NOMATECH ICMSN-2024
INTERNATIONAL CONFERENCE ON MATERIALS SCIENCE AND NANOTECHNOLOGY
ULAANBAATAR, MONGOLIA | JULY 7-9

AGENDA (DAY 1)

ULAANBAATAR, MONGOLIA | JULY 8TH

ACADEMIC SENATE HALL, NATIONAL UNIVERSITY OF MONGOLIA

8:00 - 8:30 **REGISTRATION**

OPENING

08:30 - 08:35 OCHIRKHUYAG BAYANJARGAL, PRESIDENT, NATIONAL UNIVERSITY OF MONGOLIA

08:35 - 08:40 DAVAASAMBUU JAV, INSTITUTE OF PHYSICS, MONGOLIAN ACADEMY OF SCIENCES

PLENARY TALK
CHAIR: ANDREAS J.HEINRICH

08:40 - 09:20 ***PLENARY TALK #1***

Enhancing Solar Cells and Catalysts using Novel Nanomaterials
Joe Shapter, University of Queensland, Australian Institute for Bioengineering and Nanotechnology, Australia

09:20 - 10:00 ***PLENARY TALK #2***

Spontaneous Orientation Polarization of Amorphous Organic Films and Their Applications to Devices
Hisao Ishii, Chiba University, Japan

10:00 - 10:15 **COFFEE BREAK**

SESSION I

NEXT-GENERATION ADVANCED MATERIALS: FUNDAMENTALS & APPLICATIONS
CHAIR: TOMOHIRO HAYASHI

10:15 - 10:45 Fundamental Processes in Photofunctional Materials Studied by Ultrafast Spectroscopy
Ken Onda, Kyushu University, Japan

10:45 - 11:15 Towards nanomagnetic materials design and characterization
odkhuu dorj, incheon national university, south korea

11:15 - 11:45 Synthesis and optimization of fe3o4 nanoparticles for hyperthermia application
Chao Ming Fu, National Taiwan University, Taiwan

11:45 - 12:15 Processing of Carbonaceous Residue from Waste Tyre Pyrolysis Plants for the Production of High-quality Carbon and its Potential Uses
Tak Kim, Griffith University, Australia

12:15 - 12:45 From Waste to Nanomaterials: Synthesizing Mesoporous Silica from Briquette Coal Ash for Advanced Applications
Altantuya Ochirkhuyag, The Institute of Chemistry and Chemical Technology, MAS

12:45 - 13:30 **LUNCH**

SESSION II

EMERGING FUNCTIONAL MATERIALS & DEVICES
CHAIR: BATTULGA MUNKHBAT

13:30 - 14:00 Sustainable futuristic healthy society realized through AI-assisted personalized healthcare
Nobuhiro Hayashi, Tokyo Institute of Technology

14:00 - 14:30 Engineering Two-Dimensional (2D) Materials for Energy Applications
Munkhbayar Batmunkh, Griffith University, Australia

14:30 - 15:00 HIGHLY DEFORMABLE SMART DEVICE FOR HEALTHCARE AND MEDICAL APPLICATION
Hiroki Ota, Yokohama National University, Japan

15:00 - 15:30 Structure and properties of hydrogels prepared by coordination bonds
Daewon Sohn, Hanyang University, South Korea

15:30 - 15:45 **COFFEE BREAK**

15:45 - 16:15 Electrochemical Engineering and Direct Ink Writing 3D Printing: Cost-Effective Production of 2D Nanomaterials and their Bespoke Assemblies
Yu Lin Zhong, Griffith University, Australia

16:15 - 16:45 Flame deposition technology for high purity fused silica generation
Oleg Penyazkov, National Academy of Sciences, Belarus

16:45 - 17:15 Application of Hydrogel in Cancer therapy
Wei zhang, dalian university, China

17:15 - 17:45 Stochastic electrochemistry: a powerful emerging analytical tool for real time characterization
Sina Jamali, Griffith University, Australia

17:45 - 18:15 Ultra-thin Electrodeposited CoPt Films for Three-dimensional Domain Wall Motion Memory (3D-DWMM)
Shigeki Nakagawa, Tokyo Tech High School of Science and Technology, Japan

18:00 - 21:00 **AIRAG RECEPTION & POSTER SESSIONS**

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MINISTRY OF EDUCATION AND SCIENCE
CENTER FOR NANOSCIENCE AND NANOTECHNOLOGY

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AGENDA (DAY 2)

ULAANBAATAR, MONGOLIA | JULY 9TH

ACADEMIC SENATE HALL, NATIONAL UNIVERSITY OF MONGOLIA

8:00 - 8:30 **REGISTRATION**

8:30 - 8:40 **OPENING**

GANTULGA DAVAAKHUU
DIRECTOR, INSTITUTE OF BIOLOGY, MONGOLIAN ACADEMY OF SCIENCES

PLENARY TALK
CHAIR: CHAGAAN BAATAR

08:40 - 09:20 ***PLENARY TALK #3***

TOWARDS QUANTUM COMPUTING WITH SPINS ON SURFACES
ANDREAS J. HEINRICH, CENTER FOR QUANTUM NANOSCIENCE AT EWHA WOMAN'S UNIVERSITY, SOUTH KOREA

09:20 - 10:00 ***PLENARY TALK #4***

MOLECULAR SPIN QUBITS FOR QUANTUM COMPUTER AND HIGH-DENSITY MEMORY DEVICES BASED ON MOLECULAR MAGNETS
MASAHIRO YAMASHITA, TOHOKU UNIVERSITY, JAPAN

10:00 - 10:15 **COFFEE BREAK**

SESSION III

NOVEL TRENDS IN NANOSTRUCTURES & NANOMATERIALS: DESIGN, CHARACTERISTICS, & APPLICATIONS
CHAIR: MUNKHBAYAR BATMUNKH

10:15 - 10:45 NANOENGINEERED TRANSITION METAL DICHALCOGENIDES PLATFORM FOR QUANTUM PHOTONICS: GENERATION AND INTERFERENCE OF SINGLE PHOTONS
BATTULGA MUNKHBAT, TECHNICAL UNIVERSITY OF DENMARK, DENMARK

10:45 - 11:15 WATER AT BIOINTERFACES
TOMOHIRO HAYASHI, TOKYO INSTITUTE OF TECHNOLOGY, JAPAN

11:15 - 11:45 SPIN-TRIPLET SUPERCONDUCTIVITY AT LSMO/YBCO INTERFACES
HSIUNG CHOU, NATIONAL SUN YAT-SEN UNIVERSITY, TAIWAN

11:45 - 12:15 PHONON TRANSPORT IN NANOSTRUCTURED MATERIALS
BATTOGTOKH JUGDERSUREN, JACOBS ENGINEERING GROUP, MARYLAND, USA

12:15 - 13:00 ***PLENARY TALK #5***

TWISTED 2D SUPERCONDUCTORS
PROFESSOR SIR KONSTANTIN SERGEEVICH NOVOSELOV FRS, 2010 NOBEL LAUREATE I N PHYSICS

13:25 - 14:00 **NETWORKING LUNCH**

SESSION IV

CURRENT AND FUTURE PROSPECTS OF BIO & NANOTECHNOLOGY
CHAIR: ENKHEE PUREV

14:00 - 14:30 BIOSYNTHESIS, PHYSICAL PROPERTIES, AND BIODEGRADABILITY OF A-METHYLATED POLYHYDROXYALKANOATES
TAKEHARU TSUGE, TOKYO INSTITUTE OF TECHNOLOGY, JAPAN

14:30 - 15:00 CENOCOCCUM GEOPHILUM SCLEROTIA: A KEY BIOMATERIAL IN DIVERSE ENVIRONMENT
BOLORMAA OYUNTSETSEG, NATIONAL UNIVERSITY OF MONGOLIA

15:30 - 15:45 **COFFEE BREAK**

15:45 - 16:15 IDENTIFICATION AND FUNCTIONAL ANALYSIS OF KEY PROTEASES INVOLVED IN SCHISTOSOMA JAPONICUM CERCARIAE PENETRATION
WEI HU, INNER MONGOLIA UNIVERSITY, CHINA

16:15 - 16:45 CONTINUOUS MOLECULAR MONITORING: DEVELOPMENT OF OPTICAL BIOSENSORS
KHULAN SERGELEN, BIOMED X INSTITUTE IN HEIDELBERG, GERMANY

16:45 - 17:15 DIRECTED-DIFFERENTIATION OF NEURAL STEM CELLS INTO NORMAL AND ABNORMAL ASTROCYTES BASED ON BIO-NANO INTERFACE
BAYAR HEXIG, INNER MONGOLIA UNIVERSITY, CHINA

17:15 - 17:55 DOUBLE HITS WITH BIOACTIVE NANOZYME BASED ON COBALT-DOPED NANOGLASS FOR ACUTE AND DIABETIC WOUND THERAPIES THROUGH ANTI-INFLAMMATORY AND PRO-ANGIOGENIC FUNCTIONS
NANDIN-ERDENE MANDAKHBAYAR, THE INSTITUTE OF BIOMEDICAL SCIENCES, MNUMS

18:00 - 21:00 **EVENING BANQUET**

19:00-19:45 HONORARY LECTURE: FUTURE OF THE MATERIALS
PROFESSOR SIR KONSTANTIN SERGEEVICH NOVOSELOV FRS, 2010 NOBEL LAUREATE IN PHYSICS

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