetic energy distribution for spontaneous fission of rutherfordium isotopes
Coffee Break (16:25 – 16:50)		
Chair : Yuta Ito, JAEA		
16:50 – 17:15	Timo Dickel (25) GSI Helmholtz centre	Spontaneous fission studies with the FRS Ion Catcher
17:15 – 17:35	Shuichiro Ebata (20) Tokyo Institute of Technology	Theoretical study on formation mechanisms of $Z=120$ super-heavy elements
17:35 – 17:55	Taiki Tanaka (20) RIKEN Nishina Center / Kyushu University	Fusion dynamics for hot fusion reactions revealed in quasielastic fusion barrier distributions
17:55 – 18:15	Gavin Smith (20) The University of Manchester	Fission with STEFF at n_TOF: Current status and future perspectives

## 27<sup>th</sup> March (Wednesday)

Chair : Riccardo Orlandi, JAEA		
9:00 – 9:25	Shigeru Kubono (25) RIKEN Nishina Center	Heavy element synthesis under explosive conditions on neutron stars
9:25 – 9:50	Samuel Giuliani (25) NSCL /Michigan State University	R-process nucleosynthesis: fingerprints from fissioning nuclei
9:50 – 10:10	Naohito Iwasa (20) Tohoku University	Experimental study of possible $^7\text{Be}$ -destruction channel $^7\text{Be}(n,p_1)^7\text{Li}^*$ to improve the cosmological lithium problem in the big bang nucleosynthesis
Coffee break (10:10 – 10:35)		
10:35 – 11:00	Audrey Chatillon (25) CEA/DAM	New insight into the transition from asymmetric fission to symmetric fission along the thorium chain
11:00 – 11:20	Nathalie Pillet (20) CEA/DAM	Role of the tensor force in the asymmetric to symmetric fission transition in the neutron-deficient Thoriums
11:20 – 11:40	Huiming Jia (20) China Institute of Atomic Energy	Fusion and fission dynamics at near- and sub-barrier energies
11:40 – 12:00	Ali Al-Adili (20) Uppsala University	Isomeric yield ratios at IGISOL – in the quest of probing the angular momenta of fission fragments
Lunch (12:00 – 13:00)		
Chair : Yutaka Utsuno, JAEA		
13:00 – 13:25	Chengjian Lin (25) China Institute of Atomic Energy	Experimental research on the reactions and decays of exotic nuclei
13:25 – 13:45	Sophie Péru (20) CEA/DAM	Spectroscopy and beta decay of fission fragments within QRPA approach using the Gogny force
13:45 – 14:05	Martin Venhart (20) Slovak Academy of Sciences	Nuclear structure of neutron-deficient odd-Au isotopes
14:05 – 14:25	Yuta Ito (20) ASRC, JAEA	Precision mass measurements of superheavy nuclei with MRTOF and its application at JAEA
Coffee Break (14:25 – 14:50)		

14:50 – 15:15	Xiaoding Tang (25) Institute of Modern Physics	Heavy ion fusion reactions in stars
15:15 – 15:40	Ushasi Datta (25) Saha Institute of Nuclear Physics	Weakly bound neutron-rich nuclei and cosmic phenomena
15:40 – 16:00	Alain Astier (20) CSNSM Orsay	Population of $^{212}\text{Po}$ cluster-states from the $^{12}\text{C}+^{208}\text{Pb}$ alpha-transfer reaction
16:00 – 16:05	Andrei Andreyev, Univ. of York / JAEA: Concluding Remarks	
Coffee Break (16:05 – 16:20)		
16:20 – 17:30	Tandem Accelerator Facility Tour	