



Dr. Sultan Akhtar

POSITION: Assistant Professor



Personal Data

Nationality | Pakistani

Date of Birth | 15th April 1977

Department | Biophysics Research

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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)

PhD	Transmission Electron Microscopy of Graphene and Hydrated Biomaterials Nanostructures: Novel Techniques and Analysis
Master	Synthesis and Characterization of Tin Oxide Thin Films
Fellowship	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	Imam Abdulrahman Bin Faisal University, Dammam	10-Oct-2016 to date



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

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, S Akhtar , 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. (IF: 2.528)
2	Sultan Akhtar , Mattias Strömberg, T Gómez de la Torre, Camilla F Gunnarsson, Mats Nilsson, Peter Svedlindh, 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 , <i>114</i> , 13255–13262.
3	Mattias Strömberg, Sultan Akhtar , 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), <i>1355</i> , mrss11-1355-jj05-08 <i>doi:10.1557/opl.2011.1135</i>
4	Per Wessman, Denny Mahlin, Sultan Akhtar , 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> (IF: 1.76)
5	Talyzin Alexandr; Luzan Serhiy; Leifer Klaus; Akhtar Sultan ; 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 , <i>115</i> (27), pp 13207–13214. (IF: 4.814)



6	Xia Yang, <u>Sultan Akhtar</u> , 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> 2012 , 24, 1690–1697. (IF: 8.238)
7	Stefano Rubino*, <u>Sultan Akhtar</u> *, 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 2012, Pages 572-576. (IF: 3.361)
8	Wenzhi Yang, <u>Sultan Akhtar</u> , Klaus Leifer and Helena Grennberg	Noncovalent Functionalization of Graphene in Suspension	<i>ISRN Organic Chemistry</i> , Volume 2013, Article ID 656185, 7 pages.
9	S. Rubino*, <u>S. Akhtar</u> * and K. Leifer	A Simple Transmission Electron Microscopy Method for Fast Thickness Characterization of Suspended Graphene and Graphite Flakes	Microscopy and Microanalysis, 22 (1), 250-256. (IF: 2.495).
10	Ahmed Ibrahim, <u>Sultan Akhtar</u> et al	Effects of annealing on copper substrate surface morphology and graphene growth by chemical vapor deposition	94 (2015) 369–377. (IF: 6.2)
11	A. M. Ilyas, M. A. Gondal, U. Baig, <u>S. Akhtar</u> 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 (2016) 246–255. (IF: 4.018)
12	H. Z. Shafia, A. Matina, <u>S. Akhtar</u> , 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 (2017) 152–163. (IF: 6.035)
13	Ahmed Ibrahim, Ghaith Nadhreen, <u>Sultan Akhtar</u> , 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, 2017, Pages 402-414, ISSN 0008-6223. (IF: 6.337)
14	M. A. Gad, <u>Sultan Akhtar</u> 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 2018). (IF: 4.3)
15	Jermy, B.R., Acharya, <u>S. Akhtar</u> , Ravinayagam, V. et al.	<i>Hierarchical mesosilicalite nanoformulation integrated with cisplatin exhibits target-specific efficient anticancer activity</i>	Applied Nanoscience (2018) (IF: 3.325 (Q1))
16	Asif Matin, Umair Baig, M. A. Gondal, and <u>Sultan Akhtar</u>	<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 2018, Pages 390-397. (IF: 6.035)
17	<u>Sultan Akhtar</u> , A. Madhan Kumar, Asif Matin, Ahmad Ibrahim, and Tahar Laoui	<i>Enhancement of Anticorrosion Property of 304 Stainless Steel Using Silane Coatings</i>	Applied Surface Science, Volume 440, 15 May 2018, Pages 1286-1297 (IF: 3.38)



18	Firdos A. Khan, Sultan Akhtar et al	FMSP-Nanoparticles Induced Cell Death on Human Breast inoma Cell Line (MCF-7 Cells): Morphometric Analysis	Analysis <i>Biomolecules</i> 2018, 8(2), 32; Published: 23 May 2018.
19	<i>Saman Iqbal, M.S. Rafique, Sultan Akhtar, 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</i> , Volume 122, 2018, Pages 72-86. (IF 2.059)
20	<i>Umair Baig, M.A Gondal. M.A. Ansari, Sultan Akhtar</i>	<i>Facile synthesis, characterization and antibacterial activity of nanostructured palladium loaded silicon carbide</i>	<i>Ceramics International</i> , June 18, 2018. online 18 June 2018 (IF 2.986)
21	<i>Ahmad S. Barham, Sultan Akhtar 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</i> , Volume 8, Number 4, August 1, 2018, pp. 305-315 (11) 01 August 2018.
22	<i>F. A. Khan, Sultan Akhtar 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> 25 July 2018.
23	<i>Asif Matin, Sultan Akhtar 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</i> , Volume 462, 31 December 2018, Pages 95-104 Available online 13 August 2018
24	<i>F. A. Khan, Sultan Akhtar et al.</i>	<i>Extracts of Clove (<i>Syzygium aromaticum</i>) 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, Sultan Akhtar 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, Sultan Akhtar 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 ₂ O ₄ nanoparticles	<i>Ceramics International</i> 2019



29	A M Kumar et la	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 Materials Science & Engineering C 98 (2019) 482–495
30	M. A. Almessiere et al	Magnetic and structural characterization of Nb ³⁺ -substituted CoFe ₂ O ₄ nanoparticles	Ceramics International 2019
31	Mohammed M. Gad et al.	Reinforcement of PMMA Denture Base Material with a Mixture of ZrO ₂ Nanoparticles and Glass Fibers	International Journal of Dentistry Volume 2019, Article ID 2489393, 11 pages https://doi.org/10.1155/2019/2489393
32	Sultan Akhtar et al	Functionalized magnetic nanoparticles attenuate cancer cells proliferation: Transmission electron microscopy analysis	Microscopy and Research Technology <i>Microsc Res Tech.</i> 2019; 82:983–992
33	Hanan H. Mohamed et al.	ZnO@ porous graphite nanocomposite from waste for superior photocatalytic activity	Environmental Science and Pollution Research https://doi.org/10.1007/s11356-019-04684-3
34	Suriya Rehman et al.	Biocompatible Tin Oxide Nanoparticles: Synthesis, Antibacterial, Anticandidal and Cytotoxic Activities	Chemistry Select, 2019 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 https://doi.org/10.1080/21691401.2019.1577886
36	Y. Slimani et al.	Structural, magnetic, optical properties and cation distribution of nanosized Ni _{0.3} Cu _{0.3} Zn _{0.4} TmxFe _{2-x} O ₄ (0.0≤x≤0.10) spinel ferrites synthesized by ultrasound irradiation	Ultrasonics Sonochemistry Volume 57, October 2019, 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 https://doi.org/10.1080/21691401.2019.1620254
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 ₂ O ₃ /TiO ₂ heterojunction with enhanced visible light photocatalytic activity	Journal of Photochemistry & Photobiology A: Chemistry 2019



40	M. A. Almessiere et al.	Structural, magnetic, optical properties and cation distribution of nanosized $\text{Co}_{0.7}\text{Zn}_{0.3}\text{TmxFe}_{2-x}\text{O}_4$ ($0.0 \leq x \leq 0.04$) spinel ferrites synthesized by ultrasonic irradiation	Ultrasonics Sonochemistry Volume 58, November 2019, 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) https://doi.org/10.1007/s42823-019-00066-4
43	Munther Alomari et al.	Cisplatin-functionalized three-dimensional magnetic SBA-16 for treating breast cancer cells (MCF-7)	ARTIFICIAL CELLS, NANOMEDICINE, AND BIOTECHNOLOGY 2019, VOL. 47, NO. 1, 3079–3086 https://doi.org/10.1080/21691401.2019.1645155
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 Volume 591, 1 December 2019, 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 https://doi.org/10.1007/s11665-019-04268-9
47	Hanan H. Mohamed et al.	Highly efficient Cu-phthalocyanine-sensitized ZnO hollow spheres for photocatalytic and antimicrobial application	Composites Part B: Engineering Volume 176, 1 November 2019, 107314
48	Y. Slimani et al.	$\text{Ni}_{0.4}\text{Cu}_{0.2}\text{Zn}_{0.4}\text{TxFe}_{2-x}\text{O}_4$ nanospinel ferrites: Ultrasonic synthesis and physical properties	Ultrasonics Sonochemistry Volume 59, December 2019, 104757
49	M. A. Almessiere et al.	Impact of La^{3+} and 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 Issue 53, 2019 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) https://doi.org/10.1007/s13204-019-01186-z



		antibacterial activity against water-borne gram-negative pathogens	
51	R. Rabindran Jermy et al.	SPI ONs/3D SiSBA-16 based Multifunctional Nanoformulation for target specific cisplatin release in colon and cervical cancer cell lines	Scientific Reports (2019) 9:14523 https://doi.org/10.1038/s41598-019-51051-w
52	Sultan Akhtar et al.	Synthesis of Mn0.5Zn0.5SmxEuxFe1.8-2xO4 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 https://doi.org/10.1080/15440478.2019.1689885
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 L.</i>)	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 ₂ nanoparticle-reinforced repair resin on the denture repair strength	Journal section: Prosthetic Dentistry doi:10.4317/jced.56610 https://doi.org/10.4317/jced.56610
61	Umair Baig et al.	Single step production of high-purity copper oxide-titanium dioxide nanocomposites and their effective	Materials Science and Engineering C https://doi.org/10.1016/j.msec.2020.110992



		antibacterial and anti-biofilm activity against drug-resistant bacteria	
62	H. Albetran et al.	Synthesis, characterization and magnetic investigation of Er-substituted electrospun NiFe ₂ O ₄ nanofibers	Physica Scripta 2020 https://doi.org/10.1088/1402-4896/ab8b7d
63	Manzar Sohail et al.	A Novel Tin-Doped Titanium Oxide Nanocomposite for Efficient Photo-Anodic Water Splitting	ACS Omega 2020, 5, 6405–6413 https://dx.doi.org/10.1021/acsomega.9b03876
64	Nesrine M. R. Mahmoud et al.	Efficient biosynthesis of CuO nanoparticles with potential cytotoxic activity	Chemical Papers https://doi.org/10.1007/s11696-020-01120-6
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 ₃ /ZnO nanocomposite	Saudi Journal of Biological Sciences Volume 27, Issue 7, July 2020, 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 Volume 116, November 2020, 111156
67	Nabil K Alruwaili et al.	Formulation of amorphous ternary solid dispersions of dapagliflozin using PEG 6000 and Poloxamer188: Solid-state characterization, Ex vivo study, and molecular simulation assessment	Drug Development and Industrial Pharmacy 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 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 ₂ 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 (α -Fe ₂ O ₃) nanoparticles in barley (<i>Hordeum vulgare</i> L.)	Environmental Pollution 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 Volume 9, Issue 5, September–October 2020, Pages 11278-11290



72	Mohammed M. Gad	Effects of Denture Cleansers on the Flexural Strength of PMMA Denture Base Resin Modified with ZrO ₂ Nanoparticles	Journal of Prosthodontics 00 (2020) 1–10
73	F.Alahmaria, M.A.AlmessierebY.SlimanibH.Güngü neşSagar E.Shirsathd, S.Akhtar , MariuszJaremkoA.Baykala	Synthesis and characterization of electrospun Ni _{0.5} Co _{0.5} -xCdxNd _{0.02} Fe _{1.78} O ₄ nanofibers	Nano-Structures & Nano-Objects Volume 24, October 2020, 100542
74	Omar S. ElMitwalli & Omar A. Barakat & Rabbani M. Daoud & Sultan Akhtar & Fryad Z. Henari	Greensynthesis of gold nanoparticles using cinnamon bark 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, Sultan Akhtar , Yassine Slimani , Munirah Abdullah Almessiere, Fatimah Saad Alahmari, Abdulhadi Baykal and It-Meng Low	Synthesis of Electrospun TiO ₂ 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, Sultan Akhtar , Asif Matin, Mohammed M. Gad	Antifungal Efficacy and Physical Properties of Poly(methylmethacrylate) Denture Base Material Reinforced with SiO ₂ Nanoparticles	Journal of Prosthodontics 00 (2020) 1–9
77	Omer Alnoor, Tahar Laoui , Ahmed Ibrahim, Feras Kafiah , Ghaith Nadhreen, Sultan Akhtar 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 ₂ Nanostructure	Arabian Journal for Science and Engineering (2020) https://doi.org/10.1007/s13369-020-04957-x
79	A. M. Nassar · Z. A. Alrowaili, Ahmed A. M. Ahmed, B. A. Cheba,· Sultan Akhtar	Facile synthesis of new composite, Ag-Nps-loaded core/shell CdO/ Co ₃ O ₄ NPs, characterization and excellent performance in antibacterial activity	Applied Nanoscience https://doi.org/10.1007/s13204-020-01606-5
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. https://doi.org/10.3390/pharmaceutics13020236



	Fadhel Ahmed Alomar, Sultan Akhtar, Omar Awad Alsaidan, Nabil A. Alhakamy, Ameeduzzafar 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 ₂ Nanocomposite Denture Base Material after Using Denture Cleanser	International Journal of Biomaterials Volume 2021, Article ID 6668577, 10 pages https://doi.org/10.1155/2021/6668577
83	R. Algarni, Y. Slimani, E. Hannachi, M.A. Almessiere b, B.H. Alqahtani, S. Akhtar, F. Ben Azzouz	Intergrain connectivity in YBa ₂ Cu ₃ O _{7-δ} superconductor added with Dy ₂ O ₃ nanoparticles: AC susceptibility investigation	Current Applied Physics 27 (2021) 89–97 https://doi.org/10.1016/j.cap.2021.04.013
84	Moosa AlHoda1, Jalal Abdulmonem Almeer1, Hasan Alaudeen Alomari1, Sultan Akhtar2, Fryad Z. Henari1, 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 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 ₂ Antibacterial Nanofibers and Antibiofilm Potential against Gram-Positive and Gram-Negative Bacteria	Antibiotics 2020, 9(9), 572; https://doi.org/10.3390/antibiotics9090572
86	Munirah A Almessiere, Sadik Güner, Hakan Gungunes, Murat Sertkol, Yassine Slimani, Rabail Badar, Sultan Akhtar, Sagar E Shirasath, Abdulhadi Baykal	Synthesis Characterization of Electrospun of Their TiO ₂ Antibacterial Nanofibers and Antibiofilm Potential against Gram-Positive and Gram-Negative Bacteria	ACS Omega 2021, 6, 22429–22438 https://doi.org/10.1021/acsomega.1c03416
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 ₂ 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. doi: 10.1055/s-0041-1732806. 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 _{0.4} Cu _{0.2} Zn _{0.4} (Fe _{2-x} Dy _x)O ₄ Nano Spinel Ferrites and Evaluation of Their Antibacterial, Antifungal, Antibiofilm and Anticancer Potentialities for Biomedical Application	International Journal of Nanomedicine Volume: Volume 16 Page: 5633-5650 DOI: 10.2147/IJN.S316471
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 Volume: 14 Issue: 9 Page: 103317



		nanospheres using pulsed laser ablation in liquid environment	DOI: 10.1016/j.arabjc.2021.103317
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 Lasers in Manufacturing and Materials Processing volume 9, pages18–36 (2022) DOI: https://doi.org/10.1007/s40516-021-00160-4
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 10.1111/jopr.13486
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 Volume: 15 Issue: 2 Page: 103594 DOI: 10.1016/j.arabjc.2021.103594
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) DOI https://doi.org/10.1007/s10854-021-07430-z
94	Emre Cevik, Seyda Tugba Gunday, Arfa Iqbal, Sultan Akhtar, Ayhan Bozkurt	Synthesis of hierarchical multilayer N-doped Mo ₂ C@ MoO ₃ nanostructure for high-performance supercapacitor application	Journal of Energy Storage Volume: 46 Page: 103824 DOI: 10.1016/j.est.2021.103824
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 Volume 15, Issue 2, February 2022, 103606 https://doi.org/10.1016/j.arabjc.2021.103606
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 _{0.5} Co _{0.5} GaxFe _{1.8-x} O ₄ (x≤ 1.0) spinel ferrite microspheres	Journal of Rare Earths 10.1016/j.jre.2022.01.021
97	Mohammed M Gad, Ahmed Rahoma, Zahid A Khan, Ahmad M Al-Thobity, Reem Abualsaud, Nora Alkaltham, Sultan Akhtar, Ijlal Shahrukh Ateeq, Fahad A Al-Harbi	Closed Repair Technique: Innovative Surface Design for Polymethylmethacrylate Denture Base Repair	Journal of Prosthodontics Volume: 31 Issue: 3 Page: 257-265 DOI: 10.1111/jopr.13412
98	Hessah M Almuzafer, 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



	Rehman, Sultan Akhtar, Firdos Alam Khan	derivatives showed anti-cancer and anti-bacterial actions	Volume 26, Issue 2, March 2022, 101436 https://doi.org/10.1016/j.jscs.2022.101436
99	Muhammad Nawaz, Sultan Akhtar, Faiza Qureshi, Sarah Ameen Almofty, Veeranoot Nissapatrorn	Preparation of indium-cadmium sulfide nanoparticles with diverse morphologies: Photocatalytic and cytotoxicity study	Journal of Molecular Structure Volume: 1253 Page: 132288 DOI: 10.1016/j.molstruc.2021.132288
100	Arwa Ali Almahasheer, Amal Mahmoud , Hesham El-Komy, Amany I Alqosaibi, Sultan Aktar, Sayed AbdulAzeez, J Francis Borgio	Novel Feather Degrading Keratinases from <i>Bacillus cereus</i> Group: Biochemical, Genetic and Bioinformatics Analysis	Microorganisms 2022 Jan 1;10(1):93. doi: 10.3390/microorganisms10010093 .
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 DOI: 10.1039/d1ra08216g rsc.li/rsc-advances
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 https://doi.org/10.1007/s10854-021-07430-z

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 Sara Almofty, Muhammad Nawaz and Faiza Qureshi 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 Sara Almofty, Nawaz Muhammad and Faiza Qureshi 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 Application Number: 2018-236-Sci



	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 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 Application Number: 2021-086-IRMC 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 Application Number: 2021-049-IRMC 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 rd 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 (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 (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				



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. Alkhaldi	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 and TEM
9	Huda Saeed	College of Science	SEM Characterization and analysis of the specimens
1	Tahani Alfareed	Institute for Research and Medical Consultations (IRMC)	SEM and TEM Training
0	Atheel Almofleh	Institute for Research and Medical Consultations (IRMC)	SEM and TEM Training
1			
1			



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	Inventor(s): Ayhan Bozkurt, Seyda Tugba Gunday Anil, Munirah Abdullah Almessiere and Sultan Akhtar Title: Water-based hydrolysis for forming hollow particles Link: https://patents.google.com/patent/US20210238043A1/en	US Patent Status: Published Application No.: US 2021/0238043 A1/ Date: 05-AUG-2021
2	Inventor(s): Hanan Hussein Amin Mohamed, Aamerah Abdulwahab Alsanea, Nuhad Abdullah Alomair and Sultan Akhtar Title: Graphite composition based on PET pyrolysis products Link: https://patents.google.com/patent/US20210238043A1/en	US Patent Status: Published Application No.: US20210238043A1 Date: 17-FEB-2022
3	Inventor(s): Hanan Hussein Amin Mohamed, Aamerah Abdulwahab Alsanea, Nuhad Abdullah Alomair and Sultan Akhtar Title: ZnO-porous graphite composites, their use and manufacture Link: https://patents.google.com/patent/US11192795B2/en	US Patent Status: Published Application No.: US11192795B2 Date: 07-DEC-2021
4	Inventor(s): Ayhan Bozkurt, Seyda Tugba Gunday Anil, Munirah Abdullah Almessiere and Sultan Akhtar Title: multi-stage calcination method for making hollow silica spheres Link: https://patents.google.com/patent/US11242256B2/en	US Patent Status: Published Application No.: US11242256B2 Date: 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, 12th edition of international research awards on Civil and Environmental Engineering (2024); Certificate identification number: 2266

Research Websites

Account	Link
Google Scholar	https://scholar.google.com/citations?hl=en&user=MYQu3ScAAAAJ&view_op=list_works&sortby=pubdate
Scopus Author ID	https://www.scopus.com/authid/detail.uri?authorId=36909462700
Bublons	http://www.researcherid.com/rid/B-6069-2015
ORCID	https://orcid.org/0000-0002-9473-4739

RESEARCH IDENTIFICATIONS & LINKS

Logo	Research Identifications and Links	
	IRMC-IAU University	http://www.ieu.edu.sa/en/colleges/institute-for-research-and-medical-consultations-irmc/faculty/dr-sultan-akhtar
	Web of Science	https://www.webofscience.com/wos/author/record/B-6069-2015
	Scopus Author ID	https://www.scopus.com/authid/detail.uri?authorId=36909462700



	Google Scholar	https://scholar.google.com/citations?hl=en&user=MYQu3ScAAAAJ&view_op=list_works&sortby=pubdate
	Orchid ID	https://orcid.org/0000-0002-9473-4739
	LinkedIn Profile	https://www.linkedin.com/in/sultan-akhtar-446a2117/ https://www.linkedin.com/feed/?trk=seo-authwall-base_signin-form_submit
	Research Gate	https://www.researchgate.net/profile/Sultan-Akhtar
	Loop Frontier	https://loop.frontiersin.org/people/165268/overview
	Academia	https://iabfu.academia.edu/DrSultanAkhtar
	Mendeley	https://www.mendeley.com/reference-manager/library/my-publications/

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