



Australian
National
University

ICACS & SHIM 2024
24 - 29 Nov, 2024 | Canberra, Australia

Schedule

Last updated: 24/11/2024

24th November

16:00

16:30

17:00

17:30

18:00

Welcome Reception and Registration
16:00 - 18:00

25th November

8:00	Registration (8:00 onwards)
09:00	Conference Opening (09:00-09:20)
09:30	Invited Talk-1 (09:20-09:50) Friedrich Aumayr TU Wien (Vienna University of Technology), Austria Surface erosion under ion bombardment: Case studies in space weathering and nuclear fusion research
10:00	Contributed Talk - 1 (09:50-10:10) Jacques O'Connel The influence of the near surface environment on hillock formation
10:30	Contributed Talk - 2 (10:10-10:30) Hermann Rothard Swift Ion Irradiation and Complex Organic Molecules in cold Space Environments
11:00	Morning Tea 10:30-11:00
11:30	Invited Talk-2 (11:00-11:30) Raquel Giulian Federal University of Rio Grande do Sul, Brazil Antimonide Nanofoams Induced by Ion Irradiation
12:00	Contributed Talk - 3 (11:30-11:50) Taleb Alwadi Ion track formation and porosity in InSb and GaSb after swift heavy ion irradiation
	Contributed Talk - 4 (11:50-12:10) Mamour Sall Towards efficient green light emission by swift heavy ion irradiated-InGaN/GaN multi-quantum wells
	Contributed Talk - 5 (12:10-12:30) Lilong Pang Study on the Ion Irradiation Effect of Nano-structural TiAlN Coating

12:30	
13:00	Lunch 12:30-13:30
13:30	Invited Talk - 3 (13:30-14:00) Hidetsugu Tsuchida Kyoto University, Japan Observing the damage to biomolecules induced by ion beams in liquid jets
14:00	Contributed Talk - 6 (14:00-14:20) Naruki Uno Impact of swift cluster ion irradiation on the process of decomposing nucleotide biomolecules
14:30	Contributed Talk - 7 (14:20-14:40) Manoj Kumar Electron impact scattering studies for C ₆ H ₆
15:00	Contributed Talk - 8 (14:40-15:00) Jacob Cook Simulated Cislunar Radiation Effects on Wide Bandgap Semiconductor based SmallSat Power Module
15:30	Afternoon Tea 15:00-15:30
16:00	Invited Talk - 4 (15:30-16:00) Jie Liu Institute of Modern Physics, Chinese Academy of Sciences, China Effects of swift heavy ions on wide band-gap materials and devices
16:00	Contributed Talk - 9 (16:00-16:20) Christopher Schroeck Swift Heavy Ion Irradiation for High-Pressure Investigations on Bismuth Nanowire Networks
	Contributed Talk - 10 (16:20-16:40) Nahid Afrin

16:30	Charge-Based Molecular Separation Using Track-Etched Silicone Dioxide Nanopore Membranes
17:00	Contributed Talk - 11 (16:40-17:00) Mohan Lee 3D Gold Nanowire Networks with Tailorable Surface Wettability Engineered through Ion-Track Nanotechnology

26th November

09:00

Invited Talk-5 (09:00-09:30)
Tapobrata Som
Institute of Physics, Bhubaneswar and Homi Bhabha National Institute, India
Ion induced self-organized pattern formation: Amazing possibilities

09:30

Contributed Talk - 12 (09:30-09:50)
Pablo Mota Santiago
3D mapping of nanoscale density fluctuations in swift heavy-ion irradiated materials

10:00

Contributed Talk - 13 (09:50-10:10)
Jessica Wierbik
THE ANISOTROPY OF THE ION TRACK CROSS-SECTION IN SINGLE-CRYSTALLINE MATERIALS

Conference Photo

10:30

Morning Tea
10:30-11:00

11:00

Invited Talk-6 (11:00-11:30)
Eleni Ntemou
Uppsala University, Sweden
Dynamic processes in ion-matter interaction: electronic excitation and charge exchange below the Bohr velocity

11:30

Contributed Talk - 15 (11:30-11:50)
Masedi Carington Masekane
X-ray production by heavy ion-atom collision symmetries for Total Ion Beam Analysis

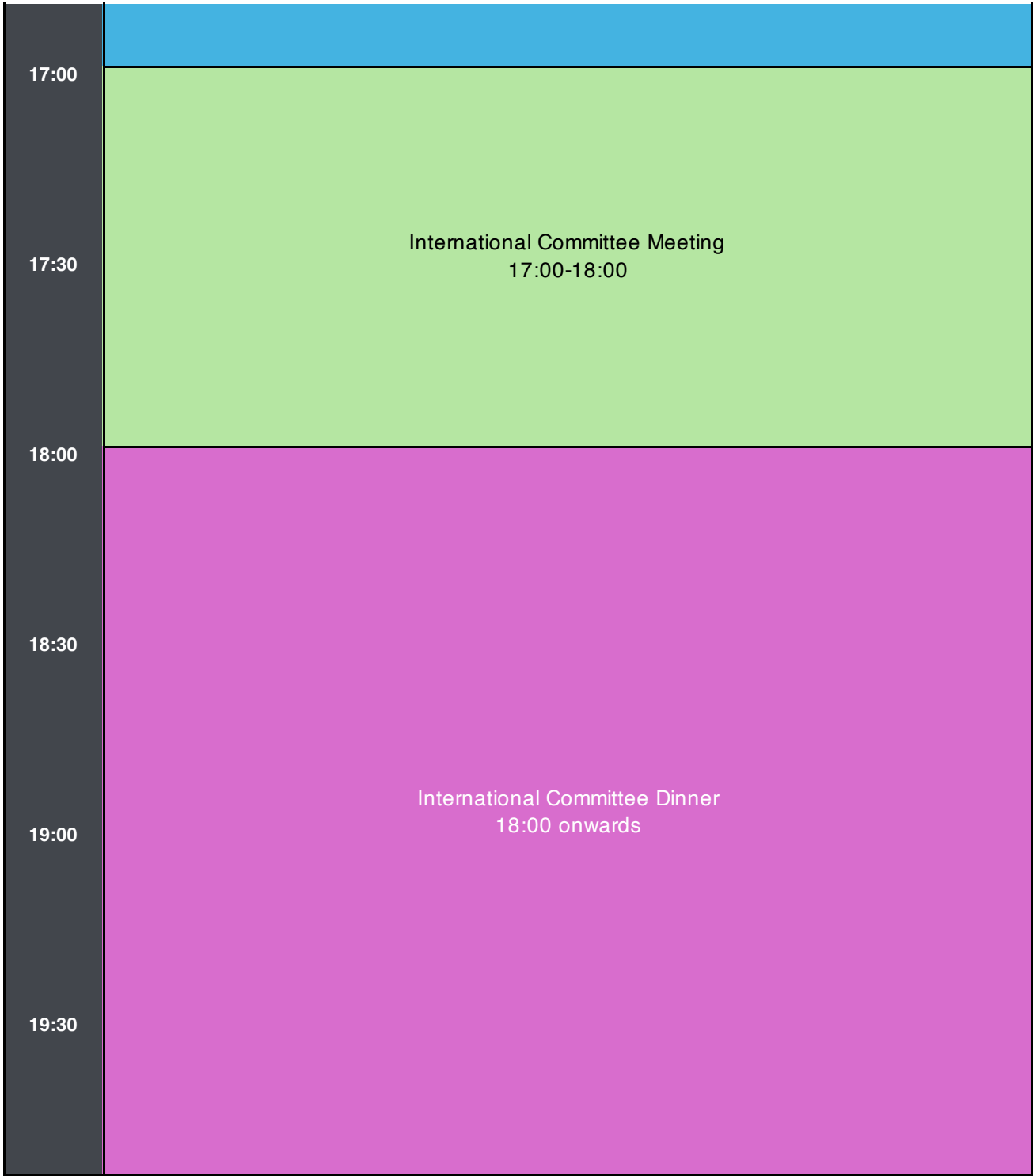
12:00

Contributed Talk - 16 (11:50-12:10)
Daniel Primetzhofer
Electronic excitations at very low ion energies: experimental challenges

12:30

Contributed Talk - 17 (12:10-12:30)
Pedro Grande
Stopping power from Bohmian Mechanics

13:00	<p>Lunch 12:30-13:30</p>
13:30	<p>Invited Talk - 7 (13:30-14:00) Miguel Sequeira Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Germany Exploring Radiation Hardness in Group-III Nitrides: From Fundamentals to Applications</p>
14:00	<p>Contributed Talk - 18 (14:00-14:20) Rajdeep Kaur Exploring ion beam-induced modifications of the resistive switching in metal oxide films</p>
14:30	<p>Contributed Talk - 19 (14:20-14:40) Masanori Koshimizu Thermoluminescence properties of rare-earth-doped Ca₂B₂O₅ ceramics after irradiations of heavy charged particles</p>
15:00	
15:30	<p>Poster Session & Snacks 14:45-17:00</p>
16:00	
16:30	



27th November

09:00	<p>Invited Talk - 8 (09:00-09:30) Louise Goodwin Center of Research on Ions Materials and Photonics, GANIL, Caen, France</p> <p>Point defect creation for quantum applications in AlN by SHI irradiation under a finely controlled atmosphere</p>
09:30	<p>Contributed Talk - 20 (09:30-09:50) Fshatsion Gessesew</p> <p>Exploring Phase-Transformed V3Si Superconducting Material Through Rutherford Backscattering Spectrometry Analysis</p>
10:00	<p>Contributed Talk - 21 (9:50-10:10) Jinglai Duan</p> <p>Ion Track Technology-Based Mechanical Metamaterials</p>
10:30	<p>Contributed Talk - 22 (10:10-10:30) Diana Merezhko</p> <p>The effect of high and low dose neutron irradiation on mechanical properties and localization of austenitic stainless steels</p>
11:00	<p>Morning Tea 10:30-11:00</p>
11:30	<p>Invited Talk - 9 (11:00-11:30) Maik Lang The University of Tennessee, Knoxville, USA</p> <p>Characterization of Radiation Effects in Ceramics with Spallation Neutron Probes</p>
12:00	<p>Contributed Talk - 23 (11:30-11:50) Paramita Patra</p> <p>A First-Principles Study of Stacking Fault Energy in Ni-based alloy: Role of Alloying Elements</p>
12:30	<p>Contributed Talk - 24 (11:50-12:10) Sergey Kislitsin</p> <p>Proton irradiation temperature impact on the tungsten structure and properties during post-radiation annealing in the temperature range 873K-1273K</p>
	<p>Contributed Talk - 25 (12:10-12:30) Norito Ishikawa</p> <p>Complex Nanostructures Originating from Tracks Created Near the Edge of SiO₂ Quartz Irradiated with Swift Heavy Ions</p>

13:00

Lunch
12:30-13:45

13:30

14:00

14:30

15:00

15:30

16:00

16:30

Conference Outing
14:00-19:00

17:00

17:30

18:00

18:30

19:00

28th November

09:00

Invited Talk-10 (09:00-09:30)
Alexi Leino
University of Helsinki, Finland

Simulating the Formation of Functional Nanostructures in Swift Heavy Ion Irradiated Materials

09:30

Contributed Talk - 26 (09:30-09:50)
Kai Nordlund

Beyond the ZBL: using modern quantum chemistry to obtain accurate pair-specific repulsive potentials

10:00

Contributed Talk - 27 (09:50-10:10)
Ruslan Rymzhanov

Bulk, overlap and surface effects of swift heavy ions in CeO₂

Contributed Talk - 28 (10:10-10:30)
Flyura Djurabekova

Phase transitions during ultrafast development of swift heavy ion tracks in amorphous materials

10:30

Morning Tea
10:30-11:00

11:00

Invited Talk - 11
Ana L.F. De Barros (11:00-11:30)
Federal Center for Technological Education Celso Suckow da Fonseca CEFET-RJ , Brazil

Formation of prebiotics in outer space by heavy ion projectiles

11:30

Contributed Talk - 29 (11:30-11:50)
Md. (Arif) Arifuzzaman

Defect Engineering in 2D Materials for Reduced Contact Resistance

12:00

Contributed Talk - 30 (11:50-12:10)
Jian Zeng

Irradiation effects of MoS₂/Graphene heterojunction phototransistors induced by swift heavy ions

Contributed Talk - 31 (12:10-12:30)
Shi-Rui Zhang

Synaptic field effect transistor based on charge trapping in ion-implanted gate dielectrics

12:30

13:00

Lunch
12:30-13:30

13:30

Invited Talk-12 (13:30-14:00)
Zuzana Slavkovská
Department of Nuclear Physics and Accelerator Applications, Australian National University, Australia
Radioimpurity measurements for direct dark matter detector studies

14:00

Contributed Talk - 32 (14:00-14:20)
Pavo Dubcek
Graphene perforation by grazing incidence swift heavy ion irradiation

14:30

Introduction to
HIA Facilities by Dr. Tom McGoram and Dr. Christian Notthoff
Ion Implantor Labs by Prof. Rob Elliman
SHRIMP Facility by Dr. Yue Wang
(14:20 - 15:00)

15:00

15:30

HIAF, Ion Implantor Lab and SHRIMP Facility Tour + Afternoon Tea

(15:00 - 17:00)

16:00

16:30

17:00

17:30

18:00

18:30

19:00

19:30

Conference Dinner

18:00 onwards

29th November

09:00	Invited Talk-13 (09:00-09:30) Hiroshi Amekura National Institute for Materials Science, Japan Ion tracks in diamond
09:30	Contributed Talk - 33 (09:30-09:50) Christina Trautmann High-Pressure Platform for Swift Heavy Ion Irradiations: Probing Structural Transformations under Extreme Conditions
10:00	Contributed Talk - 34 (09:50-10:10) Guanghua Du Nanoscale Fabrication and Application Using Single GeV Ions
10:30	Contributed Talk - 35 (10:10-10:30) Alexander Azarov Dynamic defect annealing in Er implanted LiNbO ₃
11:00	Morning Tea 10:30-11:00
11:30	Contributed Talk - 36 (11:00-11:20) Arno Janse van Vuuren The effect of Al-impurity concentrations on the microstructural response of polycrystalline Si ₃ N ₄ .
12:00	Contributed Talk - 37 (11:20-11:40) Yoshiaki Kumagai Simulating Energy-Loss Spectrum in Thin Water Sheets Using PHITS Code for Developing a Novel MeV-Ion Beam Experiment Setup
12:15	Contributed Talk - 38 (11:40-12:00) Djamel Kaoumi Irradiation induced phase transformation in β -Ga ₂ O ₃ through in-situ ion irradiation in a TEM
12:00	Conference Closing 12:00-12:15

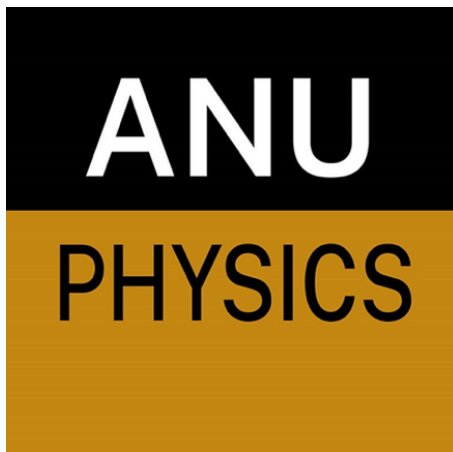
POSTER PRESENTATIONS

Updated: 22/11/2024

Poster Number	Presenter and Title
P1	Natsuko Fujita Hydrocarbon dissociation efficiency in carbon dioxide samples using an exhaust gas filter
P2	Fumina Minamitani Single-year analysis of Tree-ring cellulose by a compact laser ablation system for radiocarbon measurement
P3	Sayaka Oishi Development of ultra-short-pulse beam injector with the laser-driven acceleration for interactions at surfaces
P4	Akari Okano Design for the clarification of X-ray emission phenomena from solids by spatio-temporally focused ion beams
P5	Kai Okazaki Effects of linear energy transfer on thermoluminescence properties of Eu-doped CaF ₂ ceramics
P6	Kensei Ichiba Thermoluminescence properties of Y ₃ Al ₅ O ₁₂ :Ce transparent ceramics at different linear energy transfers
P7	Mikhail Merezhko Radiation-induced recrystallization and its role in the formation of corrosion resistance and mechanical properties of ferritic-martensitic steels
P8	Wentao Wang Optical Properties of Nanoholes in Low Refractive Index Polymer Films
P9	Satoshi Jinno Development of an Ion-Funnel Reaction Cell for Suppression of Isobaric Interference in Chlorine-36 Measurements
P10	Hinako Imamura Development of an Experimental Method for Measuring Stopping Cross-Sections in Liquid Phase Using MeV-Projectile Ions
P11	Yoshiaki Kumagai Simulating Energy-Loss Spectrum in Thin Water Sheets Using PHITS Code for Developing a Novel MeV-Ion Beam Experiment Setup
P12	Bing Ye Characterization of Heavy Ions produced by Protons Passing Through Shielding & Packaging and Induced SEU in Nano-Devices
P13	Kunikazu Ishii Classical Orbital Simulation of Rainbow Scattering Patterns Induced by Fast Ions Passing through Graphene
P14	Kanae Saito Survival rate and dissociation phenomena associated with the penetration of diatomic molecular ions through graphene
P15	Julia Liese Time-Resolved Optical Interferometry of the Interaction of Heavy Ions with Water
P16	Anna-Katharina Schmidt Acoustic Measurement of the Energy Deposition of Heavy Ions in Water at 4°C

P17	Ahlam Alharbi DETERMINING THE STOPPING POWER OF LOW KINETIC ENERGY NE+ PROJECTILES IN SELF-ASSEMBLED MONOLAYERS
P18	Pedro Grande Nanostructures Induced by Slow Highly Charged Ions on Ultrathin PMMA Films
P19	Ryosuke Terasawa Dynamic behaviors of lithium ions at positive electrode/solid electrolyte interfaces under charging conditions with different rates using ion beams analysis
P20	Shengxia Zhang Morphology of latent tracks in the oblique incident TMDCs
P21	Lijun Xu Thermal stability of latent tracks in β -Ga ₂ O ₃ induced by swift heavy ions
P22	Yasushi Hoshino Annealing effect of P-implanted diamond by MeV-ion irradiation
P23	Haizhou Xue Cryogenic electron microscopy study for the latent ion tracks in polyimide induced by swift heavy ion irradiation
P24	Sergey Kislitsin Comparative studies of radiation damage of Cr ₁₈ Ni ₉ Ti steel irradiated with iron, nickel and krypton ions up to high damage dose
P25	Mamour Sall Surrogates of Type II Collagen under irradiation : the influence of the side chain structure on defects creation
P26	Ayana Tachibana Dependence of linear energy transfer on damage to nucleotide molecules
P27	Ruslan Rymzhanov Irradiation temperature effect on stability of SiC irradiated with swift heavy ions
P28	Tapobrata Som Artificial nociceptor realized in Au-ion implanted TiO _x memristor at nanoscale
P29	Masedi Carington Masekane Research Infrastructure Access in Nanoscience & Nanotechnology
P30	Pavo Dubcek Comparison of grazing incidence swift heavy ion track properties formed on CaF ₂ and SiO ₂
P31	Leon Kirsch Ultrasonic energy loss measurements of relativistic heavy ions
P32	Alexander Azarov Structure damage accumulation in α -Ga ₂ O ₃ irradiated with P and PF ₄ ions
P33	Jianrong Sun Study on the evolution and mechanism of helium bubbles in BCC phase high/medium-entropy alloys
P34	Devesh Avasthi Investigation of Temperature Dependent Radiation Tolerance of Ceramic Composites and Non-Composites under Swift Heavy Ion Irradiation
P35	Shayamal Chatterjee Ion beam engineering of nanostructures for augmented effects in sensing and energy storage
P36	Yabin Zhu Structural and mechanical responses of (ZrTiNbTa) _{C4} and ZrC ceramics under energetic He-ions irradiation

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