Scientific Programme

Sunday May 29th

ARRIVAL

11:00-17:00  REGISTRATION AT GAMLA BISKOPSHUSET, LUND

15:00-17:00  RECEPTION AT GAMLA BISKOPSHUSET, LUND

15:15  GÖRAN BEXELL, FORMER VICE-CHANCELLOR, LUND UNIVERSITY

THE 350-YEAR ANNIVERSARY OF LUND UNIVERSITY (15 MIN)

17:15  BUS TRANSFER TO BÄCKASKOG CASTLE

19:30  DINNER
Monday May 30th

9.00-10.35 INTRODUCTION
Discussion Leader: D. Rudolph
D. Rudolph, Lund University. Welcome
P. Pyykkö, University of Helsinki. Does the Periodic Table of Elements Look Alright? (35+10 min)
M. Leino, University of Jyväskylä. Production and Properties - Towards the Island of Stability (35+10 min)

10.35-11.00 COFFEE

11.00-12.25 NUCLEAR STRUCTURE
Discussion Leader: S. Åberg
P.-H. Heenen, Brussels. Beyond Mean-field Correlations and the Description of Superheavy Nuclei (25+5 min)
R.M. Clark, LBNL Berkeley. Decay Spectroscopy of Heavy and Superheavy Nuclei at LBNL (25+5 min)
U. Forsberg, Lund University. Recoil-α(-α)-fission Events Observed in the Reaction 48Ca+243Am (20+5 min)

12.25 LUNCH

15:00-16.30 NUCLEAR STRUCTURE
Discussion Leader: A. Sobiczewski
J. Dobaczewski, York. Density Functionals for Heavy and Superheavy Nuclei (25+5 min)
R.-D. Herzberg, Liverpool. In-Beam Spectroscopy of Heavy and Superheavy Nuclei (25+5 min)
F.P. Heßberger, GSI Darmstadt. Nuclear Structure of the Transactinides – Investigated by Decay Spectroscopy (25+5 min)

16.30-17.00 COFFEE

17:00-18.25 FISSION BARRIERS
Discussion Leader: W. Nazarewicz
A. Lopez-Martens, CSNSM Orsay. Stability and Synthesis of Superheavy Nuclei: Winning the Battle Against Fission (25+5 min)
P. Möller, Los Alamos. The Limits of the Nuclear Chart as Set by Fission and Alpha Decay (25+5 min)
J. Khuyagbaatar, GSI Darmstadt. Fission in the Landscape of the Heaviest Nuclei: Some Recent Examples (20+5 min)

19.00 DINNER
Tuesday May 31st

9.00-10.15 PRODUCTION AND REACTIONS
Discussion Leader: J.V. Kratz
M. Schädel, GSI Darmstadt. Prospects of Heavy and Superheavy Element Production via Inelastic Nucleus-nucleus Collisions - from $^{238}$U + $^{238}$U to $^{18}$O + $^{254}$Es (35+10 min)
A.K. Nasirov, JINR Dubna. Entrance Channel Effects in Superheavy Element Production (25+5 min)

10.15-10.45 COFFEE

10.45-12.15 PRODUCTION AND REACTIONS
Discussion Leader: H. Sakai
W. Loveland, Oregon State. Characterizing the Mechanism(s) of Heavy Element Synthesis Reactions (25+5 min)
D. Hinde, ANU Canberra. Quasifission in Heavy and Superheavy Element Formation Reactions (25+5 min)
M. Kowal, NCNR Warsaw. Fusion-fission Probabilities, Cross Sections and Structure Notes of Superheavy Nuclei (25+5 min)

12.15 LUNCH

15.00-16.35 ATOMIC STRUCTURE
Discussion Leader: M. Itkis
E. Eliav, Tel Aviv, Israel. Atomic Theory – Models and Methods (35+10 min)
T. Sato, JAEA Tokai. Ionization Potentials of the Heaviest Actinide (20+5 min)
M. Laatiaoui, Helmholtz Institute Mainz. Laser Spectroscopy of Nobelium (20+5 min)

16.35-17.00 COFFEE

17.00-18.40 INTERFACES
Discussion Leader: C. Fahlander
M. Block, GSI Darmstadt. High-precision Mass Measurements and Advanced Ion-manipulation Techniques (35+10 min)
L.G. Sarmiento, Lund. Nuclear Spectroscopy with Geant4: The Superheavy Challenge (20+5)
K. Rykaczewski, ORNL Oak Ridge. The ORNL Actinide Materials and a New Detection System for Superheavy Nuclei (25+5 min)

19.00 DINNER
Wednesday June 1st  ("public session", press participation possible)

9.00-10.15 DISCOVERY ASPECTS
   Discussion Leader: L. Öhrström
   S. Hofmann, GSI Darmstadt. *The Discovery of Elements* 107-112 (35+10 min)
   K.E. Gregorich, LBNL Berkeley. *How Reliable Are Isotopic Assignments of Alpha-decay Chains?* (25+5 min)

10.15-10.40 COFFEE

10.40-12:05 DISCOVERY ASPECTS
   Discussion Leader: L.-I. Elding
   J. Reedijk, Leiden & IUPAC. *Rules and Regulations for Validation, Assignation and Name giving of Newly Discovered Chemical Elements* (15+10 min)
   C. Jarlskog, Lund & IUPAP. *Procedure Around Naming New Elements* (10+5 min)
   V. Utyonkov, FLNR Dubna. *The Discovery of Elements* 113-118 (35+10 min)

12.10-13:00 (LOCAL) PRESS CONFERENCE

12.30-14.00 LUNCH

14:30-18.00 EXCURSIONS

19.00 DINNER
Thursday June 2\textsuperscript{nd}

9.00-10.30 CHEMISTRY  
Discussion Leader: P. Armbruster  
A. Türler, University of Bern & PSI Villigen. Advances in Chemical Investigations of Heaviest Elements (35+10 min)  
V. Pershina, GSI Darmstadt. Theoretical Chemistry of Superheavy Elements: Support for Experiment (35+10 min)

10.30-11.00 COFFEE

11.00-12.30 CHEMISTRY  
Discussion Leader: M.A. Stoyer  
A. Yakushev, GSI Darmstadt. Gas-phase Chemistry of Element 114, Flerovium (25+5 min)  
P. Schwerdtfeger & U Massey. Toward an Accurate Description of Chemical and Physical Properties of the Superheavy Elements (25+5 min)  
R. Eichler, PSI Villigen. Complex Chemistry with Metal Complexes (25+5 min)

12.30 LUNCH

15.00-16:25 CHEMISTRY  
Discussion Leader: J.P. Omtvedt  
H. Haba, RIKEN. Superheavy Element Chemistry Behind GARIS at RIKEN (25+5 min)  
Y. Nagame, JAEA Tokai. Chemical Properties of Rf and Db in the Aqueous Phase (25+5 min)  
J. Even, University of Groningen. Chemistry Aided Nuclear Physics Experiments (20+5 min)

16:25-17.00 COFFEE

17.00-18:20 PREREQUISITES  
Discussion Leader: I. Ragnarsson  
S. Dmitriev, FLNR Dubna. Status and Perspectives of the Dubna Superheavy Element Factory (25+5 min)  
B.G. Carlsson, Lund University. How to Calculate Alpha-Decay Rates in the Future? (20+5 min)  
J.M. Gates, LBNL Berkeley. Prospects of A and Z Identification Experiments at LBNL (20+5 min)

19.00 NOBEL SYMPOSIUM DINNER
Friday June 3rd

9.00-10.30 STATUS AND PERSPECTIVES
   Discussion Leader: M. Leino
   K. Morita, RIKEN Tokyo. Discovery of Element 113 and Future Research Direction at RIKEN (35+10 min)
   Ch.E. Düllmann, University of Mainz. Search for Elements Beyond Z=118 and Future SHE Research Opportunities at GSI (35+10)

10.30-11.00 COFFEE

11.00-12.30 FUTURE OF HEAVY ELEMENT RESEARCH
   Discussion Leader: P. Pyykkö
   W. Nazarewicz, Michigan State University. Key Questions to Understand and Reach the Island of Stability (35+10 min)

DISCUSSION

12.30 LUNCH

END OF SYMPOSIUM
Participants

ORGANIZING COMMITTEE
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