



# Dr. Sultan Akhtar

POSITION: Assistant Professor



## Personal Data

Nationality | Pakistani

Date of Birth | 15<sup>th</sup> April 1977

Department | Biophysics Research

Official IAU Email | suakhtar@iau.edu.sa

Office Phone No. | 00966-1333-30876 (Mobile No: 009664731252)

## Language Proficiency

| Language | Read | Write   | Speak       |
|----------|------|---------|-------------|
| Arabic   | Good | Good    |             |
| English  | Good | V. good | Proficiency |
| Others   |      |         |             |

## Academic Qualifications (Beginning with the most recent)

| Date       | Academic Degree      | Place of Issue     | Address                    |
|------------|----------------------|--------------------|----------------------------|
| 31-08-2016 | Post-Doctoral Fellow | KFUPM Dhahran      | KFUPM Dhahran              |
| 21-05-2012 | PhD                  | Uppsala University | Uppsala University, Sweden |
| 16-08-2005 | M. Phil (Physics)    | UET Lahore         | UET Lahore, Pakistan       |
| 06-02-2002 | M. Sc. (Physics)     | UET Lahore         | UET Lahore, Pakistan       |

## PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

|                   |  |
|-------------------|--|
| <b>PhD</b>        | Transmission Electron Microscopy of Graphene and Hydrated Biomaterials Nanostructures: Novel Techniques and Analysis |
| <b>Master</b>     | Synthesis and Characterization of Tin Oxide Thin Films   |
| <b>Fellowship</b> | Synthesis and Characterization of Graphene based Membranes for Water Desalination                                    |

## Professional Record: (Beginning with the most recent)

| Job Rank            | Place and Address of Work |   | Date                |
|---------------------|---------------------------|---|---------------------|
| Assistant Professor | Biophysics                | Institute for Research & Medical Consultations<br>Imam Abdulrahman Bin Faisal University,<br>Dammam | 10-Oct-2016 to date |



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|--------------------------|---|--|---|------------------------------|
| Post-Doctoral Fellowship | Center for Clean Energy and Clean Water | KFUPM-MIT Collaboration                | King Fahd University of Petroleum and Minerals, Dhahran | 25-May-2014 to 31-Aug-2016   |
| Assistant Professor      | Physics                                 | Department of Physics                  | The University Lahore, Lahore                           | 17-Nov-2013 to 23-May-2014   |
| Assistant Professor      | Physics                                 | Center for Advanced Studies in Physics | Govt. College University, Lahore                        | 18-Sept-2012 to 17-Sept-2013 |

### Administrative Positions Held: (Beginning with the most recent)

| Administrative Position | Office | Date |
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### Scientific Achievements

#### Published Refereed Scientific Researches

(Beginning with OLD publications)

| # | Name of Investigator(s)   | Research Title  | Publisher and Date of Publication  |
|---|---|---|--|
| 1 | E Widenkvist, D W Boukhvalov, S Rubino, <b>S Akhtar</b> , J Lu, R A Quinlan, M I. Katsnelson, K Leifer, H Grennberg and U Jansson.                            | Mild sonochemical exfoliation of bromine-intercalated graphite: a new route towards graphene  | <i>J. Phys. D: Appl. Phys.</i> 42 (2009) 112003.<br>(IF: 2.528)  |
| 2 | <b>Sultan Akhtar</b> , Mattias Strömberg, T Gómez de la Torre, Camilla F Gunnarsson, Mats Nilsson, Peter Sved Strømme, Klaus Leifer                           | Real-space TEM investigations of attachment of functionalized magnetic nanoparticles to DNA-coils acting as a biosensor                     | <i>J. Phys. Chem. B</i> 2010, 114, 13255–13262.  |
| 3 | Mattias Strömberg, <b>Sultan Akhtar</b> , Klas Gunnarsson, Camilla Russell, David Herthnek, Peter Svedlindh, Mats Nilsson, Maria Strømme and Klaus Leifer     | Immobilization of oligonucleotide-functionalized magnetic nanobeads in DNA-coils studied by electron microscopy and atomic force microscopy | <i>MRS Proceedings</i> (2011), 1355, mrs11-1355-jj05-08<br>doi:10.1557/opl.2011.1135                                       |
| 4 | Per Wessman, Denny Mahlin, <b>Sultan Akhtar</b> , Stefano Rubino, Vadim Kessler, Sebastian Håkansson  | Impact of matrix properties on survival of freeze-dried bacteria  | <i>Journal of the Science of Food and Agriculture. Volume 91, Issue 14, November 2011, Pages: 2518–2528.</i><br>(IF: 1.76) |
| 5 | Talyzin Alexandr; Luzan Serhiy; Leifer Klaus; <b>Akhtar Sultan</b> ; Fetzer John; Cataldo Franco; Tsybin Yury; Tai Cheuk-wai; Dzwilewski Andrzej; Moons Ellen | Coronene Fusion by Heat Treatment: Road to Nano-Graphenes   | <i>J. Phys. Chem. C</i> , 2011, 115 (27), pp 13207–13214.<br>(IF: 4.814)   |

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|----|---|---|---|
| 6  | Xia Yang, <b>Sultan Akhtar</b> , Stefano Rubino, Klaus Leifer, Jöns Hilborn, and Dmitri Ossipov       | Direct Click Synthesis of Hybrid Bisphosphonate Hyaluronic Acid Hydrogel in Aqueous Solution for Biomineralization  | <i>Chem. Mater.</i> <b>2012</b> , <i>24</i> , 1690–1697.<br>(IF: 8.238)   |
| 7  | Stefano Rubino*, <b>Sultan Akhtar*</b> , Petter Melin, Andrew Searle, Paul Spellward and Klaus Leifer | A site-specific focused-ion-beam lift-out method for cryo Transmission Electron Microscopy  | <i>Journal of Structural Biology</i> , Volume 180, Issue 3, December <b>2012</b> , Pages 572-576.<br>IF: 3.361) |
| 8  | Wenzhi Yang, <b>Sultan Akhtar</b> , Klaus Leifer and Helena Grennberg                                 | Noncovalent Functionalization of Graphene in Suspension   | <i>ISRN Organic Chemistry</i> , Volume <b>2013</b> , Article ID 656185, 7 pages.                                |
| 9  | S. Rubino*, <b>S. Akhtar*</b> and K. Leifer   | A Simple Transmission Electron Microscopy Method for Fast Thickness Characterization of Suspended Graphene and Graphite Flakes  | <i>Microscopy and Microanalysis</i> , 22 (1), 250-256.<br>(IF: 2.495).  |
| 10 | Ahmed Ibrahim, <b>Sultan Akhtar</b> et al   | Effects of annealing on copper substrate surface morphology and graphene growth by chemical vapor deposition  | <i>94 (2015)</i> 369–377.<br>IF: 6.2)   |
| 11 | A. M. Ilyas, M. A. Gondal, U. Baig, <b>S. Akhtar</b> and Z. H. Yamani                                 | <i>Photovoltaic performance and photocatalytic activity of facile synthesized graphene decorated TiO2 monohybrid using nanosecond pulsed ablation in liquid technique</i> | <i>Solar Energy</i> 137 ( <b>2016</b> ) 246–255.<br>(IF: 4.018)   |
| 12 | H. Z. Shafia, A. Matina, <b>S. Akhtar</b> , K. K. Gleason, S. M. Zubaira, Z. Khan                     | Organic fouling in surface modified reverse osmosis membranes: Filtration studies and subsequent morphological and compositional characterization                         | <i>Journal of Membrane Science</i> , 527 ( <b>2017</b> ) 152–163.<br>(IF: 6.035)                                |
| 13 | Ahmed Ibrahim, Ghaith Nadhreen, <b>Sultan Akhtar</b> , Feras M. Kafiah                                | <i>Study of the impact of chemical etching on Cu surface morphology, graphene growth and transfer on SiO/Si substrate</i>   | <i>Carbon</i> , Volume 123, <b>2017</b> , Pages 402-414, ISSN 0008-6223.<br>(IF: 6.337)                         |
| 14 | M. A. Gad, <b>Sultan Akhtar</b> et al   | <i>Tensile Strength of Polymethyl Methacrylate Denture Base Material Modified with Zirconia Nanoparticles</i>   | <i>International Journal of Nanomedicine</i> , 2018; 13: 283–292. (Jan <b>2018</b> ).<br>(IF: 4.3)              |
| 15 | Jermy, B.R., Acharya, <b>S. Akhtar</b> , Ravinayagam, V. et al.                                       | <i>Hierarchical mesosilicalite nanoformulation integrated with cisplatin exhibits target-specific efficient anticancer activity</i>                                       | <i>Applied Nanoscience</i> (2018)<br>(IF: 3.325 (Q1))   |
| 16 | Asif Matin, Umair Baig, M. A. Gondal, and <b>Sultan Akhtar</b>  | <i>A facile method for the preparation of superhydrophobic/superoleophilic Ytterbium oxide thin films for efficient oil/water separation</i>                              | <i>Journal of Membrane Science</i> , Volume 548, 15 Feb <b>2018</b> , Pages 390-397.<br>(IF: 6.035)             |
| 17 | <b>Sultan Akhtar</b> , A. Madhan Kumar, Asif Matin, Ahmad Ibrahim, and Tahar Laoui                    | <i>Enhancement of Anticorrosion Property of 304 Stainless Steel Using Silane Coatings</i>   | <i>Applied Surface Science</i> , Volume 440, 15 May <b>2018</b> , Pages 1286-1297<br>(IF: 3.38)                 |

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|----|--|---|---|
| 18 | Firdos A. Khan, <b>Sultan Akhtar</b> et al   | FMSP-Nanoparticles Induced Cell Death on Human Breast inoma Cell Line (MCF-7 Cells): Morphometric Analysis  | Analysis<br><i>Biomolecules</i> 2018, 8(2), 32;<br>Published: 23 May 2018.  |
| 19 | <i>Saman Iqbal, M.S. Rafique, <b>Sultan Akhtar</b>, Nida Liaqat, Nida Iqbal, Rabia Ahmad</i> | <i>A comparative study on finding an effective root for the introduction of hydrogen into microplasma during diamond growth</i>   | <i>Journal of Physics and Chemistry of Solids, Volume 122, 2018, Pages 72-86.</i><br><br>(IF 2.059)               |
| 20 | <i>Umair Baig, M.A Gondal. M.A. Ansari, <b>Sultan Akhtar</b></i>                             | <i>Facile synthesis, characterization and antibacterial activity of nanostructured palladium loaded silicon carbide</i>   | <i>Ceramics International, June 18, 2018.</i><br>online 18 June 2018<br>(IF 2.986)                                |
| 21 | <i>Ahmad S. Barham, <b>Sultan Akhtar</b> et al.</i>  | <i>Fabrication of microelectrode ensembles on thin-film single electrodes: The degradation of electropolymerized benzene-1,3-diol films in caustic solutions</i>        | <i>Materials Express, Volume 8, Number 4, August 1, 2018, pp. 305-315 (11)</i><br><br>01 August 2018.             |
| 22 | <i>F. A. Khan, <b>Sultan Akhtar</b> et al.</i>   | <i>Fluorescent magnetic submicronic polymer (FMSP) nanoparticles induce cell death in human colorectal carcinoma cells</i>  | <i>Journal of Artificial Cells, Nanomedicine, and Biotechnology</i><br><br>25 July 2018.                          |
| 23 | <i>Asif Matin, <b>Sultan Akhtar</b> et al.</i>   | <i>Superhydrophobic and superoleophilic surfaces prepared by spray-coating of facile synthesized Cerium (IV) oxide nanoparticles for efficient oil/water separation</i> | <i>Applied Surface Science, Volume 462, 31 December 2018, Pages 95-104</i><br><br>Available online 13 August 2018 |
| 24 | <i>F. A. Khan, <b>Sultan Akhtar</b> et al.</i>   | <i>Extracts of Clove (Syzygium aromaticum) Potentiate FMSP-Nanoparticles Induced Cell Death in MCF-7 Cells</i>  | <i>International Journal of Biomaterials. Research Article (10 pages), Article ID 8479439, Volume 2018 (2018)</i> |
| 25 | <i>M. Gad, <b>Sultan Akhtar</b> et al.</i>   | <i>Effect of Nano diamond Addition on Flexural Strength, Impact Strength and surface Roughness of PMMA Denture Base</i>   | <i>Journal of Prosthodontics</i>  |
| 26 | Noor Albusta, <b>Sultan Akhtar</b> et al.  | Detection of Glucose using gold nanoparticles prepared by green synthesis   | International Journal of Multidisciplinary Research 2018  |
| 27 | R. B. Jermy, et al.  | Magnetic Mesocellular Foam Functionalized by Curcumin for Potential Multifunctional Therapeutics  | Journal of Superconductivity and Novel Magnetism 2019   |
| 28 | Y. Slimani et al.  | Effect of bimetallic (Ca, Mg) substitution on magneto-optical properties of NiFe <sub>2</sub> O <sub>4</sub> nanoparticles  | Ceramics International 2019   |

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|----|--|---|--|
| 29 | A M Kumar et al                        | PEDOT/FHA nanocomposite coatings on newly developed Ti-Nb-Zr implants: Biocompatibility and surface protection against corrosion and bacterial infections   | Materials Science & Engineering C; 2019<br>Materials Science & Engineering C 98 (2019) 482–495   |
| 30 | M. A. Almessiere et al                 | Magnetic and structural characterization of Nb <sup>3+</sup> -substituted CoFe <sub>2</sub> O <sub>4</sub> nanoparticles  | Ceramics International<br>2019   |
| 31 | Mohammed M. Gad et al.                 | Reinforcement of PMMA Denture Base Material with a Mixture of ZrO <sub>2</sub> Nanoparticles and Glass Fibers   | International Journal of Dentistry Volume 2019, Article ID 2489393, 11 pages<br><a href="https://doi.org/10.1155/2019/2489393">https://doi.org/10.1155/2019/2489393</a>                        |
| 32 | Sultan Akhtar et al                    | Functionalized magnetic nanoparticles attenuate cancer cells proliferation: Transmission electron microscopy analysis   | Microscopy and Research Technology<br><i>Microsc Res Tech.</i> 2019;<br>82:983–992   |
| 33 | Hanan H. Mohamed et al.                | ZnO@ porous graphite nanocomposite from waste for superior photocatalytic activity  | Environmental Science and Pollution Research<br><a href="https://doi.org/10.1007/s11356-019-04684-3">https://doi.org/10.1007/s11356-019-04684-3</a>  |
| 34 | Suriya Rehman et al.                   | Biocompatible Tin Oxide Nanoparticles: Synthesis, Antibacterial, Anticandidal and Cytotoxic Activities  | Chemistry Select, 2019<br>4013ChemistrySelect 2019, 4, 4013–4017   |
| 35 | Firdos Alam Khan, Sultan Akhtar et al. | Targeted delivery of poly (methyl methacrylate) particles in colon cancer cells selectively attenuates cancer cell proliferation  | ARTIFICIAL CELLS, NANOMEDICINE, AND BIOTECHNOLOGY 2019, VOL. 47, NO. 1, 1533–1542<br><a href="https://doi.org/10.1080/21691401.2019.1577886">https://doi.org/10.1080/21691401.2019.1577886</a> |
| 36 | Y. Slimani et al.                      | Structural, magnetic, optical properties and cation distribution of nanosized Ni <sub>0.3</sub> Cu <sub>0.3</sub> Zn <sub>0.4</sub> Tm <sub>x</sub> Fe <sub>2-x</sub> O <sub>4</sub> (0.0≤x≤0.10) spinel ferrites synthesized by ultrasound irradiation | Ultrasonics Sonochemistry<br>Volume 57, October 2019,<br>Pages 203-211   |
| 37 | Suriya Rehman et al.                   | Isolation and characterization of a novel thermophile; <i>Bacillus haynesii</i> , applied for the green synthesis of ZnO nanoparticles  | ARTIFICIAL CELLS, NANOMEDICINE, AND BIOTECHNOLOGY 2019, VOL. 47, NO. 1, 2072–2082<br><a href="https://doi.org/10.1080/21691401.2019.1620254">https://doi.org/10.1080/21691401.2019.1620254</a> |
| 38 | Emre Cevik et al.                      | A comparative study of various polyelectrolyte/nanocomposite electrode combinations in symmetric supercapacitors  | International Journal of Hydrogen Energy 44 (2019) 16099-16109   |
| 39 | Hanan H. Mohamed et al.                | Eco-friendly synthesized α-Fe <sub>2</sub> O <sub>3</sub> /TiO <sub>2</sub> heterojunction with enhanced visible light photocatalytic activity  | Journal of Photochemistry & Photobiology A: Chemistry<br>2019  |



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| 40 | M. A. Almessiere et al.                                   | Structural, magnetic, optical properties and cation distribution of nanosized $\text{Co}_{0.7}\text{Zn}_{0.3}\text{Tm}_x\text{Fe}_{2-x}\text{O}_4$ ( $0.0 \leq x \leq 0.04$ ) spinel ferrites synthesized by ultrasonic irradiation              | Ultrasonics Sonochemistry<br>Volume 58, November 2019,<br>104638  |
| 41 | Asif Matin et al.   | UV-resistant and transparent hydrophobic surfaces with different wetting states by a facile dip-coating method   | Progress in Organic Coatings  |
| 42 | Sultan Akhtar et al.                                      | Preparation of graphene-coated anodic alumina substrates for selective molecular transport   | Carbon Letters (2019)<br><a href="https://doi.org/10.1007/s42823-019-00066-4">https://doi.org/10.1007/s42823-019-00066-4</a>  |
| 43 | Munther Alomari et al.                                    | Cisplatin-functionalized three-dimensional magnetic SBA-16 for treating breast cancer cells (MCF-7)  | ARTIFICIAL CELLS,<br>NANOMEDICINE, AND<br>BIOTECHNOLOGY 2019, VOL.<br>47, NO. 1, 3079–3086<br><a href="https://doi.org/10.1080/21691401.2019.1645155">https://doi.org/10.1080/21691401.2019.1645155</a> |
| 44 | Emre Cevik et al.   | Sulfonated Hollow Silica Spheres as Electrolyte Store/ Release Agents: High-Performance Supercapacitor Applications  | Energy Technol. 2019, 1900511   |
| 45 | Ismail Abdulazeez et al                                   | Facile preparation of antiadhesive and biocidal reverse osmosis membranes using a single coating for efficient water purification  | Journal of Membrane Science<br>Volume 591, 1 December 2019,<br>117299   |
| 46 | Sultan Akhtar et al.                                      | Few-Layers Graphene Film and Copper Surface Morphology for Improved Corrosion Protection of Copper   | Journal of Materials Engineering and Performance Volume 28(9) September 2019—5541<br><a href="https://doi.org/10.1007/s11665-019-04268-9">https://doi.org/10.1007/s11665-019-04268-9</a>                |
| 47 | Hanan H. Mohamed et al.                                   | Highly efficient Cu-phthalocyanine-sensitized ZnO hollow spheres for photocatalytic and antimicrobial application  | Composites Part B: Engineering<br>Volume 176, 1 November 2019,<br>107314  |
| 48 | Y. Slimani et al.   | $\text{Ni}_{0.4}\text{Cu}_{0.2}\text{Zn}_{0.4}\text{Tb}_x\text{Fe}_{2-x}\text{O}_4$ nanospinel ferrites: Ultrasonic synthesis and physical properties  | Ultrasonics Sonochemistry<br>Volume 59, December 2019,<br>104757  |
| 49 | M. A. Almessiere et al.                                   | Impact of $\text{La}^{3+}$ and $\text{Y}^{3+}$ ion substitutions on structural, magnetic and microwave properties of $\text{Ni}_{0.3}\text{Cu}_{0.3}\text{Zn}_{0.4}\text{Fe}_2\text{O}_4$ nanospinel ferrites synthesized via sonochemical route | RSC Advances, 2019<br>Issue 53, 2019<br>DOI: 10.1039/c9ra06353f   |
| 50 | Umair Baig, M. A. Gondal, Suriya Rehman and Sultan Akhtar | Facile synthesis, characterization of nano-tungsten trioxide decorated with silver nanoparticles and their   | Applied Nanoscience (2019)<br><a href="https://doi.org/10.1007/s13204-019-01186-z">https://doi.org/10.1007/s13204-019-01186-z</a>   |

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|    |  | antibacterial activity against water-borne gram-negative pathogens  |  |
| 51 | R. Rabindran Jermy et al.                          | ONS/3D SiSBA-16 based Multifunctional Nanoformulation for target specific cisplatin release in colon and cervical cancer cell lines   | SPI Scientific Reports (2019) 9:14523  <a href="https://doi.org/10.1038/s41598-019-51051-w">https://doi.org/10.1038/s41598-019-51051-w</a>       |
| 52 | Sultan Akhtar et al.                               | Synthesis of Mn <sub>0.5</sub> Zn <sub>0.5</sub> S <sub>mx</sub> EuxFe <sub>1.8-2x</sub> O <sub>4</sub> Nanoparticles via the Hydrothermal Approach Induced Anti-Cancer and Anti-Bacterial Activities | Nanomaterials 2019, 9, 1635; doi:10.3390/nano9111635   |
| 53 | Silviya Elanthikkal, Tania Francis & Sultan Akhtar | Utilization of Areca Nut Leaf Sheath Fibers for the Extraction of Cellulose Whiskers  | JOURNAL OF NATURAL FIBERS <a href="https://doi.org/10.1080/15440478.2019.1689885">https://doi.org/10.1080/15440478.2019.1689885</a>              |
| 54 | Tahani H. Abushowmi et al.                         | Comparative Effect of Glass Fiber and Nano-Filler Addition on Denture Repair Strength   | Journal of Prosthodontics 00 (2019) 1–8 C (2019) by the American College of Prosthodontists  |
| 55 | Rabindran Jermy et al.                             | Cisplatin delivery, anticancer and antibacterial properties of Fe/SBA-16/ZIF-8 nanocomposite  | Cite this: RSC Adv., 2019,9, 4239  |
| 56 | Huseyin Tombuloglu et al                           | Iron oxide nanoparticles translocate in pumpkin and alter the phloem sap metabolites related to oil metabolism  | Scientia Horticulturae Volume 265, 30 April 2020, 109223   |
| 57 | Mohammed M. GAD et al.                             | Impact of different surface treatments and repair material reinforcement on the flexural strength of repaired PMMA denture base material  | Dental Materials Journal 2020; 39(3): 471–482  |
| 58 | Norah Al-Amri et al.                               | Size effect of iron (III) oxide nanomaterials on the growth, and their uptake and translocation in common wheat ( <i>Triticum aestivum</i> L.)  | Ecotoxicology and Environmental Safety Volume 194, May 2020, 110377  |
| 59 | Firdos Alam Khan et al.                            | Quantum dots encapsulated with curcumin inhibit the growth of colon cancer, breast cancer and bacterial cells   | Nanomedicine ISSN1743-588910.2217/nnm-2019-0429 C  |
| 60 | Mohammed M. GAD et al.                             | Influence of artificial aging and ZrO <sub>2</sub> nanoparticle-reinforced repair resin on the denture repair strength  | Journal section: Prosthetic Dentistry doi:10.4317/jced.56610 <a href="https://doi.org/10.4317/jced.56610">https://doi.org/10.4317/jced.56610</a> |
| 61 | Umair Baig et al.                                  | Single step production of high-purity copper oxide-titanium dioxide nanocomposites and their effective  | Materials Science and Engineering C <a href="https://doi.org/10.1016/j.msec.2020.110992">https://doi.org/10.1016/j.msec.2020.110992</a>          |



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|    |                              | antibacterial and anti-biofilm activity against drug-resistant bacteria  |   |
| 62 | H. Albetran et al.           | Synthesis, characterization and magnetic investigation of Er-substituted electrospun NiFe <sub>2</sub> O <sub>4</sub> nanofibers   | Physica Scripta 2020<br><a href="https://doi.org/10.1088/1402-4896/ab8b7d">https://doi.org/10.1088/1402-4896/ab8b7d</a>                   |
| 63 | Manzar Sohail et al.         | A Novel Tin-Doped Titanium Oxide Nanocomposite for Efficient Photo-Anodic Water Splitting  | ACS Omega 2020, 5, 6405–6413<br><br><a href="https://dx.doi.org/10.1021/acsomega.9b03876">https://dx.doi.org/10.1021/acsomega.9b03876</a> |
| 64 | Nesrine M. R. Mahmoud et al. | Efficient biosynthesis of CuO nanoparticles with potential cytotoxic activity  | Chemical Papers<br><a href="https://doi.org/10.1007/s11696-020-01120-6">https://doi.org/10.1007/s11696-020-01120-6</a>                    |
| 65 | Rasha A.AbuMousa et al.      | Investigation of the survival viability of cervical cancer cells (HeLa) under visible light induced photo-catalysis with facile synthesized WO <sub>3</sub> /ZnO nanocomposite       | Saudi Journal of Biological Sciences<br>Volume 27, Issue 7, July 2020,<br>Pages 1743-1752   |
| 66 | Sultan Akhtar et al.         | Evaluation of bioactivities of zinc oxide, cadmium sulfide and cadmium sulfide loaded zinc oxide nanostructured materials prepared by nanosecond pulsed laser                        | Materials Science and Engineering: C<br>Volume 116, November 2020,<br>111156  |
| 67 | Nabil K Alruwaili et al.     | Formulation of amorphous ternary solid dispersions of dapagliflozin using PEG 6000 and Poloxamer188: Solid-state characterization, Exvivo study, and molecular simulation assessment | Drug Development and Industrial Pharmacy<br>2020  |
| 68 | M. A. Almessiere et al.      | Effect of Nd-Y co-substitution on structural, magnetic, optical and microwave properties of NiCuZn nanospinel ferrites   | Journal of Materials Research and Technology<br>Volume 9, Issue 5, September–October 2020, Pages 11278-11290                              |
| 69 | Mohammed M. GAD et al.       | Effects of Denture Cleansers on the Flexural Strength of PMMA Denture Base Resin Modified with ZrO <sub>2</sub> Nanoparticles  | Journal of Prosthodontics 00 (2020) 1–10 © 2020 by the American College of Prosthodontists  |
| 70 | Huseyin Tombuloglu et al.    | Uptake, translocation, and physiological effects of hematite ( $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> ) nanoparticles in barley ( <i>Hordeum vulgare</i> L.)                       | Environmental Pollution<br>Volume 266, Part 1, November 2020, 115391  |
| 71 | M. A. Almessiere et al       | Effect of Nd-Y co-substitution on structural, magnetic, optical and microwave properties of NiCuZn nanospinel ferrites   | Journal of Materials Research and Technology<br>Volume 9, Issue 5, September–October 2020, Pages 11278-11290                              |

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| 72 | Mohammed M. Gad  | Effects of Denture Cleansers on the Flexural Strength of PMMA Denture Base Resin Modified with ZrO <sub>2</sub> Nanoparticles   | Journal of Prosthodontics 00 (2020) 1–10   |
| 73 | F.Alahmaria, M.A.AlmessierebY.SlimanibH.GüngüneşçSagar E.Shirsathd, <b>S.Akhtar</b> , MariuszJaremkoE.A.Baykala  | Synthesis and characterization of electrospun Ni <sub>0.5</sub> Co <sub>0.5</sub> -xCoNd <sub>0.02</sub> Fe <sub>1.78</sub> O <sub>4</sub> nanofibers                       | Nano-Structures & Nano-Objects Volume 24, October 2020, 100542   |
| 74 | Omar S. ElMitwalli & Omar A. Barakat & Rabbani M. Daoud & <b>Sultan Akhtar</b> & Fryad Z. Henari   | Greensynthesisofgoldnanoparticlesusing cinnamonbark extract, characterization, and fluorescence activity in Au/ eosin Y assemblies  | Journal of Nanoparticle Research; (2020) 22:309  |
| 75 | Mohammad Azam Ansari, Hani Manssor Albetran, Muidh Hamed Alheshibri, Abdelmajid Timoumi, Norah Abdullah Algarou, <b>Sultan Akhtar</b> , Yassine Slimani , Munirah Abdullah Almessiere, Fatimah Saad Alahmari, Abdulhadi Baykal and It-Meng Low | Synthesis of Electrospun TiO <sub>2</sub> Nanofibers and Characterization of Their Antibacterial and Antibiofilm Potential against Gram-Positive and Gram-Negative Bacteria | Antibiotics 2020, 9, 572; doi:10.3390/antibiotics9090572   |
| 76 | Sara T. Alzayyat, Ghadah A. Almutiri, Jawhara K. Aljandan, Raneem M. Algarzai, BDS ,1 Soban Q. Khan, <b>Sultan Akhtar</b> , Asif Matin, Mohammed M. Gad  | Antifungal Efficacy and Physical Properties of Poly(methylmethacrylate) Denture Base Material Reinforced with SiO <sub>2</sub> Nanoparticles                                | Journal of Prosthodontics 00 (2020) 1–9  |
| 77 | Omer Alnoor, Tahar Laoui , Ahmed Ibrahim, Feras Kafiah , Ghaith Nadhreen, <b>Sultan Akhtar</b> and Zafarullah Khan   | Graphene Oxide-Based Membranes for Water Purification Applications: Effect of Plasma Treatment on the Adhesion and Stability of the Synthesized Membranes                   | Membranes 2020, 10, 292; doi:10.3390/membranes10100292   |
| 78 | Hanan H. Mohamed, Fatima Al Qarni,·Nuhad A. Alomair, Sultan Akhtar4  | Solar Photocatalytic and Antimicrobial Activity of Porous Indium-DopedTiO <sub>2</sub> Nanostructure  | Arabian Journal for Science and Engineering (2020) <a href="https://doi.org/10.1007/s13369-020-04957-x">https://doi.org/10.1007/s13369-020-04957-x</a> |
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| 80 | Mohammad M. Gad, et al.  | Double-Layer acrylic resin denture base with nanoparticle additions: an in vitro study  | The Journal of Prosthetic Dentistry Available online 13 November 2020  |
| 81 | Naveed Ahmad, Muhammad Masood Ahmad, Nabil K. Alruwaili, Ziyad Awadh Alrowaili,  | Antibiotic-Loaded Psyllium Husk Hemicellulose and Gelatin-Based Polymeric Films for Wound Dressing  | Pharmaceutics 2021, 13, 236. <a href="https://doi.org/10.3390/pharmaceutics13020236">https://doi.org/10.3390/pharmaceutics13020236</a>                 |

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|    | Fadhel Ahmed Alomar, Sultan Akhtar, Omar Awad Alsaidan, Nabil A. Alhakamy, Ameduzzafar Zafar, Mohammed Elmowafy 1,6 and Mohammed H. Elkomy   | Application   |   |
| 82 | Mohammed M. Gad, Reem Abualsaud, Shaimaa M. Fouda Ahmed Rahoma, Ahmad M. Al-Thobity, Soban Q. Khan, Sultan Akhtar, Khalid S. Al-Abidi, Mohamed S. Ali, and Fahad A. Al-Harbi   | Color Stability and Surface Properties of PMMA/ZrO <sub>2</sub> Nanocomposite Denture Base Material after Using Denture Cleanser  | International Journal of Biomaterials<br>Volume 2021, Article ID 6668577, 10 pages<br><a href="https://doi.org/10.1155/2021/6668577">https://doi.org/10.1155/2021/6668577</a> |
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| 84 | Moosa AlHoda <sup>1</sup> , Jalal Abdulmonem Almeer <sup>1</sup> , Hasan Alaudeen Alomari <sup>1</sup> , Sultan Akhtar <sup>2</sup> , Fryad Z. Henari <sup>1</sup> , G. Roshan Deen  | Complex formation and aggregation behavior of Congo red in aqueous solution in the presence of gold ions and gold nanoparticles   | IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 14, Issue 5 Ser. I (May 2021), PP 05-14<br>www.iosrjournals.org  |
| 85 | Mohammad Azam Ansari, Hani Manssor Albetran, Muidh Hamed Alheshibri, Abdelmajid Timoumi, Norah Abdullah Algarou, Sultan Akhtar, Yassine Slimani, Munirah Abdullah Almessiere, Fatimah Saad Alahmari, Abdulhadi Baykal, It-Meng Low | Synthesis Characterization of Electrospun of Their TiO Antibacterial 2 Nanofibers and and Antibiofilm Potential against Gram-Positive and Gram-Negative Bacteria  | <i>Antibiotics</i> 2020, 9(9), 572;<br><a href="https://doi.org/10.3390/antibiotics9090572">https://doi.org/10.3390/antibiotics9090572</a>                                    |
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| 87 | Sara T Alzayyat, Ghadah A Almutiri, Jawhara K Aljandan, Raneem M Algarzai, Soban Q Khan, Sultan Akhtar, Ijlal Shahrukh Ateeq, Mohammed M Gad   | Effects of SiO <sub>2</sub> Incorporation on the Flexural Properties of a Denture Base Resin: An In Vitro Study   | European Journal of Dentistry. Eur J Dent. 2022 Feb;16(1):188-194.<br><a href="https://doi.org/10.1055/s-0041-1732806">doi: 10.1055/s-0041-1732806</a> . Epub 2021 Aug 24.    |
| 88 | Mohammad Azam Ansari, Sultan Akhtar, Mohd Ahmar Rauf, Mohammad N Alomary, Sami AlYahya, Saad Alghamdi, MA Almessiere, Abdulhadi Baykal, Firdos Khan, Syed Farooq Adil, Mujeeb Khan, Mohammad Rafe Hatshan                          | Sol–Gel Synthesis of Dy-Substituted Ni <sub>0.4</sub> Cu <sub>0.2</sub> Zn <sub>0.4</sub> (Fe <sub>2-x</sub> Dy <sub>x</sub> )O <sub>4</sub> Nano Spinel Ferrites and Evaluation of Their Antibacterial, Antifungal, Antibiofilm and Anticancer Potentialities for Biomedical Application | International Journal of Nanomedicine<br>Volume: Volume 16 Page: 5633-5650<br><a href="https://doi.org/10.2147/IJN.S316471">DOI: 10.2147/IJN.S316471</a>                      |
| 89 | Muidh Alheshibri, Sultan Akhtar, Abbad Al Baroot, Khaled A Elsayed, Hassan S Al Qahtani, QA Drmosh   | Template-free single-step preparation of hollow CoO   | Arabian Journal of Chemistry<br>Volume: 14 Issue: 9 Page: 103317  |

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| 90 | Tahani Flemban, Ridha Hamdi, Hassan Alkhabbaz, Muidh Alheshibri, Sultan Akhtar, Noureddine Ouerfelli, Khaled Elsayed   | Physicochemical Properties of Nanofluids Produced from Oxidized Nanoparticles Synthesized in a Liquid by Pulsed Laser Ablation                         | Lasers in Manufacturing and Materials Processing<br>Lasers in Manufacturing and Materials Processing volume 9, pages18–36 (2022)<br>DOI:<br><a href="https://doi.org/10.1007/s40516-021-00160-4">https://doi.org/10.1007/s40516-021-00160-4</a> |
| 91 | Nawarah Alaseef, Sara Albasarah, Hanan Al Abdulghani, Fahad A Al-Harbi, Mohammed M Gad, Sultan Akhtar, Soban Q Khan, Ijlal Shahrukh Ateeq, Faisal D al-Qarni | CAD-CAM Fabricated Denture Base Resins: In Vitro Investigation of the Minimum Acceptable Denture Base Thickness  | Journal of Prosthodontics<br><a href="https://doi.org/10.1111/jopr.13486">10.1111/jopr.13486</a>  |
| 92 | Sultan Akhtar, SM Asiri, Firdos Alam Khan, ST Gunday, Arfa Iqbal, Noor Alrushaid, OA Labib, GR Deen, FZ Henari   | Formulation of gold nanoparticles with hibiscus and curcumin extracts induced anti-cancer activity   | Arabian Journal of Chemistry<br>Volume: 15 Issue: 2 Page: 103594<br>DOI:<br><a href="https://doi.org/10.1016/j.arabjc.2021.103594">10.1016/j.arabjc.2021.103594</a>   |
| 93 | Faiza Bibi, Aneeqa Masood, Muhammad Inam Khan, Muhammad Faisal Iqbal, Sultan Akhtar, MH Asif, S Hassan M Jafri, Aamir Razaq                                  | Natural fibers and reduced graphene oxide-based flexible paper electrode for energy storage applications   | Journal of Materials Science: Materials in Electronics volume 33, pages22 22–2233 (2022)<br><br><b>DOI</b> <a href="https://doi.org/10.1007/s10854-021-07430-z">https://doi.org/10.1007/s10854-021-07430-z</a>                                  |
| 94 | Emre Cevik, Seyda Tugba Gunday, Arfa Iqbal, Sultan Akhtar, Ayhan Bozkurt   | Synthesis of hierarchical multilayer N-doped Mo <sub>2</sub> C@ MoO <sub>3</sub> nanostructure for high-performance supercapacitor application         | Journal of Energy Storage<br>Volume: 46 Page: 103824<br><br>DOI:<br><a href="https://doi.org/10.1016/j.est.2021.103824">10.1016/j.est.2021.103824</a>   |
| 95 | Abbad Al Baroot, Muidh Alheshibri, QA Drmosh, Sultan Akhtar, Essam Kotb, Khaled A Elsayed  | A novel approach for fabrication ZnO/CuO nanocomposite via laser ablation in liquid and its antibacterial activity                                     | Arabian Journal of Chemistry<br>Volume 15, Issue 2, February 2022, 103606<br><a href="https://doi.org/10.1016/j.arabjc.2021.103606">https://doi.org/10.1016/j.arabjc.2021.103606</a>  |
| 96 | S Akhtar, MA Almessiere, B Unal, A Demir Korkmaz, Y Slimani, N Tashkandi, A Baykal, A UL-Hamid, A Manikandan   | Electrical and dielectric properties of Ni <sub>0.5</sub> Co <sub>0.5</sub> GaxFe <sub>1-8-x</sub> O <sub>4</sub> (x≤ 1.0) spinel ferrite microspheres | Journal of Rare Earths<br><br><a href="https://doi.org/10.1016/j.jre.2022.01.021">10.1016/j.jre.2022.01.021</a>   |
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| 98 | Hessah M Almuzafar, Hanin M Ahmed, Najla N AlDuhaisan, Asma M Elsharif, Hanan Aldossary, Suriya  | Synthesis of 29H, 31H-phthalocyanine and chloro (29H, 31H-phthalocyaninato) aluminum   | Journal of Saudi Chemical Society   |



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|     | Rehman, Sultan Akhtar, Firdos Alam Khan  | derivatives showed anti-cancer and anti-bacterial actions  | Volume 26, Issue 2, March 2022, 101436<br><a href="https://doi.org/10.1016/j.jscs.2022.101436">https://doi.org/10.1016/j.jscs.2022.101436</a>                      |
| 99  | Muhammad Nawaz, Sultan Akhtar, Faiza Qureshi, Sarah Ameen Almofty, Veeranoot Nissapatron   | Preparation of indium-cadmium sulfide nanoparticles with diverse morphologies: Photocatalytic and cytotoxicity study | Journal of Molecular Structure<br>Volume: 1253 Page: 132288<br>DOI:<br><a href="https://doi.org/10.1016/j.molstruc.2021.132288">10.1016/j.molstruc.2021.132288</a> |
| 100 | Arwa Ali Almahasheer, Amal Mahmoud , Hesham El-Komy, Amany I Alqosaibi, Sultan Aktar, Sayed AbdulAzeez, J Francis Borgio             | Novel Feather Degrading Keratinases from Bacillus cereus Group: Biochemical, Genetic and Bioinformatics Analysis     | Microorganisms<br>2022 Jan 1;10(1):93.<br>doi:<br><a href="https://doi.org/10.3390/microorganisms10010093">10.3390/microorganisms10010093</a>                      |
| 101 | Sultan Akhtar, Seyda Tugba Gunday, Amany I. Alqosaibi, b Hanan Aldossary, Ayhan Bozkurt, and Firdos Alam Khan                        | Template-free preparation of iron oxide loaded hollow silica spheres and their anticancer proliferation capabilities | RSC Advances<br><br><a href="https://doi.org/10.1039/d1ra08216g">DOI: 10.1039/d1ra08216g</a><br><a href="https://rsc.li/rsc-advances">rsc.li/rsc-advances</a>      |
| 102 | Faiza Bibi, Aneeqa Masood, Muhammad Inam Khan, Muhammad Faisal Iqbal, Sultan Akhtar, M. H. Asif, S. Hassan M. Jafri, and Aamir Razaq | Natural fibers and reduced graphene oxide-based flexible paper electrode for energy storage applications             | J Mater Sci: Mater Electron (2022) 33:2222–2233<br><br><a href="https://doi.org/10.1007/s10854-021-07430-z">https://doi.org/10.1007/s10854-021-07430-z</a>         |

### Completed Research Projects

| # | Name of Investigator(s) (Supported by)   | Research Title  | Report Date  |
|---|--|---|--|
| 1 | Morphology-Controlled Preparation of Bimetallic Sulfide Nanomaterials for Various Applications | Sultan Akhtar<br>Sara Almofty, Muhammad Nawaz and Faiza Qureshi<br>Application Number (Auto): 2018-079-IRMC | Final report has been submitted with a publication |
|   |  |   |  |

### Current Researches

| # | Research Title  | Name of Investigator(s)  |
|---|---|--|
| 1 | Morphology-Controlled Preparation of Bimetallic Sulfide Nanomaterials for Various Applications            | Sultan Akhtar<br>Sara Almofty,<br>Nawaz Muhammad and Faiza Qureshi<br>Application Number (Auto): 2018-079-IRMC |
| 2 | Studies on sulfate reducing bacteria from injection and production water samples of Saudi Aramco oilfield | Hesham Abdalla, Sarah Alsaggaf, Sultan Akhtar, and Francis Jesu Borgio<br>Application Number: 2018-236-Sci     |



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|---|---|
| Surface innovation of facemasks to enhance the antibacterial and hydrophobic properties to prevent the transmission of infectious diseases (2021-159-IRMC): Submitted | Sultan Akhtar, Muhammad Nawaz, SURIYA Rahman, Faiza Qureshi<br><br>Application Number: 2021-159-IRMC (Submitted to DSR) |
| Therapeutic Effects of Probiotics and Au/hydroxyapatite-based nanoparticles for Coronavirus Disease 2019 (COVID-19) via Immunomodulating Receptor-Interaction         | SURIYA Rahman, Sultan Akhtar and et al<br><br>Application Number: 2021-086-IRMC<br><br>Status: waiting for DSR approval |
| Impact of nanoencapsulated anti-microRNA treatment on human colorectal carcinoma cells: Cellular & Molecular Approach   | Firdos Alam Khan, Sultan Akhtar and et al<br><br>Application Number: 2021-049-IRMC<br>Status: waiting for DSR approval  |

#### Contribution to Scientific Conferences and Symposia

| # | Conference Title   | Place and Date of the Conference                                      | Extent of Contribution |
|---|--|---|------------------------|
| 1 | International Scientific Congress                                    | National Centre for Physics, Islamabad Pakistan; 11-15 March 2013     | Invited lecture        |
| 2 | International Conference on Condensed Matter Physics and Engineering | Bahauddin Zakariya University, Multan Pakistan (27-29 DEC2012)        | Invited Speaker        |
| 3 | European Microscopy Congress (EMC)                                   | Manchester United Kingdom (16-21 September 2012)                      | Poster contribution    |
| 4 | Microscopy Conference, MC 2011                                       | Christian-Albrechts-Universität zu Kiel Germany (28 Aug-02 Sept 2011) | Poster contribution    |
| 5 | Materials for the 21st Century, Graduate Workshop                    | Polacksbacken, Uppsala University (09 February 2011)                  | Oral presentation      |
| 6 | 3 <sup>rd</sup> Middle East Conference on Electron Microscopy        | 14 December 2023, Bahrain   | Poster contribution    |

#### Membership of Scientific and Professional Societies and Organizations

- Lifetime member of The Pakistan Institute for Physics
-



## Teaching Activities

### Undergraduate

| # | Course/Rotation Title | No./Code | Extent of Contribution<br>(no. of lectures/Tutorials. Or labs, Clinics) |
|---|-----------------------|----------|---|
|   |                       |          |   |
|   |                       |          |   |

### Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

|   |   |
|---|---|
| 1 | Histological Techniques in Electron Microscopy (ANAT 801) |
| 2 |   |

### Postgraduate

| # | Course/Rotation Title                            | No./Code            | Extent of Contribution<br>(no. of lectures/Tutorials. Or labs, Clinics) |
|---|--|---------------------|---|
| 1 | Histological Techniques in Electron Microscopy   | ANAT 801            | Lab Work-12 Weeks   |
| 2 | Endocrinology Lab (Assistant with Prof. Ebtesam) | Biotechnology track | Lab session -2021   |
| 3 | Endocrinology Lab (Assistant with Prof. Ebtesam) | Biotechnology track | Lab session -2021   |
| 4 | Materials Physics course                         | MSNE 828            | 8 lectures (shared course)  |

### Brief Description of Postgraduate Courses Taught: (Course Title – Code: Description)

|   |   |
|---|---|
| 1 | Lab consists of practical work and operation of machines and electron microscopes (SEM & TEM) |
| 2 |   |

### Course Coordination

| # | Course Title and Code | Coordination | Co-coordination | Undergrad. | Postgrad. | From | to |
|---|-----------------------|--------------|-----------------|------------|-----------|------|----|
|   |                       |              |                 |            |           |      |    |
|   |                       |              |                 |            |           |      |    |

### Guest/Invited Lectures for Undergraduate Students

| # | Activity/Course Title and Code | Subject   | College and University or Program     | Date       |
|---|--------------------------------|---|---------------------------------------|------------|
| 1 | Summer Research Program - 2022 | Guest Lecture in the title of Training on Electron microscopic techniques | IRMC - Summer Research Program - 2022 | 15Aug 2022 |



|   |                                |   |                                       |              |
|---|--------------------------------|---|---------------------------------------|--------------|
| 2 | Summer Research Program - 2021 | Guest Lecture in the title of Training on Electron microscopic techniques | IRMC - Summer Research Program - 2021 | 6 June 2021  |
| 3 | Summer Research Program - 2020 | Guest Lecture in the title of Training on Electron microscopic techniques | IRMC - Summer Research Program - 2020 | 07 July 2020 |
| 4 | Summer Research Program - 2019 | Hands on training on Electron microscopic techniques                      | IRMC - Summer Research Program - 2019 | 15 July 2019 |

#### Student Academic Supervision and Mentoring (indirect)

| # | Level | Number of Students | From | to |
|---|-------|--------------------|------|----|
|   |       |                    |      |    |
|   |       |                    |      |    |

#### Supervision of Master and/or PhD Thesis

| # | Degree Type | Title | Institution | Date |
|---|-------------|-------|-------------|------|
|   |             |       |             |      |
|   |             |       |             |      |

#### Ongoing Research Supervision

| # | Degree Type | Title | Institution | Date |
|---|-------------|-------|-------------|------|
|   |             |       |             |      |
|   |             |       |             |      |

#### Administrative Responsibilities, Committee and Community Service (Beginning with the most recent)

##### Administrative Responsibilities (Training)

| # | From | To | Position | Organization |
|---|------|----|----------|--------------|
| 1 |      |    |          |              |
| 2 |      |    |          |              |
| 3 |      |    |          |              |
| 4 |      |    |          |              |
| 5 |      |    |          |              |
| 6 |      |    |          |              |



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| 7 |  |  |  |
| 8 |  |  |  |

#### Committee Membership

| # | From     | To      | Position                            | Organization  |
|---|----------|---------|-------------------------------------|---|
| 1 | Nov-2022 | To date | Member of Accreditation Committee 1 | Institute for Research and Medical Consultations, Imam Abdulrahman Bin Faisal, University, Dammam |
| 2 | Nov-2022 | To date | Member of Accreditation Committee 2 | Institute for Research and Medical Consultations, Imam Abdulrahman Bin Faisal, University, Dammam |

#### Scientific Consultations

| # | From | To | Institute | Full-time or Part-time |
|---|------|----|-----------|------------------------|
|   |      |    |           |                        |
|   |      |    |           |                        |

#### Volunteer Work (Training to Electron Microscopy)

| #  | Name                              | Department  | Training   |
|----|-----------------------------------|---|--|
| 1  | Mr. Faisal Hassan Saad AlZahrani  | Electron Microscopy Unit                                | SEM, TEM, Ultramicrotome and sample preparation    |
| 2  | Miss Haifa M. Alkhalidi           | Biology Department, College of Science                  | SEM and sample preparation                         |
| 3  | Miss Kholoud Mohammed Ali AlQarni | Volunteer   | SEM and sample preparation                         |
| 4  | Sarah Mousa Maadi Asiri           | Biophysics Department, College of Science               | SEM, TEM and sample preparation                    |
| 5  | Mr. Abdullah Bohamied             | Volunteer   | TEM, Ultramicrotome and sample preparation         |
| 6  | Miss Noor Alrushaid               | Institute for Research and Medical Consultations (IRMC) | SEM and TEM and sample preparation                 |
| 7  | Ms. Latifa almughnnam             | Department of Genetics                                  | SEM and TEM and sample preparation                 |
| 8  | Sarah Alsaggaf                    | College of Science                                      | Sample analysis for SEM an TEM                     |
| 9  | Huda Saeed                        | College of Science                                      | SEM Characterization and analysis of the specimens |
| 10 | Tahani Alfareed                   | Institute for Research and Medical Consultations (IRMC) | SEM and TEM Training                               |
| 11 | Atheel Almofleh                   | Institute for Research and Medical Consultations (IRMC) | SEM and TEM Training                               |



Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)

|   |  |
|---|--|
| 1 | Scanning Electron Microscope (SEM)     |
| 2 | Transmission Electron Microscope (TEM) |

## US PATENTS

| # | Name of Inventor(s) / Research Title / Publisher   | Reference or Application No. / Date  |
|---|--|--|
| 1 | <b>Inventor(s):</b> Ayhan Bozkurt, Seyda Tugba Gunday Anil, Munirah Abdullah Almessiere and Sultan Akhtar<br><b>Title:</b> Water-based hydrolysis for forming hollow particles<br><b>Link:</b> <a href="https://patents.google.com/patent/US20210238043A1/en">https://patents.google.com/patent/US20210238043A1/en</a>             | US Patent<br><b>Status:</b> Published<br><b>Application No.:</b> US 2021/0238043 A1/<br><b>Date:</b> 05-AUG-2021 |
| 2 | <b>Inventor(s):</b> Hanan Hussein Amin Mohamed, Aamerah Abdulwahab Alsanea, Nuhad Abdullah Alomair and Sultan Akhtar<br><b>Title:</b> Graphite composition based on PET pyrolysis products<br><b>Link:</b> <a href="https://patents.google.com/patent/US20210238043A1/en">https://patents.google.com/patent/US20210238043A1/en</a> | US Patent<br><b>Status:</b> Published<br><b>Application No.:</b> US20210238043A1<br><b>Date:</b> 17-FEB-2022     |
| 3 | <b>Inventor(s):</b> Hanan Hussein Amin Mohamed, Aamerah Abdulwahab Alsanea, Nuhad Abdullah Alomair and Sultan Akhtar<br><b>Title:</b> ZnO-porous graphite composites, their use and manufacture<br><b>Link:</b> <a href="https://patents.google.com/patent/US11192795B2/en">https://patents.google.com/patent/US11192795B2/en</a>  | US Patent<br><b>Status:</b> Published<br><b>Application No.:</b> US11192795B2<br><b>Date:</b> 07-DEC-2021        |
| 4 | <b>Inventor(s):</b> Ayhan Bozkurt, Seyda Tugba Gunday Anil, Munirah Abdullah Almessiere and Sultan Akhtar<br><b>Title:</b> multi-stage calcination method for making hollow silica spheres<br><b>Link:</b> <a href="https://patents.google.com/patent/US11242256B2/en">https://patents.google.com/patent/US11242256B2/en</a>       | US Patent<br><b>Status:</b> Published<br><b>Application No.:</b> US11242256B2<br><b>Date:</b> 08-FEB-2022        |



## Awards and Honors

- Postdoctoral position at KFUPM, Dhahran (May 2014-Aug-2016)
- Reviewer of research Journal: Frontiers in Physics (2014-to date)
- Member of Pakistan Institute of Physics (PIP) (from 2004)
- Received HEC Foreigner PhD Scholarship (2007-2012)
- Attended Teacher training course (Uppsala University) (2010)
- Attended Training on Electron Microscopy at Niece, France (2009)
- Top cited article 2021-2022 in Journal of Prosthodontics
- University President's List of Distinguished Researchers -2020 (Top 10 highly Cited Faculty in Imam Abdulrahman Bin Faisal University, Dammam)
- University President's List of Distinguished Researchers -2020 (Top 10 highly Published Faculty in Imam Abdulrahman Bin Faisal University, Dammam)
- Positioned in the list of top 2% researchers worldwide as published by Stanford University-2023
- Obtained Letter of appreciation for performance in research at Institute for Research and Medical Consultations (IRMC) in 2022.
- Research Excellence award in Civil and Environmental Engineering, 12<sup>th</sup> edition of international research awards on Civil and Environmental Engineering (2024); Certificate identification number: 2266

## Research Websites

| Account          | Link  |
|------------------|---|
| Google Scholar   | <a href="https://scholar.google.com/citations?hl=en&amp;user=MYQu3ScAAAAJ&amp;view_op=list_works&amp;sortby=pubdate">https://scholar.google.com/citations?hl=en&amp;user=MYQu3ScAAAAJ&amp;view_op=list_works&amp;sortby=pubdate</a> |
| Scopus Author ID | <a href="https://www.scopus.com/authid/detail.uri?authorId=36909462700">https://www.scopus.com/authid/detail.uri?authorId=36909462700</a>   |
| Bublons          | <a href="http://www.researcherid.com/rid/B-6069-2015">http://www.researcherid.com/rid/B-6069-2015</a>   |
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