

# European Advanced Materials Congress

**AMC**  
Advanced Materials Congress

## Advanced Materials Laureate 2017

Professor  
Luis M. Liz-Marzán

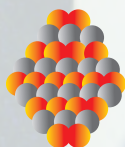
CIC biomGUNE,  
San Sebastián  
Spain

## Souvenir & Program Book

22 - 24 August 2017 | Stockholm, Sweden  
Conference Centre, M/S Mariella, Viking Line Terminal



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Advancement of Materials  
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Conference Centre, M/S Mariella, Viking Line Terminal

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## EAMC and parallel events at a glance

### Summary of Program

Day - 1: Tuesday 22 August 2017 Port of Stockholm, Sweden		Day - 2: Wednesday 23 August 2017 Port of Helsinki, Finland		Day - 3: Thursday 24 August 2017 Port of Stockholm, Sweden	
Registration	09.00-10.30	Breakfast	07.30-08.45	Breakfast	07.30-08.45
Boarding	10.30-10.45	Plenary Session	09.00-10.30	Check Out	08.00-08.30
Plenary Session	10.45-12.30	Coffee Break	10.45-11.00	Parallel Session	09.00-10.30
Lunch & Poster Setup	12.00*-13.30	Parallel Session	11.00-12.30	Coffee Break	10.30-10.45
Cabin Access	13.30-14.00	Lunch	12.00*-13.30	Plenary Session	10.45-12.30
Parallel Session	14.00-16:30	Sightseeing in Helsinki	13.30-15.30	Lunch	12.00*-13.30
IAAM Felicitation and Welcome Ceremony	16.30-17.30	Parallel Session	16.00-17.30	Parallel Session	13.30-15.00
Poster Session & Parallel Session	18.00-19.30	IAAM Awards and Farewell Drink	17.30-18.30	Closing Ceremony	15.00-15.30
Dinner	20.00-21.30	Dinner	20.00-21.30	Disembark from the Viking Cruise	15:30
Entertainment**	21.30-22.30	Entertainment**	21.30-22.30	Sightseeing in Stockholm	16.00-18.00

\*Accompanying person can start their Lunch at 12.00  
\*\*A variety of entertainment is available each evening

### Venue Chart

	Club Mar, Deck-7		Conference Center, Deck-8					Session VII - HOB
	Session I - Club Mar	Session II - Auditorium A	Session III - Auditorium B	Session IV - B51-52	Session V - B31-32	Session VI - S22-23		
Day - 1: Tuesday 22 August 2017 Port of Stockholm, Sweden	Plenary Session	NP	NN	SA	BB	EHM	CM	Delegates Gallery
Day - 2: Wednesday 23 August 2017 Port of Helsinki, Finland			MMCT	MMCT	TFCMT	MMCT		
	Plenary Session	NP	NN	GGF: GSC	BBM	EHM	WTF	
Day - 3: Thursday 24 August 2017 Port of Stockholm, Sweden	NP	Plenary Session	EGM	GIBSS	STP	CSEM	WTF	
	NP		EGM	GGF: GA	OEMM	AMI	WTF	

### Abbreviations

NP	Nanogenerators and Piezotronics	GIBSS	Graphene Interfacing Biological Systems Symposium	CCM	Composite and Ceramic Materials
GGF: GSC	Global Graphene Forum: Growth, Synthesis and Characterizations	GCN	Growth of Carbon Nanomaterials	GGF: GA	Global Graphene Forum: Graphene Applications
NN	Nanomaterials and Nanotechnology	BB	Biomaterials and Biodevices	CSEM	Constructional, Structural and Engineering Materials
EGM	Environmental and Green Materials	BBM	Biosensor and Bioelectronic Materials	AMI	Advanced Materials Innovations
MMCT	Medical Materials and Clinical Technology	MN	Microfluidics & Nanofluidics	CM	Computational Materials
SA	Sensors & Actuators	STP	Science and Technology of Polymers	TFCMT	Thin Film & Coating Materials Technology
EHM	Energy and Harvesting Materials	OEMM	Optical, Electronic and Magnetic Materials	WTF	World Technology Forum

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1. WELCOME MESSAGE .....
  2. Researcher of the Year 2017:
    - Professor Zhong Lin Wang, Advanced Materials Letters
    - Professor Nils Mårtensson, Advanced Materials Proceedings
  3. SCIENTIFIC PROGRAM .....
- Tuesday, 22 August 2017, M/S Mariella, Viking Line, Sweden (Day - 1)**
- Registration at Viking Line Terminal, Stadsgården, 116 30 Stockholm, Sweden
  - Boarding at M/S Mariella Viking Cruise and Drop Luggage in Music Meister
  - Opening Ceremony and Conference
  - Welcome drink, IAAM Felicitation and Poster Session
  - Dinner at Viking Buffet
  - Entertainment at Club Mar
- Wednesday, 23 August 2017, M/S Mariella, Viking Line, Sweden (Day - 2)**
- Breakfast at Viking Buffet
  - Conference and Lunch at Viking Buffet
  - Sightseeing in Helsinki
    - ◆ Parliament Building, Museum of Modern Art
    - ◆ The Stunningly designed Rock Church
    - ◆ Olympic Stadium from the 1952 games
    - ◆ Helsinki Lutheran and Uspenski Orthodox Cathedrals
  - IAAM Awards and Farewell Drink at Club Mar
  - Dinner at Viking Buffet
  - Entertainment at Club Mar
- Thursday, 24 August 2017, M/S Mariella, Viking Line, Sweden (Day - 3)**
- Breakfast at Viking Buffet
  - Check Out from the Cabins and Store Luggage in the Music Meister
  - Lunch at Viking Buffet
  - Closing Ceremony at Club Mar
  - Sightseeing in Stockholm
  - Commencement of tour at central train station, Stockholm
4. IAAM AWARDEES .....
  5. NOTES .....

## Welcome Message

### Welcome to the EAMC 2017!

Dear Colleagues,

On the behalf of organizing committee, it is our great pleasure to warm welcome you to the 10<sup>th</sup> assembly of Advanced Materials Congress Series of the International Association of Advanced Materials ([www.iaamonline.org](http://www.iaamonline.org)) in the city of Nobel Prize, Stockholm, Sweden. It is precious moment for us to host the 2<sup>nd</sup> annual meeting of European Advanced Materials Congress (EAMC-2017, [www.vbripress.com/eamc](http://www.vbripress.com/eamc)) at the Conference Centre, M/S Mariella, Viking Line Cruise ship cruising from Stockholm (capital city of Sweden) – Helsinki (capital city of Finland) – Stockholm. The conference will “depart” from Stockholm, 22 August, returning on 24 August 2017. This time again, we are ready to enjoy our science while cruising on the Baltic sea. What better way to ensure the maximum interaction and most vibrant discussion than to place all aboard a single vessel while sailing across the Baltic through the balmy Scandinavian summer. The conference will bring an amazing experience of cruise hospitality and visit two capital cities of Scandinavia, with allusion of the beautiful views of Stockholm archipelago with nearly 30,000 islands, islets and rocks.

EAMC provides a global platform for researchers and engineers coming from academia and industry to present their research results and activities in the field of fundamental and interdisciplinary research of advanced materials and technology. The congress brings together the professors, researchers, scientists, business giants, and technocrats to offer an international platform for the dissemination of original research results, new ideas and practical development and discover advances in the field and related interdisciplinary topics. In this year, we have received a 30% increasing number of abstracts (1016 abstracts from 92 countries) from the last year due to the following reasons:

- Excellent speakers from industry and academia. It is a series of advanced materials cruise event where 50+ sessions and international symposiums are hosted in the single vessel. We explore interdisciplinary connections, global networking, industry exhibition, training courses, global market and product lunches in the areas of Advanced Materials.
- There is chance to know more about Nobel Prize and also interact with chairman/member of the Nobel Prize committee.
- Access to all parallel events in a single registration fee.
- The Advanced Materials Laureate, European Advanced Materials Award, Graphene Award, Nanogenerators and Piezotronics Award, IAAM Medal, IAAM Scientist and Young Scientist Awards will be felicitated by the International Association of Advanced Materials.

- Amazing experience of cruise hospitality and visit two capital cities of Scandinavia, not to mention the beautiful views you will experience of the Stockholm archipelago on sunny summer days and beautiful long and light evenings.

The conference will cover the full span of Advanced Materials ranging from Nano to Macro and from composite, polymer and ceramic to optical and bio. Key applications areas had biodevices, energy, electronics, sensors, medical & clinical, constructional and engineering materials, while paying attention to the environment and the introduction of nano green materials and sustainable new age technology wherever possible. Congress will run with 3 plenary & 34 parallel sessions and fourteen parallel symposiums including 6 plenary talks, 8 keynote talks, 71 invited lectures, 184 oral presentations, 110 poster presentations, and IAAM welcome, farewell and felicitation ceremony.

Congratulate to all awards winner and we thanks to VBRI Press ([www.vbripress.com](http://www.vbripress.com)) and Viking Line for their excellent organization to smoothly conduct the meeting on board. We hope that you will enjoy this exciting and timely meeting as we pass with Advanced Materials and deliverables could match number of inspiring facts, figures, concepts and demonstrations.

With very best wishes,

Conference Chair(s)



**Prof. Ashutosh Tiwari**

Director, Institute of Advanced Materials  
 Secretary-General – IAAM, Sweden  
 Editor-in-Chief, Advanced Materials Letters  
 Series Editor,

- Advanced Materials, Wiley-Scrivener, USA
- Advanced Nano-materials, Elsevier, UK

URL: [www.iaam.se/director.html](http://www.iaam.se/director.html)



**Prof. Zhong Lin Wang**

Hightower Chair, Georgia Institute of Technology, USA  
 Founding Director, Beijing Institute of Nanoenergy and  
 Nanosystems, Chinese Academy of Sciences, China  
 Editor-in-Chief, Nanoenergy, Elsevier

URL: [www.nanoscience.gatech.edu](http://www.nanoscience.gatech.edu)

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# You have a chance to interact with Prof. Nils Mårtensson

Chairman of Nobel Committee  
in Physics, 2017 at the  
Royal Swedish Academy of Sciences,  
Sweden



## The Nobel Prize

Plenary Session

10.45 - 12.30

on 24 August 2017

# Advanced Materials Letters

## Researcher of the Year

Professor Zhong  
Lin (ZL) Wang

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*Nanogenerator  
& Piezotronics*

**Editor-in-Chief  
Ashutosh Tiwari**

Available online at  
[www.vbripress.com/aml](http://www.vbripress.com/aml)



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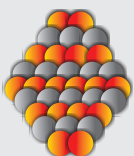
# Advanced Materials Proceedings

## Researcher of the Year

Professor  
Nils Mårtensson

Metals and Metal Surface  
Physics by  
Synchrotron Techniques

Available online at  
[www.vbripress.com/amp](http://www.vbripress.com/amp)



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# Guidelines for Activities & Instructions

1. The conference will run as per the **Current Location Time**. **Internet will be available during the conference** however, organizer will not guarantee to provide a high-speed internet. For the internet facility on board please contact to the cruise information desk at deck 6.
2. Please collect **the bag and conference materials** at the registration desk at harbor on 22<sup>nd</sup> August 2017 (Time: 09.00-10.30).
3. The delegates must wear their **Name Batch** all the time during the conference. It is note that delegates will be identify on the Cruise by their Name Batch even to get access for Breakfast, Lunch and Dinner during the conference in the Viking Buffet, Deck 7.
4. **Drop your luggage** in Music Meister behind the inauguration hall (Deck 7). You will get cabin access after lunch (Check-in time of cabin: 13:30 – 14:00) on 22<sup>nd</sup> August and Check out from the cabin on 24<sup>th</sup> August at 8.00 AM (store luggage in Music Meister at Deck 7).
5. **Conference Office will be open time** during 12.00 – 14.00 and 19.00 – 20.30 every day at conference centre, Deck 8.
6. Please **download conference detailed program**, from our website - [www.vbripress.com/eamc/pages/scientific-program](http://www.vbripress.com/eamc/pages/scientific-program) **and Proceedings and Abstracts Book**, <http://www.vbripress.com/eamc/pages/abstracts-book>
7. “Save environment and Green practices” We appreciate to use **digital copy of conference documents!!** However, if you need print (hard copy) you can manage by yourself. Conference organizers will not provide you any hard copy of Proceedings and Abstracts Book.
8. **Please make sure that all presenter's/speaker's don't forget to upload their presentation (power point or PDF)** in the computer present in respective sessions before 30 min from the session starts (session chairs/co-chairs would help speakers to upload their presentations).
9. **Notepad and pen** will also be provided in each session during the conference.
10. **Poster sticks** will be available at **conference helpdesk, conference centre, Deck 8**. If you need any assistance to hang your poster on poster board, you can ask conference staff available at helpdesk.
11. **Receipt of your payment and Presentation/participation certificate** will be send to your registered email ID by email on 25<sup>th</sup> August 2017.
12. The **children's club** will be accessible for your kids.
13. **Accompanying persons can enjoy health club, tax-free shopping**, etc. on board.
14. We have also exclusive **cultural activities** during 22<sup>nd</sup> and 23<sup>rd</sup> August both days in the evening at fun club, deck 7.

**Day - 1: Tuesday, 22 August 2017, M/S Mariella, Viking Line, Sweden**

09.00-10.30 Registration at Viking Line Terminal, Stadsgården, 116 30 Stockholm, Sweden

10.30-10.45 Boarding at M/S Mariella Viking Cruise and Drop Luggage in Music Meister

10.45-11.00 Opening Ceremony

**EAMC Chair(s):** Ashutosh Tiwari, Institute of Advanced Materials, Sweden and **Zhong Lin Wang**, Georgia Institute of Technology, USA

**President IAAM:** Hisatoshi Kobayashi, National Institute for Materials Science, Japan and Viking Line: **Per-Olof Wahlin**, Sweden

11.00-12.30 **Plenary Session at Club Mar, Deck 7**

**Chair(s):** Ashutosh Tiwari, Institute of Advanced Materials, Sweden and **Hisatoshi Kobayashi**, National Institute for Materials Science, Japan

11.00-11.40 **Advanced Materials Laureate Lecture:** Luis Manuel Liz Marzán, CIC biomaGUNE, Spain - Advanced nanomaterials for plasmonic sensing

11.40-12.10 **European Advanced Materials Award Lecture:** Liberato Manna, Istituto Italiano di Tecnologia, Italy - Halide perovskites: Synthesis, transformations and their application in devices

12.10-12.30 **IAAM Medal Lecture:** Lucia Hegedusova, European Commission, Belgium - The European Research Council

12.00-13.30 Lunch at Viking Buffet, Deck 7

Poster Setup at Conference Centre, Deck 8

13.30-14.00 Cabin Access

14.00-16:30 Parallel Sessions 1-2-3-4-5-6, Venue: Club Mar, Deck 7 and Conference Centre, Deck 8

**Session I**
**Venue: Club Mar, Deck 7**
**Nanogenerators & Piezotronics: Fundamental Materials and Prospects**

**Chair:** Zhong Lin Wang, Georgia Institute of Technology, USA

**Co-Chair:** Nelson Sepulveda, Michigan State University, USA

14.00-14.30 **Nanogenerators and Piezotronics Award Lecture:** Yue Zhang, University of Science and Technology Beijing, China - Triboelectric nanogenerators as self-powered biomechanical motion sensors

14.30-15.00 **IAAM Medal Lecture:** Sang-Woo Kim, Sungkyunkwan University, South Korea - Piezoelectric and triboelectric properties in 2D materials for nanogenerators and tribotronics

15.00-15.20 **Invited Lecture:** Christian Falconi, University of Rome Tor Vergata, Italy - Nanoscale piezoelectricity and triboelectricity: Challenges and opportunities

15.20-15.40 **Invited Lecture:** Sangmin Lee, Chung-Ang University, South Korea - Development of triboelectric nanogenerator as a sustainable energy harvester

15.40-16.00 **Invited Lecture:** Yan Zhang, University of Electronic Science and Technology of China, China - Theoretical model of quantum piezotronics

16.00-16.10 **Oral:** Hanjun Ryu, Sungkyunkwan University, South Korea - High performance triboelectric nanogenerators based on solid polymer electrolytes with asymmetric ion pairing effect

16.10-16.20 **Oral:** Tae Yun Kim, Sungkyunkwan University, South Korea - Ghost floating gate in graphene channel by tunneling-triboelectrification

16.20-16.30 **Oral:** Yi Xi, Chongqing University, China - Multifunctional TENG for blue energy scavenging and self-powered wind speed sensor

**Session II**
**Venue: Auditorium A, Conference Centre, Deck 8**
**Nanomaterials & Nanotechnology**

**Chair:** Robert Hurt, Brown University, USA

**Co-Chair:** Ivania Markova, University of Chemical Technology and Metallurgy-Sofia, Bulgaria

14.00-14.20 **IAAM Medal Lecture:** Zhongfu Zhou, China - Synthesis of a hedgehog-like ZnO/Bi<sub>2</sub>O<sub>2</sub>CO<sub>3</sub> heterojunction and its enhanced photocatalytic performance

14.20-14.40 **Invited Lecture:** Jinho Ahn, Hanyang University, South Korea - Characterization of nano-scale membrane for EUV pellicle applications

14.40-15.00 **Invited Lecture:** Xiaoyu Yang, Wuhan University of Technology, China - Hierarchical self-assembly materials with high activity and stability

15.00-15.20 **Invited Lecture:** Nils Almqvist, Lulea University of Technology, Sweden - Towards nanolithography with starch and  $\alpha$ -amylase

15.20-15.30 **Oral:** Stefan Andersson, SINTEF Materials and Chemistry, Norway - Synthesis and modelling of materials for chemical looping reforming

15.30-15.40 **Oral:** Olga Rac-Rumijowska, Fluid-Screen, Inc., USA - Conductive nanocomposite polymer fibers

15.40-15.50 **Oral:** Avtandil Tavkhelidze, Ilia State University, Georgia - Experimental study of geometry-induced doping in Si

15.50-16:00 **Oral:** Florent Pourcin, Aix-Marseille University, France - Aggregation control of nanoparticles embedded in thin layers for hybrid materials with tunable optical properties

- 16.00-16:10 **Oral:** Risa Suryana, Sebelas Maret University, Indonesia - Simple models of interaction of hydrocarbon gases with Si(111)-7x7 surfaces to obtain SiC
- 16.10-16:20 **Oral:** Tseung-Yuen Tseng, National Chiao Tung University, Taiwan - Enhanced electrochemical properties of nanocomposite supercapacitors by using graphene
- 16.20-16:30 **Oral:** Yu-Shun Chen, National Cheng Kung University, Taiwan - Synthesis WS<sub>2</sub> nanosheets from lithium intercalation for hydrogen evolution

## Session III

Venue: Auditorium B, Conference Centre, Deck 8

## Sensors &amp; Actuators

- Chair:** Paddy French, TU Delft, Netherlands **Co-Chair:** Yuki Hasegawa, Saitama University, Japan
- 14.00-14:20 **IAAM Medal Lecture:** Dongmei Chen, The University of Texas at Austin, USA - A novel identification algorithm for physiological signal sensing
- 14.20-14:40 **Invited Lecture:** Zhi-Mei Qi, Chinese Academy of Sciences, China - Mirrorless miniature fourier transform spectrometer with algorithmic enhancement of spectral resolution
- 14.40-14:50 **IAAM Scientists Medal Lecture:** Mauro Callejas-Cuervo, Pedagogical and Technological University of Colombia, Colombia - Emotion recognition from physiological signals and videogames to detect personality traits
- 14.50-15:00 **IAAM Scientists Medal Lecture:** Tapas Maiti, Hiroshima University, Japan - Ground-condition detection with pressure sensor to drive two-leg robot
- 15.00-15:10 **IAAM Scientists Medal Lecture:** Shubhajit Roy Chowdhury, Indian Institute of Technology Mandi, India - Design and simulation of helmholtz coil for a low cost and low magnetic field MRI system
- 15.10-15:20 **Oral:** Kira Astakhova, University of Southern Denmark, Denmark - Amplification-free liquid biopsy by fluorescence microscopy
- 15.20-15:30 **Oral:** Chu-Sing Yang, National Cheng Kung University, Taiwan - Signal enhancement using PVDF sensor arrays via blind source separation
- 15.30-15:40 **Oral:** Patryk Kot, Liverpool John Moores University, UK - Electromagnetic sensor for the detection of alpha-cypermethrin on walls
- 15.40-15:50 **Oral:** Xingjian Jing, Hong Kong Polytechnic University, Hong Kong - A bio-inspired sensor system in vibration measurement
- 15.50-16:00 **Oral:** Guy Ayissi Eyebe, Université du Québec à Trois-Rivières, Canada - CPWG-based humidity sensor with TEMPO oxidized cellulose nanofibers as sensitive dielectric
- 16.00-16:10 **Oral:** Vytautas Ostasevicius, Kaunas University of Technology, Lithuania - Innovative sensors and actuators for health support
- 16.10-16:20 **Oral:** Samir Haddad, Balamand University, Lebanon - Multi-source energy based routing protocol in sensor networks
- 16.20-16:30 **Oral:** Anton Klimenko, The University of Utah, USA - On the coffee ring effect in pseudo-evaporative and non-evaporative diffusive systems

## Session IV

Venue: B51-52, Conference Centre, Deck 8

## Biomaterials &amp; Biodevices

- Chair:** Andrew Ewing, University of Gothenburg, Sweden **Co-Chair:** Lu Wang, Donghua University, China
- 14.00-14:20 **IAAM Medal Lecture:** Henry Li, University of Manchester, UK - An implantable and controllable drug-release silk fibroin nanofibrous matrix for smart treatment of cancer
- 14.20-14:40 **Invited Lecture:** Lu Wang, Donghua University, China - Design and mechanical behaviors of sutureless prototype composite NiTi stent-grafts
- 14.40-15:00 **Invited Lecture:** Zari Tehrani, Swansea University, UK - Graphene sensors for protein detection
- 15.00-15:10 **IAAM Scientists Medal Lecture:** Fiona Weafer, National University of Ireland, Ireland - Therapy transport into ischemic heart tissue from an implantable reservoir device
- 15.10-15:20 **Oral:** Tiantian Wu, College of Biosystems Engineering and Food Science, Zhejiang University, China - Formation and characterization of nano/micro particles based on chitosan and alginate for biomaterial delivery
- 15.20-15:30 **Oral:** Bogdan Parakhonskiy, Ghent University, Belgium - Calcium carbonate based platforms for theranostic application
- 15.30-15:40 **Oral:** Fujun Wang, Donghua University, China - Novel structure of PLA fabric combined with PCL to form a composite structure vascular graft
- 15.40-15:50 **Oral:** Maria Isabel Pividori, Autonomous University of Barcelona, Spain - Rapid diagnostic test for celiac disease based on deamidated magnetic peptide as a novel biomarker
- 15.50-16:00 **Oral:** Lin Ye, Beijing Institute of Technology, China - The small diameter TEVG scaffold based on heparin modified PCL
- 16.00-16:10 **Oral:** Praveen Kumar S, Saveetha Engineering College, India - Selective adsorption of low density lipoprotein from blood using porous silicon
- 16.10-16:20 **Oral:** Jing Lin, Donghua University, China - The preparation and properties of an innovative stent-graft fabric with a local reinforced zone
- 16.20-16:30 **Oral:** Joel Espino, Cinvestav - Unidad Saltillo, Mexico - Sol-gel synthesis of mixed ferrites for biomedical applications

## Session V

Venue: B31-32, Conference Centre, Deck 8

## Energy &amp; Harvesting Materials

- Chair:** Zaiping Guo, University of Wollongong, Australia **Co-Chair:** Santanu Das, IIT BHU, India
- 14.00-14:20 **IAAM Scientists Medal Lecture:** Zhe Li, Swansea University, UK - Non-fullerene acceptors: A promising solution for more stable, efficient organic solar cells?
- 14.20-14:40 **Invited Lecture:** Jiazhao Wang, University of Wollongong, Australia - Free-standing S-PPy fiber@PPy film cathode for lithium-sulfur batteries
- 14.40-15:00 **Invited Lecture:** Jianxin Geng, Chinese Academy of Science, China - Graphene-based composites with controlled structures for high-performance energy storage materials
- 15.00-15:10 **IAAM Scientists Medal Lecture:** Haining Tian, Uppsala University, Sweden - Organic semiconducting polymer nano-dots as efficient photocatalysts for light driven proton reduction

- 15.10-15.20 **IAAM Medal Lecture: Karen Gambaryan, Yerevan State University, Armenia** - Narrow bandgap diode heterostructures and photoconductive cells with quantum dots for thermophotovoltaic and other mid-infrared applications
- 15.20-15.30 **IAAM Scientists Medal Lecture: I.N.G. Wardana, Brawijaya University, Indonesia** - Hybrid effect of the activated carbon and the CuO catalyst on vegetable oil steam reforming
- 15.30-15.40 **Oral: Isaac Sanchez, University of Texas, USA** - Energy saturation: An alternative mechanism for the glass transition
- 15.40-15.50 **Oral: Kazuki Wakita, Chiba Institute of Technology, Japan** - Photovoltaic  $\text{CuInS}_2$  films by PLD method
- 15.50-16.00 **Oral: Po Yen Kung, National Cheng Kung University, Taiwan** - Width absorption spectrum excitation plasmonic gold/silver nanoparticles on Fe/ZnO nanorods assisting the enhancement of generate hydrogen by water splitting photochemistry
- 16.00-16.10 **Oral: Ioannis Tsiaoussis, Aristotle University Thessaloniki, Greece** - Structural investigation of carbon morphology on Ni/ceerium-zirconium oxide catalysts used for the biogas dry reforming reaction
- 16.10-16.20 **Oral: Bahman Amini Horri, University of Surrey, UK** - Gelling synthesis of NiO/YSZ nanocomposite powder for solid oxide fuel cells
- 16.20-16.30 **Oral: Yi-Sheng Lai, National Cheng Kung University, Taiwan** - Water splitting solar cells with low diffusion resistance by methyl violet halochromic pigments

**Session VI**

**Venue: S22-23, Conference Centre, Deck 8**

**Computational Materials**

**Chair: Hong Seok Kang, Jeonju University, South Korea**

**Co-Chair: Luis Villamagua, Universidad Técnica Particular de Loja, Ecuador**

- 14.00-14.20 **IAAM Medal Lecture: Hong Seok Kang, Jeonju University, South Korea** - Electronic structures and energy applications of inorganic and organometallic layered materials
- 14.20-14.40 **IAAM Scientists Medal Lecture: Shawqi Al Dallal, Ahlia University, Bahrain** - Size dependent nonlinear absorption and refractive index coefficients of PbS quantum dots dispersed in toluene
- 14.40-15.00 **IAAM Scientists Medal Lecture: Nirupam Chakraborti, Indian Institute of Technology Kharagpur, India** - Data-driven evolutionary optimization in materials science
- 15.00-15.10 **IAAM Scientists Medal Lecture: Luis Villamagua, Universidad Técnica Particular de Loja, Ecuador** - Change of the electrical and magnetic properties of  $\text{SnO}_2$  when doped with increasing concentrations of Zn and Sb atoms
- 15.10-15.20 **Oral: Reyes Flores, National Autonomous University of Mexico, Mexico** - High-spin graphene nanoflakes for molecular-magnets
- 15.20-15.30 **Oral: Yun-I Ho, National Cheng Kung University, Taiwan** - Electronic transport properties in transition-metal oxide based heterostructures: First-principles calculations
- 15.30-15.40 **Oral: Zhang Min, Xi'an University of Technology, China** - Simulation on dendrite growth during solidification of Ti-45%Al alloy in the weld pool
- 15.40-15.50 **Oral: Zhi - Yi Wang, National Cheng Kung University, Taiwan** - Geometric and electronic properties of Sn-based organic-inorganic hybrid perovskite solar cell: A first-principles analysis
- 15.50-16.00 **Oral: Eivind Bering, Norwegian University of Science and Technology, Norway** - A simulation approach to creep in extended and nanometric polymeric fibres
- 16.00-16.10 **Oral: Lin Kuan Bo, National Cheng Kung University, Taiwan** - Interface effects on quantum transport through ultrathin dielectric films: A First-principle study
- 16.10-16.20 **Oral: Hyunsu Moon, Yonsei University, South Korea** - Prediction of deflection distribution from strains using artificial neural network and optimization of sensor placement using genetic algorithm
- 16.20-16.30 **Oral: Javaid Butt, Anglia Ruskin University, UK** - Finite element modelling and thermomechanical analysis of layered aluminium parts made by composite metal foil manufacturing
- 16.30-17.30 **IAAM Felicitation and Welcome Ceremony at Club Mar, Deck-7**
- 18.00-19.30 **Poster Session at Conference Center, Deck-8**
- 18.00-19.30 **Parallel Sessions 1-2-3-4, Venue: Conference Centre, Deck 8**

**Session I**

**Venue: Auditorium A, Conference Center, Deck-8**

**Medical Materials & Clinal Technology**

**Chair: Ya Ding, China Pharmaceutical University, China and Rohidas Arote, Seoul National University, South Korea**

- 18.00-18.20 **IAAM Scientists Medal Lecture: Rohidas Arote, Seoul National University, South Korea** - Receptor mediated endocytosis of multifunctional poly(lactitol)-based gene transporter with siOPA1 for liver cancer therapy
- 18.20-18.40 **Invited Lecture: Hui Lan, Chinese University of Hong Kong, Hong Kong** - Diverse role of smads in cardiac remodeling: Mechanisms and therapeutic implications
- 18.40-18.50 **Oral: Hui Lan, Chinese University of Hong Kong, Hong Kong** - Smad3 is essential for the development of type 2 diabetic kidney disease
- 18.50-19.00 **Oral: Yunfeng Zhou, Shenzhen University, China** - Cytochrome P450 4A14, a target for the treatment of renal fibrosis
- 19.00-19.10 **Oral: Liang Chu, Huazhong University of Science and Technology, China** - SNORD126 promotes hepatocellular carcinoma and colorectal cancer cell growth by activating the PI3K-AKT pathway through FGFR2
- 19.10-19.20 **Oral: Yogesh Shukla, Maharashtra University of Health Sciences, India** - Conundrum of right atrial mass
- 19.20-19.30 **Oral: Grace George, Walter Sisulu University, South Africa** - Functional nutrition to modulate oxidative stress in Type 2 diabetes and its complications in South Africa

**Session II**

**Venue: Auditorium B, Conference Center, Deck-8**

**Medical Materials & Clinal Technology**

**Chair: Henry Li, University of Manchester, UK**

**Co-Chair: Mohammadreza Kolahdouz, University of Tehran, Iran**

- 18.00-18.10 **Oral: Biao Lu, Santa Clara University, USA** - Engineering dual-tagged transmembrane reporters for exosome tracking
- 18.10-18.20 **Oral: Jaroslav Kristof, Shizuoka University, Japan** - Feasibility of transdermal delivery by microplasma discharge
- 18.20-18.30 **Oral: Jostein Grip, University of Tromso, Norway** - Development of a novel wound healing spray: soluble beta-1,3/1,6-glucan as an active ingredient in Carbopol matrix in a db/db wound model

- 18.30–18.40 **Oral: Petra Perner, Institute of Computer Vision and Applied Computer Sciences IBal, Germany** - Health monitoring by automated probe handling, microscopic imaging and image interpretation system – A system for airborne fungi identification
- 18.40–18.50 **Oral: Mohammad Agha, University of Toronto, Canada** - Congenital abnormalities in newborns of women with pre-gestational diabetes: A time-trend analysis, 1994-2009
- 18.50–19.00 **Oral: Suyan Shan, Wenzhou Medical University, China** - Functionalized graphene hybrids as highly targeted drug delivery carriers towards choroidal melanoma
- 19.00–19.10 **Oral: Yulia Svenskaya, Saratov State University, Russia** - Porous biodegradable submicron particles for efficient transdermal drug delivery
- 19.10–19.20 **Oral: Mohammadreza Kolahehdouz, University of Tehran, Iran** - Diabetes diagnosis through human respiratory using field emission of Al:ZnO nanorods
- 19.20–19.30 **Oral: Bhupen Kalita, Girijananda Chowdhury Institute of Pharmaceutical Science, India** - Essential oils loaded polymeric dermal patch for prolonged repellent effect against mosquitoes

## Session III

Venue: B51-52, Conference Center, Deck-8

## Thin Film &amp; Coating Materials Technology

- Chair: Shauna Robbenolt, Autonomous University of Barcelona, Spain**      **Co-Chair: Biplab Paul, Linköping University, Sweden**
- 18.00–18.20 **IAAM Medal Lecture: Stephan Armanov, Bulgaria** - Electroless deposited ternary alloys: Third element chemical state, localization, and influence on the properties
- 18.20–18.40 **IAAM Scientists Medal Lecture: Shauna Robbenolt, Autonomous University of Barcelona, Spain** - Structural and magnetic properties of Fe-based nanoporous thin films
- 18.40–19.00 **Invited Lecture: Biplab Paul, Linköping University, Sweden** - Fully inorganic flexible  $\text{Ca}_3\text{Co}_4\text{O}_9$  thin films for wearable thermoelectric applications
- 19.00–19.20 **Invited Lecture: Miki Hasegawa, Aoyama Gakuin University, Japan** - Molecular design strategies for the enhancement of the on-demand luminescence of rare earth compounds
- 19.20–19.30 **Oral: Iryna Smokovych, Otto-von-Guericke University Magdeburg, Germany** - Particle-filled polysilazane-type PDC coatings on titanium metal

## Session IV

Venue: B31-32, Conference Center, Deck-8

## Medical Materials &amp; Clinical Technology

- Chair: Anand Singh, Ministry of Earth Science, Govt. of India, India and Zeev Zalevsky, Bar Ilan University, Israel**      **Co-Chair: Silvia Dante, Istituto Italiano di Tecnologia, Italy**
- 18.00–18.20 **IAAM Scientists Medal Lecture: Zeev Zalevsky, Bar Ilan University, Israel** - Nano-particles based novel schemes for super-resolved imaging, medical diagnosis & treatment
- 18.20–18.40 **Invited Lecture: Abbas Abbas, Cairo University, Egypt** - Use of differentiated mesenchymal stem cells in treatment of experimental diabetes type I
- 18.40–18.50 **Oral: Muhammad Ansari, Bahauddin Zakariya University, Pakistan** - Preparation and characterization of ternary complexes of gliclazide with hydroxypropyl- $\beta$ -cyclodextrin and sodium taurocholate
- 18.50–19.00 **Oral: Seyed Masoud Arzaghi, Tehran University of Medical Sciences, Iran** - Type II diabetes and personality; a study to explore other psychosomatic aspects of diabetes
- 19.00–19.10 **Oral: Doha Berraouan, Laboratory of Physical Chemistry of Natural Resources and Environment, Morocco** - Effect of calcium chloride on rheological behavior of sodium alginate
- 19.10–19.20 **Oral: Barkat Khan, Gomal University, Pakistan** - Optimizing the role of polymer blend, preparation and evaluation of acyclovir controlled-release tablets by wet granulation technique
- 19.20–19.30 **Oral: Kamesh Shukla, Addl. Legal Advisor to the Hon'ble Governor UP, India** - Legal aspects of innovations & competition-intellectual property rights
- 19.30–19.40 **Oral: Sreyansh Tiwari, International English School Linköping, Sweden** - Diabetes: History & current status
- 19.40–19.50 **Oral: Tej Dedjo Ramon Engmark, Swedish Social Democratic Party, Sweden** - Social impact of technology
- 20.00–21.30 **Dinner at Viking Buffet, Deck 7**
- 21.30–22.30 **Entertainment at Club Mar, Deck 7**

## Day - 2: Wednesday, 23 August 2017, M/S Mariella, Viking Line, Sweden

- 07.30–08.45 **Breakfast at Viking Buffet, Deck 7**
- 09.00–10.30 **Plenary Session, Venue: Club Mar, Deck 7**
- Chair(s): Luis Manuel Liz Marzán, CIC biomaGUNE, San Sebastián, Spain and Liberato Manna, Istituto Italiano di Tecnologia, Italy**
- 09.00–09.40 **European Advanced Materials Award Lecture: Andrew Ewing, University of Gothenburg, Sweden** - The chemical structure of cell membranes and nanometer vesicles in cells
- 09.40–10.20 **Graphene Award Lecture: Robert Hurt, Brown University, USA** - Graphene-based breathable barriers for multifunctional fabrics
- 10.20–10.45 **IAAM Medal Lecture: H. Purushotham, Ministry of Science & Technology, Govt. of India, India** - Commercializing advanced materials technologies from Indian R&D institutions to industry: Challenges and case studies
- 10.45–11.00 **Coffee Break at Conference Center, Deck-8**
- 11.00–12.30 **Parallel Sessions 1-2-3-4-5, Venue: Club Mar, Deck 7 and Conference Centre, Deck 8**

## Session I

Venue: Club Mar, Deck 7

## Nanogenerators &amp; Piezotronics: Semiconductor and Ferroelectric Nanomaterials

- Chair: Yue Zhang, University of Science and Technology Beijing, China and Sang-woo Kim, Sungkyunkwan University, South Korea**      **Co-Chair: Renyun Zhang, Mid Sweden University, Sweden**
- 11.00–11.30 **IAAM Scientists Medal Lecture: Nelson Sepulveda, Michigan State University, USA** - The ferro electret nano generator
- 11.30–11.50 **Invited Lecture: Chi Zhang, Chinese Academy of Sciences, China** - Tribotronics a new field by coupling triboelectricity and semiconductor

- 11.50-12.00 **IAAM Medal Lecture: Weiguo Hu, Beijing Institute of Nanoenergy and Nanosystems, China** - Piezotronic and piezo-phototronic effects in III-Nitrides
- 12.00-12.10 **Oral: Xuedong Bai, Chinese Academy of Sciences, China** - Lateral piezopotential-gated field-effect transistor of ZnO nanowires
- 12.10-12.20 **Oral: Chunhua Du, Chinese Academy of Science, China** - Piezo-phototronic effect controlled visible light communication (PVLC) using InGaN/GaN light-emitting diodes
- 12.20-12.30 **Oral: Sung Soo Kwak, SungKyunkwan University, South Korea** - Large electric power generation from a single droplet on monolayer graphene on triboelectrified polytetrafluoroethylene

## Session II

Venue: Auditorium A, Conference Center, Deck-8

## Nanomaterials &amp; Nanotechnology

- Chair: Stoyko Fakirov, The University of Auckland, New Zealand** **Co-Chair: Eduardo Brocchi, Pontifical Catholic University of Rio de Janeiro, Brazil and Kalawati Saini, University of Delhi, India**
- 11.00-11.20 **IAAM Medal Lecture: Ya Ding, China** - Drug-conjugated gold nanoparticles and their hybrid liposomes for liver tumor treatment
- 11.20-11.40 **Invited Lecture: Hisatoshi Kobayashi, National Institute for Materials Science, Japan** - PGA/collagen composite nanofiber scaffold for chronic wound care
- 11.40-12.00 **Invited Lecture: Gil Rosenman, Tel Aviv University, Israel** - Visible peptide nanodots: Nanotechnology, physics and biomedical applications
- 12.00-12.20 **Invited Lecture: Valerio Voliani, Istituto Italiano di Tecnologia, Italy** - From biological to catalysis applications of biodegradable inorganic nano-architectures
- 12.20-12.30 **Oral: Tomaz Einfalt, University of Basel, Switzerland** - Catalytic nanocompartments as artificial cell organelles

## Session III

Venue: Auditorium B, Conference Center, Deck-8

## Global Graphene Forum: Growth, Synthesis and Characterizations

- Chair: Kyung-Suk Kim, Brown University, USA** **Co-Chair: Xinjian Chen, University of Utah, USA**
- 11.00-11.10 **Introduction of Symposium Organisers: Ashutosh Tiwari, Mikael Syväjärvi, J. Andreas Larsson and Camilla Coletti**
- 11.10-11.30 **Invited Lecture: Wei Li, The University of Texas at Austin, USA** - Roll-to-roll transfer and adhesion energy measurement of As-grown graphene
- 11.30-11.40 **IAAM Scientists Medal Lecture: Valentina Cantatore, Chalmers University of Technology, Sweden** - Boron-doped graphene for multifunctional coating
- 11.40-11.50 **Oral: Lilia Woods, University of South Florida, USA** - Interlayer interactions in the graphene family
- 11.50-12.00 **Oral: Ana Proykova, Sofia University, Bulgaria** - Magnetism of bilayer graphene with vacancies
- 12.00-12.10 **Oral: Maria Rosaria Acocella, University of Salerno, Italy** - Graphene functionalization as efficient tool to improve the thermomechanical stability and crystallization rate of biodegradable polyester nanocomposites
- 12.10-12.20 **Oral: Angela Gallardo-Lopez, University of Seville, Spain** - Enhancing processing, microstructure and properties of graphene/3YTZP ceramic composites
- 12.20-12.30 **Oral: Michal Baranowski, University of Szczecin, Poland** - Copper powder coated with graphene

## Session IV

Venue: B51-52, Conference Center, Deck-8

## Biosensor &amp; Bioelectronic Materials

- Chair: Xiaoyu Yang, Wuhan University of Technology, China and Gou-Jen Wang, National Chung-Hsing University, Taiwan** **Co-Chair: Andrea Barbetta, University of Rome "La Sapienza", Italy and Chaitanya Indira, CMR Institute of Technology, India**
- 11.00-11.20 **IAAM Medal Lecture: Gou-Jen Wang, National Chung-Hsing University, Taiwan** - A novel biosensor electrode with self-assembled gold nanoparticles on a micro hemisphere array
- 11.20-11.40 **Invited Lecture: Yaroslav Korpan, Institute of Molecular Biology and Genetics NAS, Ukraine** - Metabolomics on electrodes a new evolutionary step in sensing and sensitivity
- 11.40-11.50 **IAAM Scientists Medal Lecture: Chaitanya Indira, CMR Institute of Technology, India** - Amperometric catechol biosensor based on metal-oxide nanocrystal sensitized graphite electrodes
- 11.50-12.00 **Oral: Jin Ouyang, Beijing Normal University, China** - Application of novel nanomaterials in bioanalysis and biosensing
- 12.00-12.10 **Oral: Miyuki Tabata, Tokyo Medical and Dental University, Japan** - Label-free nucleic acid amplification detection using micro pH devices
- 12.10-12.20 **Oral: Zeynep Altintas, Cranfield University, Germany** - Electrochemical sensing of computationally simulated disease biomarkers using epitope imprinting
- 12.20-12.30 **Oral: Saad Ramadhan, University of Exeter, UK** - Fast and highly sensitive ionic polymer gated WS<sub>2</sub>-graphene photodetectors

## Session V

Venue: B31-32, Conference Center, Deck-8

## Energy &amp; Harvesting Materials

- Chair: Isaac Sanchez, University of Texas, USA** **Co-Chair: Zhe Li, Swansea University, UK**
- 11.00-11.20 **IAAM Medal Lecture: Zaiping Guo, University of Wollongong, Australia** - Hybrid nanostructures for lithium and sodium storage
- 11.20-11.40 **IAAM Scientists Medal Lecture: Santanu Das, IIT BHU, India** - Graphene nanocomposites for energy harvesting and storage applications
- 11.40-11.50 **Oral: Rui Liu, Harbin Engineering University, China** - Enhanced conversion efficiency of dye-sensitized solar cells using Sm<sub>2</sub>O<sub>3</sub>-modified TiO<sub>2</sub> nanotubes
- 11.50-12.00 **Oral: Mickael Pruvost, ESPCI Paris, France** - Materials with variable permittivity for vibrational energy harvesting
- 12.00-12.10 **Oral: Mario Vebber, Universidade de Caxias do Sul, Brazil** - Hydrogen production by photocatalytic water-splitting using PAH/PAA/TiO<sub>2</sub>/chlorophyllin self-assembled thin films
- 12.10-12.20 **Oral: Yingfei Yao, Soochow University, China** - A self-powered smart wireless sensing network for identifying vibration events based on hybrid energy harvesters

SCIENTIFIC PROGRAM	12.20-12.30	<b>Oral: Taehun Kim, Chung-Ang University, South Korea</b> - Energy amplifying gate via marriage of graphene and conducting polymer for enhancing triboelectric efficiency		
	<b>Session VI</b>			
	<b>Venue: S22-23, Conference Center, Deck-8</b>			
	<b>World Technology Forum</b>			
	<b>Chair: Giuseppe Barbieri, ITM-CNR, Italy</b>	<b>Co-Chair: Chu-Sing Yang, National Cheng Kung University, Taiwan</b>		
Day - 2: 23 August 2017	11.00-11.20	<b>Invited Lecture: Xiong Pu, Chinese Academy of Science, China</b> - Textile-based energy harvesting and energy storage		
	11.20-11.30	<b>Oral: Mark Opitz, German Aerospace Center, Germany</b> - Are low-cost foam materials suitable for RTM large-scale production? - A method for material characterization under real boundary process conditions		
	11.30-11.40	<b>Oral: Mahamadou Seydou, Paris Diderot University, France</b> - Energetics and electronic properties of graphene decorated by functional conjugated molecules		
	11.40-11.50	<b>Oral: Faai Zhang, Guilin University of Technology, China</b> - Confinement effect of mesoporous silicas on bulk ARGET ATRP of styrene		
	11.50-12.00	<b>Oral: Anand Balaji, The University of Nottingham, Malaysia</b> - Investigation of ethylene vinyl acetate (EVA)/ ethylene propylene diene monomer (EPDM)/polypropylene (PP) ternary polymer mixture using simplex centroid design		
	12.00-12.10	<b>Oral: Farong Huang, East China University of Science &amp; Technology, China</b> - The synthesis and characterization of a heat-resistant Si-containing arylether arylacetylene resin		
	12.10-12.20	<b>Oral: Carlos Arrambide Cruz, Institute of Separative Chemistry of Marcoule, France</b> - Superchelating resins for extraction and recycling of elements of interest		
	12.20-12.30	<b>Oral: Kalun Dong, Wenzhou Medical University, China</b> - Magnetic graphene hybrids promote neurite outgrowth via magnetic stimulation		
	12.00-13.30	<b>Lunch at Viking Buffet, Deck 7</b>		
	13.30-15.30	<b>Sightseeing in Helsinki</b>		
		Parliament Building, Museum of Modern Art		
		The Stunningly designed Rock Church		
		Olympic Stadium from the 1952 games		
		Helsinki Lutheran and Uspenski Orthodox Cathedrals		
	16.00-17.30	<b>Parallel Sessions 1-2-3-4-5, Venue: Club Mar, Deck 7 and Conference Centre, Deck 8</b>		
Day - 2: 23 August 2017	<b>Session I</b>			
	<b>Venue: Club Mar, Deck 7</b>			
	<b>Nanogenerators &amp; Piezotronics: Harvesting Multiscale Energies</b>			
		<b>Chair: Weiguo Hu, Beijing Institute of Nanoenergy and Nanosystems, China</b>	<b>Co-Chair: Youfan Hu, Peking University, China</b>	
	16.00-16.30	<b>IAAM Scientists Medal Lecture: Chunwen Sun, Beijing Institute of Nanoenergy and Nanosystems, China</b> - Efficient storing energy harvested by triboelectric nanogenerators using a safe and durable all-solid-state sodium-ion battery		
	16.30-16.50	<b>Invited Lecture: Junyi Zhai, Beijing Institute of Nanoenergy and Nanosystems, China</b> - Piezophotonics devices and applications		
	16.50-17.00	<b>Oral: Jihye Kim, Sungkyunkwan University, South Korea</b> - Enhanced output performance of P(VDF-TrFE) based energy harvesters using high dipole moment solvent		
	17.00-17.10	<b>Oral: Jihoon Chung, Chung-Ang University, South Korea</b> - Harvesting high-speed rotational energy through portable triboelectric nanogenerator		
	17.10-17.20	<b>Oral: Banseok Kim, Chung-Ang University, South Korea</b> - Roll-type sheet driven triboelectric nanogenerator		
	17.20-17.30	<b>Oral: Seong Min Kim, SungKyunKwan University, South Korea</b> - Analytical study on piezoelectric effects on exciton generation		
	Day - 2: 23 August 2017	<b>Session II</b>		
		<b>Venue: Auditorium A, Conference Center, Deck-8</b>		
		<b>Nanomaterials &amp; Nanotechnology</b>		
			<b>Chair: Nils Almqvist, Lulea University of Technology, Sweden</b>	<b>Co-Chair: Min Wu, Chinese Academy of Sciences, China and Tseung-Yuen Tseung, National Chiao Tung University, Taiwan</b>
16.00-16.20		<b>IAAM Medal Lecture: Leon Chua, University of California, USA</b> - Ten things you didn't know about memristors		
16.20-16.40		<b>IAAM Medal Lecture: Stoyko Fakirov, IAAM Medal Lecture, New Zealand</b> - The "converting instead of adding concept" for preparation of polymer nanocomposites		
16.40-17.00		<b>IAAM Scientists Medal Lecture: Maria Elena Fragala, University of Catania, Italy</b> - ZnO based nanostructured mats for application in AOP water treatments		
17.00-17.20		<b>Invited Lecture: Kalawati Saini, University of Delhi, India</b> - Green synthesis of ZnO nanoparticles by using azadirachta indica and their photocatalytic, anti-bacterial, anti-fungal and anti-diabetic activity		
17.20-17.30		<b>Oral: Martina Garni, University of Basel, Switzerland</b> - Visualization of enzymatic reactions inside the cavities of synthetic giant unilamellar vesicles (GUVs)		
Day - 2: 23 August 2017		<b>Session III</b>		
		<b>Venue: Auditorium B, Conference Center, Deck-8</b>		
		<b>Growth of Carbon Nanomaterials</b>		
			<b>Chair: J. Andreas Larsson, Lulea University of Technology, Sweden</b>	<b>Co-Chair: Ana Proykova, Sofia University, Bulgaria</b>
		16.00-16.20	<b>Invited Talk: Alister Page, The University of Newcastle, Australia</b> - Catalysts, etchants and magnetic fields: How can carbon nanostructure growth be controlled?	
	16.20-16.40	<b>Invited Talk: Mihkel Koel, Tallinn University of Technology, Estonia</b> - Carbon aerogels - cheap smart materials		
	16.40-16.50	<b>IAAM Scientists Medal Lecture: Aristides Bakandritsos, Palacky University in Olomouc, Czech Republic</b> - From fluorographene to cyanographene and graphene-acid		
	16.50-17.00	<b>Oral: Daniel Hedman, Lulea University of Technology, Sweden</b> - Linking stability of single-walled carbon nanotubes with growth products		

- 17.00-17.10 **Oral: Toma Susi, University of Vienna, Austria** - Single-atom spectroscopy of phosphorus dopants implanted into graphene
- 17.10-17.20 **Oral: Dimitrios Chronopoulos, Palacky University in Olomouc, Czech Republic** - High-yield alkylation and arylation of graphene via grignard reaction with fluorographene
- 17.20-17.30 **Oral: Christian Wenger, IHP GmbH - Leibniz Institute for Innovative Microelectronics, Germany** - Towards graphene-based vertical transistors for microelectronic applications

## Session IV

Venue: B51-52, Conference Center, Deck-8

## Microfluidics &amp; Nanofluidics

**Chair: Dongmei Chen, The University of Texas at Austin, USA and Aman Russom, Royal Institute of Technology, Sweden**      **Co-Chair: Masashi Mizukami, Tohoku University, Japan and Virginia Pensabene, University of Leeds, UK**

- 16.00-16.20 **IAAM Medal Lecture: Andrea Barbetta, University of Rome "La Sapienza", Italy** - Highly tailorable and monodisperse porous beads via microfluidics
- 16.20-16.40 **Invited Lecture: Aleksandr Denisov, Harbin Institute of Technology, China** - Millimeter wave discriminator for the detection stealth objects
- 16.40-16.50 **IAAM Scientists Medal Lecture: Virginia Pensabene, University of Leeds, UK** - Innovative microfluidic approaches in reproductive biology
- 16.50-17.00 **Oral: Masashi Mizukami, Tohoku University, Japan** - Characterization of nano-confined liquids using resonance shear measurement
- 17.00-17.10 **Oral: Christina Danny, Indian Institute of Technology Madras, India** - Design and fabrication of PMMA based microfluidic device for plasmonic U-bent plastic optical fiber sensors
- 17.10-17.20 **Oral: Vera Faustino, Universidade do Minho, Portugal** - Preliminary evaluation of a microfluidic device for blood separation and deformation assessment
- 17.20-17.30 **Oral: Majid Ndoye, Université du Québec à Trois-Rivières, Canada** - Substrate integrated cavity circular resonator filled with nano-fibrillated cellulose for humidity detection

## Session V

Venue: B31-32, Conference Center, Deck-8

## Composite &amp; Ceramic Materials

**Chair: Haining Tian, Uppsala University, Sweden and Rajiv Gupta, Birla Institute of Technology and Science, India**      **Co-Chair: Pragya Shandilya, MNNIT Allahabad, India**

- 16.00-16.10 **Oral: Sandra Gelbrich, TU Chemnitz, Germany** - Function-integrative textile reinforced concrete shells
- 16.10-16.20 **Oral: Huazhang Zhai, Beijing Institute of Technology, China** - High-temperature microwave dielectric properties of boron nitride ceramics without additives
- 16.20-16.30 **Oral: Guven Turgut, Erzurum Technical University, Turkey** - The deposition of NiO thin films via sol-gel spin coating; molarity effect
- 16.30-16.40 **Oral: Rajiv Gupta, Birla Institute of Technology and Science, India** - Evaluation of use of bottom ash in cement masonry and concrete regarding their mechanical properties
- 16.40-16.50 **Oral: Jinhua Jiang, Donghua University, China** - Effect of fiber bending structure on the permeability of non-crimp fabric in LCM
- 16.50-17.00 **Oral: Pragya Shandilya, MNNIT Allahabad, India** - Experimental study on performance characteristics of Ni-rich NiTi shape memory alloy in wire electric discharge machining
- 17.00-17.10 **Oral: Liangyu Chen, Jiangsu University of Science and Technology, China** - Calculation of the planar registry between zirconium and its oxide under the effect of stress by using modified Turnbull-Vonnegut equation
- 17.10-17.20 **Oral: Ze-Xin Wang, Jiangsu University of Science and Technology, China** - Degradation behavior of micro-arc oxidized ZK60 magnesium alloy in simulated blood fluid
- 17.20-17.30 **Oral: Andris Berzins, Latvia University of Agriculture, Latvia** - Softwood surface compatibility with inorganic geopolymer

## Session IV

Venue: S22-23, Conference Center, Deck-8

## World Technology Forum

- Chair: Faai Zhang, Guilin University of Technology, China**      **Co-Chair: Mahamadou Seydou, Paris Diderot University, France**
- 16.00-16.20 **Invited Lecture: Giuseppe Barbieri, ITM-CNR, Italy** - CO<sub>2</sub> separation with thermally rearranged polymer membranes: Separation properties, aging and restoring
- 16.20-16.40 **Invited Lecture: Raju Gupta, Indian Institute of Technology Kanpur, India** - Enhanced photocatalytic activity of sensitized/doped electrospun titanium dioxide nanofibers for degradation of organic compounds
- 16.40-16.50 **IAAM Scientists Medal Lecture: Mohd Abdullah, Malaysia** - Bio/nanotechnology and the integrated biorefinery based on microalgal cultivation and palm oil milling for sustainable production of biofuels and bioproducts
- 16.50-17.00 **Oral: Insang Yang, Ewha Womans University, South Korea** - Selective probe of spin excitations in the Mn<sup>3+</sup> layers of hexagonal RMnO<sub>3</sub>
- 17.00-17.10 **Oral: Lu Yan, Wenzhou Medical University, China** - Polypyrrole/graphene nanofibers for cell stimulation
- 17.10-17.20 **Oral: Kate Kotlhaio, Vaal University of Technology, South Africa** - Synthesis, characterization of Ag doped TiO<sub>2</sub> nanocomposites for photodegradation of chlorophenols
- 17.20-17.30 **Oral: Yuan Li, Zhejiang University, China** - Preparation and characterization of citrus essential oil loaded in chitosan microcapsules by using different emulsifiers
- 17.30-18.30 **IAAM Awards and Farewell Drink at Club Mar, Deck 7**
- 20.00-21.30 **Dinner at Viking Buffet, Deck 7**
- 21.30-22.30 **Entertainment at Club Mar, Deck 7**

Day - 3: Thursday, 24 August 2017, M/S Mariella, Viking Line, Sweden

- 07.30-08.45 **Breakfast at Viking Buffet, Deck 7**
- 08.00-08.30 **Check Out from the Cabins and Store Luggage in the Music Meister, Deck 7**
- 09.00-10.30 **Parallel Sessions 1-2-3-4-5, Venue: Club Mar, Deck 7 and Conference Centre, Deck 8**

## Session I

Venue: Club Mar, Deck 7

## Nanogenerators &amp; Piezotronics: Integrated nanosystems

- Chair: Xudong Wang, University of Wisconsin-Madison, USA**      **Co-Chair: Christian Falconi, University of Rome Tor Vergata, Italy**
- 09.00-09.30 **IAAM Scientists Medal Lecture: Renyun Zhang, Mid Sweden University, Sweden** - Nanogenerators based on ZnO nanosheet networks



- 09.30-09.50 **Invited Lecture: Chenguo Hu, Chongqing University, China** - Self-powered triboelectric micro liquid/gas flow sensor for microfluidics
- 09.50-10.10 **Invited Lecture: Kaushik Parida, Nanyang Technological University, Singapore** - Self-polarized PVDF-TrFE films for ultra large range self-powered pressure sensor
- 10.10-10.20 **Oral: Giuseppe Melilli, CEA, France** - Promoting the piezoelectric response in poly(vinylidene fluoride) by radiation sources
- 10.20-10.30 **Oral: Hyungseok Yong, Chung-Ang University, South Korea** - Omnidirectional wind-rolling triboelectric nanogenerator

### Session II

Venue: Auditorium A, Conference Center, Deck-8

#### Environmental & Green Materials

- Chair: Federico Cesano, University of Turin, Italy** **Co-Chair: Omar Chaalal, Abu Dhabi University, UAE**
- 09.00-09.20 **IAAM Medal Lecture: Bin Fei, Hong Kong Polytechnic University, Hong Kong** - Enhanced photocatalytic efficiency of hybrid perovskite in organic solvents
- 09.20-09.40 **IAAM Medal Lecture: Urszula Narkiewicz, West Pomeranian University of Technology, Poland** - Adsorption of carbon dioxide on solid sorbents
- 09.40-10.00 **IAAM Scientists Medal Lecture: Chad Ulven, North Dakota State University, USA** - Photodegradable and recyclable bio-based composites
- 10.00-10.10 **Oral: Kao-Shuo Chang, National Cheng Kung University, Taiwan** - Photocatalytic and photoelectrochemical performance of Ta<sub>3</sub>N<sub>5</sub> microcolumn films fabricated using facile reactive sputtering
- 10.10-10.20 **Oral: Alejandro Zuleta Gil, Universidad Pontificia Bolivariana, Colombia** - Mechanical, microstructural characterization and redesign of a BMX bicycle frame
- 10.20-10.30 **Oral: Djoko Gabriel, Universitas Indonesia, Indonesia** - Design for material value conservation of plastic packaging with integrated stakeholders role support using interpretive structural modelling

### Session III

Venue: Auditorium B, Conference Center, Deck-8

#### Graphene Interfacing Biological Systems Symposium

- Chair: Camilla Coletti, Istituto Italiano di Tecnologia, Italy** **Co-Chair: Valentina Cantatore, Chalmers University of Technology, Sweden**
- 09.00-09.20 **IAAM Medal Lecture: Silvia Dante, Istituto Italiano di Tecnologia, Italy** - Cell properties on patterned SLG
- 09.20-09.40 **Invited Lecture: David Estrada, Boise State University, USA** - Applications of atomically thin materials from biomolecules to engineered tissue
- 09.40-10.00 **Invited Lecture: Ilia Solov'yov, University of Southern Denmark, Denmark** - Computational microscopy of biological systems through VIKING
- 10.00-10.10 **Oral: Valerio Voliani, Istituto Italiano di Tecnologia, Italy** - Early detection of neoplasms by graphene-based sensors
- 10.10-10.20 **Oral: Domenica Convertino, Istituto Italiano di Tecnologia, Italy** - Peripheral neuron survival and outgrowth on graphene
- 10.20-10.30 **Oral: Xinjian Chen, University of Utah, USA** - Association of antitumor antibodies with graphene oxide substantially enhances the antibodies' antitumor activities

### Session IV

Venue: B51-52, Conference Center, Deck-8

#### Science & Technology of Polymers

- Chair: Jiping Wang, Zhejiang Sci-Tech University, China** **Co-Chair: Bianca Pistillo, Luxembourg Institute of Science and Technology, Luxembourg**
- 09.00-09.20 **IAAM Medal Lecture: Jiping Wang, Zhejiang Sci-Tech University, China** - Smart textiles with soft thermal responsive polymers
- 09.20-09.40 **IAAM Scientists Medal Lecture: Bianca Pistillo, Luxembourg Institute of Science and Technology, Luxembourg** - Prap-CVD: UP-Scalable process for the deposition of pedot thin films
- 09.40-10.00 **Invited Lecture: Chenxu Wu, Xiamen University, China** - Static and dynamic properties of polymer brush with topological structures
- 10.00-10.10 **Oral: Tatsuya Koumoto, Saga, Japan** - Production method of high compressive strength geopolymers by taking into account the chemical components of fly ash or ground slag
- 10.10-10.20 **Oral: Kunli Xiong, Chalmers University of Technology, Sweden** - Plasmonic metasurfaces with conjugated polymers for electronic paper in color
- 10.20-10.30 **Oral: Giuseppe Montella, Naval Research Laboratory, USA** - Exfoliation of clay particles in polymer nanocomposites through melt extrusion

### Session V

Venue: B31-32, Conference Center, Deck-8

#### Constructional, Structural & Engineering Materials

- Chair: Tatsuya Koumoto, Saga, Japan** **Co-Chair: Shubhjit Roy Chowdhury, Indian Institute of Technology Mandi, India**
- 09.00-09.10 **IAAM Scientists Medal Lecture: Elena Brandaleze, National Technological University, Argentina** - Correlation between structural aspects and mechanical properties of an Interstitial Free steel for automotive application
- 09.10-09.20 **Oral: Josephin Enz, Helmholtz-Zentrum Geesthacht, Germany** - Characterisation of laser additive manufactured magnesium components
- 09.20-09.30 **Oral: Ioan Iorga, IFIN-HH, Romania** - VVR-S research reactor block concrete analysis in preparation for the decommissioning
- 09.30-09.40 **Oral: Zhang Min, Xi'an University of Technology, China** - Effect of heat treatment process on microstructure and properties of explosive welding clad plate of TA1/Q345
- 09.40-09.50 **Oral: Xixi Dong, Brunel University London, UK** - High performance light Al-Si-Mg cast alloys: Microstructure and mechanical properties
- 09.50-10.00 **Oral: Morad Benjabrou, Mohammed V University, Morocco** - Evaluation of the tsunamic vulnerability of an existing structure in metallic framework by combining of the time history method and capacity curves analysis with interpretation of the results according to Risk UE
- 10.00-10.10 **Oral: Adnan Zaid, University of Applied Sciences, Algeria** - Effect of hafnium addition to zinc aluminum alloy 5, ZA5, on its resistance to wear: A three-dimensional approach
- 10.10-10.20 **Oral: Sergey Shkarovskiy, CERN, Russia** - The straw tubes for NA62 tracker: Production, assembly and operation in vacuum
- 10.20-10.30 **Oral: Eva Kormanikova, Technical University of Kosice, Slovakia** - Delamination modeling of composite laminate plate made of sublaminate

### Session VI

Venue: S22-23, Conference Center, Deck-8

#### World Technology Forum

SCIENTIFIC PROGRAM	
Day - 3: 24 August 2017	Chair: Wei Li, The University of Texas at Austin, USA      Co-Chair: Mohd Abdullah, Universiti Malaysia Terengganu, Malaysia
	09.00-09.10 Oral: Josef Habdank, Graphenalloj, Denmark - Graphene quantum tunnelling composites (GQTC) produced by new electro- and mechanochemical method
	09.10-09.20 Oral: Chuantong Cheng, Chinese Academy of Science, China - A multi-mode frequency multiplier based on dual-gated GFETs
	09.20-09.30 Oral: Henrik Funke, TU Chemnitz, Germany - Carbon-reinforced concrete for high performance lightweight noise barriers
	09.30-09.40 Oral: Jian Wang, Chinese Academy of Science, China - Support effect of ruthenium catalysts for the catalytic oxidation of VOCs
	09.40-09.50 Oral: Evgeniy Zaitcev, Almaty University of Power Engineering & Telecommunications, Kazakhstan - The research of openflow protocol for reliable management of integrated networks of complex of earth-moving and construction machines
	09.50-10.00 Oral: Mohammadreza Kolahdouz, University of Tehran, Iran - A multi-switch fabrication based on dielectrophoresis using Ni nanoparticles
	10.00-10.10 Oral: Yuefei Zhang, Beijing University of Technology, China - The electrochemo-mechanical coupling behavior of typical metal oxide anodes studied by in situ transmission electron microscopy
	10.10-10.20 Oral: Muhammad Asif, COMSATS Institute of Information Technology, Pakistan - ZnO nanostructure based electrochemical intracellular glucose biosensors
	10.20-10.30 Oral: Guven Turgut, Erzurum Technical University, Turkey - Ta-contribution influence on properties of tin oxide
	10.30-10.45 Coffee Break at Conference Center, Deck-8
	10.45-12.30 Plenary Session, Venue: Club Mar, Deck 7
	Chair(s): Nils Mårtensson, Uppsala University, Sweden and Zhong Lin Wang, Georgia Institute of Technology, USA
	10.45-11.30 Plenary Lecture: Zhong Lin Wang, Georgia Institute of Technology, USA - From Maxwell's displacement current to nanogenerator driven self-powered systems and blue energy
	11.30-11.45 Keynote Lecture: Ashutosh Tiwari, Institute of Advanced Materials, Sweden - Dynamic 2D bioelectronic systems and devices
	11.45-12.30 Plenary Lecture: Nils Mårtensson, Uppsala University, Sweden - The Nobel Prize
	12.00-13.30 Lunch at Viking Buffet, Deck 7
13.30-15.00 Parallel Sessions 1-2-3-4-5, Venue: Club Mar, Deck 7 and Conference Centre, Deck 8	
Day - 3: 24 August 2017	<b>Session I</b>
	<b>Venue: Club Mar, Deck 7</b>
	<b>Nanogenerators &amp; Piezotronics: Advanced Biosystems</b>
	Chair: Chunwen Sun, Beijing Institute of Nanoenergy and Nanosystems, China      Co-Chair: Christian Falconi, University of Rome Tor Vergata, Italy
	13.30-14.00 IAAM Scientists Medal Lecture: Youfan Hu, Peking University, China - Machine-washable textile triboelectric nanogenerator for human respiratory monitoring
	14.00-14.20 Invited Lecture: Xudong Wang, University of Wisconsin-Madison, USA - Materials engineering for the development of flexible implantable nanogenerators
	14.20-14.40 Invited Lecture: Zhou Li, Beijing Institute of Nanoenergy and Nanosystem, China - Towards the self-powered medical devices
	14.40-14.50 Oral: Hongjoon Yoon, SungKyunKwan University, South Korea - Triboelectric nanogenerators for powering implanted devices
	14.50-15.00 Oral: Qijun Sun, Beijing Institute of Nanoenergy and Nanosystem, China - Multifunctional microsensational system based on graphene electronics
	Day - 3: 24 August 2017
<b>Venue: Auditorium A, Conference Center, Deck-8</b>	
<b>Environmental &amp; Green Materials</b>	
Chair: Chad Ulven, North Dakota State University, USA      Co-Chair: Bin Fei, Hong Kong Polytechnic University, Hong Kong	
13.30-13.40 IAAM Scientists Medal Lecture: Jasim Salman, Al-Nisour University College, Iraq - Fixed-bed columns for removal of pollutants and excess of free chlorine from drinking water	
13.40-13.50 IAAM Scientists Medal Lecture: Omar Chaalal, Abu Dhabi University, UAE - Green water flooding of fractured and heterogeneous oil reservoirs at high salinity and high temperature	
13.50-14.00 Oral: Valentin Thoury, University of Montpellier, France - Estimation of water vapour diffusivity in micro-size cellulose particles	
14.00-14.10 Oral: Xuezhong He, Norwegian University of Science and Technology, Norway - Molecule-tailored carbon membranes for CO <sub>2</sub> /CH <sub>4</sub> separation	
14.10-14.20 Oral: Alejandro Zuleta Gil, Universidad Pontificia Bolivariana, Colombia - Coating development during electroless plating and formation of Ni-P-nanoceramic coatings on magnesium	
14.20-14.30 Oral: Natalia Lopez-Barbosa, Universidad de los Andes, Colombia - Polymeric number average molecular weight in submicron films as a tool for the manipulation of water phenomena in translucent coatings	
14.30-14.40 Oral: Elhadj Benachour, University of Bechar, Algeria - New optimization method for advanced materials design of walls in buildings	
14.40-15.00 Invited Lecture: Lianjun Wang, Donghua University, China - Fabrication of silica glass from mesoporous powder by SPS	
Day - 3: 24 August 2017	
	<b>Venue: Auditorium B, Conference Center, Deck-8</b>
	<b>Global Graphene Forum: Graphene Applications</b>
	Chair: Lilia Woods, University of South Florida, USA and Yaping Zhao, Jiao Tong University, China
	13.30-13.50 IAAM Medal Lecture: Yaping Zhao, Jiao Tong University, China - Graphene/silver nanowire/graphene sandwich-structured film with flexible and conductive
	13.50-14.10 IAAM Medal Lecture: Kyung-Suk Kim, Brown University, USA - Flexo-electric crinkles of multilayer graphene
	14.10-14.20 IAAM Scientists Medal Lecture: Agnieszka Iwan, Military Institute of Engineer Technology, Poland - Graphene oxide as an effective additive material for organic solar cells
	14.20-14.30 IAAM Scientists Medal Lecture: Adam Januszko, Military Institute of Engineer Technology, Poland - A graphene based flexible, thermo-electrochromic sensitive sensor for military and civil monitoring
AM	14.30-14.40 Oral: Xianhui Wang, Xi'an University of Technology, China - Microstructure and properties of silver matrix composites reinforced with few-layer graphene

- 14.40-14.50 **Oral: Xurui Mao, Chinese Academy of Sciences, China** - Concept of graphene FET monolithic integrated with silicon-based photoelectronics
- 14.50-15.00 **Oral: Toma Susi, University of Vienna, Austria** - Isotope analysis in the transmission electron microscope

## Session IV

Venue: B51-52, Conference Center, Deck-8

## Optical, Electronic &amp; Magnetic Materials

- Chair: Masayuki Nogami, Toyota Physical and Chemical Research Institute, Japan**      **Co-Chair: Karen Gambaryan, Yerevan State University, Armenia**
- 13.30-13.50 **IAAM Medal Lecture: Eduardo Pena Cabrera, University of Guanajuato, Mexico** - Applications of the orthogonal reactivity and multicoponent reactions in the synthesis of complex BODIPY derivatives
- 13.50-14.10 **Invited Lecture: Jwo Jou, National Tsing Hua University, Taiwan** - Blue hazard free, candlelight organic light-emitting diode
- 14.10-14.20 **Oral: Dong Shen, East China University of Science and Technology, China** - Wide Temperature Range Blue Phase Induced by Bent-core Molecules
- 14.20-14.30 **Oral: Masayuki Nogami, Toyota Physical and Chemical Research Institute, Japan** - Glasses for reducing Eu<sup>3+</sup> ions by reaction with H<sub>2</sub> gas and their fluorescence properties
- 14.30-14.40 **Oral: W Chang, National Chung Cheng University, Taiwan** - Improvement of intrinsic coercivity of hot deformed NdFeB magnets by doping Tb<sub>80</sub>Ga<sub>20</sub> alloy
- 14.40-14.50 **Oral: Budhy Kurniawan, University of Indonesia, Indonesia** - The Structural, morphological and Magnetic Properties of La<sub>0.8</sub>Ca<sub>0.1</sub>Ag<sub>0.1</sub>MnO<sub>3</sub> Synthesized by Sol-Gel Method
- 14.50-15.00 **Oral: Andras Sattics, MTA Research Centre for Energy, Hungary** - Development of dextran interface layer for label-free biosensing

## Session V

Venue: B31-32, Conference Center, Deck-8

## Advanced Materials Innovations

- Chair: Mikael Syväjärvi, Linköping University, Sweden**      **Co-Chair: Jianxin Geng, Chinese Academy of Science, China**
- 13.15-13.30 **Mikael Syväjärvi, Linköping University, Sweden** - Introduction of Advanced Materials Innovations in the Baltic Sea Region
- 13.30-13.50 **IAAM Medal Lecture: Paddy French, TU Delft, Netherlands** - Coatings for sensing and protection in silicon sensors
- 13.50-14.10 **Invited Lecture: Federico Cesano, University of Turin, Italy** - Advanced materials for innovative wastewater remediation and sustainable printed electronics: A few case studies
- 14.10-14.30 **Invited Lecture: Shinji Takeoka, Waseda University, Japan** - Luminescent nanosheets for radiometric temperature mapping
- 14.30-14.50 **Invited Lecture: Vladimir Levchenko, Lomonosov Moscow State University, Russia** - New generation of nanostructured carbon materials for tribological applications
- 14.50-15.00 **Oral: Boris Minaev, B. Khmel'nitsky National University in Cherkasy, Ukraine** - Tetraoxa[8]circulenes and hetero[8]circulenes expedient synthesis for OLED: Excited state engineering of these conjugated organic materials by the oxygen and chain-group substitution

## Session VI

Venue: S22-23, Conference Center, Deck-8

## World Technology Forum

- Chair: Urszula Narkiewicz, West Pomeranian University of Technology, Poland**      **Co-Chair: Raju Gupta, Indian Institute of Technology Kanpur, India**
- 13.30-13.40 **Oral: Sheng Lu, Jiangsu University of Science and Technology, China** - Microstructural evolution and mechanical properties of friction stir welded magnesium alloy aided with nanofluid heat pipe
- 13.40-13.50 **Oral: Vivek Pachauri, University of Applied Sciences Kaiserslautern, Germany** - System integration of graphene based materials for real biosensor applications
- 13.50-14.00 **Oral: Jiyong Hu, Donghua University, China** - Effect of electrode material on piezoelectric output of PVDF sensor with electrospinning
- 14.00-14.10 **Oral: Mohammadreza Kolahdouz, University of Tehran, Iran** - Simple and cost-effective lab on a phone device for measuring the mercury concentration in water
- 14.10-14.30 **Oral: Guven Turgut, Erzurum Technical University, Turkey** - The effect of Y-contribution on properties of ZnO; a heterodiode application & The first synthesis of Sc-loaded CdO with sol-gel spin coating
- 14.30-14.40 **Oral: Abdulmalik Aljainidi, King Abdulaziz University, Saudi Arabia** - Spider web shape energy absorber
- 14.40-14.50 **Oral: Fariba Tadayon, Islamic Azad University, Iran** - Synthesis and optimization of magnetic nanoparticles drug delivery by response surface
- 14.50-15.00 **Oral: Nasrullah Shah, Abdul Wali Khan University Mardan, Pakistan** - Fabrication of biocompatible nanocomposite consisted of zinc oxide nanoparticles based poly(acrylonitrile-co-acrylic acid)
- 15.15-15.30 **Closing Ceremony at Club Mar, Deck-7**

## 16.00-18.00 Sightseeing in Stockholm

Stockholm City Hall, The Royal Palace (Östermalm), Gamla Stan (Old Town), Långholmen and The Royal Djurgården, Stockholm's islands and waters, Fjällgatan

Stockholm is world famous for being stunningly picturesque and sits on 14 islands. It is surrounded by water and presents parkland, forest and beautiful views. During this tour you will get to know Stockholm and history of the city.

17.30 Commencement of tour at central train station, Stockholm

## Poster Session

Day - 1: Tuesday, 22 August 2017, M/S Mariella, Viking Line, Sweden

**Poster Evaluation Jury: I.N.G. Wardana (Brawijaya University, Indonesia), Karen Gambaryan (Yerevan State University, Armenia), Aristides Bakandritsos (Palacky University in Olomouc, Czech Republic), Tapas Maiti (Hiroshima University, Japan) and Elena Brandaleze (National Technological University, Argentina)**

12.00-13.30 All Posters Setup at Conference Center, Deck-8

**Poster Session - Advanced Materials Innovations, Biomaterials & Biodevices, Nanogenerators & Piezotronics, Global Graphene Forum, Computational Materials, Technology Forum, Thin Film & Coating Materials Technology, Optical, Electronic & Magnetic Materials, Biosensor & Bioelectronics, Energy & Harvesting Materials, Sensors & Actuators, Nanomaterials & Nanotechnology, Science & Technology of Polymers, Composite & Ceramic Materials, Medical Materials & Clinical Technology, Microfluidics & Nanofluidics, Environmental & Green Materials and Constructional, Structural & Engineering Materials**

**P-01 Babak Hassanzadeh Rad, Karaj Islamic Azad University, Iran** - Orbital metastasis from breast cancer without significant changes in CT scan and MRI

- P-02 **Elena Brandaleze, National Technological University, Argentina** - High deformation effects on the plasticity of ultra high carbon steel wires
- P-03 **Gabriela Hernandez, Universidad Autonoma Metropolitana, Mexico** - Synthesis, characterization and evaluation of Cu/SSZ-13 catalyst for ammonia selective catalytic reduction (NH<sub>3</sub>-SCR)
- P-04 **Javaneh Atighi, Karaj Islamic Azad University, Iran** - Analysis of dentists attitudes toward carotid artery calcification diagnosis in panoramic radiograph in 2016
- P-05 **Jose Miguel Hernandez, BUAP, Mexico** - Nanoporosity of hierarchical materials: MOR, HEU and ERI zeolites
- P-06 **Kairat Kuterbekov, L.N.Gumilyov Eurasian National University, Kazakhstan** - Investigations of the influence of the change in the mass fractions of fuel and oxidizer on the efficiency of the hard polymer Fuel cell
- P-07 **Mariano Aceves-Mijares, INAOE, Mexico** - Waveguide-detector system on silicon for sensor application
- P-08 **Maxym Vorobyov, Riga Technical University, Latvia** - Actuator device based on neodymium permanent magnets printed with 3d printer
- P-09 **Montserrat Silva Ichante, CIDETEQU, Mexico** - Electrodeposition, characterization, and antibacterial activity of Zn-Cu / Ag nPs composite coatings
- P-10 **Nazik Elgindy, Alexandria University, Egypt** - Spray dried rifampicin nanocomposites as a promising technology for TB therapy
- P-11 **Sergio Islas-Andrade, General Hospital of Mexico, Mexico** - Prevalence of prediabetes in Mexico
- P-12 **Jeong-Ho Cho, Korea Institute of Ceramic Engineering & Technology, South Korea** - Low-temperature annealing of copper-nickel manganite thermistor films for microbolometer applications
- P-13 **Vladimir Parfenyuk, Russian Academy of Sciences, Russia** - Poly-porphyrin electrocatalytic films obtained via superoxide-assisted electrochemical deposition
- P-14 **Vladimir Parfenyuk, Russian Academy of Sciences, Russia** - Surface properties of titanium alloy VT 6 after plasma electrolytic treatment
- P-15 **Vladislavs Jasinskis, Riga Stradins University, Latvia** - A systematic review on the use of immune system involvement in bone reconstitution using hydroxyapatite (HAp)
- P-16 **Adnan Zaid, University of Applied Sciences, Algeria** - Superplastic blow forming of MgAZ<sub>3</sub>
- P-17 **Alejandro Zuleta Gil, Universidad Pontificia Bolivariana, Colombia** - A material selection software for thermoplastic materials with sustainable criteria
- P-18 **Alfredo Ongaro, Heriot Watt University, UK** - Experimental investigations of CO<sub>2</sub> laser cut quality in poly(lactic acid) for microfluidic rapid-prototyping of sustainable devices
- P-19 **Baozhong Sun, Donghua University, China** - Thermal expansion behaviors of carbon fiber/epoxy plain woven composites
- P-20 **Berenika Hausnerova, Tomas Bata University in Zlín, Czech Republic** - Performance of gas and water atomized powders in powder injection moulding
- P-21 **Caili Yu, Guilin University of Technology, China** - Preparation of the monodispersed carboxylated polymer microspheres with disproportionated rosin moiety and adsorption of methylene blue
- P-22 **Chang Kim, Kyung Hee University, South Korea** - Numerical analysis of the TEG (thermo-electric generator) performance with contact resistances
- P-23 **Charles Mangeot, Noliac A/S, Denmark** - Performance envelope of piezoelectric actuators at high temperature
- P-24 **Chun Wei, Guilin University of Technology, China** - Preparation and electrochemical performances of cellulose nanofiber/graphene nanosheet/polyaniline composite film via in-situ polymerization
- P-25 **Diana Meza Rojas, Autonomous University of Madrid, Spain** - Novel hole transporting materials based on tetrathienylbenzene core unit for high efficiency perovskite solar cells
- P-26 **Djoko Gabriel, Universitas Indonesia, Indonesia** - Customer acceptance evaluation of design for material value conservation using structural equation Modelling: A Case Study of Plastic Packaging
- P-27 **Dominika Czycz, Wroclaw University of Technology, Poland** - Properties of thermoplastics filled with powder of igneous rock Gabbro
- P-28 **Eduardo Brocchi, Pontifical Catholic University of Rio de Janeiro, Brazil** - Production, by chlorination, and characterization of titanium dioxide
- P-29 **Elena Miliutina, University of Chemistry and Technology, Czech Republic** - The development of highly sensitive sensors based on the plasmon-active optical fiber with the introduction of the principles of smart plasmonics
- P-30 **Gregoire David, University of Montpellier, France** - Gas-esterification on cellulose particles for the production of PHBV based biocomposites
- P-31 **Shuhei Ogata, Aoyama Gakuin University, Japan** - Luminescence mechanism of a series of helicate Eu complexes in the mesocrystals
- P-32 **Ylea Vlamidis, Istituto Italiano di Tecnologia, Italy** - Laccase and tyrosinase on electrochemically reduced GO and MWCNTs hybrid for the development of polyphenols biosensors
- P-33 **Hongda Chen, Chinese Academy of Sciences, China** - Optoelectronic devices based 2D materials
- P-34 **Ikuko Nishio, Tottori University, Japan** - Treatment satisfaction using insulin pump (CGM/SAP) among Japanese adult patients with type 1 diabetes: A large-scale study
- P-35 **Ikuko Nishio, Tottori University, Japan** - Perceptions of psychosocial factors among insulin pump (CGM/SAP) users with type 1 diabetes in Japan
- P-36 **Ioan Iorga, IFIN-HH, Romania** - Radioactive inventory migration study for the VVR-S Research Reactor decommissioning project
- P-37 **Ivania Markova, University of Chemical Technology and Metallurgy-Sofia, Bulgaria** - Nanomaterials based on intermetallic Co-Ni magnetic nanoparticles for biomedical applications
- P-38 **Jan Trejbal, Czech Technical University in Prague, Czech Republic** - Study on time-depend surface properties of plasma treated polymer micro-fibers
- P-39 **Jeferson Moreto, Federal University of Triangulo Mineiro, Brazil** - Study behavior of Ca-ALG microparticles containing sulfentrazone herbicide based delivery systems for the weed control

- P-40 **Jeferson Moreto, Federal University of Triangulo Mineiro, Brazil** - Fluorescent carbon dots nanoparticles derived from natural material of "acerola" fruit for sensitive Fe (III) ions detection
- P-41 **Dongseob Kim, Korea Institute of Industrial Technology, South Korea** - Triboelectric nanogenerators for mutiaxial kinetic energy harvesting
- P-42 **Josimar Ribeiro, UFES, Brazil** - Development of quaternary PtSnNiGa/C electrocatalysts for ethanol oxidation
- P-43 **Julien Babic, CNRS, France** - A new microfluidic device for live-cell imaging experiments
- P-44 **Kyujung Kim, Pusan National University, South Korea** - A plasmon coupled whispering gallery modes biosensor for sensitivity enhancements
- P-45 **Liqian Huang, Donghua University, China** - Numerical simulation of airflow and fiber motion in air-jet texturing nozzle
- P-46 **Markus Selin, University of Helsinki, Finland** - Screening of interactions between Janus dendrimer coatings and drug nanocrystals
- P-47 **Meng-Hsuan Yang, National Chung Hsing University, Taiwan** - Construction of novel fluorescence nanoparticles AIE@dots and the tunable emission progress with regulating the AIE and TICT effect
- P-48 **Min Wu, Chinese Academy of Sciences, China** - Influence of solvent polarity on cellulose nanostructures
- P-49 **Mirjana Rodosek, National Institute of Chemistry, Slovenia** - Effect of siloxane-modified epoxy resin on anticorrosion properties of coatings
- P-50 **Oleksiy Lyutokov, University of Chemistry and Technology, Czech Republic** - Flexible and biodegradable electronics on the base of laser beam written arbitrary conductive path in thin polymer films
- P-51 **Olga Guselnikova, University of Chemistry and Technology, Czech Republic** - Surface-modified gold plasmonic grating as platform for smart SERS sensors
- P-52 **Pavol Hvizdos, Slovak Academy of Sciences, Slovakia** - Development of electrically conductive SiC based composites with carbon/carbide additives
- P-53 **Praveen Kumar S, Saveetha Engineering College, India** - Porous based immunosensor for detection of LDL molecules from blood serum using array of cantilever beam
- P-54 **Praveen Kumar S, Saveetha Engineering College, India** - Bacterial nanonetwork optimization using wireless adhoc sensors
- P-55 **Puhong Zhang, Peking University Health Science Center, China** - Predictors of initiating basal-bolus regimen in type 2 diabetes patients with uncontrolled hyperglycemia by oral antidiabetic drugs in China
- P-56 **Puhong Zhang, Peking University Health Science Center, China** - The lifestyle change after initiating basal insulin in insulin naive patients with type 2 diabetes: Results from the ORBIT study
- P-57 **Qian Zhang, Donghua University, China** - Assessing the phase behavior, crystallization and mechanical properties of fully biodegradable poly(3-hydroxybutyrate-co-hydroxyvalerate) (PHBV) /poly(butylene succinate) (PBS) blends
- P-58 **Qijun Sun, Beijing Institute of Nanoenergy and Nanosystem, China** - Positively-charged reduced graphene oxide as an adhesion promoter for highly-stable silver nanowire film
- P-59 **Qijun Sun, Beijing Institute of Nanoenergy and Nanosystem, China** - Transparent, low-power pressure sensor matrix based on coplanar-gate graphene transistors
- P-60 **Qunying Wu, Guilin University of Technology, China** - Optimization for sound absorption performance of porous materials based on variance analysis
- P-61 **Ralph Tatam, Cranfield University, UK** - Multi-plane optical coherence tomography imaging for micro-fluidic velocity measurement
- P-62 **Rohidas Arote, Seoul National University, South Korea** - Selective stimulation of caveolae-mediated endocytosis and hepatocyte targeting by hyperosmotic poly(lactitol)-based gene transporter
- P-63 **Rosalia Poyato, University of Seville, Spain** - Influence of graphene nanoplatelets orientation in a ceramic matrix on its scratch behavior
- P-64 **Sang-Woo Kim, Hankyong National University, South Korea** - Fabrication of a nickel-coated optical fiber sensor and its applications
- P-65 **Santanu Das, IIT BHU, India** - Two dimensional functional nanomaterials for electronic and energy devices
- P-66 **Sheng-Lung Tu, National Cheng Kung University, Taiwan** - Optoelectronic characteristic of Al doping on GZO thin film
- P-67 **Soon-Ki Kwon, Gyeongsang National University, South Korea** - Small molecule organic solar cells high efficiency toward processing additive- and thermal annealing-free
- P-68 **Stefan Andersson, SINTEF Materials and Chemistry, Norway** - Fabrication and characterization of ilmenite particles for chemical looping
- P-69 **Stephan Armanyanov, Bulgarian Academy of Sciences, Bulgaria** - Selective metallization of laser irradiated biocompatible poly(dimethylsiloxane) by electroless deposition for future MEMS and medical applications
- P-70 **Tomasz Blaszczyk, Technical University of Denmark, Denmark** - Towards airflow sensors with energy harvesting and wireless transmitting properties
- P-71 **Valentina Marchuk, University of Chemistry and Technology, Czech Republic** - Advanced colloidal lithography for spatially-selective surface modification - an significant expansion of self-assembling structures application
- P-72 **Vasillii Burtsev, University of Chemistry and Technology, Czech Republic** - Smart plasmonics based on graphene and precious metals for the next generation of optical modulators
- P-73 **Wei-Chao Chen, National Taiwan University, Taiwan** - Enhanced solar cell performance of  $\text{Cu}_2\text{ZnSn}(\text{S,Se})_4$  thin films through structural control by using multi-metallic stacked nanolayers and fast ramping process for sulfo-selenization
- P-74 **Xinhou Wang, Donghua University, China** - Elastomeric and biodegradable Poly (1, 8-octanediol-co-citric acid)/Poly(lactic acid) nano-fibrous materials
- P-75 **Xue Wang, Chongqing University, China** - Embedding variable micro-capacitors in polydimethylsiloxane for enhancing output power of triboelectric nanogenerator
- P-76 **Yeon-Tae Yu, Chonbuk National University, South Korea** - Synthesis of PdO/ZnO core-shell nanoparticles and its gas sensing mechanism
- P-77 **Yi-Hsuan Chen, National Chung Hsing University, Taiwan** - Fabrication of double emission enhancement fluorescence nanoparticle with combining the ICT and AIE effect

- P-78** Yi-Liang Liou, National Chung Hsing University, Taiwan - Development of a cell death biomarker based on nuclear translocation during photosensitization
- P-79** Yuan Li, Beijing Institute of Technology, China - Generalized predictive control for DEAP flexible bionic actuator with fuzzy model
- P-80** Yuji Miyahara, Tokyo Medical and Dental University, Japan - Fabrication of needle type pH sensor for quantitative caries detection
- P-81** Yukan Dai, Chonnam National University, South Korea - A microcantilever combining cell contraction force measurement with impedance analysis
- P-82** Yuki Hasegawa, Saitama University, Japan - Development of ethylene gas sensor for evaluating fruit ripening
- P-83** Yun-Hi Kim, Gyeongsang National University, South Korea - Facile route to control the ambipolar transport in semiconducting materials
- P-84** Zdenek Prosek, Czech Technical University in Prague, Czech Republic - Interfacial shear strength enhancement of polymeric macro-fibers via plasma treatment
- P-85** Zeynep Altintas, Cranfield University, Germany - A fully automated microfluidic-based electrochemical sensor for real-time pathogen detection
- P-86** Zhicai He, South China University of Technology, China - Study on the effect of additives on morphology of active layer in organic solar cells
- P-87** Brigitte Bouchet-Fabre, NIMBE/CEA-CNRS, France - Magnetron-sputtered Ta<sub>3</sub>N<sub>5</sub> thin films for water photoelectrolysis
- P-88** Zheng Zhang, University of Science and Technology Beijing, China - Strain modulation in 2D materials based optoelectronics for their performance enhancement
- P-89** Alba Ardila, Politecnico Colombiano Jaime Isaza Cadavid, Colombia - Nature and distribution of Cu and Pd surface species on Cu-Pd/TiO<sub>2</sub>-Na bimetallic catalysts
- P-90** Alba Ardila, Politecnico Colombiano Jaime Isaza Cadavid, Colombia - Pt-WO<sub>x</sub>/ZrO<sub>2</sub> catalyst: W content Vs type of WO<sub>x</sub> species
- P-91** Pavel Grinchuk, A.V. Luikov Heat and Mass Transfer Institute, Belarus - Pyrolysis of various carbon precursors inside of porous silicon carbide matrix for reaction-sintered SiC substrates
- P-92** Javid Butt, Anglia Ruskin University, UK - Production of layered metallic parts with enhanced tensile properties using the process of composite metal foil manufacturing
- P-93** Wenqing Xu, Chinese Academy of Sciences, China - Catalytic oxidation of Hg<sup>0</sup> from coal-fired flue gas over Mn modified montmorillonite
- P-94** Tingyu Zhu, Chinese Academy of Sciences, China - Catalytic method and catalysts for the abatement of industrial VOCs
- P-95** Boulahia Ramdane, USTHB, Algeria - New insights on the plastic deformation in multi-pass equal channel angular extrusion of semi-crystalline polymers
- P-96** Boulahia Ramdane, USTHB, Algeria - Evolution of the microstructure and mechanical properties of propylene treated by the multipasses ECAE process
- P-97** Xiaojing Yang, Beijing Normal University, China - Graphene formation in the interlayer of LRHs
- P-98** Dae-Gab Gweon, KAIST, South Korea - Analysis of disturbance forces in magnetic levitation system with complex force-current matrix
- P-99** Daniel Kropman, Tallinn University, Estonia - Point defects identification and modification in the Si-SiO<sub>2</sub> system
- P-100** Daniel Kropman, Tallinn University, Estonia - Ultrasound influence on the Si-SiO<sub>2</sub> system defects structure
- P-101** Zhong Fuxin, Guilin University of Technology, China - Preparation and photoelectric properties of Cu<sub>2</sub>O thin film by anodic oxidation method
- P-102** Djahida Talantikite-Touati, Abderrahmane Mira University, Algeria - Study of the properties of La-doped ZnS thin films synthesized by sol-gel method
- P-103** Mohammadreza Kolahdouz, University of Tehran, Iran - Improved glucose electrochemical sensing benefiting from electric field behavior
- P-104** Mohammadreza Kolahdouz, University of Tehran, Iran - Flexible micro gripper using novel IPMC fabrication scheme for medical application
- P-105** Matin Frouzmeher, University of Tehran, Iran - Terahertz photoconductive antenna efficiency improvement using gold nanoplasmonic structure
- P-106** Matin Frouzmeher, University of Tehran, Iran - Terahertz photoconductive antenna efficiency improvement using ZnO nanorods
- P-107** Matin Frouzmeher, University of Tehran, Iran - Comparison of two different synthesis methods of metal trihalide perovskite in terms of morphology and crystallinity
- P-108** Mostafa Masnadi Shirazi, University of Tehran, Iran - Light management in ultra-thin Si solar cell using metal nanostructures
- P-109** Mostafa Masnadi Shirazi, University of Tehran, Iran - A novel drug delivery chip design with IPMC as an actuator
- P-110** Ayushi Tiwari, Katedralskolan, Sweden - A study on nanobiocatalysis of glucose over the glucose oxidase functionalized gold nanoparticles

19.30-19.45 Meeting of Poster Jury

Thank you for your participation!!  
Look forward to seeing you at the EAMC 2018!!



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Tomas Bata University in Zlin  
Czech Republic



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Hong Kong Polytechnic University  
Hong Kong



**Professor Dongmei Chen**  
The University of Texas at Austin  
USA



**Professor Eduardo Pena Cabrera**  
University of Guanajuato  
Mexico



**Professor Gou-Jen Wang**  
National Chung-Hsing University  
Taiwan



**Dr. H. Purushotham**  
Ministry of Science & Technology  
Government of India



**Professor Henry Li**  
University of Manchester  
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**Professor Zaiping Guo**  
University of Wollongong  
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Zhejiang Sci-Tech University  
China



**Professor Karen Gambaryan**  
Yerevan State University  
Armenia



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Brown University  
USA



**Dr. Lucia Hegedusova**  
European Commission Belgium  
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China



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Jeonju University  
South Korea



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West Pomeranian University of Technology  
Poland



**Professor Weiguo Hu**  
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China





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University of Applied Sciences  
Algeria



**Professor Agnieszka Iwan**  
Military Institute of Engineer Technology  
Poland



**Dr. Aristides Bakandritsos**  
Palacký University  
Czech Republic



**Dr. Bianca Pistillo**  
Luxembourg Institute of Science  
and Technology  
Luxembourg



**Dr. Chad Ulven**  
North Dakota State University  
USA



**Dr. Chaitanya Indira**  
CMR Institute of Technology  
India



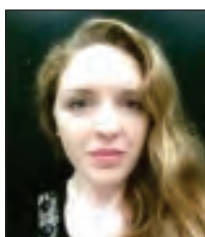
**Professor Chunwen Sun**  
Beijing Institute of Nanoenergy  
and Nanosystems  
China



**Professor Elena Brandeze**  
National Technological University  
Argentina



**Dr. Jasim Salman**  
Al-Nisour University College  
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**Dr. Fiona Weafer**  
National University of Ireland, Galway  
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Sweden



**Dr. Rohidas Arote**  
Seoul National University  
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**Professor I.N.G. Wardana**  
Brawijaya University  
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**Dr. Haining Tian**  
Uppsala University  
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Secretary General

**International Association of Advanced Materials**

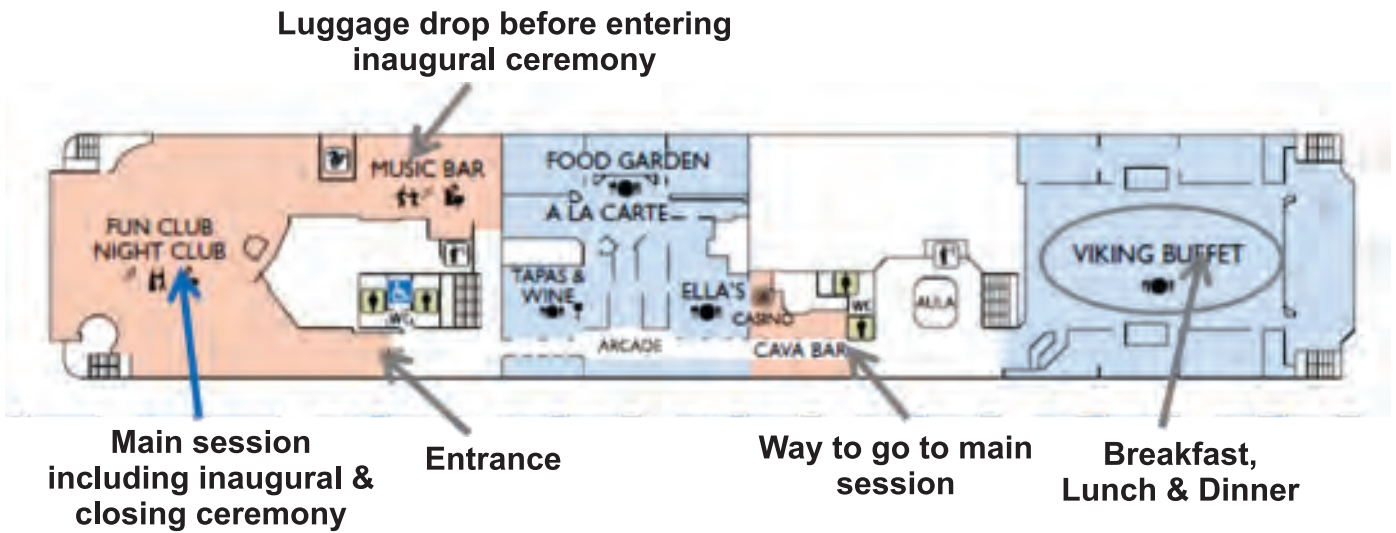
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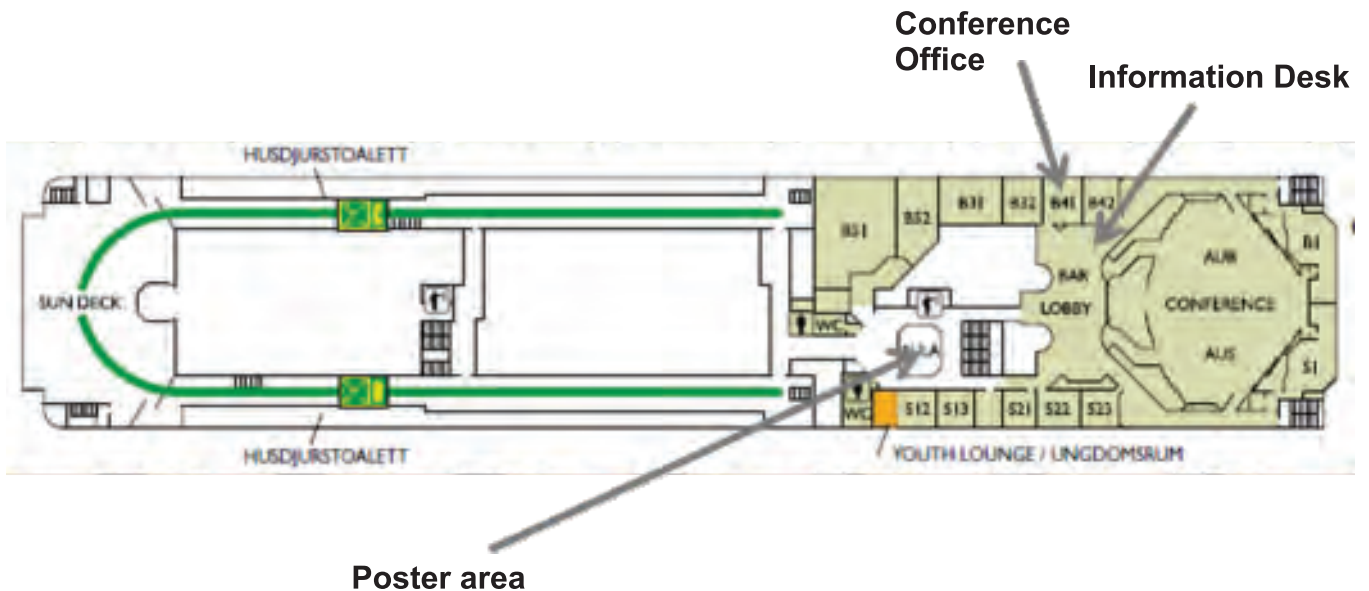
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Symposia should cover the scientific subject area of congress and proposals are encouraged to address the theme. **Symposia Proposals should be send via E-mail (with a short CV of the proposed organiser and co-organisers) to:**

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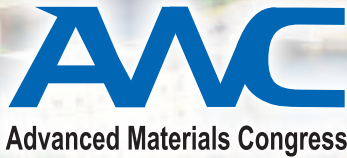
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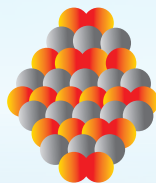


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