



PCM2022&GNN2022 CONFERENCE PROGRAM

September 16-19, 2022 | Online Microsoft Teams



China Standard Time - GMT+8

* The Program is used for PCM2022&GNN2022 Academic Exchange Only

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Part I Conference Schedule Summary

Friday - September 16, 2022 / China Standard Time - GMT+8

Online MS Teams Link: <http://www.academicconf.com/teamslink?confname=pcm2022>

09:00-11:00

MS Teams Online Conference Testing and Ice Breaking

14:00-16:00

Saturday - September 17, 2022 / China Standard Time - GMT+8

Online MS Teams Link: <http://www.academicconf.com/teamslink?confname=pcm2022>

Opening Ceremony and Keynote Speeches are chaired by Prof. Ishaq Ahmad, National Centre for Physics, Pakistan

08:30-08:40

WELCOME SPEECH (PCM 2022&GNN 2022)

Prof. Tingkai Zhao, School of Materials Science and Engineering, Northwestern Polytechnical University, China

08:40-09:20

Keynote Speech 1: Global Warming Due to Biomaterials? Why We Have Been So Slow to Act

Prof. Thomas J. Webster, Interstellar Therapeutics, USA

09:20-10:00

Keynote Speech 2: Greener and Energy-efficient Cavitation Assisted Process Intensification for the Generation of Nanomaterials

Prof. Sivakumar Manickam, Department of Petroleum and Chemical Engineering, Faculty of Engineering, Universiti Teknologi Brunei, Brunei Darussalam

10:00-10:20

BREAK

10:20-11:00

Keynote Speech 3: Numerical Analysis of Adhesively-bonded Joints in Composite Materials

Prof. Raul D.S.G. Campilho, Permanent Auxiliar Professor, School of Engineering, Instituto Superior de Engenharia do Porto, Portugal

11:00-11:40

Keynote Speech 4: Composite Coatings in Wind Generator Bearings

Prof. Esteban Broitman, SKF Research & Technology Development, The Netherlands

11:40-12:00

Poster Session

12:00-14:00

LUNCH BREAK

14:00-17:25

Oral Session 1: Biomedical Materials and Its Applications

Sunday - September 18, 2022 / China Standard Time - GMT+8

Session 2 &3 Online MS Teams Link:

<http://www.academicconf.com/teamslink?confname=pcm2022>

Session 4 Online MS Teams Link:

<http://www.academicconf.com/teamslink?confname=pcm2022&sessionid=2>

08:30-11:55 **Oral Session 2_ Multi-Functional Polymers and Nanocomposites**

12:00-14:00 **LUNCH BREAK**

14:00-17:00 **Oral Session 3_ Nano-Materials and Its Applications**

14:00-16:35 **Oral Session 4_ Environmental-Friendly Materials and Applications**

Monday - September 19, 2022 / China Standard Time - GMT+8

Online MS Teams Link: <http://www.academicconf.com/teamslink?confname=pcm2022>

08:30-11:40 **Oral Session 5_ Novel Mechanisms and Applications**

Part II Keynote Speeches

Keynote Speech 1: Global Warming Due to Biomaterials? Why We Have Been So Slow to Act



Prof. Thomas J. Webster

Interstellar Therapeutics, Boston, MA, USA

Biography: Thomas J. Webster's (H index: 108; Google Scholar) degrees are in chemical engineering from the University of Pittsburgh (B.S., 1995; USA) and in biomedical engineering from RPI (Ph.D., 2000; USA). He has served as a professor at Purdue (2000-2005), Brown (2005-2012), and Northeastern (2012-2021; serving as Chemical Engineering Department Chair from 2012 - 2019) Universities and has formed over a dozen companies who have numerous FDA approved medical products currently improving human health. Dr. Webster has numerous awards including: 2020, World Top 2% Scientist by Citations (PLOS); 2020, SCOPUS Highly Cited Research (Top 1% Materials Science and Mixed Fields); 2021, Clarivate Top 0.1% Most Influential Researchers (Pharmacology and Toxicology); and is a fellow of over 8 societies.

Abstract: Biomaterials are composed of some of the same materials as those used in non-medical applications (such as automobile, aerospace, consumer goods, etc.). While these other fields have moved away from using materials that are not environmentally friendly (such as those which contribute to greenhouse gases, are not environmentally degradable, have a large carbon footprint, etc.), the medical device community continues to use non-environmentally friendly plastics, metals, and other materials throughout medicine. This is despite the fact that numerous agencies have found that medical devices contribute to a large component of waste causing greenhouse gases. This is also despite the fact that plastics have been predicted to contribute 2.8 gigatons of CO₂ emissions by 2050, up from 850 million metric tons of greenhouse gases in 2019 with only 16% of plastics currently being recycled. This presentation will highlight the current failures of the medical device industry in promoting the environmentally safe production as well as the use of products that can decrease greenhouse emissions. It will also highlight recent research on the use of natural as well as biodegradable materials for a wide range of medical applications. Most importantly, it will highlight that we need a paradigm shift in all fields, not just non-medical fields but most importantly in medical fields, to reduce greenhouse emissions to reduce global warming.

Keywords: Biomaterials, Global Warming, Green, Recycled

Keynote Speech 2: Greener and Energy-efficient Cavitation Assisted Process Intensification for the Generation of Nanomaterials



Prof. Sivakumar Manickam

*Department of Petroleum and Chemical Engineering
Faculty of Engineering
Universiti Teknologi Brunei
Brunei Darussalam*

Biography: Professor Sivakumar Manickam is a Chemical Engineer specializing in the process engineering of nanomaterials, especially nanopharmaceuticals. Currently, he is working with UTB, Brunei and earlier, and he was working with the University of Nottingham, International Campus, Malaysia. His research focuses on the process development of cavitation-based reactors towards technologically important nanomaterials, greener extraction of natural products, water treatment, development of pharmaceutical nanoemulsions and utilizing novel carbon nanomaterials to design biosensors for the earlier detection of cancer and diabetes. He took various leadership roles at the University of Nottingham, including Director of Research, Founding Director for the Centre for Nanotechnology and Advanced Materials, Head - Manufacturing and Industrial Research Division and Associate Dean for Research and Knowledge Exchange. He has completed more than 20 industrial and government-funded projects and supervised more than 50 research students. He has published ~250 peer-reviewed journal and conference papers. His h-index is 51 (scholar google). He is also the Executive Editor of Ultrasonics Sonochemistry (Elsevier, Q1, IF 7.5) Journal. He serves as a board member of the Asia Oceania Sonochemical Society (AOSS), as well as the Fellow of the Higher Education Academy (UK) and Fellow of the Royal Society of Chemistry (FRSC).

Abstract: Much effort is currently being devoted to studying nanomaterials, mainly due to their wide variety of applications. Particularly, nanoparticles have generated a large research effort because their properties differ markedly from those of their bulk counterparts. Many different approaches have been applied to the fabrication of nano-entity, such as co-precipitation, microemulsion, supercritical sol-gel processing, hydrothermal synthesis, or high energy ball milling. Directed to the problems of these conventional methods, new synthetic methods have received increased attention in recent years. Cavitation, an approach for synthesizing various compounds at milder conditions, is already the rage in materials engineering. The major advantage of this new method is that it affords a reliable and facile route for controlling both the synthetic process and nanostructure in advanced materials. Also, this process provides chemical homogeneity and reactivity through atomic-level mixing within the precursor system, and phase pure crystalline materials can be prepared by annealing at reduced temperatures. Various nanomaterials and nanodispersions have been generated using this technique to develop biosensors and other applications. More importantly, novel carbon materials such as Graphene and Fullerene have been exploited for the functionalization and in the development of nanocomposites to be employed in the sensors.

References

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Keynote Speech 3: Numerical Analysis of Adhesively-bonded Joints in Composite Materials



Prof. Raul D.S.G. Campilho

*Permanent Auxiliar Professor
School of Engineering
Instituto Superior de Engenharia do Porto (ISEP)
Portugal*

Biography: Raul Duarte Salgueiral Gomes Campilho completed his M.Sc. degree in 2006 and his Ph.D. degree in 2009, both of which at Faculdade de Engenharia da Universidade do Porto. He has authored 280 articles in journals, 27 sections of books and 9 books, and received about 9,164 citations with 51 h-index (Google Scholar). He has received 16 awards and/or honors. Raul D.S.G. Campilho spends much of his time researching Composite material, Adhesive, Structural engineering, Finite element method and Fracture mechanics. His Composite material study is mostly concerned with Fracture toughness, Adhesive bonding and Failure mode and effects analysis.

Abstract: Advanced composite materials have high specific strength and stiffness and, together with automatic fabrication processes, enable the production of cost- and weight-efficient composite structures. Within this scope, adjusting the composite lay-up to the load-preferential directions is particularly effective in reaching efficient solutions. In several applications, such as aerospace, aeronautical and automotive industries, the structures' complexity requires joining separately-produced components to form the final structure. Adhesive joining of composite structures is particularly attractive, enabling to prevent weakening induced by holes, the combination of composites with different materials, lighter joints, and new designs. The Finite Element Method (FEM) is the most common technique for adhesive joints, using different approaches: continuum mechanics, fracture mechanics, Cohesive Zone Modelling (CZM), damage mechanics, and the eXtended Finite Element Method (XFEM). This work addresses the CZM numerical technique for strength prediction of adhesive joints, including a general description of CZM applied to the strength prediction of bonded joints. The most common techniques for estimation of the cohesive laws, essential as input in the numerical simulations, are then addressed. The application of CZM techniques to adhesively-bonded composite joints is divided into fracture property estimation, static strength prediction for general purpose joints, curved joints, sandwich structures with composite skins and impact applications.

Keynote Speech 4: Composite Coatings in Wind Generator Bearings



Prof. Esteban Broitman

SKF Research & Technology Development Center, The Netherlands

Biography: Esteban Broitman holds a Ph.D. in Physics from the University of Buenos Aires (Argentina), and a Docent (Habilitation) degree in Tribology from Linköping University (Sweden). He has been doing research and teaching at the University of Buenos Aires (Argentina), The College of William & Mary (USA), Carnegie Mellon University (USA), Linköping University (Sweden), and Invited Professor at University of Sao Pablo (Brazil), and the Chinese Academy of Sciences (CAS - China). He is presently a Senior Scientist in the area of Coatings at the SKF Research and Technology Development Center in the Netherlands. He has published more than 200 peer-reviewed articles and book chapters, and presented numerous Plenary, Keynote and Invited Lectures. His activities focus on the use of advanced surface engineering to control friction and wear at the macro-, micro-, and nano-scales of coatings like DLC, nanocomposites, and softer materials like soft metals and polymers.

Abstract: During the last three decades, carbon-based composite coatings have enjoyed a growing interest in several industrial applications. By tuning the carbon sp³-to-sp² atomic bonding ratio and by alloying the carbon with other elements, the researchers have been able to tailor unique physical, mechanical, and tribological composite properties in order to satisfy an increased technological demand.

In the first part of the talk we will show how carbon-based composite coatings can be deposited at industrial scale onto steel bearings using Physical Vapor Deposition (PVD) and Plasma Assisted Chemical Vapor Deposition (PACVD) techniques at low temperatures. The main deposition methods will be reviewed.

In the second part of the talk, we will explain how is possible to deposit films with different amount of sp²-sp³ bonding ratios by just changing fundamental deposition parameters, leading to six different microstructures: graphite, non-hydrogenated a-C (amorphous) and ta-C (tetrahedral) carbon coatings, hydrogenated a-C:H and ta-C:H films, and a soft polymeric coatings. Furthermore, the mechanical and tribological properties of the different microstructures will be discussed. In the last part of the talk, we will describe the main applications of SKF's NoWear® carbon-based composite coated bearings to extend maintenance and life expectancy of specialized bearings in wind generators.

Part III Oral Presentations

Offline Oral Presentation Guidelines

Devices Provided by the Conference Organizer:

- ✚ Laptops (with MS-Office & Adobe Reader)
- ✚ Projectors & Screen: Ratio 4:3
- ✚ Laser Sticks
- ✚ Microphones

Materials Provided by the Oral Presenters:

- ✚ PowerPoint or PDF file

For presenters who don't send the PowerPoint to the Conference Secretary, please have your presentation ready in a memory stick, and save it in the laptop of your corresponding session about **15 minutes** before the session starts.

Online Oral Presentation Guidelines

- ✚ Online Oral Presentation will be conducted via Microsoft Teams (Click to see [how to join PCM&GNN 2022 via MS Teams](#)).
- ✚ All online presenters are requested to reach the Online Session Room prior to the scheduled time and deliver their presentations on time.
- ✚ The presentation timetable is shown in **China Standard Time (GMT+8)**.
- ✚ If a presenter is not able to show up via MS Teams, the session chair / conference secretary will download and play the pre-recorded video presentation during his/her scheduled presentation time; if listeners have questions about the presentation, please contact the conference secretary to forward the questions.
- ✚ If a presenter cannot show up on time or have problems with Internet connection, the session chair has the right to rearrange the presentation order and let the next presenter start.
- ✚ Signed and stamped electronic presentation certificate would be issued and delivered via e-mail after the conference.

Best Oral Presentations Award

The session chair will select one best oral presentation from his/her session based on the following criteria:

- ✓ Research Quality
- ✓ Presentation Performance
- ✓ Presentation Language
- ✓ PowerPoint Design

➤ **Best Presenters will receive an official certificate and free registration to the PCM & GNN 2023.**

Session 1_ Biomedical Materials and Its Applications

Time: 14:00-17:25, September 17, 2022. China Standard Time (GMT+8)

Session Chair: Dr. Stanley Chibuzor Onwubu, Department of Chemistry, Durban University of Technology, South Africa

Online Session Room Link: <http://www.academicconf.com/teamslink?confname=pcm2022>

14:00-14:25	GNN1248 (Invited)	Selected Biological Applications of Graphene-based Nanomaterials <i>Prof. Josef Jampilek, Faculty of Natural Sciences, Comenius University in Bratislava, Slovakia</i>
14:25-14:50	PCM3230 (Invited)	An Optimized Synthesis Route Toward Improved Interfacial Adhesion Strength in Particulate Date Palm Reinforced Polypropylene Composites <i>Dr. Khalid I. Alzebdeh, Department of Mechanical and Industrial Engineering, Sultan Qaboos University, Sultanate of Oman</i>
14:50-15:05	GNN1244	Chitosan Stabilized Biogenic Silver Nanoparticle: An Effective Antifungal Agent Towards Pathogenic <i>Candida</i> Spp. <i>Prof. M. S. Jisha, School of Biosciences, Mahatma Gandhi University, India</i>
15:05-15:20	GNN1252	Metal Nanocrystals Growth-Kinetics in Ion-exchanged Glasses <i>Dr. Paramesh Gadige, Department of Physics, Sri Sathya Sai Institute of Higher Learning, India</i>
15:20-15:35	PCM3216	Folate Anchored Chitosan Nanoparticles for Tumor Targeting <i>Dr. Smita Tukaram Kumbhar, Department of Pharmaceutical Chemistry, DSTS Mandal's College of Pharmacy, Solapur, India</i>
15:35-15:50	GNN1227	Energy Conversion and Spatiotemporal Changes in Nanostructure of Bone Tissue <i>Dr. Andrey Pavlychev, Solid State Electronics Department, St. Petersburg State University, Russia</i>
15:50-16:10		BREAK
16:10-16:25	GNN1232	Acid Resistance Characteristics of Nanohydroxyapatite/Silica Biocomposite Synthesized Using Mechanochemistry <i>Dr. Stanley Chibuzor Onwubu, Department of Chemistry, Durban University of Technology, South Africa</i>
16:25-16:40	PCM3223	Preparation and Characterization of Biocomposite Microparticles of Bacterial Culture <i>Lactobacillus</i> and Rennet for Traditional Pag Cheese Production <i>Prof. Marko Vinceković, Department of Chemistry, University of Zagreb/Faculty of Agriculture, Croatia</i>
16:40-16:55	GNN1250	Combination Therapy Approach of Doxorubicin and siRNA with Biodegradable Silica Nanoparticles <i>Dr. Gözde Ultav, Biotechnology Department, Faculty of Pharmacy, Inonu University, Turkey</i>

16:55-17:10	PCM3226	<p>Torque Registration as a Tool to Continuously Monitor Various Reactions Involved in the Graft Copolymerization of Acrylic Acid onto Starch</p> <p><i>Dr. Inge-Willem Noordergraaf, Faculty of Science and Engineering, Green Chemical Engineering, Groningen University, the Netherlands</i></p>
17:10-17:25	PCM3260	<p>Production of Cassava Peel-based Xylooligosaccharides Using Endo-1,4-B-Xylanase from <i>Trichoderma longibrachiatum</i>: The Effect of Alkaline Pretreatment</p> <p><i>Prof. Cristiano José de Andrade, Department of Chemical Engineering and Food. Engineering, Federal University of Santa Catarina, Brazil</i></p>

Session 2_ Multi-Functional Polymers and Nanocomposites

Time: 08:30-11:55, September 18, 2022. China Standard Time (GMT+8)

Session Chair: Dr. Paul Briard, School of Physics, Xidian University, China

Online Session Room Link: <http://www.academicconf.com/teamslink?confname=pcm2022>

08:30-08:55	PCM3246 (Invited)	<p>Vitrimer-like Polymers and Their Applications</p> <p><i>Prof. Wei Min Huang, School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore</i></p>
08:55-09:20	PCM3248 (Invited)	<p>Temperature and Pressure Induced Spin Transition in Fe(II) Hofmann-like Two Dimensional Coordination Polymer [Fe(Fpz)₂M(CN)₄] where M = Pt, Pd and Fpz = F-pyrazine: Experiment and Theory</p> <p><i>Prof. Georgiy Levchenko, State Key Laboratory of Superhard Materials, International Centre of Future Science, Jilin University, China</i></p>
09:20-09:35	PCM3247	<p>Structural, Magnetic, and Electric Properties of the “Multiferroic-Ferrosipinel” Nanocomposite under High Pressure</p> <p><i>Dr. Nikita Liedienov, State Key Laboratory of Superhard Materials, International Center of Future Science, Jilin University, China</i></p>
09:35-09:50	PCM3234	<p>Effects of Z-pin on Moisture Absorption Property and Damage Mode Under Flexural Load for Carbon Fiber Composite</p> <p><i>Dr. Yansheng Fan, Beihang University, China</i></p>
09:50-10:05	PCM3254	<p>Anisotropic Loss Factors of T700 Carbon Fibers Obtained by an Indirect Fitting Method Based on the Properties of Matrix and Laminate</p> <p><i>Mr. Chengyu Guan, Institute of Advanced Structure Technology, Beijing Institute of Technology, China</i></p>
10:05-10:20	PCM3266	<p>Moisture-induced Weakening of Adhesion Bonding: First-principles Calculations of Protonation Free-energy and Bond-breaking Barrier Energy</p> <p><i>Prof. Shuji Ogata, Graduate School of Engineering, Nagoya Institute of Technology, Japan</i></p>

10:20-10:40		BREAK
10:40-10:55	PCM3261	<p>Development of Thermally Stable Copolymer with Different Initial Sulfur Loadings Using Inverse Vulcanization Process</p> <p><i>Ms. Men Qi Teh, Chemical Engineering Department, Universiti Teknologi PETRONAS, Malaysia</i></p>
10:55-11:10	GNN1255	<p>Enhanced Mechanical, Electrical and Electrochemical Performance of PEO-LiTFSI Solid Polymer Electrolytes by Incorporation of Organic-inorganic Hybrid Nanoparticles for Li-ion Batteries</p> <p><i>Dr. Anji Reddy Polu, Department of Physics, BVRIT Hyderabad College of Engineering for Women, India</i></p>
11:10-11:25	PCM3262	<p>Study of Epoxy/TiO₂ Composites Coated Lean Duplex Stainless Steel for Tribological and Anticorrosive Application</p> <p><i>Dr. Tushar R. Dandekar, Department of Metallurgical and Materials Engineering, Visvesvaraya National Institute of Technology, India</i></p>
11:25-11:40	PCM3264	<p>Zinc and Cadmium Thiosemicarbazones as Precursors for Nano Sized Metal Oxides/Sulphides</p> <p><i>Dr. Archana Chaudhary, Department of Chemistry, Medi-Caps University Indore, India</i></p>
11:40-11:55	PCM3238	<p>Thermal Properties of Composite of Silica Materials Embedded in Rubber Matrix</p> <p><i>Ms. B. Dushyanthini, Department of Physics, Faculty of Natural Sciences, The Open University of Sri Lanka, Sri Lanka</i></p>

Session 3_ Nano-Materials and Its Applications

Time: 14:00-17:00, September 18, 2022. China Standard Time (GMT+8)

Session Chair: Dr. Abdul Jali, Department of Physics, Allama Iqbal Open University, Pakistan

Online Session Room Link: <http://www.academicconf.com/teamslink?confname=pcm2022>

14:00-14:15	GNN1222	<p>Characterization of Graphene Quantum Dots Synthesized from Citric Acid</p> <p><i>Prof. Sergei Bronnikov, Russian Academy of Sciences, Institute of Macromolecular Compounds, Russia</i></p>
14:15-14:30	GNN1226	<p>Ultrathin Films of Nanomaterials</p> <p><i>Prof. Raj Kumar Gupta, Department of Physics, Birla Institute of Technology and Science, India</i></p>
14:30-14:45	GNN1230	<p>Carbon Defect and Deposition Potential Driven Evolution of Metastable Structures at Bimetallic Surfaces for Enhanced Electrocatalytic Activity</p> <p><i>Dr. Shailendra K. Jha, National Metallurgical Laboratory, India</i></p>
14:45-15:00	GNN1237	<p>Theoretical Prediction of Schottky Barrier Height of Vertical Graphene with XSi₂N₄(X= Mo, W) Monolayers</p> <p><i>Ms. Ammara Firdous, Department of Physics, Fatima Jinnah Women University, Pakistan</i></p>

15:00-15:15	GNN1239	High Efficiency Photocatalyst for Water Splitting Using Janus Heterostructure <i>Dr. Abdul Jali, Department of Physics, Allama Iqbal Open University, Pakistan</i>
15:15-15:35	BREAK	
15:35-15:50	GNN1236	Graphene-based Nanocomposite Dispersive Metamaterial. Properties and Application <i>Dr. Orlova Elena V., Science at "High-Purity Quartz" LLC, Russia</i>
15:50-16:05	GNN1241	Scanning Probe Lithography for Nanophotonic Applications <i>Mr. Bogdan R. Borodin, Solid State Physics Department, Ioffe Institute, Russia</i>
16:05-16:30	GNN1234 (Invited)	Topological edge/end States in Narrow and Wider Armchair Graphene Nanoribbons: New and Novel Effects <i>Dr. Aristides D. Zdzetsis, Molecular Engineering Laboratory, Department of Physics, University of Patras, Greece</i>
16:30-16:45	GNN1233	Potential Advantages of Nano-porous Composite Materials for Hydrogen Liquefaction and Storage Industrial Processes <i>Dr. Ernest Ilisca, Storage of Hyperfine Hydrogen for Transport, France</i>
16:45-17:00	GNN1246	Middle Range Order – Related Correlations in Pseudo-binary Glasses of the (GeS₄)_x (AsS₃)_{1-x} System <i>Dr. Dumitru Tsiulyanu, Department of Physics, Technical University of Moldova, Republic of Moldova</i>

Session 4_ Environmental-Friendly Materials and Applications

Time: 14:00-16:35, September 18, 2022. China Standard Time (GMT+8)

Session Chair: Dr. Teow Yeit Haan, Department of Chemical and Process Engineering, Universiti Kebangsaan Malaysia, Malaysia

Session Room Link: <http://www.academicconf.com/teamslink?confname=pcm2022&sessionid=2>

14:00-14:15	PCM3255	Novel GO/OMWCNTs Mixed-matrix Membrane with Enhanced Antifouling Property for Palm Oil Mill Effluent Treatment <i>Dr. Teow Yeit Haan, Department of Chemical and Process Engineering, Universiti Kebangsaan Malaysia, Malaysia</i>
14:15-14:40	GNN1254 (Invited)	Designing Nanostructures for Heterogeneous Catalysis <i>Prof. Tokeer Ahmad, Department of Chemistry, Jamia Millia Islamia, Jamia Nagar, New Delhi, India</i>
14:40-15:05	PCM3257 (Invited)	Remediation of Waste Water Using Nanocomposite Materials <i>Prof. Ajay Kumar Mishra, Department of Chemistry, School of Applied Sciences, KIIT Deemed University, India</i>
15:05-15:20	PCM3263	Recycling of the Polymer Composite Fillers in Amino Alcohol Medium <i>Dr. Alexander E. Protsenko, Chemistry Department, Komsomolsk-on-Amure State University, Russia</i>

15:20-15:35		BREAK
15:35-15:50	GNN1223	Short-range Ordering Driven Relaxor Ferroelectricity in Average Cubic (Pm-3m) Phase of a Lead-free Smart Material <i>Dr. Saurabh Tripathi, Indian Institute of Technology (Banaras Hindu University), India</i>
15:50-16:05	GNN1235	Theoretical Studies on Electronic and Optical Behaviors of All-inorganic CsPbI ₃ AND Two-dimensional MXY (M = Mo, W and XY = S, Se) <i>Ms. Hafsa, Department of Physics, Fatima Jinnah Women University, Pakistan</i>
16:05-16:20	PCM3241	Effect of Surface Modification of Photoanode on the Performances of Cds Quantum Dot Sensitized Solar Cells <i>Prof. G.K.R. Senadeera, Department of Physics, The Open University of Sri Lanka, Sri Lanka</i>
16:20-16:35	PCM3252	Mechanosynthesis and Biosourced Precursors as Environmentally Friendly Strategies to Produce Hyper-Crosslinked Polymers <i>Dr. Antonio M Borrero-López, Université de Lorraine, France</i>

Session 5_ Novel Mechanisms and Applications

Time: 08:30-11:40, September 19, 2022. China Standard Time (GMT+8)

Session Chair: Dr. Paul Briard, School of Physics, Xidian University, China

Online Session Room Link: <http://www.academicconf.com/teamslink?confname=pcm2022>

08:30-08:45	GNN1251	Graphene-coated Si Nanowires as Substrates for Surface-enhanced Raman Scattering <i>Dr. Haining Li, Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, China</i>
08:45-09:00	GNN1257	Statistical Numerical Investigation of Translational-rotational Ultrafast Image-based Dynamic Light Scattering to Measure a bimodal Gaussian Sample of Cylindrical Nanoparticles <i>Dr. Paul Briard, School of Physics, Xidian University, China</i>
09:00-09:25	PCM3258 (Invited)	Understanding the Behaviour of Perovskite Solar Cell via Simulation Approach <i>Dr. Manish Kumar, Experimental Research Laboratory, Department of Physics, ARSD College, University of Delhi, India</i>
09:25-09:40	GNN1256	Theoretical Study of Defective Graphitic Bilayer Thick Hexagonal ZnO <i>Dr. Aniruddh Bahadur Yadav, Department of Electronic Communication Engineering VR Siddhartha Engineering College Kanuru, India</i>
09:40-09:55	PCM3228	Efficient Design of Organic/Inorganic Semiconductors via Molecular Engineering: A DFT Study <i>Dr. Dhruba Jyoti Kalita, Department of Chemistry, University of Gauhati,</i>

09:55-10:15		BREAK
10:15-10:30	GNN1247	Experimental and Computational Study of Carrier Spin Dynamics in CsPbBr₃ for Spintronic Applications <i>Dr. Mujtaba Hussain, Centre for Micro and Nano Devices, COMSATS University, Pakistan</i>
10:30-10:55	GNN1228 (Invited)	Characterization of the Electric Transport Properties of Black Phosphorous Back-gated Field-effect Transistors <i>Dr. Filippo Giubileo, Institute for Superconductors, Innovative Materials and Devices, Italian National Research Council, Italy</i>
10:55-11:10	GNN1225	Carbon Nanospheres with an Encapsulated Iron-nickel Nanoalloy as Electrocatalyst <i>Dr. Marlen Gonzalez-Reyna, Centro de Física Aplicada y Tecnología Avanzada, Universidad Nacional Autónoma de México, Mexico</i>
11:10-11:25	GNN1249	Analysis of Non-stationary Gas Sensors Based on Two-dimensional Materials <i>Dr. Filiberto Ricciardella, VS Particle B.V., The Netherlands</i>
11:25-11:40	PCM3225	The Itinerant Magnetism in a 3d-4d Double Perovskite Sr₂CrMoO₆ <i>Dr. G. Dimitri. Ngantso, Groupe de Simulations numériques en Magnétisme et Catalyse (GSMC), Faculté des Sciences et Techniques, Université Marien Ngouabi de Brazzaville, Congo</i>

Part IV Poster Presentations

On-site Poster Presentation Guidelines

Materials Provided by the Conference Organizer:

- ✚ X Racks & Base Fabric Canvases
- ✚ Adhesive Tapes or Clamps

Materials Provided by the Presenters:

- ✚ Home-Made Posters
- ✚ Posters Printed by Conference

Requirement for the Posters:

- ✚ Material: not limited
- Size: 160cm (height) ×60cm (width)**

X-Rack



Online Poster Presentation Guidelines

- ✚ A collection of posters in PDF format (with/without audio) will be available at conference website for attendees to view starting on July 25, 2022.
- ✚ Signed and stamped electronic presentation certificate would be issued via e-mail after the conference.

List of Posters

GNN1231	Using Verhulst Logistic Equation Model to Predict the Remineralization Characteristics of Eggshell-titanium Desensitizing Paste <i>Stanley Chibuzor Onwubu, Department of Chemistry, Durban University of Technology, Durban, South Africa</i>
PCM3232	Development and Evaluation of a High Temperature and High Salinity Resistant Rheological Enhancer for Water-based Drilling Fluids <i>Xianfa Zhang, College of Petroleum Engineering, China University of Petroleum (East China), China</i>
PCM3231	An Amphiphilic Polymer as Shale Inhibitor in Water-based Drilling Fluid <i>Zonglun Wang, College of Petroleum Engineering, China University of Petroleum (East China), China</i>
PCM3244	Structural Optimization Design of Automobile Engine Intake Pipe <i>Jianxin Xie, College of Intelligent Manufacturing, Qingdao Huanghai University, China</i>
PCM3242	Analysis of a Nonlinear Tuned Mass Damper by Using The Multi-scale Method <i>Ji Yao, Faculty of Civil Engineering and Mechanics, Kunming University of Science and Technology, China</i>
PCM3236	Bonding Condition'S Influence on Mechanical Performance of Synthetic Sports Surfaces by Fem <i>Hong Wang, Wuhan Sports University, China</i>

Part V Conference Venue

Venue: Yanzi Lake International Convention and Exhibition Center

坪山燕子湖国际会展中心

Website: <https://www.yzhicec.com/>

Address: No. 36 Ruijing Road, Pingshan District, Shenzhen, Guangdong Province, China (广东省深圳市坪山区瑞景路36号)

Telephone: 0755-3635 9999

Access to Yanzi Lake International Convention and Exhibition Center

1. Shenzhen Bao'an International Airport - Yanzi Lake International Convention and Exhibition Center (about 72 KM)

Airport Bus Line A5: (Driving distance: about 2 hours)

- Shenzhen Bao'an International Airport - Yanzi Lake International Convention and Exhibition Center

Opening Hours: 7:00 a.m-01:40 a.m (Frequency: every 20-30 mins)

- Yanzi Lake International Convention and Exhibition Center - Shenzhen Bao'an International Airport

Opening Hours: 04:10 a.m-22:30 p.m (Frequency: every 20-30 mins)

Hotline: 0755-36359999

2. Shenzhen Pingshan Railway Station - Yanzi Lake International Convention and Exhibition Center (about 7.4 KM)

(1) Bus: (about 44 minutes)

From the Railway Station, walk about 160 meters to Pingshan Zonghe Transportation Hub Bus Station (坪山综合交通枢纽公交场站), take No. M426 Bus, get off at Pingshan Xinwucun Station (坪山新屋村站), walk about 740 meters to Yanzi Lake International Convention and Exhibition Center.

(2) Taxi: about 10 minutes' drive, Taxi fare around 26CNY.

3. Shenzhen North Railway Station - Yanzi Lake International Convention and Exhibition Center (about 50 KM)

(1) Metro + Airport Bus Line A5: (About 2 hours)

From the Railway Station, take Metro Line 5 towards Huangbeiling(黄贝岭), get off at the 8th stop Buji(布吉站), transfer to Metro Line 3 towards Shuanglong (双龙), get off at the 8th stop He'ao(荷坳站), get out from Exit D and walk around 170m to the bus station He'ao(荷坳地铁站), take airport bus Line A5, get off at the 2nd stop(terminal stop) at Yanzi Lake International Convention and Exhibition Center.

(2) Metro + Taxi: (About 1.5 hours)

From the Railway Station, take Metro Line 5 towards Huangbeiling(黄贝岭), get off at the 8th stop Buji(布吉站), transfer to Metro Line 3 towards Shuanglong (双龙), get off at the 8th stop He'ao(荷坳站), take a taxi to Yanzi Lake International Convention and Exhibition Center.

坳站), walk out of the metro, and take a taxi to Yanzi Lake International Convention and Exhibition Center.

(3) Taxi: about 1 hour's drive, Taxi fare around 170CNY.

4. Shenzhendong Railway Station - Yanzi Lake International Convention and Exhibition Center (about 35 KM)

(1) Metro + Airport Bus Line A5: (About 1.5 hours)

From the Railway Station, take Metro Line 3 towards Shuanglong (双龙), get off at the 8th stop He'ao(荷坳站), get out from Exit D and walk around 170m to the bus station He'ao(荷坳地铁站), take airport bus Line A5, get off at the 2nd stop(terminal stop) at Yanzi Lake International Convention and Exhibition Center.

(2) Metro + Taxi: (About 1 hour)

From the Railway Station, take Metro Line 3 towards Shuanglong (双龙), get off at the 8th stop He'ao(荷坳站), walk out of the metro, and take a taxi to Yanzi Lake International Convention and Exhibition Center.

(3) Taxi: about 50 minutes' drive, Taxi fare around 110CNY.

5. Shenzhen Futian Station - Yanzi Lake International Convention and Exhibition Center (about 52 KM)

(1) Metro + Airport Bus Line A5: (about 2 hours)

From the Railway Station, take Metro Line 3 at Gouwu Gongyuan stop (购物公园站) towards Shuanglong (双龙), get off at the 21st stop He'ao (荷坳地铁站), get out from Exit D and walk around 170m to the bus station He'ao (荷坳地铁站), take airport bus Line A5, get off at the 2nd stop (terminal stop) at Yanzi Lake International Convention and Exhibition Center.

(2) Metro + Taxi: (about 1.5 hour)

From the Railway Station, take Metro Line 3 at Gouwu Gongyuan stop (购物公园站) towards Shuanglong (双龙), get off at the 21st stop He'ao (荷坳地铁站), walk out of the metro, and take a taxi to Yanzi Lake International Convention and Exhibition Center.

(3) Taxi: about 1 hour's drive, Taxi fare around 170 CNY.

Part VI Acknowledgements

On behalf of the PCM2022 and GNN2022 Organizing Committee, we would like to take this opportunity to express our sincere gratitude to our participants. We would also like to express our acknowledgements to the Technical Program Committee members who have given their professional guidance and valuable advice as reviewers. For those who contribute to the success of the conference organization without listing the name below, we would love to say thanks as well.

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