

# Program

## 4<sup>th</sup> International Conference on Materials Science and Nanotechnology 2020 (MSNANO-20)

Day 3 5 March, 2020		
9:00-11:00	<b>Poster Session</b>	<p style="text-align: center;"><b>Session Chair: Dr. Kashif Javaid (GCUF, Faisalabad)</b></p> <hr/> <p style="text-align: center;"><b>09:00-09:15</b></p> <p style="text-align: center;"><b>Tean Zaheer (UAF, Faisalabad)</b></p> <p style="text-align: center;"><i>In vitro Acaricidal activity of green mediated magnesium oxide nanoparticles against Rgipicephalus Ticks</i></p> <hr/> <p style="text-align: center;"><b>09:15-09:30</b></p> <p style="text-align: center;"><b>Atta ul Haq (IUB, Bahawalpur)</b></p> <p style="text-align: center;"><i>Mechanisms of Halosulfuron Methyl pesticide biosorption onto Neem Seeds Powder: kinetic, equilibrium and thermodynamic studies</i></p> <hr/> <p style="text-align: center;"><b>09:30-09:45</b></p> <p style="text-align: center;"><b>Mughees Riaz (NFC, Multan)</b></p> <p style="text-align: center;"><i>Economically efficient, environment friendly and power stack shed reduction energymangement system by utilizing renewable energy resources for remote hilly areas of Pakistan</i></p> <hr/> <p style="text-align: center;"><b>09:45-10:00</b></p> <p style="text-align: center;"><b>Rabbia Siddique (NFC, Multan)</b></p> <p style="text-align: center;"><i>A modified NSGA approach for optical sizing and allocation of distributed resources and battery energy storage system in distribution network</i></p> <hr/> <p style="text-align: center;"><b>10:00-10:15</b></p> <p style="text-align: center;"><b>M. Arslan Iqbal (NFC, Multan)</b></p> <p style="text-align: center;"><i>Integration of sub gradient based coordination for multiple renewable generators in microgrid</i></p> <hr/> <p style="text-align: center;"><b>10:15-10:30</b></p> <p style="text-align: center;"><b>M. Hasan Raza (IIU, Islamabad)</b></p> <p style="text-align: center;"><i>3D bioprinting of bacteria using biocompatible polysaccharide based biomaterials</i></p> <hr/> <p style="text-align: center;"><b>10:30-10:45</b></p> <p style="text-align: center;"><b>Shugufta Kamal (GCUF, Faisalabad)</b></p> <p style="text-align: center;">TBA</p>
11:00-11:30	<b>Tea</b>	

	<b>Hall 1 Session Chair: Prof. Dr. Hassan Sayyad (GIK, Topi)</b>	<b>Hall 2 Session Chair: Dr. Hafiz Naeem ur Rehman (KFUEIT, RY Khan)</b>
11:30-12:00	<b>Zahir Iqbal (GIK, Topi)</b> <i>“Ultraviolet-light-driven doping tunability and reversibility of exfoliated graphene based field effect transistors</i>	<b>Abid Mahmood (GCUF, Faisalabad)</b> <i>Effect of synthesis parameters on degradation of methylene blue using Zn-Mn oxide composites</i>
		<b>M. Imran Arshad (GCUF, Faisalabad)</b>
12:00-12:30	<b>Aba Eboung (UNCC, USA)</b>	<b>M. Ajaz un Nabi (GCUF, Faisalabad)</b> <b>Waleed Raza (UET, Taxila)</b> <i>Synthesis and characterization of Cobalt ferrites for MRI contrast agent</i>
12:30-13:00	<b>Bo Cui (Canada)</b> <i>Nanofabrication on non-flat irregular surfaces</i>	<b>Linta Khalil (Islamabad)</b> <i>Optimization and Designing of Hybrid Power System Using Homer Pro</i>
		<b>M. Tamoor Ansar (PU, Lahore)</b> <i>Enhanced flexibility, searchability and efficiency of natural fiber based stain sensors for wearable electronics</i>
13:00-14:00	<b>Closing Ceremony</b>	
14:00-15:00	<b>Lunch</b>	

## Poster List

- Structural and Mechanical Analyses of Soldering Materials Containing Pb, Sn, Ag, Cu, Bi and Zn  
Mazullah, Maaz Khan, Ghafar Ali, Muhammad Naeem Khan, Aurang Zaib, Shafqat Abbas  
Pakistan Institute of Nuclear Science & Technology Islamabad, Pakistan
- Assessment of mechanical properties and microstructural evolution of dissimilar materials weld between Ni alloy 617 and 12 Cr steel  
Muhammad Rehan Tariq, Usman Ghani, Zaraq Ali, Hafiz Waqar Ahmad, Umer Masood Chaudr  
Department of Metallurgy and Materials Engineering, University of the Punjab, Pakistan
- Investigation of Structural, Optical, Electrochemical and Dielectric Properties of SnO<sub>2</sub>/GO Nanocomposite  
Sardarali Khan, Syed Zulfiqar, Tahirzeb Khan, Majid Khan  
Department of Physics, Abdul Wali Khan University, Mardan, KPK 23200, Pakistan
- Synthesis and investigation of Structural, Optical, Electrochemical and Dielectric Properties SnO<sub>2</sub>/Graphite Nanocomposite  
Sardarali Khan, Syed Zulfiqar, Tahirzeb Khan, Majid Khan  
IDepartment of Physics, Abdul Wali Khan University, Mardan, KPK 23200, Pakistan
- A design and Comparative Investigation of Graded Al<sub>x</sub>Ga<sub>1-x</sub>N EBL for W-B 0.375 GaN/W-B 0.45 GaN Edge Emitting Laser Diode on AlN Substrate  
Mussaab .Niass , Fang Wang and Yu-Huai Liu  
National Center for International Joint Research of Electronic Materials and Systems, Zhengzhou, Henan, China
- Size-dependent Lasing Dynamics of An Optically Pumped Single Spherical Quantum Dot in Photonic Crystal Microcavity  
Sharif. Muhammad Nawaz, Mussaab Ibrahim. Niass, Intiaz. Ahmad, Fang. Wang, Yuhuai. Liu  
National Center for International Joint Research of Electronic Materials and Systems, Zhengzhou University, Zhengzhou, Henan, China
- Part load performance for selective exhaust gas recirculation of natural gas-fired power plant coupled with CO<sub>2</sub> capture system  
Yamina Qureshi, Usman Ali  
Department of Chemical Engineering, University of Engineering and Technology, G.T. Rd, Lahore 54890, Pakistan
- Study of Temperature Profiles and chips morphology during drilling in AISI 1018 mild steel blocks under varying Cutting conditions

Asim Ahmad Riaz, Naveed Ullah, Waseem Akram  
Department of Mechanical Engineering, University of Engineering & Technology, Peshawar, Pakistan

9. Calotropis gigantea leaves assisted biosynthesis of ZnO and Ag@ZnO catalysts for degradation of rhodamine B dye in aqueous medium

Muhammad Saeed I, Afifa Baig, Nadia Akram, Muhammad Usman, Muhammad Asif Aleem  
Department of Chemistry, Government College University Faisalabad, Faisalabad Pakistan

10. Semiconductor Thin Films for Solar Cell Applications

Nazar Abbas Shah, Murawat Abbas, Waqar Mahmood

11. Thin Films Technology Research Lab, Department of Physics, COMSATS University, Islamabad 4000 Pakistan

12. Enhanced photocatalytic activity by the fabricated TiO<sub>2</sub>/Graphene oxide nanocomposites against ciprofloxacin and methylene blue dye

Komal Rizwana\*, Shakeel Ahmad Khan, Sammia Shahid

aDepartment of Chemistry, University of Sahiwal, Sahiwal 57000, Pakistan

13. Biogenic Synthesis of Silver Nanoparticles from Medicinal Plant of Pakistan, Characterization, Catalytic Reduction, Anti-oxidant and Anti-microbial Potential, Wajeeha Munib, Faisal Nawaz, Faiza Asghar, Humaira Razzaq I, Zaheer Ahmad, Tariq Mahmood

Department of Chemistry, Faculty of Basic Sciences, University of Wah, Wah Cantt, 47040, Pakistan

14. Extracellular biosynthesis and characterization of Silver Nanoparticles with potential activity as antibacterial, antiviral and anti-biofilm agent

Deeba Naz

Institute of Microbiology, University of Agriculture, Faisalabad, Pakistan

15. Synthesis and Dielectric Behavior of UiO-66 Filled Epoxy Composites

Mahnoor Fiaz, Jun Lin, Shaojian He

School of Renewable Energy and Clean Power \*North China Electric Power University, Beijing, P.R. China

16. Preparation of Nickel oxide (NiO) nanoparticles as a hole transport material for high-performance perovskite solar cells

Beenish Abbas<sup>1</sup>, Momna zahra<sup>1</sup>, Syed Zulqamain Haider<sup>1</sup> and Hafeez Anwar

Advanced nanomaterials and devices Lab, Department of Physics, University of Agriculture Faisalabad, Pakistan

17. Maneuvering Surface Structures of PS Filaments by Controlling Solvent Systems and Concentrations

Abdul Wahid I, Yongchun Zeng

Key Laboratory of Textile Science & Technology, Ministry of Education, College of Textiles, Donghua University, Shanghai 201620, China

18. Spin-related Photoluminescence and Magnetic anisotropy in Mn(II) doped ZnO nanowire

Muhammad Umair Farooq†, Jun Zhang

State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing 100083, China

19. Dielectric based energy storage capacity of sol-gel synthesized Sr-doped ZrTiO<sub>4</sub> nanocrystallites

Naadia Akhtara,

□, Hafiz Muhammad Rafiquea, Sh

aDepartment of Physics, University of the Punjab, Quaid-e-Azam Campus, Lahore 54590, Pakistan

20. Non-phosgene route for synthesis of hexamethylene-1,6-diisocyanate by thermal decomposition of hexamethylene-1,6-dicarbamate over Co<sub>3</sub>O<sub>4</sub>/ZSM-5 catalyst

Muhammad Ammar,a,b,c,\* Yan Cao,b Ligu Wang,b Huiquan Li

Department of Chemical Engineering Technology, Government College University, Faisalabad, 38000, Pakistan

21. Nitrogen Pollution Remediation through Biodegradable polymer coated urea

Muhammad Yasin Naz I,\*, Shazia Shukrullah I, Abdul Ghaffar

Department of Physics, University of Agriculture, 38040 Faisalabad, Pakistan

22. Plantation of Carbon Nanotubes on a Si/SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> substrate in a Floating Catalyst CVD Reactor

Shazia Shukrullah\*, Muhammad Yasin Naz, Abdul Ghaffar

Department of Physics, University of Agriculture, 38040 Faisalabad, Pakistan

23. CO<sub>2</sub> adsorption isotherms of pristine and amine-functionalized multiwalled carbon nanotubes  
Shazia Shukrullah<sup>1,\*</sup>, Muhammad Yasin Nazl, Abdul Ghaffar  
Department of Physics, University of Agriculture, 38040 Faisalabad, Pakistan
24. PIV Analysis of a New design of Mesh-coupled Axial Blade Distributor for Swirling Fluidized Beds  
Muhammad Yasin Nazl<sup>\*</sup>, Shukrullah Shukrullah<sup>1</sup>, Abdul Ghaffar<sup>1</sup>  
Department of Physics, University of Agriculture, 38040 Faisalabad, Pakistan
25. Optimal network reconfiguration of distributed generation for hybrid system using evolutionary algorithm  
Linta Khalil<sup>1</sup>, M. Kamran Liaquat Bhatti<sup>2</sup>, M. Arslan Iqbal Awan<sup>3</sup>, Mughees Riaz<sup>4</sup>, Rabbia Siddique<sup>5</sup>, Kiran Khalil  
Department of Electrical Engineering, NFC Institute of Engineering & Technology. 60000 Multan Pakistan
26. Finite Element Modelling and Simulation to study Cracking and Delamination Behavior of Hard Coating on Ductile Substrate  
Mohsin Ali, Umar Daraz, Ammar Abdullah
28. Ultrahigh thermoelectric performance of 2-D multilayered bulk WSe<sub>2</sub> by Nb doping  
M.H.Danisha<sup>b</sup>, J. Zhanga, D.Lia, X.Y.Qina  
Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, 230031 Hefei, PR China
27. Fault analysis of DFIG based wind turbine model  
Waqar Tahir<sup>1\*</sup>, M. Kamran Liaquat Bhatti<sup>2\*</sup>, Tahir Mahmood<sup>3</sup>, Muhammad Kashif  
NFC Institute of Engineering and Technology, Multan
28. Optimization and Designing of Hybrid Power System Using Homer Pro  
Linta Khalil<sup>1</sup>, M. Kamran Liaquat Bhatti<sup>2</sup>, M. Arslan Iqbal Awan<sup>3</sup>, Mughees Riaz<sup>4</sup>, Kiran Khalil<sup>5</sup>, Nashitah Alwaz  
Department of Electrical Engineering, NFC Institute of Engineering & Technology. 60000 Multan Pakistan
31. Integration of Sub-Gradient Based Coordination for Multiple Renewable Generators in Microgrid  
M. Arslan Iqbal Awan<sup>1</sup>, Ali Raza<sup>2</sup>, Mughees Riaz<sup>3</sup>, Linta Khalil<sup>4</sup>, M. Kamran Liaquat Bhatti  
Department of Electrical Engineering, NFC Institute of Engineering & Technology. 60000 Multan Pakistan.
32. A modified NSGA approach for optimal sizing and allocation of distributed resources and battery energy storage system in distribution network  
Rabbia Siddique<sup>1</sup>, Safdar Raza<sup>2</sup>, Abdul Mannan<sup>3</sup>, Linta Khalil<sup>4</sup>, Nashitah Ahwaz<sup>5</sup>, Mughees Riaz  
Department of Electrical Engineering NFC Institute of Engineering & Technology Multan Pakistan
33. Smart Monitoring and Controlling of Un-Manned Grid with the Integration of Renewable Energy Using GSM Module, Coaxial Cable and Optical Fiber  
Engr. Muhammad Ikram<sup>\*</sup>, 2 Dr. M. Kamran Liaquat Bhatti<sup>\*</sup>, 3 Muhammad Yousaf Khan 4 Dr. Muhammad Siddique, 5 Raheel Noman Rasheedi, 6 Dr. Safdar Raza  
NFC Institute of Engineering and Technology, Multan
34. New directions and applications of photonic technologies in communication, health, agricultural, industries, military, energy and research  
Muhammad Hassan Sayyad  
Advanced Photovoltaic Research Labs (APRL), Faculty of Engineering Sciences, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Topi, District Swabi, Khyber Pakhtunkhwa 23640, Pakistan
35. Structural, dielectric, ferroelectric and piezoelectric materials and structures for energy harvesting applications  
Amir Ullah  
Department of Physics, Islamia College Peshawar, Peshawar 25120, KP, Pakistan
36. Characterization and determination of Gold jewelry fineness by laser induced breakdown spectroscopy  
Hira Nasim, Yasir Jamil and Sonia Jamil  
Laser Spectroscopy Lab., Department of Physics, University of Agriculture, Faisalabad 38040, Pakistan
37. Synthesis and characterization of TiO<sub>2</sub>/GO nanocomposites for their enhanced glucose sensing potential  
Shakeel Ahmad Khan<sup>1\*</sup>, Komal Rizwan<sup>2</sup>, Zunairah Irshad<sup>3</sup>, Sammia Shahid<sup>3</sup>, Tahir Rasheed  
Center of Super-Diamond & Advanced Films (COSDAF), Department of Chemistry, City University of Hong Kong, 83 Tat Chee Avenue, Kowloon, China

38. Phytosynthesis of Ag Nanoparticles from *Mentha longifolia*; its Structural Evaluation and Therapeutic Potential Against HCT116 Colon Cancer cells and Microbial Pathogens  
Bilal Javed a, b \*, Akhtar Nadhman c, Zia-ur-Rehman Mashwani  
c Institute of Integrative Biosciences, Department of Biotechnology, CECOS University, Peshawar Pakistan.
39. Density Functional Theory Evaluation of Ceramics Suitable for Hybrid Advanced Oxidation Processes: A Case Study for Ce<sup>4+</sup>-Doped BaZrO<sub>3</sub>  
Syed Muhammad Alay-e-Abbas, † Farrukh Javed, † Arsam, † Waqas Zulfiqar  
Computational Materials Modeling laboratory, Department of Physics, Government College University, Faisalabad, Pakistan
40. Chemically Synthesized Ni Nano-Particles by Sol-Gel Method, Their Characterization and Potential towards Catalytic Reduction and Degradation  
Tahira Sabeen 1\*, Faiza Asghar1, Wajeeha Munib1, Tariq Mahmood  
Department of Chemistry, University of Wah, Wah Cantt, 47040, Pakistan
41. Surfactants: Unique materials for removal of dyes from aqueous solution  
Muhammad Usman, Saleem Raza, Hamadia Sultana, Zulfiqar Ali Raza, Tanveer Hussain Bokhari  
Department of Chemistry, Government College University, Faisalabad
42. Electrochemical Sensor of Aminophenol-Formaldehyde Polymer/Silicongtungstic Acid Nanocomposite Modified Electrode for Nitrite Detection  
Hina Sahar 3, Tariq Mahmood Ansari 3, Noor ul Ain3, Khalid Mahmood 4, Sadaat Majeed 1,3, Jianming Zhao 1,2, Muhammad Rehan Hasan Shah Gilani 1,3\*, Guobao Xu  
State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, Jilin 130022, People's Republic of China
43. Investigation of Biosynthetic Copper Oxide Nanoparticles in HepG2 cell line  
Zahra Shafiq1, M. Fakhar-e-Alam1\*, Hafeez Anwar2, Mahmood Hussain1, Amjad Sohail  
1Department of Physics, GC University, 38000, Faisalabad
44. Characterization of a low-cost novel cathode material for intermediate temperature solid oxide fuel cell  
Majid Muneer\*1, Rizwan Raza2, Muhammad Abdullah Javed\*\*1, Muhammad Iqbal  
Government College University Faisalabad, Faisalabad, 38000, Pakistan
45. Recovery of lead from waste lead acid battery to form anode material for low temperature solid oxide fuel cell  
Majid Muneer\*1, Rizwan Raza2, Muhammad Iqbal\*\*1, Muhammad Abdullah Javed  
1Government College University Faisalabad, Faisalabad, 38000, Pakistan
46. Calculations of Uniaxial Tensile Strength of Al-Cu-Ni Based Metallic Alloy and Glass Using Molecular Dynamics Simulations  
Aamir Shahzad1\*, Muhammad Kashif1, Tariq Munir1 and Mehar un Nisa  
1Molecular Modeling and Simulation Laboratory, department of Physics, Government College University Faisalabad (GCUF), Allama Iqbal Road, Faisalabad 38040, Pakistan
47. Characterization of Fe and Al co-doped TiO<sub>2</sub> nanofibres synthesized by electrospinning method  
Muhammad Kashif1\*, Aamir Shahzad1, Nadeem Nasir2, Tariq Munir1, Ijaz Ahmad Khan1 and Taseeruddin  
1Department of Physics, Government College University Faisalabad (GCUF), Allama Iqbal Road, Faisalabad 38040, Pakistan
48. Design and implementation of three phase electronic inverter with different conduction modes  
Waqar Tahir 1, Dr. Kamran Iqat Bhatti 2, Tahir Mahmood 3, Muhammad Kashif 4, Muhammad Hamid Saeed  
NFC IET Multan, Pak
49. ROLE OF NANOFERTILIZERS IN SMART TARGET DELIVERY  
Maliha Fatimaa, Wajeeha Fatimab, \*Saliha Mehboob  
University of Agriculture Faisalabad, Sub-Campus Burewala-Veharia, Govt College Women University, Faisalabad, \*Govt Postgraduate College for Women, Sheikhpurac
50. Influence of UV/Ozone Treatment on the performance of Bi-layered Tape Exfoliated Graphene Field Effect Transistor  
Aqrab Ahmad
51. SURFACE AREA STUDIES OF CARBONIZED BIOMASS VIA DYE ADSORPTION

Muhammad Asim Mukhtar, Tahir Maqbool  
Department of Chemistry Government College University Faisalabad

52. Synthesis and Characterization of Cobalt Ferrites for MRI Contrast Agent  
Waleed Razal, Muhamad Arshad Javid<sup>1</sup>, Muhammad Bilal, Imran Arshad  
Department of Basic Sciences, UET, Taxila, 47050

53. Synthesis and Mechanical Properties of Ag-Based Glass Ionomer Cements  
Aqeel Ahmed, Muhamad Arshad Javid<sup>1</sup>, M.Rafique<sup>2</sup>, Khalid Mehmood<sup>3</sup>, Imran Arshad<sup>3</sup>, Muhammad Azhar<sup>4</sup>, Khalid Naddem<sup>5</sup>,  
Muhammad Isa<sup>5</sup>, Imran Arshad  
Department of Basic Sciences, UET, Taxila, 47050

54. Synthesis and Mechanical Properties of Dental Amalgam  
Qurat-ul-ain khan

55. Synthesis of Ag-Cu Based Epoxy Polymer Composite for Electrical Conductivity  
Nazish Sadaqat<sup>1</sup>, Muhamad Arshad Javid<sup>1</sup>, M.Rafique<sup>2</sup>, Muhammad Azhar<sup>3</sup>, Adan Ali<sup>4</sup>, Uzma Gazanfar<sup>5</sup>, Khalid Nadeem<sup>6</sup>  
Department of Basic Sciences, UET, Taxila, 47050

56. Rheological Properties of Synthesized Fe<sub>3</sub>O<sub>4</sub> in Non-Newtonian Fluids  
Tariq Habib<sup>1</sup>, Muhamad Arshad Javid<sup>1</sup>, Niama Amin<sup>2</sup>, Azhar Naeem<sup>1</sup>, Khalid Mehmood<sup>3</sup>, Khalid Nadeem<sup>4</sup>, M.Shakeel<sup>4</sup>, Imran  
Arshad<sup>3</sup>, Adan Ali  
Department of Basic Sciences, UET, Taxila, 47050

57. Hydrothermal Synthesis of Vanadium Phosphate for Asymmetric Supercapacitor  
Muhammad Zahir Iqbal<sup>\*</sup>, Faiz Alamb, Shahid Alama, Najamul Hassan<sup>b</sup>, Muhammad Arshad Kamran<sup>c</sup>, Thamer Alherbi  
<sup>a</sup>Nanotechnology Research Laboratory, Faculty of Engineering Sciences, GIK Institute of Engineering Sciences and Technology,  
Topi 23640, Khyber Pakhtunkhwa, Pakistan

58. Capacitive and diffusive contribution in strontium oxide-polyaniline-graphene based ternary composite for supercapattery device  
Muhammad Zahir Iqbal<sup>\*</sup>, Muhammad Sulmana, Muhammad Arshad Kamran<sup>b</sup>, Thamer Alherbi  
<sup>a</sup>Nanotechnology Research Laboratory, Faculty of Engineering Sciences, GIK Institute of Engineering Sciences and Technology,  
Topi 23640, Khyber Pakhtunkhwa, Pakistan

59. Reconstruction and advanced automation of vibrating sample magnetometer  
Muhammad Zahir Iqbal<sup>\*</sup>, Syed Shabhi Haider, Abbas Khan  
<sup>a</sup>Nanotechnology Research Laboratory, Faculty of Engineering Sciences, GIK Institute of Engineering Sciences and Technology,  
Topi 23640, Khyber Pakhtunkhwa, Pakistan

60. Modulating charge carrier density by polymer organic dielectric in graphene field effect transistor  
Muhammad Zahir Iqbal<sup>\*</sup>, Syed Shabhi Haidera, Sana Zakara, Sana Khana, Muhammad Arshad Kamran<sup>b</sup>, Thamer Alherbi<sup>b</sup>,  
Muhammad Javaid Iqbal  
<sup>a</sup>Nanotechnology Research Laboratory, Faculty of Engineering Sciences, GIK Institute of Engineering Sciences and Technology,  
Topi 23640, Khyber Pakhtunkhwa, Pakistan

61. 3D Bioprinting of Bacteria Using Biocompatible Polysaccharide-based Biomaterials  
Muhammad Hassan Raza<sup>a,b</sup>, Muhammad Qasima, Zubair Mubarak<sup>c</sup>, Muhammad Arshad  
Department of Biological Sciences, International Islamic University, 44000, Islamabad, Pakistan

62. Analyzing the effect of diffusion-controlled contribution with the phase change of electrolyte  
Muhammad Zahir Iqbal<sup>\*</sup>, Sana Zakar, Syed Shabhi Haider  
<sup>a</sup>Nanotechnology Research Laboratory, Faculty of Engineering Sciences, GIK Institute of Engineering Sciences and Technology,  
Topi 23640, Khyber Pakhtunkhwa, Pakistan

63. Employing nanotechnology to enhance performance of poor quality seed  
Shakeel Imran<sup>\*a</sup>, Maliha Fatima<sup>a</sup>, Wajeaha Fatima  
Department of Agronomy, University of Agriculture Faisalabad, Sub-Campus Burewala-Vehari

64. Modeling of capacitive and diffusion controlled process in supercapattery devices  
Muhammad Zahir Iqbal<sup>\*</sup>, Junaid Khana, Muhammad Tayyab

aNanotechnology Research Laboratory, Faculty of Engineering Sciences, GIK Institute of Engineering Sciences and Technology, Topi 23640, Khyber Pakhtunkhwa, Pakistan

65. Optimizing the Concentration of Activation Agent and Electrolyte for Tea Waste Derived Activated Carbon for Supercapacitor Applications

Muhammad Zahir Iqbala\*, Shahid Alama, Muhammad Sulmana, Muhammad Arshad Kamranb, Thamer Alherbib  
aNanotechnology Research Laboratory, Faculty of Engineering Sciences, GIK Institute of Engineering Sciences and Technology, Topi 23640, Khyber Pakhtunkhwa, Pakistan

66. Structural and Optical properties Of Zn-Doped TiO<sub>2</sub> nanoparticles for the photocatalytic activity

Tariq munir\*, arslan mahmood\*, muhammad imran, muhammad kashif, aamir shahzad, muhammad sharif, zeeshan yaqoob, saba Rasheed  
Physics department, government college university faisalabad (gcuf), Faisalabad

67. Synthesis and characterization of Silver Nanoparticles for Antibacterial activity

Tariq munir\*, arslan mahmood\*, muhammad imran, amjad sohail, muhammad fakhar-e-alam, zeeshan yaqoob, ali raza  
Physics department, government college university faisalabad (gcuf), Faisalabad

68. Distinguished microstructural features and mechanical behaviour of a lower Mn-added Fe-11Mn-10Al-1.2C lightweight steel

Muhammad Atif Mujtaba, Zhao Weimin, Mustafa Muhammad, M. Nouman  
School of Material science and engineering, Hebei University of technology Tianjin 300132, China

69. Design and Fabrication of Solar Cooker Construction for Rural Areas

Zia-ul-Haq<sup>1</sup>, Dr.Hafeez Anwar<sup>2</sup>, Dr.Yasir Jamil<sup>3</sup>, Mubashra Hanif<sup>4</sup>, Amina Liaqat  
Department of Physics University of Agriculture Faisalabad

70. The effect of pre sowing laser irradiation on germination of potato seeds

Shamila Hayder<sup>1</sup>, Zia-ul-Haq<sup>2</sup>, Dr.Yasir Jamil<sup>3</sup>, Mubashra Hanif<sup>4</sup> and Dr. Hafeez Anwar  
Department of Physics University of Agriculture Faisalabad

71. Effect of Noise Pollution on Human Health and Measurement of Traffic Noise

Zia-ul-Haq<sup>1</sup>, Dr Yasir Jamil<sup>2</sup>, Hafeez Anwar<sup>3</sup>, Mubashra Hanif<sup>4</sup> and Afshan Zafar  
Department of Physics University of Agriculture Faisalabad

72. Identification of Soil Contaminants Using Laser Induced Breakdown Spectroscopy

Mamoona Attique, Muhammad Shoaib, Muhammad bilal, Shamoona Al Islam and Yasir Jamil  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture (38040), Faisalabad, Pakistan

73. Laser Induced Breakdown Spectroscopy of Chromium Doped Nickel-Zinc Ferrite

Anam Masood, Yasir Jamil, Hira Nasim, Muhammad Shoaib, Zia ul Haq, Ayesha Younas  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture (38040), Faisalabad, Pakistan

74. Study of Corrosion of Battery Electrodes by Laser Induced Breakdown Spectroscopy

Javeria Ismaeel, Hira Nasim, M. Shoaib, Hafeez Anwar and Yasir Jamil  
Department of Physics University of Agriculture Faisalabad

75. Quantitative Analysis of ZnO based Nanocomposites using Laser Induced Breakdown Spectroscopy

Iqra Kainat, Hafeez Anwar, Yasir Javaid, Ziaul Haq, Hafeez Anwar and Yasir Jamil  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture (38040), Faisalabad, Pakistan

76. Elemental Analysis of Galvanized Iron coating using Laser Induced Breakdown Spectroscopy (LIBS)

Hajra Shahid, Hira Nasim and Yasir Jamil  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture (38040), Faisalabad, Pakistan

77. Characterization and determination of Gold products fineness by laser induced breakdown spectroscopy

Hira Nasim, Yasir Jamil, Ayesha Younas, Hafeez Anwar, Muhammad Shoaib and Sonia Jamil  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture (38040), Faisalabad, Pakistan

78. Quantification of soil nutrients using Laser induced breakdown spectroscopy(LIBS)

Iqra Afzal, Saima Javaid, Aleena and Yasir jamil  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture (38040), Faisalabad, Pakistan

79. Laser Induced Breakdown Spectroscopy of plant samples for identification of hazardous elements  
Muhammad Shoaib Tahir, Yasir Jamil\*, Zia ul Haq, Hafeez Anwar and Muhammad Bilal  
Laser Spectroscopy Lab, University of Agriculture (38040), Faisalabad, Pakistan
80. IMPROVED ELECTRICAL PERFORMANCE OF CUBIC SILICON CARBIDE VIA SCHOTTKY CONTACT WITH GRAPHENE  
M Naveed Rasheeda M. Asghar Hashmib  
Department of Physics, The Islamia University of Bahawalpur, Pakistan
81. Optimizing the thermoelectric properties of Mg<sub>2</sub>GeO<sub>4</sub> nanostructures by altering the growth parameters  
K. Mahmood<sup>1,\*</sup>, A. Rehman<sup>1</sup>, A. Ali<sup>1</sup>, U. Rehman<sup>1</sup>, N. Amin<sup>1</sup>, S. Ikram<sup>1</sup>, A. Ashfaq  
Department of Physics, Government College University, Faisalabad, Pakistan
82. Study of high temperature thermoelectric properties of copper aluminum oxide (CuAlO<sub>2</sub>)  
Umair-ur-Rehman<sup>1</sup>, Nasir Amin<sup>1</sup>, Imran Arshad<sup>1</sup>, Adnan Ali<sup>1</sup>, Khalid Mahmood<sup>1</sup>, Salma Ikram<sup>1</sup>, M. Ajaz-un-Nabi  
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83. ab initio study of HfO<sub>2</sub> based RRAM devices using of divalent and trivalent impurity  
Ejaz Ahmad Kherac, Fayyaz Hussaina, Muhammad Imranb, \*, Rana. M. Arif Khalila, \* Umbreen Rasheeda, Muhammad Iqbal Hussaina, d, Hafeez ullah  
aMaterials Research Simulation Laboratory, Department of Physics, Bahauddin Zakariya University Multan Pakistan, 60800, Pakistan.
84. Role of Aluminum concentration on the structural and thermoelectrical properties of ZnAlSe alloy  
M. Isram a, K. Mahmood a, N. Amin a, A. Ali a, M. Kanwal a  
Department of Physics, Government College University, Faisalabad, Pakistan
85. Brain Image Segmentation of Malignant Tumor Using Magnetic Resonance Spectroscopy  
Sanaullah<sup>1</sup>, Muhammad Arshad Javid<sup>1, 2</sup>, Sabah Bibi<sup>1</sup>, Niama Amin<sup>1</sup>, Muhammad Bilal<sup>2</sup>, Sumair Aziz<sup>3</sup>, M. Umar Khan  
Department of Basic Sciences (Physics), University of Engineering and Technology, Taxila
86. H1MRS Study of High Grade and Low Grade Brain Tumor in Pakistan  
Sabah Bibi<sup>1</sup>, Muhammad Arshad Javid<sup>1,2</sup>, Bilal Muhammad, M.D<sup>2</sup>, Ume-Habiba<sup>1</sup>, Sanaullah  
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87. Hematological Effects of Ultrasonic Waves in Human Blood  
Muhammad Imran<sup>1</sup>, Muhammad Arshad Javid  
Department of Basic Sciences (Physics), University of Engineering & Technology, Taxila, 47050, Pakistan
88. Age Dependent Metabolic Study of Glioma Brain using Magnetic Resonance Spectroscopy  
Ume- Habiba<sup>1</sup>, Arshad Muhammad Javid<sup>1,2</sup>, Bilal Muhammad, M.D<sup>1,2</sup>, Sabah Bibi<sup>1</sup>, Sanaullah  
Department of Basic Sciences (Physics), University of Engineering and Technology, Taxila
89. Elemental Analysis of Industrial Steel Samples using Laser Induced Breakdown Spectroscopy  
Alina Saleem, Hira Nasim, Muhammad Shoaib Tahir, Muhammad Bilal and Yasir Jamil  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture, Faisalabad 38040, Pakistan
90. Comparative study of plants analysis by using laser induced breakdown spectroscopy and atomic absorption spectroscopy  
Muhammad Haider Zaman, Fahad Rehman, Muhammad Shoaib Tahir and Yasir Jamil  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture Faisalabad 38040, Pakistan
91. A Study on calibration-free laser induced breakdown spectroscopy of oxide materials  
Mahwish Aslam, Muhammad Shoaib Tahir, Hira Nasim, Shamooun ul Islam, Muhammad Bilal and Yasir Jamil  
Laser Spectroscopy Lab, Department of Physics, University of Agriculture Faisalabad 38040, Pakistan
92. Laser Induced Breakdown Spectroscopy (LIBS) of Silicon  
Muhammad Javed Qasim, Muhammad Shoaib Tahir, Muhammad Bilal, Shamooun ul Islam and Yasir Jamil  
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93. Laser Induced Breakdown Spectroscopy (LIBS) of Silicon  
Muhammad Javed Qasim, Muhammad Shoaib Tahir, Muhammad Bilal, Shamooun ul Islam and Yasir Jamil  
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94. Influence of Cerium doping on structural and electrical properties of  $Mg_{0.5}Cu_{0.25}Co_{0.25}Fe_{2-x}Ce_xO_4$  ferrites prepared by sol-gel auto combustion method  
M. Akhtara, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad  
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95. ELECTRICAL BEHAVIOR OF  $Cu_{0.5}Cd_{0.5-x}Fe_{2-x}Ce_xO_4$  NANOPARTICLES SYNTHESIZED BY HYDROTHERMAL METHOD  
M. Fatima, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad\*  
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96. ELECTRICAL BEHAVIOR OF  $Mg_{0.5}Cu_{0.25}Co_{0.25-x}Nd_xO_4$  NANOPARTICLES SYNTHESIZED BY Sol Gel Auto-Combustion METHOD  
A. Rashida, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad  
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97. Electrical behavior of  $Cu_{0.5}Ni_{0.5}Co_{0.25}Fe_{2-x}Gd_xO_4$  nano ferrites synthesized by Sol-Gel auto combustion method  
Ammaraha, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad  
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98. Transport Properties of Ce Doped Cd Ferrites  $Cd_{1-x}Fe_xO_4$   
A. Razaqa, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad  
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99. Synthesis and Characterization of Cobalt substituted magnesium copper cerium ferrites  $Mg_{0.5}Cu_{0.5-x}Co_xFe_{1.875}Ce_{0.125}O_4$  by co-precipitation method  
Ghulam Mustafaa, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad  
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100. Synthesis and Characterizations of  $Zn_{0.5}Co_{0.5-x}Cu_xFe_{1.875}La_{0.125}O_4$  ferrites  
Mohsin Alia, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad  
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101. Effect of Lanthanum substitution in  $Zn_{0.5}Co_{0.5}Fe_{2-x}La_xO_4$  ferrites on structural and optical properties  
Qurat ul aina, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain g, N. Bano, M. Imran Arshad  
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102. Transport properties of Yttrium doped nickel zinc cobalt ferrite synthesized by co-precipitation method  
K. Akhtara, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, Kiran Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbal, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad

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103. CHARACTERIZATION OF Mn DOPED Zn-Cd SOFT FERRITES SYNTHESIZED BY CO-PRECIPIATION METHOD

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104. M. Moina, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K.

Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbalf, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad

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105. Structural and electrical behaviour of  $Mg_{0.5}Zn_{0.5-x}Cu_xFe_{1.5}La_{0.25}Ce_{0.25}O_4$  nanoparticles synthesized by Co-precipitation method

Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbalf, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad

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106. Study of Copper doped Mn-Zn ferrites  $Mn_{0.4}Zn_{0.6-x}Cu_xFe_2O_4$  by using the coprecipitation method

Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbalf, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad

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107. SYNTHESIS AND CHARACTERIZATION OF CADMIUM BASED SOFT FERRITES BY CO-PRECIPIATION METHOD

W. Alia, Nasir Amina, Aisha Bibib, Farukh Jabeenc, Khalid Mahmooda, Adnan Alia, M. Ajaz Un Nabia, Z. Latifa, K. Mahmooda, M. Sharifa, Sophia Thaira, M. Fatima, M. Akhtara, Faisal Iqbal, Alina Manzoora, Asma Aslama, M. Sajjad Ul Hassane, M. Zahir Iqbalf, Sajad Hussain (Bhatti)g, N. Bano, M. Imran Arshad

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108. Influence of copper ions irradiation energy on the surface properties of Mg-Al alloy

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109. Nano revolution and CNS disorder, UAF, Faisalabad