2024 The 14th International Conference on Advanced Materials Research (ICAMR 2024)

With Workshops of

The 7th International Conference on Advanced Energy Materials

(ICAEM 2024)

The 8th International Conference on Civil and Building Materials

(ICCBM 2024)

Phuket Island, Thailand
January 25-27, 2024

Hybrid Conference

PHUKET GRACELAND RESORT & SPA

Phuket Graceland Resort & Spa

Address: 190 Thaweewong Road, Patong District, Amphur Kathu, Phuket 83150, Thailand

https://phuketgraceland.com/

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Welcome Address

With great pleasure, we are welcoming you to 2024 The 14th International Conference on Advanced Materials Research (ICAMR 2024), with workshops of The 8th International Conference on Civil and Building Materials (ICCBM 2024), The 7th International Conference on Advanced Energy Materials (ICAEM 2024), be held in Phuket, Thailand, during January 25-27, 2024.

The unique idea behind the conference is to provide an opportunity for leading academicians, scientists, researchers and industry professionals from around the world to network and have scientific discussion on the latest advancements in the interlinked domains of machine vison and it's research benefits for each other's domain progress. It will address multiple topics and issues of interest in the areas of machine vision by practical exposure in the form of specialized sessions, poster presentations, plenary sessions and renowned speeches from the leading practitioners reinforcing the upcoming challenges to be faced and their potential solutions.

After several rounds of review procedure, the program committee accepted those abstracts to be presented on conference, and papers to be published in conference proceedings. We wish to express our sincere appreciation to all the individuals who have contributed to the conference in various ways. Special thanks to Genral Chair-Prof. Alan Lau, Swinburne University of Technology, Australia, Prof. Serge Zhuiykov, Ghent University Global Campus, South Korea, Prof. Alfred A.Christy, University of Agder, Norway, etc., make us be able to reach Phuket and meet all of you face to face to join this conference! Thanks also extended to our committee members for their thorough review of all the submissions, which is vital to the success of the conference, and to the members in the organizing committee and the volunteers who had dedicated their time and efforts in planning, promoting, organizing and helping the conference.

The conference is high lightened by 1 Keynote Speeches, 2 Plenary speeches they are delivered by:
Prof. Serge Zhuiykov, Ghent University Global Campus, South Korea;
Prof. Lei Wang, Northeastern University, China;
Prof. Xiaoguang Yang, Institute of Semiconductors, CAS, China.

Phuket is among the world's finest beach destinations, with fine white sands, nodding palm trees, glittering seas and lively towns. Aside from visiting the fantastic attractions of Thailand's biggest island, you can take an exhilarating speedboat trip to the many nearby tropical islands, including the famous Koh Phi Phi, or enjoy a serene cruise around the mystical Phang Nga Bay.

Phuket is blessed with more than 30 amazing beaches to choose from. Patong Beach, Kata, Karon and Kamala have always been the most popular, but the north of the island reveals some hidden gems for travelers searching for a more romantic atmosphere.

It will be so amazing and exciting to welcome you all in Phuket. Sincerely we wish you will enjoy this island and have a nice experience on this conference!

Organizing Committee Group
25-27 January, 2024

CONFERENCE COMMITTEES

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Xiaoguang Yang, *Institute of Semiconductors, CAS, China*
K.S. Vijay Sekar, *SSN College of Engineering, India*
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Gebrail Bekdas, *University of Istanbul, Turkey*
Maatouk Khoukhi, *United Arab Emirates University, UAE*
Mohammad Arif Kamal, *Aligarh Muslim University, India*
Tamilsalvi Mari, *Taylor's University Lakeside Campus, Malaysia*
Trong-Phuoc Huynh, *Can Tho University, Vietnam*
Bruno Barzellay Ferreira da Costa, *University of Rio de Janeiro, Brazil*
Binod Khadka, *Tongji University, China*
Sarunya Promkotra, *Khon Kaen University, Thailand*
M. L. Vara Prasad, *National Institute of Technology Silchar, India*
Xiaogang Liu, *University of Science and Technology, China*

CONFERENCE VENUE

FOR ONSITE PRESENTERS

❖ Conference Venue

- Phuket Graceland Resort & Spa
- Address: 190 Thaweewong Road, Patong District, Amphur Kathu, Phuket 83150, Thailand
- https://phuketgraceland.com/

❖ Sign-in

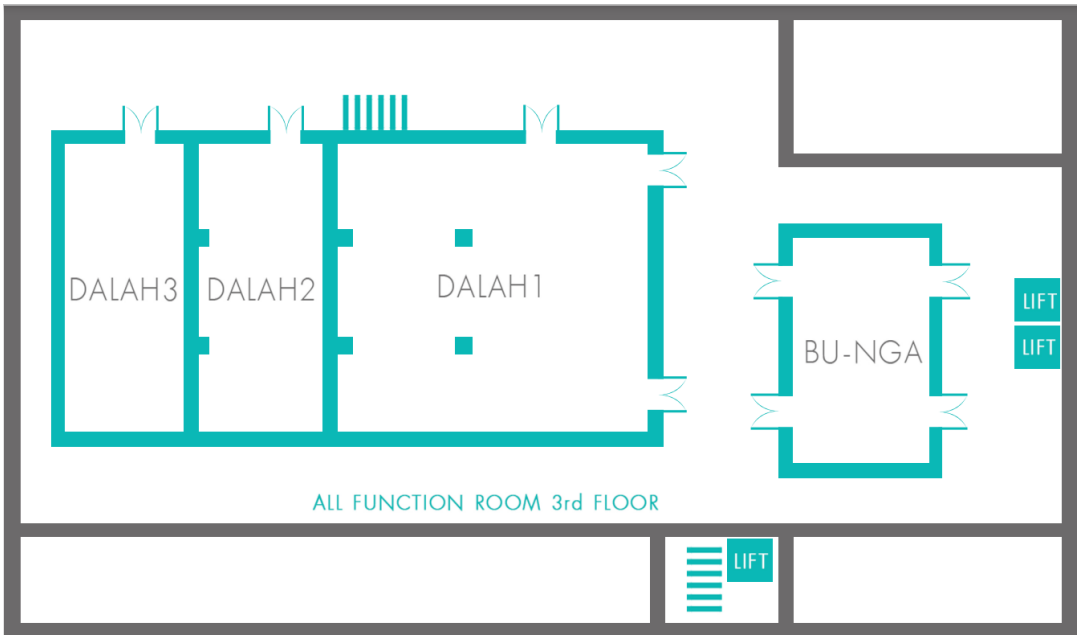
- Spot: Hotel Lobby
- Time: 10:00-15:30, January 25, 2024

❖ Conference Rooms

Level	Conference Rooms	Jan. 25	Jan. 26	Jan. 27
3F	Bunga	----	❖	----
3F	Dalah 2	----	❖	----

❖onsite meeting room available; ----onsite meeting room unavailable

3F Floor Map:



- ❖ **Bunga Room:** Opening Ceremony, Keynote& Invite Speeches, Session 1, 3
- ❖ **Dalah 2 Room**: Session 2, 4, Poster session
- ❖ Dinner at **View Bar**.
- ❖ Please take care of your belongings on the conference site, to avoid loss. You will be held personally responsible for any loss of your belongings.

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Transportation

- **From Phuket International Airport**
  - By Taxi: 15 KM, takes 30-40 Mins.

Time Zone

- **Phuket Time: UTC +7**

Weather

- **January**

Average Low	Average High
24℃	32℃

Emergency Call

Tourist Police: 1155

Police:191

(Information above from internet)

GUIDELINES

FOR ONSITE PRESENTERS

❖ Oral Presentation

- Each oral presentation is with 15 Mins time slot, including 10 Mins presentation and 5 Mins for questions from the audience.
- Your punctual arrival and active involvement in each session will be highly appreciated.
- Get your Presentation PPT slides, or PDF files prepared in advance and backed up.
- Laptop, projector & screen, laser sticks will be provided in the meeting room for presentation use.

❖ Poster Presentation

- Poster size: 0.6m width X 0.8m height
- Poster to be printed and brought to conference site by presenter self.
- At least 1 author to stand by the poster during the Poster session, which is not only to present your work, but also to answer questions from the audience.

❖ More Tips:

- Please take all your belongings when leaving meeting room.
- Conference Organizers do not provide accommodation, please reserve your hotel room in advance.
- Receipt will be emailed to you after the conference.

FOR ONLINE ORAL PRESENTERS

❖ Online Platform--Zoom

- Install Zoom tool on your device (https://zoom.us/download), join the meeting by click the Zoom link or insert the meeting ID, with audio and video on.
- For presenters: Rename yourself with “Session No.+Paper ID+Name”, such as “S1+M001+Name”.
- For Keynote/Plenary Speaker or Session Chair, please rename as “KN/SC+Name”.
- Laptop with stable internet connection (wired connection preferred).
- Headsets or earphones are recommended to be used during presentation to avoid howling.
- Keep muted when the other presenters speaking until your turn to present, then you could unmute yourself.
- Only oral choice for online presentations.
- Certificate and receipt will be emailed to you after the conference.

❖ Time Zone

- Whole conference scheduled in **Phuket Time**: **UTC+7**
- Please make sure your device time is set to correct time zone.

❖ Online Presentation

- Each online oral presentation is with 15 Mins time slot, including 10 Mins presentation and 5 Mins for questions from the audience.

❖ Recording

- Keynote/ Plenary session and online session will be recorded, your proper behavior and appearance will be appreciated. Only staff will record the video, presenters will not be allowed to record.

❖ Zoom Meeting ID

Zoom Online Room	Meeting ID	Zoom Link
Room A	835 6854 5203	https://us02web.zoom.us/j/83568545203

❖ Online Zoom Test

Time | Jan. 25	Room A Zoom ID: 835 6854 5203
10:00-11:00	Test

AGENDA OVERVIEW

Day 1 | January 25, 2024

Phuket Time	Activity	Venue
10:00-11:00	Online Test	Zoom ID: 835 6854 5203
10:00-15:30	Sign in & Conference Materials Collection	Hotel Lobby

Day 2 | January 26, 2024

Phuket Time	Activity		Venue
09:30-09:40	**Opening Ceremony**	**Host: Vladimir Strezov**, *Macquarie University, Australia*	Bunga Room Zoom ID: 835 6854 5203
		Opening Address: Serge Zhuiykov Ghent University Global Campus, South Korea	
		Welcome Address*(online)*: **Alfred A. Christy** University of Agder, Norway	
09:40-10:25	**Keynote Speech 1**	**Topic: Plasma-Modulated Growth of 2D Ga2O3/GaS Hetero-Phases on Liquid Alloy Substrate for Modern Nanoelectronics** **Serge Zhuiykov** Ghent University Global Campus, South Korea	
10:25-10:55	**Group Photo & Morning Break**		
10:55-11:25	**Plenary Speech 1**	**Host: Serge Zhuiykov**, Ghent University Global Campus, South Korea	
		Topic: Fatigue Crack Propagation Behavior of Inconel 718 superalloy Long-Term Aged with Temperature/Stress Coupled Fields **Lei Wang** Northeastern University, China	
11:25-11:55	**Plenary Speech 2**	**Topic: Si-based III-V Compound Nano-Structure Materials and Related Devices** **Xiaoguang Yang** Institute of Semiconductors, CAS, China	
12:00-13:30	**Lunch**		
13:30-15:15	**Oral Session 1:** Heat Treatment of Metal and Chemical Engineering		Bunga Room
	Oral Session 2: Building Materials, Building Environment, and Structural Mechanics		Dalah 2 Room
15:15-16:00	**Coffee Break**		
	Poster Session: Advanced Materials Research and Manufacturing Technology		Dalah 2 Room
16:00-18:00	**Oral Session 3:** Nanomaterials for Sensors and Materials Physics		Bunga Room
	Oral Session 4: Battery Materials, Electrochemistry, and Applied Catalysis		Dalah 2 Room
18:15- 20:00	**Dinner & Award**		View Bar

Day 3 | Jan. 27, 2024

Phuket Time	Activity	Venue
09:30-11:15	**Oral Session 5:** Preparation and Properties Characterization of Advanced Engineering Materials	**Online Only** Zoom ID: 835 6854 5203
Free Day		**For Onsite** None

KEYNOTE SPEAKER

Phuket Time	09:40-10:25, January 26, 2024	Onsite Room	Bunga Room
Zoom ID	835 6854 5203	Zoom Link	https://us02web.zoom.us/j/83568545203

Serge Zhuiykov

Ghent University Global Campus, South Korea

Speech Title: **Plasma-Modulated Growth of 2D Ga2O3/GaS Hetero-Phases on Liquid Alloy Substrate for Modern Nanoelectronics**

Abstract: Atomic-scale incorporation of elemental impurities into two-dimensional (2D) semiconductors is a significant step towards tailoring novel 2D materials into functional nanoelectronics. Here, the elemental functionalization of 2D surface oxide films of gallium-indium (EGaIn) liquid alloy is achieved through plasma-enhanced metal-catalyst-assisted dissociation of H2S on EGaIn surface. The electronic properties of EGaIn/2D Ga2O3 heterointerfaces were considerably altered after surface functionalization. Material characterizations showed the growth of crystalline domains of GaS inside of Ga2O3 amorphous structure. Consequently, lateral 2D heterointerfaces were developed between amor-phous Ga2O3 and crystalline GaS. Comprehensive analysis demonstrated that the combined mechanisms of valence change and electrochemical metallization were engaged in bipolar resistive switching dynamics of functionalized 2D oxide films The considerable increase of high-resistance switching current from 10−15 A to 10−9 A was observed after functionalization of 2D heterointerfaces. The voltage-dependent self-rectifying characteristics and non-Ohmic to Ohmic transition were additionally observed owning to the development of heterointerfaces between the liquid metal and 2D Ga2O3 film.

Bio.: Professor Serge Zhuiykov *received Ph.D. in Materials Science and Engineering in 1991 from the State Technical University of Ukraine. After the USSR disintegration at the end of 1991, he immigrated to Australia under the support of young professionals program. Initially, he was working as a Research Scientist at the leading Australian company for 4 years before joining the research team of RMIT University, Melbourne. In 1998 he received the Australasian Ceramic Society/ Ceramic Society of Japan joint prestigious Award for young distinguished scientist. As a recipient of this Award he travelled to Japan, where he established great research networks among the different Japanese Universities. Consequently, he was appointed as Research Associate at the Kyushu University, Japan in 2000. Professor Zhuiykov's research in Japan was dedicated to the development of new nanostructured semiconductor sensors for environmental monitoring of the most important gaseous pollutants such as CO, NOx, NH3, SO2, H2S, CO2 and hydrocarbons (CxHy).*

Subsequently, in 2002 he joined Scientific Services Laboratory, Melbourne, which was amalgamated with the Commonwealth Scientific Industrial Research Organization (CSIRO), Australia in 2004. However, he maintained his scientific co-operation with Kyushu University, Japan in 2003 – 2014. As a result of this cooperation, he was an Invited Visiting Professor in 2004, 2005, 2007, 2009, 2010, 2011 and 2013, respectively.

During his time at CSIRO Prof. Zhuiykov was a Stream Leader of the Sensors and Sensor Networks Transformation Capability Platform (2009-2011). He also led several important co-investment scientific projects. His research capabilities and leadership have resulted in his appointment as a Principal Research Scientist in 2012. In addition to his research activities, as an expert, Professor Zhuiykov was a member of 2 Technical Committees of the Standards Australia

International (2003-2015). He was also the Leader of the Australian delegation at the International Standards Organization (ISO) TC-21/SC-8 Technical Committee in 2005-2014.

Prof. Zhuiykov is recipient of 2007, 2011 and 2013 Australian Academy of Science and 2010 Australian Government Endeavour Executive Awards for his work on advanced functional nano-crystals and their applications.

In 2017 he was selected as one of recipients of very prestigious "100 Talents" Program of the Shanxi Province, P.R. China. He also received a title of Distinguished Expert from the Shanxi Province, P.R. China.

Prof. Zhuiykov is the author and co-author more than 250 scientific publications, including 3 monographs: "Nanostructured semiconductors" (Elsevier Science, UK, 2018), "Nanostructured Semiconductor Oxides for the Next Generation of Electronics and Functional Devices" (Woohead Publishing, UK, 2014) "Electrochemistry of Zirconia Gas Sensors" (CRC Press, USA, 2007), 8 book chapters and 15 international patents.

Since 2015 is s Senior Full Professor at the Gent University Global Campus (GUGC) and a Director of Centre for Energy & Environmental Research. His research interests lie in the area of the development, design and fabrication of new two-dimensional nanomaterials for solid-state environmental sensors and other advanced functional devices.

PLENARY SPEAKER

Phuket Time	10:55-11:25, January 26, 2024	Onsite Room	Bunga Room
Zoom ID	835 6854 5203	Zoom Link	https://us02web.zoom.us/j/83568545203

Lei Wang

Northeastern University, China

Speech Title: **Fatigue Crack Propagation Behavior of Inconel 718 superalloy Long-Term Aged with Temperature/Stress Coupled Fields**

Abstract: The effects of long-term aging on the fatigue crack propagation behavior of IN718 superalloy used for turbine disk of aviation engine were studied, and the mechanism was discussed also. The results showed that the fatigue crack propagation rate (da/dN) of the alloy increased slightly after aging at 650 ℃ compared with that of the standard heat treatment, but the variation of the fatigue crack propagation was different at different stages. In the Paris region, the da/dN was almost unchanged, and it increased obviously with the increasing of the aging time in the near-threshold region and fast propagation region. The da/dN increased and the threshold value of fatigue crack propagation decreased significantly with increasing of aging time of the alloy aged at 750 ℃. The da/dN increased more obviously of the alloy aged at 750 ℃ compared with that at 650 ℃ for the same aging time. The coarsening of the gamma prime and gamma double-prime phases reduced the strength of the alloy after aging at 650 ℃. The dislocations motion changed from cutting to bypassing through the strengthening phases. The crack closure effect was weakened by the reducing of fracture surface roughness, which decreased the fatigue crack propagation resistance and increased the da/dN. While for the alloy aged at 750 ℃, the transformation of a large number of gamma double-prime phases to long needle like delta phases decreased the strength of the alloy. The delta phase blocked the dislocations slipping, caused the stress concentration and became the main path for the fatigue crack propagation. As a result, the crack closure effect and the crack tip shielding effect were weakened; the fatigue crack propagation resistance was also reduced, so that the da/dN increased significantly. The main determining factor of the crack closure effect is the fracture surface roughness and the stress shielding effect of the crack tip is mainly caused by the crack branching.

Bio.: Professor Lei Wang *is currently is a Distinguished Professor of Northeastern University, specialized in materials science and engineering, obtained BEng in 1982 and MEng in 1985 from Northeastern University, PhD in 1997 from Toyohashi University of Technology, Japan. He has taught at 3 national universities for more than six years as a senior lecturer and an associate professor in Japan. He has been the Director of Institute of Advanced Material Technology, Northeastern University; vice president of Heat Treatment Society of China; an executive committee member of Materials Branch of Chinese Society of Mechanical Engineering; a visiting professor of IMR at Tohoku University, Japan. He has been selected as a Taishan Industry Leading Leader in 2018, a special government allowances of the State Council (China) in 2020.*

Prof. Wang's research is focused on the strengthening and toughening of advanced materials with microstructural controlling, he also has many research achievements in the field of mechanical behavior of materials under dynamic loading and other environments. He has published more than 390 papers and 10 books.

PLENARY SPEAKER

Phuket Time	11:25-11:55, January 26, 2024	Onsite Room	Bunga Room
Zoom ID	835 6854 5203	Zoom Link	https://us02web.zoom.us/j/83568545203

Xiaoguang Yang

Institute of Semiconductors, CAS, China

Speech Title: Si-based III-V Compound Nano-Structure Materials and Related Devices

Abstract: Si-based III–V compound nano-structure materials have been recognized as promising candidates for next-generation nanoscale electronic, optical, and quantum devices because of their unique electronic, optical, and geometrical properties. For example, laser based on III–V compound quantum dots shows high modulation rates, high-temperature reliability and high integration, which is an ideal light source for on-chip optical integration. Tunneling field effect transistor (FET) based on III–V compound nanowires can achieve subthreshold swing (SS) lower than 60 mV/decade. The unique nanowire arrays can be used to form verticalgate-all-around devices, resulting in further improvement of the device performance.

In this talk, our latest results about Si-based III-V compound quantum dots and nanowire arrays materials will be shown. We report on the achievement of ultra-high thermal stability InAs/GaAs quantum dot lasers directly grown on Si (001) substrates with a record-high continuous-wave (CW) operating temperature of 150 °C. Novel FET with dual-type carrier transport channels is fabricated with InAsSb/GaSb core−shell nanowires on Si (001) substrates. More works and details will be discussed on meeting.

Bio.: Professor Xiao-Guang Yang *is director of the China Instrument and Control Society and young director of Chinese Materials Research Society. He received BS degree in physics from Northwestern Polytechnical University (NPU) in 2005 and Ph. D degree in electronic engineering from Institute of Semiconductors, Chinese Academy of Sciences (IOSCAS) in 2008. Now, he serves as professor in IOSCAS and University Chinese Academy of Sciences (UCAS), as well as deputy director of key laboratory of semiconductor materials science, Chinese Academy of Sciences. His research interest is low-dimensional III-V compound materials and related devices.*

Oral Session 1

S1 / Heat Treatment of Metal and Chemical Engineering

Phuket Time	13:30-15:15, Jan. 26, 2024	Onsite Room	Bunga Room

Chair: Deepak Kumar, *IIT Delhi, India*

Time	ID	Presenter	Affiliation
13:30-13:45	M3003	Deepak Kumar	IIT Delhi, India
13:45-14:00	M3001	Jayant Jain	Indian Institute of Technology Delhi, India
14:00-14:15	M1005-A	Jirada Singkhonrat, Pwint Phyu Theint	Thammasat University, Thailand
14:15-14:30	M1025-A	Vladimir Strezov	Macquarie University, Australia
14:30-14:45	M11006-A	Satti Venu Gopala Kumari	Indian Institute of Technology Guwahati, India
14:45-15:00	M3016-A	Puttapati Sampath Kumar	National Institute of Technology Warangal, India
15:00-15:15	M1032	Vivek Kumar Patel	Motilal Nehru National Institute of Technology Allahabad, India

Details

ID	Title and Authors
M3003	Effect of Heat Treatment on Mechanical Properties and Corrosion Response of Hvof Sprayed High Entropy Alloy Coatings Abhijith.N.V, Deepak Kumar, Karun Rawat
M3001	Influence of Aging Condition and Pre-strain on the Characteristics of Continuous Precipitates in a AZ80 Magnesium Alloy Anuz Zindal, Jayant Jain
M1005-A	Optimizing the Extraction Efficiency using a Household Microwave; Isolation of Beta-glucan from Edible Mushroom Lentinus squarrosulus Available in the Local Market Pwint Phyu Theint, Niramol. Sakkayawong, Siriwit Buajarern, Jirada Singkhonrat
M1025-A	Impact Assessment of Renewable Methane Production Vladimir Strezov, Hannah Hyunah Cho, Tim J. Evans
M11006-A	Synergistic Effects of Grapeseed Oil and MgO Nanoparticles Loading on Physicochemical, Antimicrobial, and Antioxidant Properties of Poly (3 Hydroxybutyrate) for Active Food Packaging Applications. Satti Venu Gopala Kumari, Kannan Pakshirajan, G. Pugazhenthi
M3016-A	PANi Nnaofibers/MXene/W03 Ternary Nanocomposite Electrode Material for Supercapcitor Application Dinesh Bejjanki, Sampath Kumar Puttapati
M1032	Mitigation of Erosion Wear Produced by Fly-ash Slurry on 90* Elbow by Changing the Cross-section Shape and Area Ratio Latchupatula Ananya, Vivek Kumar Patel

Oral Session 2

S2 / Building Materials, Building Environment, and Structural Mechanics

Phuket Time	13:30-15:15, Jan. 26, 2024	Onsite Room	Dalah 2 Room

Chair: Suranani Srinath, *National Institute of Technology Warangal, India*

Time	ID	Presenter	Affiliation
13:30-13:45	M2017	Kazi Naimul Hoque	Bangladesh University of Engineering and Technology, Bangladesh
13:45-14:00	M2003-A	Md. Soebur Rahman	Military Institute of Science and Technology, Bangladesh
14:00-14:15	M2007	Ya-Hui Chen	Naval Academy, Taiwan
14:15-14:30	M2009-A	Laura Orrego Valencia	Universidad Nacional de Colombia, Colombia
14:30-14:45	M3010	Shih-Tsung Hsu	Chaoyang University of Technology, Taiwan
14:45-15:00	M11005-A	Liyang Xie	Northeastern University, China
15:00-15:15	M2016-A	Farhana Ahmed	Ahsanullah University of Science and Technology, Bangladesh

Details

ID	Title and Authors
M2017	Electromigration-Based Investigation of Corrosion Behaviour in Ternary Blended Reinforced Concrete Kazi Naimul Hoque, Francisco Presuel-Moreno
M2003-A	Behavior of Headed Shear Stud in Favorable and Unfavorable Positions using GI Wire Fiber Md. Soebur Rahman, Takwiir Tahriim Khan, Tahseen Islam Talukder, Musabira Srabony, Gazı Algaj Hossain
M2007	Study on Dynamic Response of Fiber-reinforced Plastic on Different High Strain Rate Ya-Hui Chen, Ching-Yu Hsu, Guang-Min Luo, Fu-Cheng Chu
M2009-A	Methodology for the Execution Desing of Asbestos Cement Roofing Removal and Management as Hazardous Waste Laura Orrego Valencia
M3010	An Investigation on the Impact of Corrosion on the Bond Mechanism of Strand Assemblies Shih-Tsung Hsu, Chung-Pin Li, Wen-Chi Hu, Haojie Zhang, Jr-Hao Liao Yueh-Lun Tsai
M11005-A	Size Effect of Structure Strength and the Distribution Characteristics of Material Strength Liyang Xie
M2016-A	Minimizing Process of CO2 Concentration Level for Indoor Air Quality in Residential Buildings at Dhaka Rumana Rashid, Farhana Ahmed

Oral Session 3

S3 / Nanomaterials for Sensors and Materials Physics

Phuket Time	16:00-18:00, Jan. 26, 2024	Onsite Room	Bunga Room

Chair: Micha Polak, *Ben-Gurion University of the Negev, Israel*

Time	ID	Presenter	Affiliation
16:00-16:15	M1008-A	Meng-Chi Wu	National Tsing Hua University, Taiwan
16:15-16:30	M1024-A	Micha Polak	Ben-Gurion University of the Negev, Israel
16:30-16:45	M1010-A	Hsiang-Tse Cheng	National Tsing Hua University, Taiwan
16:45-17:00	M1019-A	Upama Das	Tezpur University, India
17:00-17:15	M1013	Karun Rawat	Indian Institute of Technology Roorkee, India
17:15-17:30	M1015-A	Jyh-Xuan Wang	National Tsing Hua University, Taiwan
17:30-17:45	M3015-A	Suranani Srinath	National Institute of Technology Warangal, India
17:45-18:00	M11007-A	Turgut Yilmaz	University of Connecticut, US

Details

ID	Title and Authors
M1008-A	Enhanced Performances of CdS Photodetector Decorated with CsPbBr1.2I1.8 Quantum Dots Meng-Chi Wu, Yan-Ting Liu, Lih-Juann Chen
M1024-A	Atomistic Modeling of Size-Dependent Nanophase-Separation Diagrams Demonstrated for Pd-Ir Nanoparticles Micha Polak, Leonid Rubinovich
M1010-A	Enhanced Performance of Photodetector Based on CsPbI3 Nanorods and ZnO Nanowires Heterojunction Hsiang-Tse Cheng, Yan-Ting Liu, Lih-Juann Chen
M1019-A	Cognizance of Melamine Presence in Milk through Plasmonic Nanomaterial-Enhanced Analytical Sensing Architecture: A Quantitative Appraisal Upama Das, Abhilash Gayan, Rajib Biswas
M1013	Optimum Case Temperature for Appropriate Thermal Resistance to Obtain Minimum Junction Temperature in GaN-on-SiC Power Amplifiers Ahmad Zakaria Ahmad, Bargaje Ganesh Pandurang, Mohammad Abdul Shukoor, Karun Rawat, and Deepak Kumar
M1015-A	Enhancing Piezoelectric Effect for Catalytic Reaction by Single Atom Ruthenium Doped WS2 Nanosheet Jyh-Xuan Wang, Jyh-Ming Wu
M3015-A	Investigation of PANi/WO 3 /N-doped Biomass Derived Carbon Heterogeneous Composite for Superb Electrochemical Supercapacitor Application Suranani Srinath
M11007-A	Splitting of the V-3d Bands of VSe2 Revealed by Angle-Resolved Photoemission Spectroscopy Turgut Yilmaz

Oral Session 4

S4/ Battery Materials, Electrochemistry, and Applied Catalysis

Phuket Time	16:00-18:00, Jan. 26, 2024	Onsite Room	Dalah 2 Room

Chair: Venu Vinod Aanthula, *National Institute of Technology Warangal, India*

Time	ID	Presenter	Affiliation
16:00-16:15	M3013-A	Jinyu Chen	Karlsruhe Institute of Technology, Germany
16:15-16:30	M31001-A	Venu Vinod Aanthula	National Institute of Technology Warangal, India
16:30-16:45	M1016-A	Yu Ming Chen	National Tsing Hua University, Taiwan
16:45-17:00	M3014-A	Uday Bhaskar Babu Gara	National Institute of Technology Warangal, India
17:00-17:15	M1026	Rinlee Butch Cervera	University of the Philippines Diliman, Philippines
17:15-17:30	M1027-A	I-Ming Hung	Yuan Ze University, Taiwan
17:30-17:45	M11008-A	Yasmin D.G. Edañol	University of the Philippines, Philippines

Details

ID	Title and Authors
M3013-A	Room Temperature Quasi-Solid Ternary Polymer Electrolytes for Beyond Lithium Batteries Jinyu Chen, Sohelia Ebrahimi, Boyan Iliev, Thomas J. S. Schubert, Stefano Passerini, Elizabeth Castillo-Martínez, Maider Zarrabeitia
M31001-A	Intensification of Natural Convection using Non-Newtonian Nanofluids in Unsteady State Condition B. Anil Kumar Naik, A. Venu Vinod
M1016-A	Piezocatalysis of Single-Atom Plantinum Modified MoS2 Nanoflowers for Hydrogen Evolution Reaction Yu Ming Chen, Jyh Ming Wu
M3014-A	Novel Synthesis Process of Silicon and Exfoliated-Graphite Composite for Lithium-Ion Batteries Uday Bhaskar Babu Gara, Vrushabh Dharmik, Dinesh Bejjanki, Sampath Kumar Puttapati
M1026	Direct Regeneration of NMC622 Cathode Material from Spent EV Li-ion Batteries via Hydrothermal Relithiation Charles Flores, Rinlee Butch Cervera
M1027-A	Research of the Composite Cathode Electrode and Electrolyte for Solid-state Lithium-ion Battery I-MING HUNG, Debabrata Mohanty
M11008-A	Harnessing Mesoporous Silica from Rice Husk as a Support Framework for Catalytic Bimetallic Nanoparticles Yasmin D.G. Edañol, Marlon T. Conato, Ken Aldren S. Usman

Oral Session 5

S5/ Preparation and Properties Characterization of Advanced Engineering Materials

Phuket Time	09:30-11:15, Jan. 27, 2024	Online Only	Zoom ID: 835 6854 5203

Chair:

Time	ID	Presenter	Affiliation
09:30-09:45	M1022	Thitiphan Chimsook	Maejo University, Thailand
09:45-10:00	M1035	Bruno Barzellay Ferreira da Costa	Universidade Federal do Rio de Janeiro – UFRJ, Brazil
10:00-10:15	M2001-A	Chinedu Azubuike Ajoku	Federal University of Technology Owerri, Nigeria
10:15-10:30	M2005	Nopphawit Itthithananchai	Suranaree University of Technology, Thailand
10:30-10:45	M2014-A	Zhikuan Ren	Beijing University of Technology, China
10:45-11:00	M2018	Carina Mariane Stolz	Universidade Federal do Rio de Janeiro, Brazil
11:00-11:15	M2011-A	Badr Alotaibi	Najran University, Saudi Arabia

Details

ID	Title and Authors
M1022	Study of Two synthesized Methods of Gold Nanoparticles Synthesis using Fresh Flowers Extracts of Clitoria ternatea Thitiphan Chimsook
M1035	Incorporation of Silicone Mold Residues Influence on Acoustic Properties of Subfloor Mortars Daniel G W Rodrigues, Carina M Stolz, Bruno B F da Costa, Mayara Amario, Assed N Haddad
M2001-A	Properties of Wollastonite Based Cement Modified with Fibres and Recycled Rubber Aggregates Under Severe Environments Chinedu Azubuike Ajoku, Anaclet Turatsinze, Ariane Abou Chakra
M2005	Improving the Energy Saving and Mechanical Properties of Masonry Produced Using Hemp Hurd with Bast Fibre in Interlocking Blocks Nopphawit Itthithananchai, Komchai Thaiying, Roongarun Buntan, Sudniran Phetcharat
M2014-A	Fatigue Damage Evolution Analysis Using Wavelet Packet Subband Energy of Acoustic Emission Signal Zhikuan Ren, Xiaogang Liu, Qingrui Yue
M2018	Feasibility Study of Using Steel Slag to ReplacePortland Cement in Mortars Vítor Lopes da Silva, Carina Mariane Stolz, Bruno Barzellay F. da Costa, Mayara Amario, Assed N. Haddad
M2011-A	Potential of Natural Rubber Latex in Cement Mortar for Thermal Insulating Material in Buildings Fadi Altheoy, Badr Alotaibi

Poster Session

P/ Advanced Materials Research and Manufacturing Technology

Phuket Time	15:15-16:00, Jan. 26, 2024	Onsite Room	Dalah 2 Room

Chair: Xiangjie Wang, *Northeastern University, China*

Order/ ID	Title and Authors	Presenter	Affiliation
1/ M1028	Analysing the Impact of Severe Shot Peening on the Fatigue Strength of Wire Arc Additively Manufactured Carbon Steel Mikko Hietala, Timo Rautio, Markku Keskitalo, Matias Jaskari, Antti Järvenpää	Mikko Hietala	University of Oulu, Finland
2/ M1033-A	Improvement of Contact and Interface Properties of Carbon Nanotube/Graphene Freestanding Film as a Top Electrode for Organic Solar Cells Yeongsu Jo, Chae Young Woo, Yeong Gwon Kim, Sung Min Kim, Hyung Woo Lee	Yeongsu Jo	Pusan National University, South Korea
3/ M1004-A	A Study on the Durability of the Hydrogen Storage Vessel of SA372 J grade 70 material Seunghyun Cho	Seunghyun Cho	Dongyang Mirea University, South Korea
4/ M11002-A	Fabrication Hybrid Thin Films of Sol-gel Solutions Interaction with Photosensitive Polymer via Embossing Process Bo-kyeong Choi, Dae-Shik Seo	Bo-kyeong Choi	Yonsei University, South Korea
5/ M11004-A	Biofluidic Supercapacitor with High Energy Storage Encapsulated by Hydrogel-Barrier Circular Knit for Anti-Biofouling Taegyu Park, Yongwoo Jang	Yongwoo Jang	Hanyang University, South Korea
6/ M11009-A	Effect of Heat Treatment on the Organization and Properties of Al-5Ti-1B+Sr Refined Metamorphic ZL101 Alloy Yajun Xua, Chengcheng Chena, Fang Yua, Zhaosong Zhang, Xiangjie Wang	Xiangjie Wang	Northeastern University, China
7/ M1021	Build Orientation Effect on Bending Fatigue Performance and Impact Toughness of Laser Powder Bed Fusion Manufactured Ti6Al4V Without Heat Treatment Timo Rautio, Matias Jaskari, Mikko Hietala, Aappo Mustakangas, Markku Keskitalo, Antti Järvenpää	Timo Rautio	University of Oulu, Finland
8/ M3012-A	Selective Area Epitaxy and Characterization of Group III-Nitride-Based Nanowire Heterostructures Yong-Ho Ra	Yong-Ho Ra	Jeonbuk National University, South Korea

*Conference organizer does not provide printing service, please prepare and print out your poster and bring to conference site by yourself.

Top Attractions in Phuket

Big Buddha Phuket


Sitting atop Nakkerd Hill (also spelt Nagakerd) near Chalong, construction began in 2004. It is the third-tallest statue in Thailand behind only the Great Buddha of Thailand and Luangpho Yai.The Buddha statue depicts Gautama in a sitting position and is 45 metrestall and 25.45 metres wide. It is made of concrete and covered with Burmese white marble. Facing towards Ao Chalong Bay the statue is the main Buddha of the Wat Kitthi Sankaram temple (Wat Kata).

Green Elephant Sanctuary Park


In the Elephant sanctuary you can experience elephants in the most natural way. In their natural environment, where they are free and simply wonderful! It is important to us that you can experience the daily life of the animals. And that you can approach them when feeding or bathing. Briefly: it is a wonderful experience that you will remember for a long time.

Banana Beach


Banana Beach in Phuket is a little hidden treasure. Phuket is a world-famous holiday destination, and every corner of this tiny tropical island has been explored, invaded, sold, developed and exploited. Yet, the small Banana Beach is hiding from the crowd. We thought it wouldn't last, but it is still quiet.

Nai Harn Beach


Nai Harn Beach is a quiet, compact seaside resort with a village atmosphere and a slightly hippy vibe. Simple shops sell beachwear and Thai crafts, while casual restaurants specialize in local cuisine. Visitors walk the peaceful grounds of Buddhist monastery Wat Nai Harn, and tree-fringed, freshwater Nai Harn Lake is popular for jogging and paddleboating. Nai Harn Beach itself is known for its fine sand.

Hat Kata


Hat Kata is a beach which extends 1.5 kilometers on the west coast of the island of Phuket in Thailand.It is a tourist destination, with multiple hotels and restaurants near the beach.Hat Kata is about 17 kilometers from Phuket Town. It faces the Andaman Sea.

Wat Chalong Temple


The most important of the 29 buddhist temples of Phuket is Wat Chalong or formally Wat Chaiyathararam, located in the Chalong Subdistrict, Mueang Phuket District. The large market at Wat Chalong extends into the grounds of the temple and features amplified pop music and Thai-fighting advertisements.

Patong Beach


Patong is a beach resort town on the west coast of Phuket Island, facing the Andaman Sea in the southwest of Thailand. Its sandy, crescent beach is lined with cafes, restaurants and bars. The famously raucous nightlife scene features beer bars, go-go bars, nightclubs, massage parlors and cabarets that overflow into the street along neon-lit Bangla Road and in the Patong OTOP Shopping Paradise complex.

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