

17th International Symposium on **Advanced Materials**

October 18 - 22, 2021 | NCP, Islamabad, Pakistan

17th
ISAM

Technical Program

Organized by: Pakistan Advanced Materials Forum (PAMF)

Co-organizer: Institute of Space Technology, Islamabad





17th INTERNATIONAL SYMPOSIUM ON ADVANCED MATERIALS

OCTOBER 18 TO 22, 2021

📄 PAMF Secretariat, P.O. Box 503, Rawalpindi, Pakistan

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PAKISTAN ADVANCED MATERIALS FORUM

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INAUGURAL CEREMONY

**National Centre for Physics, Islamabad
Main Auditorium**

Monday, 18th October 2021

| | |
|-------|---|
| 08:50 | Guests to be seated |
| 09:00 | Arrival of the Chief Guest |
| 09:05 | Recitation from the Holy Quran |
| 09:10 | Introductory Note by the General Secretary PAMF |
| 09:20 | Welcome Address by the President PAMF |
| 09:30 | Inaugural Address by the Chief Guest |
| | Refreshments |

Technical Program

Session - 01 (MAIN AUDITORIUM)

Monday, October 18, 2021, Time 11:00-12:40

**Chairperson: Dr. Syed Wilayat Hussain and Dr. Muhammad Bilal
Malik**

| | | | |
|-------------|--------|------|---|
| 11:00 | 21-137 | KN | Design and Processing of Refractory High Entropy Alloys and Ceramics for High Temperature Applications <i>Farid Akhtar, Sweden</i> |
| 11:40 | 21-32 | V-KN | High-Entropy Alloys: Developing and Applications <i>Amir Motallebzadeh, Turkey</i> |
| 12:20 | 21-154 | | Existence of Microstructures Series in Single Rapidly Solidified Ni ₃ Ge Intermetallic Compound <i>Nafis Ul Haque, Ali Dad Chandio, Shahid Hussain Abro, Pakistan</i> |
| 12:40-14:00 | | | Lunch and Prayer Break |

Session - 02 (MAIN AUDITORIUM)

Monday, October 18, 2021, Time 14:00-15:40

Chairperson: Dr. Farid Akhtar and Dr. Anjum Tauqir

| | | | |
|-------------|--------|------|---|
| 14:00 | 21-24 | KN | Advances in Thermal Barrier Coatings for High Temperature Applications <i>Ali Dad Chandio, Pakistan</i> |
| 14:40 | 21-175 | V-KN | Performance of HVOF Sprayed Coatings for Power Applications <i>Sarka Houdkova, Turkey</i> |
| 15:20 | 21-10 | | Silver Coating on Aluminum Substrate by High Pressure Cold Spray <i>Syed Roohullah Jan, K. Akhtar, Feroz Shah, Rizwan M. Gul, Pakistan</i> |
| 15:40-16:00 | | | Tea Break |

Session - 03 (Room No. 108)

Monday, October 18, 2021, Time 14:00-15:40

Chairperson: Dr. Shaheed Khan and Dr. Muhammad Muneeb Asim

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|-------------|--------|----|---|
| 14:00 | 21-139 | KN | Graphene for Electronic Sensing and Actuation <i>Usman Khan, Pakistan</i> |
| 14:40 | 21-19 | | Tool Development and Optimization the Process of Friction Stir Welding on Aluminum to Aluminum, Copper to Copper and Aluminum to Copper <i>Muhammad Shariq Hasnain, Syed Muhammad Abu Talib Zaidi, Muhammad Hassan Bin Shaukat, Pakistan</i> |
| 15:00 | 21-150 | | Integrated Micro/Nanofiber-Nanonets Network for Directional Moisture Transport <i>Aijaz Ahmed Babar, Pakistan</i> |
| 15:20 | 21-12 | | Diamond-Like Carbon Film Deposited Via Electrochemical Route for Antireflection Applications in Photovoltaics <i>Altamash Shabbir, Zuhair S Khan, Asghar Ali, Wajahat Qasim, Nisar Ahmed, Zain Hussain, Pakistan</i> |
| 15:40-16:00 | | | Tea Break |

Session - 04

Monday, October 18, 2021, Time 16:00-17:25

Exhibition

(Open for All Participants during 18-22 October 2021)

Session - 05 (MAIN AUDITORIUM)

Tuesday, October 19, 2021, Time 09:00-10:40

Chairperson: Dr. Sara Qaisar and Dr. Farid Akhtar

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|-------------|--------|----|--|
| 9:00 | 21-22 | KN | Recycling of Aluminum, Gate Way Towards Sustainable and Green Society <i>Shahid Akhtar, Norway</i> |
| 9:40 | 21-20 | | Optimization of Copper Interlayer Thickness for Electron Beam Welding of Niobium Alloy and Stainless Steel <i>Arsalan Ahsan Shaikh, Sajid Yaqub, Pakistan</i> |
| 10:00 | 21-25 | | Nano-Indentation Investigation of the Effects of Indenter Load on Creep Deformation Behavior of Ti-6Al-2Sn-4Zr-6Mo Alloy at Room Temperature <i>Muhammad Irfan Khan,, Hamood Ur Rahman, Muhammad Imran Hanif, Muhammad Zafar Ijaz, Pakistan</i> |
| 10:20 | 21-178 | | Detection and Analysis of Various Textile Products for Heavy Metal Contents <i>Faseeha Ashraf, Pakistan</i> |
| 10:40-11:00 | | | Tea Break |

Session - 06 (Room No. 108)

Tuesday, October 19, 2021, Time 09:00-10:40

Chairperson: Dr. Shahid Hussain Abro and Dr. Muhammad Khalid

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|------|--------|--|---|
| 9:00 | 21-162 | | Synthesis and Tailoring the Magnetic Properties of Mg ²⁺ Substituted R-Type Hexagonal Ferrites <i>Zahoor ul Hassan, Imran Sadiq, Sajjad Hussain, Pakistan</i> |
| 9:20 | 21-182 | | Correlation of Energy Storage Capability and Structural Phase Transition in A ₂ B ₂ O ₇ Based Oxides <i>Abdul Quader, Pakistan</i> |

| | | |
|-------------|--------|---|
| 9:40 | 21-113 | Design and Analysis of Multi-Layered Composite Panels for In-Plane Loadings <i>Osama Ali Ahmed Awan, Babar Saeed, Muhammad Arslan Shehzad, Muhammad Asadullah Khan, Pakistan</i> |
| 10:00 | 21-144 | Cost-Effective Synthesis of Cobalt Ferrite Nanoparticles by Solgel Technique <i>Minhal Abdullah, Syed Farhan Hasany, Pakistan</i> |
| 10:20 | 21-206 | Shape Memory Hybrid Composites for Aerospace Applications <i>Huma Ozair, Pakistan</i> |
| 10:40-11:00 | | Tea Break |

Session - 07 (MAIN AUDITORIUM)

Tuesday, October 19, 2021, Time 11:00-12:40

Chairperson: Dr. Waseem Haider and Dr. Sara Qaisar

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|-------------|--------|------|---|
| 11:00 | 21-121 | V-KN | Tuning Surface Electronic Structure of Two-Dimensional Nanosheets Through Surface Treatments for Highly Efficient Water Oxidation <i>Chuanbao Cao, China</i> |
| 11:40 | 21-95 | KN | Electrophoretic Deposition of Bio-Composites for Orthopedic Applications: Progress and Challenges <i>Muhammad Attiq Ur Rehman, Pakistan</i> |
| 12:20 | 21-69 | | Binder Free Boron Nitride-Based Coatings Deposited on Mild Steel by Chemical Vapour Deposition: Anti-Corrosion Performance Analysis <i>Aamir Nadeem, Muhammad Faheem Maqsood, Mohsin Ali Raza, Zaeem Ur Rehman, Pakistan</i> |
| 12:40-14:00 | | | Lunch and Prayer Break |

Session - 08 (Room No. 108)

Tuesday, October 19, 2021, Time 11:00-12:40

Chairperson: Dr. Imran Sadiq and Dr. Aamir Shahzad

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|-------------|--------|---|
| 11:00 | 21-184 | The Degradation Mechanism in the Polymer Field-Effect Transistors: Quest for Stable Organic Devices <i>Muhammad Javaid Iqbal, Pakistan</i> |
| 11:20 | 21-16 | Experimental and Statistical Analysis: Tensile, Thermal Deterioration and O ₂ Transmission in Polymer Blend Carbon Nano Particles /Para-Aramid Composites <i>Shahid Hussain Abro, Hamza Suharwardi, Doha Majeed, Pakistan</i> |
| 11:40 | 21-168 | Fabrication of Nickel Ferrites Coated with Thermally Reduced Graphene Oxide for EMI Shielding Application in Microwave and NIR Region <i>HM Fayzan Shakir, Khadija Zubair, Pakistan</i> |
| 12:00 | 21-170 | Effect of Phase Separation Mechanism on the Performance of DPPDTT/PMMA Blend Based Organic Field-Effect Transistors <i>Tahmina Afzal, Muhammad Javaid Iqbal, Saira Riaz, Shahzad Naseem, Pakistan</i> |
| 12:20 | 21-60 | Design of Experiments Approach for Green Tyre Tread Compound Development by Reducing Conventional Carbon with an Eco-Friendly Filler <i>Syed Usama Athar, Hamna Siddiqui, Aarsal Sohail, Pakistan</i> |
| 12:40-14:00 | | Lunch and Prayer Break |

Session - 09 (MAIN AUDITORIUM)

Tuesday, October 19, 2021, Time 14:00-15:40

Chairperson: Dr. Sajid Hussain Siyal and Dr. M. Attiq ur Rehman

- 14:00 21-34 V-KN Tandem Photodetectors: A Solution to Suppress Dark Current and Maintain High Photocurrent for Photodetectors
Muhammad Sulaman, Shengyi Yang, China
- 14:40 21-26 Development of 2nd Generation Thin Film Photovoltaics Based on CZTS Absorber Layer and Magnetrons ZnS Window Layer
Maryam Tufail, Saad Saud Ali Shah, Zuhair S. Khan, Pakistan
- 15:00 21-167 EMI Shielding Study of Nickel Ferrites and Polyaniline Based Composites
Khadija Zubair, HM Fayzan Shakir, Pakistan
- 15:20 21-143 Structural and Dielectric Properties of Mg Doped M-Type Strontium Hexagonal Ferrites (SrFe₁₂O₁₉) Synthesized Via Sol-Gel Auto Combustion Method
Amina Safdar, Pakistan
- 15:40-16:00 Tea Break

Session - 10 (Room No. 108)

Tuesday, October 19, 2021, Time 14:00-15:40

Chairperson: Dr. Anis-ur-Rehman and Dr. Muhammad Shuaib

- 14:00 21-7 DSC-Investigation of Ultra-Thin Sheet of Ni_{50.14}Ti_{49.86} Shape Memory Alloy
Farwa Shaukat, Muhammad Arshad Javid, Muhammad Irfan, Laiba Amin, Saboohi Aftab, Mahrukh Ejaz, M.S. Awan, Pakistan

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|-------------|--------|---|
| 14:20 | 21-11 | Analysis of Micro-Structural Evolution and Mechanical Behavior of Gilding Brass (C21000) Processed Through Repetitive Corrugation and Straightening (RCS) Process <i>Junaid Zaman, Awais Ahmed, Fazal-E-Wadood, Abdul Saboor, Pakistan</i> |
| 14:40 | 21-21 | Effect of Solvent on Corrosion Behavior of Graphene Oxide Coated AZ31B Magnesium Alloy <i>Muhammad Faheem Maqsood, Syed Muhammad Zain Mehdi, Zaeem Ur Rehman, Mohsin Ali Raza, Umar Latif, Rumasa Kanwal, Amina Maqsood, Pakistan</i> |
| 15:00 | 21-51 | Binder Free Heteroatom Doped Graphene Oxide-Based Electrodes for Supercapacitor Applications <i>Umar Latif, Zaeem Ur Rehman, Mohsin Ali Raza, Muhammad Faheem Maqsood, Muhammad Javaid Iqbal, Naesung Lee, Syed Muhammad Zain Mehdi, Rumasa Kanwal, Pakistan</i> |
| 15:20 | 21-210 | Toxic Effects of Gold Nanoparticles on Healthy Human Cell Line <i>Farhat Saira, Rumana Qureshi, Pakistan</i> |
| 15:40-16:00 | | Tea Break |

Session – 11

Tuesday, October 19, 2021, Time 16:00-17:15

Poster Session-I

Chairperson: Poster Judges

| | |
|------|---|
| 21-1 | Influence of Processing Parameter in Extrusion Compounding Process <i>Amir Naseem Satti, Asghar Ali, Pakistan</i> |
| 21-3 | Business Trend of Materials in Pakistan and Role of Product Life Cycle Management <i>Muhammad Mushtaq Tariq, Malik Nazir Ahmed, Pakistan</i> |

- 21-4 pH Effect on MIL-101(Cr) Based Micro Bead
on Adsorption Capacity of Heavy Metals.
Sana kiran, Pakistan
- 21-5 The Temperature Effect on UiO-66 Based
Micro Bead on Adsorption of Heavy Metals
*Sana javed, Noaman Ul Haq, Asim Laeeq Khan,
Muhammad Waqas Ishaq, Zahid Ali, Pakistan*
- 21-6 Study of Kaolin Deposits in Lower Dir
District of KPK, Pakistan for Potential use in
Ceramic Industry
*Faisal Shahzad, Asghar Khan, Shah Hussain,
Muhammad Ahmad, Syed Awais, Said G Khan,
Pakistan*
- 21-14 Development of Oxidation Resistive Coating
for High Temperature Applications
*Muhammad Irfan, Muhammad Arshad Javid, Farwa
Shaukat, Laiba Amin, M.S. Awan, Pakistan*
- 21-15 Design and Development of Aluminum Based
High Energy Graphene-Sodium Ion Battery
*Zeeshan Mustafa, Shahid Hussain Abro, Norbaizura
Nordin, Pakistan*
- 21-17 Impact Behavior of High Energy Rubber-
Kevlar Composite
*Wahab Ali, Mohammed N. Alghamdi, Shahid Hussain
Abro, Pakistan*
- 21-30 Constructively Integrate and Examining the
Characteristics of Graphene (3D) Structure
Implementing Function over Exfoliation
Approach
*Shahid Hussain Abro, Sehrish Batool, Asia Naz,
Pakistan*
- 21-54 Zn (II)-Imidazole Based Micro Beads on
Adsorption of Heavy Metals: Effect of pH
Aneeza Naz, Pakistan
- 21-55 Zn (II)-Imidazole Based Micro Beads on
Adsorption of Heavy Metals: Effect of
Temperature
Aneeza Naz, Pakistan

- 21-56 Zn (II)-Imidazole Based Micro Beads on Adsorption of Heavy Metals: Effect of Concentration
Aneeza Naz, Pakistan
- 21-57 Steel-Titanium Boride Composites Produced Through Casting Technique
Syed Zameer Abbas, Ramzan Abdul Karim, Anas Asim, Ali Haider, Hamza Shair, Pakistan
- 21-64 Microstructure and Properties of Off-Stoichiometric Ni-Mn-Ga Magnetic Shape Memory Alloys
Syed Zameer Abbas, Muhammad Imran Khan, Muhammad Osama Hussain, Haider Javed, Abdul Raheem Fayyaz, Pakistan
- 21-66 High Density Polyethylene/ Carboxymethylcellulose/ Sepiolite Clay Nanocomposites for Thermal and Mechanical Properties
Sana Javaid, Shafi Ur Rehman, Pakistan
- 21-70 Development and Characterization of Graphene Oxide and Glass Fiber-Based Hybrid Epoxy Composites
Muhammad Faheem Maqsood, Muhammad Usman Bhatti, Mohsin Ali Raza, Muhammad Awais Ali Zubair, Zaeem Ur Rehman, Syed Muhammad Zain Mehdi, Umar Latif, Rumasa Kanwal, Amina Maqsood, Pakistan
- 21-76 Nano-Engineered Composites for Electrode Material of High Energy Supercapacitor
Muhammad Usman, Pakistan
- 21-101 Computational Determination of Dynamical Structure Factor of Dusty Plasmas
Aamir Shahzad, Sunnia Kiran, Alina Manzoor, Muhammad Kashif, Maogang HE, Pakistan

- 21-107 Mechanical and Thermal Properties of Epoxy Based Glass Ionomer Cement for Dental Application
Muhammad Arshad Javid, Muhammad Mudassar Jillani, Muhammad Rafique, Muhammad Nadeem, Pakistan
- 21-111 Photoluminescence Comparison of Different Substrates on AlN: Cr Thin Films by PVD for Opto-Electronic Devices
Syed Sajjad Hussain, Noor ul Huda, Saira Riaz, Rashid Ali, Amatul Saboor Jawaid, Shahzad Naseem, Pakistan
- 21-112 Development of Inorganic Phase Change Material Helmet and Wrist Band for Personal Cooling
Salman Khan, Syed Waqas Ali Shah, Rifat Ullah, Muhammad Kabir Khan, Muhammad Aaqib Ishaq, Muhammad Ali Kamran, Pakistan
- 21-124 Effect of the Constant Anodizing Potential on Surface Morphology and Corrosion Behavior of Blasted AZ31B Magnesium Alloys
Muhammad Zain Azeem, Muhammad Umar Manzoor, Muhammad Kamran, Engr. Faraz Hussain, Hamza Hasnain, Pakistan
- 21-125 Study of Temperature Dependent Dielectric Spectroscopy of Cerium Doped Bismuth Calcium Cobaltite
Yasir Abbas, M. Anis-ur-Rehman, Pakistan
- 21-126 Corrosion Inhibition of Low Carbon Steel in Soil Solutions, Using Novel Schiff Base Inhibitor.
Mehmoona Faryal, Muhammad Uzman, Muhammad Shahid, Muhammad Arfan, Pakistan
- 21-127 Silica-Sand Blasting as Surface Treatment to Deposit the Hydroxyapatite by Two Different Techniques on AZ31B Magnesium Alloy
Muhammad Anas, Faraz Hussain, Pakistan

- 21-130 Development of Water-Based Contact
Adhesive for Flexible Substrates
Rabbia Naz, Muhammad Shahid, Pakistan
- 21-131 Electrical Properties of Lanthanum Doped
Cobalt Ferrites Nanoparticles
*Muhammad Kamran, Muhammad Anis-ur-Rehman,
Pakistan*
- 21-134 Synthesis of Ultra-Low Friction Coated
Surfaces Using Laser Texturing on Aerospace
Alloys for Space Applications
Hafsa Faisal, Jarar Haider, Pakistan
- 21-145 Numerical Study on a Heat Transfer Model in
the Solid-Carbon/Liquid-Copper System
Attrra, Khurram Iqbal, Pakistan
- 21-146 Experimental Study on Percentage Reduction
Effects on Mechanical Properties and
Spinning Accuracy During Flow Forming of
D6AC
Muhammad Moiz Subhan, Pakistan
- 21-147 Method Validation for Analysis of Fluorspar
Through Spectrometric Techniques
*Sadaf Saeed, Azhar Hussain Shah, Muhammad Adeel,
Qamir Ullah, Saira Hakeem, Tahir Farooq, Sabir
Khan, Pakistan*
- 21-149 Occupational Health and Safety: Japan and
Pakistan Experience Sharing
Abdul Wadood, Pakistan
- 21-161 Determination of Dual Magnetic Phase and
Structural, Dielectric, Electrical,
Morphological, Optical Properties of Ce³⁺
Substituted Hexagonal Ferrites
Imran Sadiq, Pakistan
- 21-163 Role of Pr-Cu Substitution on Structural,
Magnetic, Optical and Dielectrical Properties
of Strontium Based X-Type Hexagonal
Ferrites
Mishal Idrees, Imran Sadiq, Pakistan

- 21-188 Study of Basalt Fibers (Natural) in Comparison with the Glass Fibers and Carbon Fibers (Synthetic) for Structural Applications
Shabbir Hassan, Husnain Hameed, Abrar H. Baluch, Pakistan
- 21-191 Estimation of Moringa Oleifera's Heavy Metal Removal Potential from Water
Shah Muhammad Haroon, Ayesha Mohyuddin, Hamid Raza, Sohail Nadeem, Mohsin Javed, Adul Rauf, Pakistan
- 21-193 Variation in Electrical Properties of Tri-Doped Ceria for Fuel Cell Applications
Seher Javed, Pakistan
- 21-194 Study of Structural Properties of Co-Doped Bismuth Oxyselenides
Zurriat Zahra, Pakistan
- 21-196 Structural and Electrical Properties of Rare Earth/ Ferrites are Studied for Resistive Switching Device Application.
Rabiya Khan, M. Anis-ur-Rehman, Pakistan
- 21-199 Effects of Heat Treatment Under Various Environmental Conditions on the Structure and Mechanical Properties of Equiatomic Refractory TiTaHfNbZr High Entropy Alloy
Yunus Alphan, Hüseyin Çimenoglu, Amir Motallebzadeh, Turkey
- 21-200 Development of Backing Composite for Ultrasonic Testing (UT) Probes Used in Fluid Storage Tanks
Tayyab Ali Khan, Hassan Waqas, Hafiz Muhammad Bin Ahmed, Sumaira Naz, Pakistan
- 21-207 DFT Calculations of Optoelectronic Properties for Si and Ge using Quantum ESPRESSO
Muhammad Hassan Bashir, Pakistan
- 21-208 Pole Figure Analysis of Graphite Material
Sumaira Naz, Pakistan

- 21-211 Effects of Boron Oxide Addition on Microstructure and Mechanical Properties of Slip Cast Fused Silica
Nasir Abbas, M. Luqman, A. Rauf, M. Shuaib, Haseeb Haroon Pakistan
- 21-230 Effect of Activated Water on Growth and Yield of Tomatoes
Ayesha Mohyuddin, Bakhtawer Shabir, Sohail Nadeem, Pakistan
- 21-231 Synthesis and Characterization of copper and strontium Co-doped Zinc Sulfide
Sara Azad, Sadia Khalid, Pakistan
- 21-232 Synthesis and Characterization of Nickel and Strontium co-doped Zinc Sulfide through Co-precipitation method
Manail Ehasn, Sadia Khalid, Pakistan
- 17:15-17:25 Ice Cream Break

Session - 12 (MAIN AUDITORIUM)

Wednesday, October 20, 2021, Time 09:00-10:40

Chairperson: Dr. Sara Qaisar and Dr. Shahid Hussain Abro

- 9:00 21-44 KN Zero-Stain Na₂MoO₄/C Nanocomposite Anode for Durable Na-Ion Batteries
Ghulam Ali, Pakistan
- 9:40 21-119 VO Cathode and Anode Materials Design and Develop for High Energy Density Lithium-Ion Batteries
Lin Wang, China
- 10:00 21-36 Nano Engineered Composites for Electrode Materials of High Energy Supercapacitors
Muhammad Usman, Pakistan

10:20 21-49 $\text{La}_{0.75}\text{Sr}_{0.25}\text{Cr}_{0.5}\text{Mn}_{0.5}\text{O}_3$ /Graphene Oxide-Based Composite Electrodes for Energy Storage Applications
Zaeem Ur Rehman, Mohsin Ali Raza, Ahmed Tariq, Muhammad Huzaiifa Awais, Muhammad Faheem Maqsood, Umar Latif, Muhammad Javaid Iqbal, Rumasa Kanwal, Pakistan

10:40-11:00 Tea Break

Session - 13 (Room No. 108)

Wednesday, October 20, 2021, Time 09:00-10:40

Chairperson: Dr. Shahid Akhtar and Dr. Sajid Hussain Siyal

9:00 21-41 Exploration of Template Supported Nickel Nanowires using Electrodeposition Method
Aamir Shahzad, Muhammad Ahsan, Alina Manzoor, Muhammad Kashif, Maogang, Pakistan

9:20 21-74 Fabrication and Characterization of ADA-GEL Based Nanofibers Using Centrifugal Spinning (C-Spin) for Biomedical Applications
Sheraz Ahmed, Atiq Ur Rehman, Pakistan

9:40 21-99 Green Up Conversion Luminescence in Yb/Er Co-Doped AlN Thin Film by RF Magnetron Sputtering
Syed Sajjad Hussain, Mohsin Khan, Saira Riaz, Syed Mutahir Hussain, Shahzad Naseem, Pakistan

10:00 21-27 Transition Metal Sulfides and their Supercapacitive Properties
Sadia Khalid, Pakistan

10:20 21-186 Acrylic Acid-Functionalized Cellulose Diacrylate-Carbon Nanocomposite Thin Film, Preparation, Characterization and its Applications
Sohail Nadeem, Mohsin javed, Sadaf Ul Hassan, Ayesha Mohyuddin, Kiran Tariq, Pakistan

10:40-11:00 Tea Break

Session - 14 (MAIN AUDITORIUM)

Wednesday, October 20, 2021, Time 11:00-12:40

Chairperson: Dr. Ghulam Ali and Dr. Muhammad Muneeb Asim

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|-------------|--------|----|---|
| 11:00 | 21-29 | KN | Interfacial Stability and Early Strength Developed Over Graphene Embedded Fiber Reinforced Composite <i>Shahid Hussain Abro, Pakistan</i> |
| 11:40 | 21-68 | KN | Characterization of Boron Nitride Nanosheets Synthesized by Boron Ammonia Reaction <i>Mohsin Ali Raza, Aamir Nadeem, Muhammad Faheem Maqsood, Pakistan</i> |
| 12:20 | 21-153 | | Investigation of Dielectric Properties of Al Doped U-Type Strontium Hexagonal Ferrites ($\text{Sr}_4\text{Ni}_2\text{Al}_x\text{Fe}_{36}\text{-XO}_{60}$) prepared by Sol-Gel Auto Combustion Method <i>Jaala Mishal, Pakistan</i> |
| 12:40-14:00 | | | Lunch and Prayer Break |

Session - 15 (Room No. 108)

Wednesday, October 20, 2021, Time 11:00-12:40

Chairperson: Dr. Asghari Maqsood and Dr. Aamir Shahzad

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|-------|-------|--|--|
| 11:00 | 21-23 | | Simulation of Micro Porosity in Gravity Die Cast Al-Si Foundry Alloys <i>Shahid Akhtar, Norway</i> |
| 11:20 | 21-35 | | Fabrication and Acoustic Characterization of Thermoacoustic Loudspeakers Based on Laser Scribing Technology <i>Moin Rabbani, Mohammad Ali Mohammad, Syed Khalid, Pakistan</i> |

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|-------------|--------|--|
| 11:40 | 21-59 | Experimental Study on Impact of Riveting Parameters on Mechanical Properties of Aluminum Alloy (LY-12) Sealant Applied Lap Joint of an Aircraft <i>Sehran Amjad, Ali Haider, Rizwan Mehmood Gul, Pakistan</i> |
| 12:00 | 21-97 | Microscopic Investigation of Internal Defects in AA2219 Alloy Forgings and Root Cause Analysis <i>Naveed Akhtar, Yasir Bashir Khan, Razzaq Ahmed, Pakistan</i> |
| 12:20 | 21-177 | Oxidation Resistant Nickel Aluminide Coating on Niobium Alloy for High Temperature Aerospace Applications <i>Nouman Zubair, Muhammad Mansoor, Noveed Ejaz, Pakistan</i> |
| 12:40-14:00 | | Lunch and Prayer Break |

Session - 16

Wednesday, October 20, 2021, Time 14:00-15:40

Poster Competition: Innovations in Nano-Structured Materials

(For Judges and Presenters: Evaluation of Posters during 11:00-12:40)

Chairperson: Poster Judges

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|--------|-------|---|
| NMC-01 | 21-37 | Synthesis and Characterization of Nanostructured Multiferroic BiFeO ₃ Perovskite <i>Saboohi, Saifullah Awan, Waqar Mahmood, Farwa Shaukat, Pakistan</i> |
| NMC-02 | 21-39 | Study of Dielectric and Electrical Properties in Co-(Fe-Gd) Ferrites Nanoparticles <i>Muhammad Kamran, Muhammad Anis-ur-Rehman, Pakistan</i> |
| NMC-03 | 21-45 | Synthesis of Silver Nanoclusters from Melia Azedarach and their Usage for Catalytic Degradation of Variable Organic Dyes <i>Wajeeha Munib, Pakistan</i> |

- NMC-04 21-47 Fabrication of Copper Doped Nickel Oxide Nanoparticles Based Composite Materials for Energy Conversion Applications
Muhammad Irfan, Ahsan Iftikhar, Shahzad Abu Bakar, Pakistan
- NMC-05 21-48 Electrospinning of Cu Doped TiO₂ Nanofibers for Photo anode in Dye-Sensitized Solar Cell Applications
Wajahat Qasim, Zuhair Khan, Aamir Satti, Asghar Ali, Muhammad Altamash Shabbir, Zain Hussain, Pakistan
- NMC-06 21-58 Fabrication of Tantalum Oxide Nanotubes by Anodization in Acidic-Free Electrolyte
Kamran Ahmad, Zahoor Ahmad, Atta Ullah Shah, Muhammad Bilal, Muhammad Taimoor Saleem, Rahim Ullah, Pakistan
- NMC-07 21-62 Nanocellulose/Polymer Based Hybrid Aerogels for Oil Spills Clean Up
Tania Ali, Pakistan
- NMC-08 21-63 Personalized Cooling System using Phase Change Materials and Carbon Nanoparticles
Sumair Nawaz, M Aaqib Ishaq, Muneeb Ahmad, Daniyal Ahmed Khan, Amir Hamza, Rizwan M. Gul, Pakistan
- NMC-09 21-79 Fabrication and Pulse Sequences Evaluation of Iron Oxides Nanoparticles as MRI Contrast Agent
Waseem Afzal, Muhammad Arshad Javid, Pakistan
- NMC-10 21-83 Nanomaterial Based Hemostatic Agent to Halt Uncontrolled Bleeding
Syeda Sohaila Naz, Pakistan
- NMC-11 21-93 Microwave Assisted Synthesis of MnO₂ Microcubes: Application as High Performance Electrode Material for Asymmetric Supercapacitor Devices
Muhammad Saleem, Athar Ali, Syed Khalid, Muhammad Shuaib, Pakistan

- NMC-12 21-94 Advanced Body Armor Utilizing Shear Thickening Fluid Based on Nanosized Silica Particles
Muhammad Saleem, Athar Ali, Syed Khalid, Muhammad Shuaib, Pakistan
- NMC-13 21-100 Fabrication of Antibacterial and Self-Cleaning Superhydrophobic Clothing Coated with Green Synthesized Silver Nanoparticles by Syzygium Cumini Leaves Extract
Mahtab, Muhammad Akram Raza, Shafqat Rasool, Zakia Kanwal, Saira Riaz, Hira Ghani, Shahzad Naseem, Pakistan
- NMC-14 21-105 Photoluminescence Comparison of Different Annealing Temperature of CdS Thin Films by PVD for Optical Switching
Syed Sajjad Hussain, Ghazi Aman Nowsherwan, Saira Riaz, Muhammad Azhar, Mohsin Khan, Arshiya Minhas, Amna Naseem, Shahzad Naseem, Pakistan
- NMC-15 21-109 Photoluminescence Study of Silver Nanoparticles Decorated on Multiwall Carbon Nanotubes (MWCNTs) by Using Spectrofluorometer
Syed Sajjad Hussain, Muhammad Saqib Munir, Saira Riaz, Muhammad Akram Raza, Shahzad Naseem, Pakistan
- NMC-16 21-110 Near UV and Visible Region Photoluminescence Curves Study for AlN Thin Film and AlN Nano Powder
Syed Sajjad Hussain, Noor ul Huda, Saira Riaz, Rashid Ali, Amatul Saboor Jawaid, Zain Fatima, Qaisar Iqbal, Nabi-ur Rehman, Shahzad Naseem, Pakistan
- NMC-17 21-115 Effect of Annealing on Red Luminescence by Sm Doped AlN Nano-Structure Thin Film Grown by RF Magnetron Sputtering
Syed Sajjad Hussain, Saira Riaz, Mohsin Khan, Syed Mutahir Hussain, Shahzad Naseem, Pakistan

- NMC-18 21-122 Biosynthesis and Characterization of Citrullus Colocynthis Fruit Extract Mediated Silver Nanoparticles for Antibacterial Applications
Shafqat Rasool, Muhammad Akram Raza, Zakia Kanwal, Saira Riaz, Shahzad Naseem, Pakistan
- NMC-19 21-138 Synthesis of Graphene-Pt Nanoparticles Composite by Microwave Assisted Heating Process
Qadeer Ahmed, Imran Nazir Qureshi, Pakistan
- NMC-20 21-140 Manufacturing of Nano Structured Titania using Hydrothermal Route and its Application in Supercapacitors
Talha Ahmed, Muhammad Saleem, Syed Khalid Mehmood Shah, Ahnaf Usman Zillohu, Mustasim Billah Bhatti, Pakistan
- NMC-21 21-172 Silica Coated Magnetite Nanoparticles: Synthesis, Characterization and RNA Extraction for Efficient Detection of COVID-19 Virus
Sabah Zaman, Imran Nazir, Zulfiqar Khattak, Rashida Abbasi, Amjad Ali, Pakistan
- NMC-22 21-174 Performance Parameters Modulation of Zinc Oxide Based Field Effect Transistor by CuO/ZnO Junction
Asmara Fazal, Muhammad Javaid Iqbal, Tahmina Afzal, Saira Riaz, Shahzad Naseem, Pakistan
- NMC-23 21-183 Utilizing Successive Ionic Layer Adsorption and Reaction Technique for Volmer Weber Modelled Deposition of Nanoscale TiO₂ Particles on SiO₂
Junaid Iqbal, Saim Ahmad Abbasi, Muhammad Abdul Basit, Pakistan
- NMC-24 21-187 Starch Based Biodegradable Polymers Nano Composites
Sohail Nadeem, Razia Bano, Sadaf Ul Hassan, Ayesha Mohyuddin, Pakistan

- NMC-25 21-190 Addition of Sodium as a Dopant to Improve the Thermoelectric Performance of BiCuSeO
Tasmia Khalid, Pakistan
- NMC-26 21-192 Synthesis of Novel Bi₂Ca_{1.95}Sm_{0.025}La_{0.025}CoO₆ Perovskite That Can Be Converted Into a Meta-Material at Desired Temperature
Yasir Abbas, M. Anis-ur-Rehman, Pakistan
- NMC-27 21-195 Nanotechnology: A Possible Solution for the Prevention, Detection, Drug Delivery and Remedy of Covid-19. An Experimental Review
Furqan Asif, Pakistan
- NMC-28 21-197 Electrical Study of PVP/LiCo_{0.9}Zn_{0.1}O₂ nanoparticles Embedded Nanofibers
Shahzad Nawaz Malik, M. Anis-ur-Rehman, Pakistan
- NMC-29 21-202 Simplistic Wet-Chemical Development of Nanostructured SnS for Excellent Photocatalytic Degradation of Toxic Industrial Pollutants
Saira Zahid, Muhammad Abdul Basit, Pakistan
- NMC-30 21-203 Structural and Electrical Properties of Pure and Samarium Doped MgFe₂O₄ Nanoparticles for Resistive RAM Applications.
Haroon Mazhar, M. Anis-ur-Rehman, Pakistan
- NMC-31 21-204 Synthesis and Characterization of Nd-Doped Calcium Bismuth Cobaltites for Thermoelectric Applications
Haris Farooq Kiani, M. Anis-ur-Rehman, Pakistan
- NMC-32 21-213 Storage and Permeation of Hydrogen Molecule, Atom and Ions Through Silicon Carbide Nanotube: A DFT Approach
Naveen Kosar, Pakistan

- NMC-33 21-221 Microwave-anion-exchange route to ultrathin cobalt-nickel-sulfide nanosheets for hybrid supercapacitors
S. Rafai, C. Qiao, M. Naveed, S. Khalid, M. Saleem, C. Cao, Pakistan
- NMC-34 21-222 Synthesis and Characterization of Cu(II) - based Nano Metals-Organic Framework with Superior Anti-Bacterial Activity
Abdul Rauf, Pakistan
- NMC-35 21-223 Transient Polymer/Carbon Nano Composite Thin Films for Advanced Application
Toheed Akhtar, Pakistan
- NMC-36 21-224 Towards Mimicking the Proton Regulation of Ions Transmissions in Living Cells: Acidity-Affected Inclusion of Metal Cations within a Porous Keplerate Type Nano-Capsules
Sadaf Ul Hassan, Pakistan
- NMC-37 21-73 In Vivo MRI Study of Ni Doped Iron Oxide Nanoparticles as Contrast Agent
Muhammad Arshad Javid, Muhammad Adeel Abbas, Pakistan
- NMC-38 21-229 UV-Irradiated PEO/LATP Composite Gel Polymer Electrolyte for Lithium Metallic Batteries (LMBs)
Sajid Hussain Siyal, Pakistan
- 15:40-16:00 Tea Break

Session – 17 (MAIN AUDITORIUM)

Thursday, October 21, 2021, Time 09:00-10:40

Chairperson: Dr. Muhammad Farooque and Dr. Sara Qaisar

| | | | |
|-------------|--------|------|---|
| 9:00 | 21-141 | V-KN | High-Entropy Alloy Thin Films and Coatings <i>Wei-Bing Liao, China</i> |
| 9:40 | 21-173 | KN | Machine Learning in Additive Manufacturing <i>Waseem Haider, USA</i> |
| 10:20 | 21-136 | | Refractory Multicomponent Boron-Carbide High Entropy Oxidation-Protective Coating for Carbon-Carbon Composites <i>Farid Akhtar, Hanzhu Zhang, Sweden</i> |
| 10:40-11:00 | | | Tea Break |

Session – 18 (Room No. 108)

Thursday, October 21, 2021, Time 09:00-10:40

Chairperson: Dr. Muhammad Shoaib and Dr. Mustasim Billah Bhatti

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|-------------|--------|--|
| 9:00 | 21-164 | Fatigue Failure of a Fuel Pipe of an Aero Engine <i>Madiha Nazir, Noveed Ejaz, Muhammad Mansoor, Pakistan</i> |
| 09:20 | 21-94 | Advanced Body Armor Utilizing Shear Thickening Fluid Based on Nanosized Silica Particles <i>Muhammad Saleem, Athar Ali, Syed Khalid, Muhammad Shuaib, Pakistan</i> |
| 9:40 | 21-198 | Mn ₃ O ₄ @SiO ₂ Nanocomposite Fabrication for Potential Theranostic Applications <i>Rija Rehman Awan, Syed Mujtaba-ul-Hassan, Rizwan Ahmed, Faisal Shahzad, Zafar Iqbal, Mirza Jamil Ahmad, Pakistan</i> |
| 10:00 | 21-205 | Synthesis of 2D Copper-Based Metal Organic Framework having Excellent Adsorption of Organic Dyes <i>Hamid Raza, Farhat Yasmeen, Nazir Ahmed, Khurram Shahzad, Ayesha Mohy ud Din, S.M. Haroon, Abdul Rauf, Sohail Nadeem, Mohsin Javed, Urooj Fatima, Muhammad Arif, Pakistan</i> |
| 10:20 | 21-65 | Peroxide Crosslinking of Ultrahigh Molecular Weight Polyethylene Using Vitamin E/D-Sorbitol as an Anti-Oxidant <i>Syed Roohullah Jan, Rizwan M. Gul, Jia-Zhuang Xu, Nouman Ali Shah, Pakistan</i> |
| 10:40-11:00 | | Tea Break |

Session - 19 (MAIN AUDITORIUM)

Thursday, October 21, 2021, Time 11:00-12:40

Chairperson: Dr. Waseem Haider and Dr. Shaheed Khan

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|-------------|--------|------|---|
| 11:00 | 21-225 | KN | Modern Trends in Processing of Ti-Based Alloys <i>S. Wilayat Hussain, Pakistan</i> |
| 11:40 | 21-75 | V-KN | Surface Modification of Titanium Alloys <i>Huseyin Cimenoglu, Turkey</i> |
| 12:20 | 21-108 | | Preparation Structural and Optical Analysis of Tungsten Sulphide Thin Film by DC-Sputtering <i>Syed Sajjad Hussain, Muhammad Faizan Ali Mehdi, Saira Riaz, Rashid Ali, Mohsin Khan, Shahzad Naseem, Pakistan</i> |
| 12:40-14:00 | | | Lunch and Prayer Break |

Session - 20 (Room No. 108)

Thursday, October 21, 2021, Time 11:00-12:40

Chairperson: Dr. Muhammad Khalid and Dr. Shahid Nisar

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| 11:00 | 21-33 | | Oxidation Mechanisms of Silicide Coatings on a High Temperature Nb Based Alloy Produced by Slurry and Pack Cementation Processes <i>Malik Zeeshan Arif, Huzaifa Younas, Pakistan</i> |
| 11:20 | 21-40 | | Thermal Conductivity of Single-Walled Carbon Nanotubes using Molecular Dynamics Simulations <i>Aamir Shahzad, Ama Tul Zahra, Alina Manzoor, Muhammad Kashif, Maogang, Pakistan</i> |
| 11:40 | 21-213 | | Storage and Permeation of Hydrogen Molecule, Atom and Ions Through Silicon Carbide Nanotube: A DFT Approach <i>Naveen Kosar, Naveen Kosar, Pakistan</i> |

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|-------------|--------|---|
| 12:00 | 21-209 | Case Study of PVC Cables Exposed in Thermal and Radiation Environment <i>Sumaira Naz, Pakistan</i> |
| 12:20 | 21-88 | Reduction of Cr(VI) from Tannery Effluent by ZnO/CuO Composite <i>Nida Naeem, Pakistan</i> |
| 12:40-14:00 | | Lunch and Prayer Break |

Session – 21 (MAIN AUDITORIUM)

Thursday, October 21, 2021, Time 14:00-15:40

Chairperson: Dr. Muhammad Shoaib and Dr. Syed Shabbar Abbas

Rizvi

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|-------------|--------|------|---|
| 14:00 | 21-28 | V-KN | A Hybrid Composite of RGO/TiO ₂ as a Double Layer Electrode with Improved Capacitance Performance <i>Syeda Wishal Bokhari, Pakistan</i> |
| 14:40 | 21-179 | | Analysis of Composite Metal Panels Under Cyclic Load <i>Madeha Jabbar, Yasir Nawab, Muhammad Umair, Khubab Shaker, Pakistan</i> |
| 15:00 | 21-8 | | Optimization of Electron Beam Welding Parameters of AISI-304 Austenitic Stainless Steel <i>Fakhar Alam Zeb, Pakistan</i> |
| 15:20 | 21-13 | | Development and Characterization of Glass Fiber Reinforced Nano Silica Matrix Composites <i>Raheela Rasheed, Muhammad Shafqat, Zahid Shabir, Muhammad Faizan Awan, Ibrahim Qazi, Muhammad Umar Saeed, Pakistan</i> |
| 15:40-16:00 | | | Tea Break |

Session - 22

Thursday, October 21, 2021, Time 16:00-17:15

Poster Session-II

Chairperson: Poster Judges

- 21-31 Characterization of Air Plasma Sprayed TBC Coating During Isothermal Oxidation and Dynamic Arc Plasma Heating
Abu Bakar, Shaikh Asad Ali Dilawary, Muhammad Khalid, Pakistan
- 21-38 Development of Mechanical Testing Apparatus to Analyze Performance of Different Photovoltaic Module
Nouman Ali Shah, Rizwan M. Gul, China
- 21-43 Effect of Temperature on Bio Adsorbent Based Hybrid Beads for Heavy Metals Removal from Waste Water
Anfal Sajid, Pakistan
- 21-46 High Electrical Conductivity of $\text{Bi}_2\text{Ca}_{1.80}\text{Ce}_{0.20}\text{CoO}_6$ Cobaltite for Renewable Energy Application
Yasir Abbas, M. Anis-ur-Rehman, Pakistan
- 21-50 Microwave-Assisted Sintering of LSCF-GDC Composite Based Cathode for Intermediate Temperature Solid Oxide Fuel Cells
Usman Ashraf, Mustafa Anwar, Zuhair S Khan, Asghar Ali, Pakistan
- 21-53 Improved Oxidation Resistant Peroxide Cross-Linked Ultra High Molecular Weight Polyethylene
Muhammad Aaqib Ishaq, Rizwan M. Gul, Pakistan
- 21-71 An Improved Simulation Model of Next Generation Multi junction Solar Cell Considering Lattice Constant and Band gap Energy Adjustment
Muhammad Adnan Ali, Mubashir Rasool, Muhammad Zeeshan Ali, Seema Tahir, Pakistan

- 21-72 Effect of pH on Bio Adsorbent Based Hybrid Beads for Heavy Metals Removal from Waste Water
Anfal Sajid, Pakistan
- 21-81 Concentration Effect on MIL-101(Cr) Based Micro Bead on Adsorption of Heavy Metals.
Sana Kiran, Pakistan
- 21-82 Temperature Effect on MIL-101(Cr) Based Micro Bead on Adsorption of Heavy Metals.
Sana Kiran, Pakistan
- 21-84 Ac Conductivity Studies of Ag/CNT Filled Epoxy Adhesive Nano Composite
Fizah Dilshad, Pakistan
- 21-85 Effect of Concentration on Bio Adsorbent Based Hybrid Beads for Heavy Metals Removal from Waste Water
Anfal Sajid, Pakistan
- 21-86 Effect of Natural Anti-Oxidants on Performance of Chemically Crosslinked Ultra High Molecular Weight Polyethylene Used in Total Joint Arthroplasty
Nouman Ali Shah, Rizwan M. Gul, Jia-Zhuang Xu, China
- 21-87 Mechanical and Thermal Properties of Polyethylene Glycol Based Glass Ionomers Cement for Dental Application
Muhammad Mudassar Jillani, Pakistan
- 21-89 Temperature Effect on UiO-66 Based Micro Bead on Adsorption of Heavy Metals
Sana Javed, Pakistan
- 21-90 The Concentration Effect on UiO-66 Based Micro Bead on Adsorption of Heavy Metals
Sana Javed, Pakistan
- 21-91 Effect of pH on UiO-66 Based Micro Bead on Adsorption of Heavy Metals
Sana Javed, Pakistan

- 21-92 Effects Heat Treatment of Mechanical and Corrosion Properties of Low Carbon (ASTM A-615) Steel
Muhammad Bilal, Shahid Hussain Abro, Pakistan
- 21-96 Evaluation and Determination of Uncertainty in Spark Atomic Emission Spectrometric Analysis of Al Alloys
Rehan ahmad, M. Afzal, Naveed Akhtar, Pakistan
- 21-98 Effect of Cold Working and Precipitation Hardening Conditions on Mechanical Properties of AA-6061 Tubes Using Design of Experiment
Munawar Zaman, Usman Waheed, Mehtab Ali, Pakistan
- 21-99 Green Up Conversion Luminescence in Yb/Er Co-Doped AlN Thin Film by RF Magnetron Sputtering
Syed Sajjad Hussain, Mohsin Khan, Saira Riaz, Syed Mutahir Hussain, Shahzad Naseem, Pakistan
- 21-104 Eutectic Si Accumulation in Liquid Forged A356 Alloy Wheel and its Adverse Effect on Tensile Fracture Behavior
Mudassar Hussain, Pakistan
- 21-114 Spectral Splitting Optimization for Highly Efficient Hybrid Photovoltaic Devices by Using $\text{Na}_3\text{AlF}_6\text{Y}_2\text{O}_3$ and TiO_2 Beam Splitter
Syed Sajjad Hussain, Syeda Hafiza Faiza, Saira Riaz, Mohsin Khan, Syed Mutahir Hussain, Shahzad Naseem, Pakistan
- 21-116 Production of Gasoline with High Quality and High Octane Number by use of Bifunctional Catalyst Pt / Re in the Catalytic Reforming Process
Menouar Hanafi, Algeria
- 21-117 Shape Reversibility and Thermo responsive Reactions in Shape Memory Alloys
Osman Adiguzel, Turkey

- 21-118 Fabrication of Superhydrophobic Fabric Using *Emblica Officinalis* Leaves Extract Mediated Silver Nanoparticles for Antibacterial and Self-Cleaning Applications
Hira Ghani, Muhammad Akram Raza, Shafqat Rasool, Zakia kanwal, Saira Riaz, Mahtab Nawaz, Shahzad Naseem, Pakistan
- 21-120 Facile Synthesis of Novel $\text{Bi}_2\text{Ca}_{1.80}\text{Sm}_{0.10}\text{Ce}_{0.10}\text{CoO}_6$ Perovskite for Renewable Energy Application
Yasir Abbas, M. Anis-ur-Rehman, Pakistan
- 21-129 Corrosion Protection of Mild Steel in Acidic Environment Using Novel Schiff Base Inhibitor
Wareesha Hasan, Khalid Mehmood, Pakistan
- 21-135 Feasibility of Bi-Metallic Friction Stir Welding of Titanium Alloy Ti6Al4V with Inconel-625
Talha Ahmed, Ahnaf Usman Zillohu, Mustasim Billah Bhatti, Pakistan
- 21-151 Effect of Bias Voltage on Adhesion and Corrosion Resistance of TiN Coated Stainless Steel Substrate
Talha Faizi, Rashid, Abdullah, Pakistan
- 21-155 Investigation of Modified AISI-4340 Steel Cylinder Failed During Flow Forming
Khalid Mehmood, Wareesha Hasan, Liaqat Ali, S.A. Rizvi, Pakistan
- 21-157 Effect of Metallurgical Aspects on the Magnetic Response of Electrical Grade Silicon Steel
Zeeshan Abdullah, Muhammad Mansoor, Noveed Ejaz, Pakistan
- 21-160 Failure of Centrifugal Compressor of Starter Engine of an Aircraft
Noveed Ejaz, Muhammad Mansoor, Liaqat Ali, Pakistan

- 21-165 Impact Strength Amelioration of AISI-1020 Steel using Thermal Treatment
Nouman Zubair, Muhammad Mansoor, Noveed Ejaz, Pakistan
- 21-176 Appropriate Combination of Materials for Manufacturing Propulsion Based Flight Motor-Case Used in Aerospace Applications
Bilal Islam, Umar Saleem, M Sadiq Khattak, Shahid Nisar Ahmad, Ahmad Nawaz, Kaleem Akhtar, Pakistan
- 21-180 Aging Assisted Failure of SV-40 Epoxy
Madiha Nazir, Noveed Ejaz, Muhammad Mansoor, Pakistan
- 21-181 Production of Biodiesel from Waste Vegetable Oil using Waste Egg Shell Based Heterogeneous Catalyst
Tubba Jawad, Pakistan
- 21-185 Study of Structural and Electrical Properties of CuFe-CGN for Renewable Energy Applications.
Amna Siddique, M. Anis-ur-Rehman, Pakistan
- 21-212 Effect of Sn Content on Structure and Piezoelectric Properties of $Pb(Zr_{0.35}Ti_{0.65})_{1-x}Sn_xO_3$
Nasir Abbas, Haseeb Haroon, Zahid Sarfraz, M. Shuaib, M. Saleem, A. Rauf, M. Luqman, Pakistan
- 21-214 Comparative Study on Mechanical Tribological Properties of AISI H-13 and Novel Grade ($XC_{r5}Ni_6Co_3$) Tool Steels Using Oil-Hardening
Zeeshan Siraj Deen, Pakistan
- 21-215 Grain Size Refinement of Ultra High Strength Age-Hardenable High Alloy Steel
Muhammad Haroon Qaiser, Imran Nazir Qureshi, Amjad Ali, Iftikhar Us Salam, Pakistan

- 21-216 Optimization of Mechanical Properties for Cold Plastic Deformation of D6AC High Strength Steel
Muhammad Haroon Qaiser, Qadeer Ahmad, Imran Nazir Qureshi, Amjad Ali, Iftikhar Us Salam, Pakistan
- 21-217 In Vitro Study of Commercially Pure Ti after Ultrasonic Surface Mechanical Attrition Treatment
Kamran Yaseen, Pakistan
- 21-218 Effect of Cold Working and Subsequent Heat Treatment on Hardness of C17200 Cu-Be Alloy
Kamran Yaseen, Pakistan
- 21-102 Role of Psidium Guajava Leaves Extract Mediated AgNPs in Balancing Liver Function Enzymes in Bacterial Challenged Cirrhinus Mrigala - an In-Vivo Study
Zakia Kanwal, Sumaira Pervaiz, Farkhanda Manzoor, Muzammil Fatima, Muhammad Akram Raza, Saira Riaz, Shafqar Rasool, Shahzad Naseem, Pakistan
- 21-228 The Study and the Development of the Renewable Energy in the Aquatic Ecosystem
Latifa Hanafi, Menouar Hanafi, Algeria
- 17:15-17:25 Ice Cream Break

Session – 23 (MAIN AUDITORIUM)

Friday, October 22, 2021, Time 09:00-10:40

Chairperson: Dr. Aamir Nusair Khan and Dr. Ali Dad Chandio

- 9:00 21-226 KN Characterization Techniques in Materials Science - Recent Developments and Challenges
Anjum Tauqir, Pakistan

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| 9:40 | 21-80 | Numerical Simulation of Viscosity Effects on Carbon Steel 90° Elbow Erosion due to Sand-Liquid Flow <i>Muhammad Rehan Khan, Hamdan Bin Ya, Mohammad Azad Alam, M. Azeem, Tauseef Ahmed, Muhammad Rameez, Usama Muhammad Niazi, Pakistan</i> |
| 10:00 | 21-142 | Effect of Box-Behnken Model by Using Minitab on Schiff Base Synthesis <i>Fiza Latif, Pakistan</i> |
| 10:20 | 21-148 | Challenges Encountered in the Study of Ores Using Analytical Techniques <i>Sadaf Saeed, Pakistan</i> |
| 10:40-11:00 | | Tea Break |

Session – 24 (Room No. 108)

Friday, October 22, 2021, Time 09:00-10:40

Chairperson: Dr. Sajjad Ahmed and Dr. Muhammad Khalid

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| 9:00 | 21-123 | Modulating the Electronic and Optical Properties of $\text{Cu}_2\text{HgSnSe}_4$ via Bi-Axially Strain <i>Muhammad Kashif, Amir Shahzad, Pakistan</i> |
| 9:20 | 21-156 | Optimizing the Morphology, Structure and Optoelectronic Properties of Aluminum Doped Zinc Oxide Thin Films Developed via Wet Chemical Synthesis <i>Mian Muneeb Ur Rehman, Zuhair S Khan, M. Ahmad, Asghar Ali, M. Shaheer Aslam, Pakistan</i> |
| 9:40 | 21-169 | A Study of Aluminum Doped ZnO Thin Films Developed via a Hybrid Method Involving Sputter Deposition and Wet Chemical Synthesis <i>Mohammad Ahmad, Zuhair S. Khan, Mian Muneeb Ur Rehman, Asghar Ali, Muhammad Shaheer Aslam, Pakistan</i> |

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| 10:00 | 21-67 | Optimization of Cefotaxime Loaded Nanoparticles for In-Vitro Drug Release Application <i>Sana Javaid, Nasir M. Ahmad, Shafi Ur Rehman, Pakistan</i> |
| 10:20 | 21-189 | Investigation of Cracks on Internal Surfaces of Extruded Cold Worked Thick-Walled Pipes of Age-Hardened Al-Alloy <i>Irsa Jahangir, Hafiz Naeem, Abdul Faheem, Anjum Tauqir, Pakistan</i> |
| 10:40-11:00 | | Tea Break |

Session – 25 (MAIN AUDITORIUM)

Friday, October 22, 2021, Time 11:00-12:40

Chairperson: Dr. Muhammad Shuaib and Dr. Farid Akhtar

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|-------------|--------|----|--|
| 11:00 | 21-227 | KN | Photo polymerization Based Solid-state Electrolytes for Lithium Metallic Batteries <i>Sajid Hussain Siyal, Muhammad Sufyan Javed, Pakistan</i> |
| 11:40 | 21-106 | | Self-Cleaning and Antibacterial Potential of Superhydrophobic Cotton Fabric Decorated with Silver Nanoparticles <i>Muhammad Akram Raza, Syeda Saniya Maham Shahzadi, Zakia Kanwal, Saira Riaz, Shafqat Rasool, Kanwal Zakir, Shahzad Naseem, Pakistan</i> |
| 12:00 | 21-61 | | Highly Transparent N-Type TiO ₂ Coatings for Self-Cleaning Glass Application <i>M. Rabeel, R. Khan, U. Ali, S. Javed, M. A. Akram</i> |
| 12:20 | 21-78 | | Effect of Sericin Additive on Membrane Morphology and Protein Rejection <i>Hizba Waheed, Amir Mukhtar, Sana Javaid, Pakistan</i> |
| 12:40-14:00 | | | Lunch and Prayer Break |

Session – 26 (Room No. 108)

Friday, October 22, 2021, Time 11:00-12:40

Chairperson: Dr. Abrar Ahmed and Dr. Shahid Nisar

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| 11:00 | 21-2 | Hot Corrosion Behavior of Atmospheric Plasma Sprayed YSZ Coatings on Ni Superalloy Substrate with Pt Modified NiCoCrAlY Bond Coat. <i>Muhammad Azhar Iqbal, Zuhair S, Khan, Nisar Ahmed, Asghar Ali, Aamir Satti, Qamaruldin, Pakistan</i> |
| 11:20 | 21-9 | Corrosion Behavior of SiC Coated Hastelloy X with Intermediate MoSi ₂ Interlayer for Iodine -Sulfur Cycle for Hydrogen Production <i>Zain Hussain, Zuhair S. Khan, Asghar Ali, Nisar Ahmed, M. Altamash Shabbir, Wajahat Qasim, Pakistan</i> |
| 11:40 | 21-18 | Development and Characterization of Novel Black Oxide Coating on Anchor Bolts of Mild Steel for Structural Applications <i>Ameeq Farooq, Muhammad Umer Muzammil, Shoaib Raza, Haider Ali Shah, Muhammad Arsalan Hafeez, Pakistan</i> |
| 12:00 | 21-159 | Effect of Carbon Nanotubes Addition on the Formability of Al-CNT Composite <i>M. Mansoor, N. Ejaz, M. Shahid, Pakistan</i> |
| 12:20 | 21-152 | Enhanced Anti-Saline Corrosion Resistance of Thermally Annealed Wire Arc Sprayed Monel-400 Coatings on Stainless Steel-304 <i>Muhammad Shaheer Aslam, Zuhair S. khan, Nisar Ahmed, Aamir N. Satti, Mian Muneeb Ur Rehman, M. Ahmad, Pakistan</i> |
| 12:40-14:00 | | Lunch and Prayer Break |

CONCLUDING CEREMONY

**National Centre for Physics, Islamabad
Main Auditorium**

Friday, 22nd October 2021

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| 15:20 | Guests to be seated |
| 15:30 | Arrival of the Chief Guest |
| 15:35 | Recitation from the Holy Quran |
| 15:40 | Summary of the Event by General Secretary PAMF |
| 15:50 | Comments / Feedback by the Participants |
| 16:00 | Concluding Address by the Chief Guest |
| 16:10 | Distribution of Souvenirs / Prizes |
| 16:20 | Vote of Thanks by the President PAMF |

Refreshment



17th INTERNATIONAL SYMPOSIUM ON ADVANCED MATERIALS

OCTOBER 18 TO 22, 2021

📄 PAMF Secretariat, P.O. Box 503, Rawalpindi, Pakistan

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