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AREA OF INTEREST

- | | |
|---|--|
| 1 | Physical Metallurgy/ Improvement the performance of steel through development of appropriate microstructures using heat treatment route. |
| 2 | Mineral Processing/Beneficiation of metallic ores |
| 3 | Characterization of metals and minerals |

PROFESSIONAL POSITIONS HELD

Feb 2018 to date	Chairman, Department of Metallurgy and Materials Engineering MUET Jamshoro
2012 to date	Professor, Department of Metallurgy and Materials Engineering MUET Jamshoro
2011 to 2012	Associate Professor, Department of Metallurgy and Materials Engineering MUET Jamshoro
1997 to 2011	Assistant Professor, Department of Metallurgy and Materials Engineering MUET Jamshoro
1990 to 1997	Lecture, Department of Metallurgy and Materials Engineering MUET Jamshoro
2009 to date	Incharge, Advanced Research Lab, MUET Jamshoro

Professional Training/Education

PhD.	Thesis	Upgradation of Dilband Iron ore	2009
	Major Field	Mineral Processing	
	Institute	MUET Jamshoro, Pakistan and and Montan University Leoben, Austria	
M.E	Thesis	Effect of Heat Treatment Processes and Microstructural Constituents on Torsional Behavior of Carburized Steel	2000
	Major Field	Material Science and Technology	
	Institute	MUET Jamshoro, Pakistan	
B.E	Thesis	Commissioning of Fabrication Lab	1990
	Major Filed	Metallurgy	
	Institute	MUET Jamshoro, Pakistan	

International	
1	Umair Aftab, Aneela Tahira, Abdul Hanan Samo, Muhammad Ishaq Abro , Muhammad Moazam Baloch, Mukesh Kumar, Sirajuddin, Zafar Hussain Ibupoto “Mixed CoS ₂ @Co ₃ O ₄ composite material: An efficient nonprecious electrocatalyst for hydrogen evolution reaction”, International Journal of Hydrogen Energy, Vol 45, Issue 27, pp. 13805-13813, 2020, DOI: 10.1016/j.ijhydene.2020.03.131 (IF: 4.939)
2	Umair Aftab, Aneela Tahira, Raffaello Mazzaro, Vittorio Morandi, Muhammad Ishaq Abro , Muhammad Moazam Baloch, Cong Yu, Zafar Hussain Ibupoto “Nickel–cobalt bimetallic sulfide NiCo ₂ S ₄ nanostructures for a robust hydrogen evolution reaction in acidic media”, RSC Advances, Vol 10, Issue 37, pp. 22196-22203, 2020, DOI: 10.1039/D0RA03191G (IF:3.049)
3	Adeel Liaquat Bhatti, Umair Aftab, Aneela Tahira, Muhammad Ishaq Abro , Muhammad Hassan Aghem, Muhamad Ali Bhatti, Zafar Hussain Ibupoto “Facile doping of nickel into Co ₃ O ₄ nanostructures to make them efficient for catalyzing the oxygen evolution reaction”, RSC Advances, Vol 10, Issue 22, pp. 12962-12969, 2020, DOI: 10.1039/D0RA00441C (IF:3.049)
4	Abdul Qayoom Mugheri, Aneela Tahira, Umair Aftab, Adeel Liaquat Bhatti, Nusrat Naeem Memon, Muhammad Ishaque Abro , Aqeel Ahmed Shah, Magnus Willander, Ahmed Ali Hullio and Zafar Hussain Ibupoto “Efficient tri-metallic oxides NiCo ₂ O ₄ /CuO for the oxygen evolution reaction”, RSC Advances, Vol 9, Issue 72, pp. 42387-42394, 2019, DOI: 10.1039/C9RA09351F (IF:3.049)
5	Abdul Sattar Chang, Nusrat Naeem Memon, Sidra Amin, Fouzia Chang, Umair Aftab, Muhammad Ishaq Abro , Ali dad Chandio, Aqeel Ahmed Shah, Mazhar Hussain

	Ibupoto, Muhammad Akram Ansari, Zafar Hussain Ibupoto, Facile Non-enzymatic Lactic Acid Sensor Based on Cobalt Oxide Nanostructures, <i>Electroanalysis</i> (2019), 31 (7), 1296-1303, (IF:2.691)
6	Abdul Qayoom Mugheri, Aneela Tahira, Umair Aftab, Muhammad Ishaq Abro , Saleem Raza Chaudhry, Luís Amaral, Zafar Hussain Ibupoto, Co ₃ O ₄ /NiO bifunctional electrocatalyst for water splitting, <i>Electrochimica Acta</i> (2019), 306, 9-17, (IF:5.383)
7	Abdul Qayoom Mugheri, Aneela Tahira, Umair Aftab, Muhammad Ishaq Abro , Arfana Begum Mallah, Gulam Zuhra Memon, Humaira Khan, Mazhar Ali Abbasi, Imran Ali Halepoto, Saleem Raza Chaudhry, Zafar Hussain Ibupoto, An advanced and efficient Co ₃ O ₄ /C nanocomposite for the oxygen evolution reaction in alkaline media, <i>RSC Advances</i> (2019), 9 (59), 34136-34143, (IF:3.049)
8	Umair Aftab, Aneela Tahira, Raffaello Mazzaro, Muhammad Ishaq Abro , Muhammad Moazam Baloch, Magnus Willander, Omer Nur, Cong Yu, Zafar Hussain Ibupoto, The chemically reduced CuO–Co ₃ O ₄ composite as a highly efficient electrocatalyst for oxygen evolution reaction in alkaline media, <i>Catalysis Science & Technology</i> (2019), 9 (22), 6274-6284, (IF:5.726) .
9	Gul Naz Laghari, Ayman Nafady, Sameerah I Al-Saeedi, Syed Tufail H Sherazi, Jan Nisar, Muhammad Raza Shah, Mohammad I Abro , Munazza Arain, Suresh K Bhargava, Ranolazine-Functionalized Copper Nanoparticles as a Colorimetric Sensor for Trace Level Detection of As ³⁺ . <i>Nanomaterials</i> (2019), 9 (1), 83, (IF:4.034)
10	Kishore Chand, M Ishaque Abro , Umair Aftab, Ahmer Hussain Shah, Muhammad Nazim Lakhan, Dianxue Cao, Ghazanfar Mehdi, Abdalla Mohamed Ali Mohamed, Green synthesis characterization and antimicrobial activity against <i>Staphylococcus aureus</i> of silver nanoparticles using extracts of neem, onion and tomato, <i>RSC Advances</i> (2019), 9 (30), 17002-17015 (IF:3.049)
11	Aneela Tahira, Zafar Hussain Ibupoto, Mikhail Vagin, Umair Aftab, Muhammad Ishaq Abro , Magnus Willander, Omer Nur, An efficient bifunctional electrocatalyst based on a nickel iron layered double hydroxide functionalized Co ₃ O ₄ core shell structure in alkaline media, <i>Catalysis Science & Technology</i> (2019), 9 (11), 2879-2887, (IF:5.726)
12	Abdul Qayoom Mugheri, Aneela Tahira, Umair Aftab, Muhammad Ishaq Abro , Saleem Raza Chaudhry, Luís Amaral, Zafar Hussain Ibupoto, Facile efficient earth abundant NiO/C composite electrocatalyst for the oxygen evolution reaction, <i>RSC advances</i> (2019), 9 (10), 5701-5710, (IF:3.049)
13	Asma Ansari, Sidra Pervez, Urooj Javed, Muhammad Ishaque Abro , Muhammad Asif Nawaz, Shah Ali Ul Qader, Afsheen Amana, Characterization and interplay of bacteriocin and exopolysaccharide-mediated silver nanoparticles as an antibacterial agent, <i>International Journal of Biological Macromolecules</i> , 115 (Available Online 22 April 2018) 643–650 (IF=3.671)
14	Mawada Mohamed Tunesi,, Nazar Hussain Kalwar, , Razium Ali Soomro, Selcan Karakus, Sana Jawaid, Muhammad Ishaq Abro , Tartaric acid assisted in-situ growth of CuO nanostructures over ITO substrate for the electrocatalytic detection of Sudan I, <i>Materials Science in Semiconductor Processing</i> 75 (March 2018) pp.296–300, (IF=2.359)
15	Safia S.M, Ayman N, Amber R. S, Abdullah M. Al-ESirajuddin, Muhammad R. S, Syed T.H.S, Shabuddin M, Munazza A, Muhammad Ishaq Abro , Manzoor I.K, “Sensitive

	and selective aggregation based colorimetric sensing of Fe ³⁺ via interaction with acetyl salicylic acid derived gold nanoparticles”, <i>Sensors And Actuators B-Chemical</i> , 259 (15 April 2018), Pages 1006-1012 (IF= 5.401)
16	Faisal Ahmed Memon, Francesco Morichetti ¹ , Muhammad Ishaque Abro , Giosue Izeni, Claudio Somaschini, Umair Aftab, Andrea Melloni, “Synthesis, Characterization and Optical Constants of Silicon Oxycarbide”, <i>European Physical Journal (EPJ)</i> , 139, 00002, 23 March 2017, DOI: 10.1051/ 713900002,
17	Mugheri, Abdul Qayoom; Tahira, Aneela; Sirajuddin; Sherazi, Syed Tufail Hussain; Muhammad Ishaq Abro ; Willander, Magnus; Ibupoto, Zafar Hussain, An Amperometric Indirect Determination of Heavy Metal Ions Through Inhibition of Glucose Oxidase Immobilized on Cobalt Oxide Nanostructures, <i>Sensor Letters</i> , Volume 14, Number 12, December 2016, pp. 1178-1186(9)
18	Qurrat-ul-Ain Baloach, Aneela Tahira, Arfana Begum Mallah, Muhammad Ishaq Abro , Siraj Uddin, Magnus Willander, and Zafar Hussain Ibupoto, A Robust, Enzyme-Free Glucose Sensor Based on Lysine-Assisted CuO Nanostructures, <i>Sensors</i> , 14 November 2016, 16(11), 1878; doi:10.3390/s16111878, pp 1-10, (IF=2.03)
19	Razium Ali Soomro, Zafar Hussain Ibupoto, Sirajuddin, Syed Tufail Hussain Sherazi, Muhammad Ishaq Abro , and Magnus Willander, Practice of diclofenac sodium for the hydrothermal growth of NiO nanostructures and their application for enzyme free glucose biosensor, <i>Microsyst Technol</i> DOI 10.1007/s00542-015-2669-2, October 2016, Volume 22, Issue 10, pp 2549–2557, Online: http://link.springer.com/article/10.1007%2Fs00542-015-2669-2#page-1 , (IF=0.95)
20	Kapil Dev Brahman, Tasneem Gul Kazi ¹ , Hassan Imran Afridi, Jameel Ahmed Baig, Muhammad Ishaq Abro , Sadaf Sadia Arain, Jamshed Ali, and Sumaira Khan “Simultaneously removal of inorganic arsenic species from stored rainwater in arsenic endemic area by leaves of <i>Tecomella undulata</i> : a multivariate study” <i>Environ Sci Pollut Res</i> , ISSN 0944-1344, August 2016, Volume 23, Issue 15, pp 15149–15163, Online: http://link.springer.com/article/10.1007%2Fs11356-016-6519-2 , (IF=2.828)
20	Razium Ali Soomro, Zafar Hussain Ibupoto, Sirajuddin, Muhammad Ishaq Abro , Magnus Willander, Sarfaraz Ahmed Mahesar, and Nazar Hussain Kalwar, Glycine-assisted preparation of Co ₃ O ₄ nanoflakes with enhanced performance for non-enzymatic glucose sensing, <i>Material Express</i> , October 2015, Volume 5, Number 5, 437-444, (IF=2.25)
21	Razium Ali Soomro, Aynam Nafady, Zafar Hussain Ibupoto, Sirajuddin, Syed Tufail Hussain Sherazi, Muhammad Ishaq Abro and Magnus Willander, Development of sensitive non-enzymatic glucose sensor using complex nanostructures of cobalt oxide, <i>Materials Science in Semiconductor Processing</i> Volume 34, June 2015, Pages 373–381 (IF=1.95)
22	Razium Ali Soomro, Zafar Hussain Ibupoto, Sirajuddina, Muhammad Ishaq Abro , Magnus Willander, Electrochemical sensing of glucose based on novel hedgehog-like NiO nanostructures, <i>Sensors and Actuators B</i> 209, Vol. 209, 31 March 2015, Pages 966–974, IF= 4.097
23	Syeda S. Hassan, Ayman Nafady ^b , Sirajuddin, Amber R. Solangi, Muhammad S. Kalhor, Muhammad Ishaq Abro , Syed Tufail H. Sherazi, Ultra-trace level electrochemical sensor for methylene blue dye based on nafion stabilized ibuprofen derived gold nanoparticles, <i>Sensors and Actuators B</i> 208, 1 March 2015, Pages 320–326,

	IF= 3.668
24	Zafar Hussain Ibupoto, Ayman Nafady, Razium Ali Soomro, Siraj uddin, S.T.H. Sherazi, Muhammad Ishaque Abro and Magnus Willander, Glycine-assisted synthesis of NiO hollow cage-like nanostructures for sensitive non-enzymatic glucose sensing, RSC Adv., vol. 5, issue 24, 9 Feb 2015, Pages 18773-18781, 2015 IF=3.84
25	Farooq Ahmeda, Sidra Saleemia, Zeeshan Khatria, Muhammad Ishaq Abro , Ick-Soo Kim, Co-electrospun poly(ϵ -caprolactone)/cellulose nanofibers fabrication and characterization, Carbohydrate Polymers Volume 115, 22 January 2015, Pages 388–393, IF= 4.330
26	Razium Ali Soomro, Zafar Hussain Ibupoto, Sirajuddin, Muhammad Ishaq Abro , Magnus Willander, Controlled synthesis and electrochemical application of skein-shaped NiO nanostructures, Journal of Solid State Electrochemistry, Vol. 19 Issue 3, 14 December 2014, Pages 913-922., IF= 2.44, http://link.springer.com/article/10.1007%2Fs10008-014-2700-z
27	Zeeshan Khatri, Farooq Ahmed, Abdul Khaliq Jhatial, Muhammad Ishaque Abro , Gopiraman Mayakrishnan, Ick-Soo Kim, Cold pad-batch dyeing of cellulose nanofibers with reactive dyes, Cellulose, August 2014, Vol. 21, Pages 3089-3095, IF= 3.195
28	Muhammad Ishaq Abro , A.G. Pathan, A.R. Memon, Sirajuddin, Dual polymer flocculation approach to overcome activation of gangue minerals during beneficiation of complex iron ore, Powder Technology, 245, September 2013 281–291, IF= 2.269
29	Zulfiqar A. Tagar, Sirajuddin, Najma Memon, Muhammad S. Kalhoro, Paul O’Brien, Mohammad A. Malik, Muhammad Ishaq Abro , Syeda S. Hassan, Nazar H. Kalwar, Yasmeen Junejo, “Highly sensitive, selective and stable multi metal ions sensor based on ibuprofen capped mercury nanoparticles”, Sensors and Actuators B: Chemical, Volume 173, October 2012, Pages 745-751, IF= 4.758
30	Kalwar N. H., Sirajuddin, Sherazi S. T. H., Muhammad Ishaq Abro , Tagar Z. A., Syeda S. H., Junejo Y., Khattak M. I.” Synthesis of l-methionine stabilized nickel nanowires and their application for catalytic oxidative transfer hydrogenation of isopropanol”, Applied Catalysis A: General, Vol. 400, Issue: 1-2, pp: 215–220, 30 June 2011, IF= 3.910.
31	Muhammad Ishaq Abro. , Pathan A. G., Mallah A. H., and Böhm A., 'Mineralogical Characterization of Dilband Iron Ore Deposits of Balochistan, Pakistan [Mineralogische Beschreibung der Dilband-Eisenerzlagertstätten in Balochistan, Pakistan]'. BHM Berg- und Hüttenmännische Monatshefte, Springer Wien Publisher, Volume 153, Number 6, pp 206-210, Jun 2008.
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32	Imtiaz Ali Soomro, Muhammad Ishaque Abro , Ali Dad Chandio, and Muhammad Moazam Baloch, “Effect of Intercritical Heat Treatment on Mechanical Properties of Plain Carbon Dual Phase Steel”, Mehran University Research Journal of Engineering & Technology, Jan 2018, vol. 37, issue 1, Pages 149-158
33	Sultan Ahmed Khoso, Muhammad Ishaque Abro , Muhammad Hassa Agheem “Mineralogical Study of Zard Koh and Kulli Koh Iron Ore Deposits of Pakistan” Mehran University Research Journal of Engineering & Technology, Oct 2017, vol. 36, issue 4,

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34	Muhammad Ishaq Abro , Riaz Ahmed Memon, Imtiaz Ali Soomro, Umair Aftab, “Effect of intercritical heat treatment on mechanical properties of reinforcing steel bars”, Mehran University Research Journal of Engineering & Technology, July 2017, vol. 36, issue 3, Pages 589-596
35	Inamullah M, Umair A, Muhammad Ishaq Abro , M.M Baloch, “Selective Leaching of Steel Pollutant Element from Dilband Iron Ore, Pakistan”, Mehran University Research Journal of Engineering & Technology, July 2017, vol. 36, issue 3, Pages 757-762
36	Muhammad Ishaq Abro , M. M. Baloach, and M. H. Jokhio, “Effect of temperature on the toughness of locally manufactured low alloy steel SUP9 used for manufacturing leaf springs”, Mehran University Research Journal of Engineering & Technology Vol 30, NO. 4, pp: 634-644, October 2011, [ISSN 0254-7821].
37	Muhammad Ishaq Abro , and A. G. Pathan, A. H. Mallah, “Selective Flocculation of Dilband Iron Ore, Pakistan” Mehran University Research Journal of Engineering & Technology, Vol 30 NO. 2, pp: 319-328, April 2011. [ISSN 0254-7821]
38	Muhammad Ishaq Abro , and A. G. Pathan, A. H. Mallah, “Liberation of Oolitic Hematite Grains From Iron Ore, Dilband Mines Pakistan.” Mehran University Research Journal of Engineering & Technology, Vol 30 NO. 2, pp: 329-338, April 2011. ISSN 0254-7821]
39	Muhammad Ishaq Abro , A. G. Pathan, A.H. Mallah “Work Index And Grinding Energy Assessment Of Dilband Iron Ore, Pakistan” Mehran University Research Journal of Engineering & Technology, Vol 30, No.1, pp: 29-34, January, 2011 [ISSN 0254-7821]
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42	Muhammad Ishaq Abro , A. G. Pathan, A.H. Mallah “Assessment of Mesh of Liberation of Dilband Iron Ore, Pakistan”, Mehran University Research Journal of Engineering & Technology, Vol 29 NO. 3, pp455-464, July 2010. [ISSN 0254-7821]
43	Muhammad Ishaq Abro , and, M. M. Baloch “Effect of Microstructure on Torsional Behavior of Low Carbon Carburized Steel (AISI1020)”, Mehran University Research M. M. Baloch Journal of Engineering & Technology, Vol. 29, NO. 1, pp 145- 152, January 2010. [ISSN 0254-7821].
44	M. M. Baloch, and Muhammad Ishaq Abro , “Effect of Austempering Temperature on Microstructure and Mechanical Properties of ADI”, Mehran University Research Journal of Engineering & Technology, Vol. 29, NO. 1, pp 137- 144, January 2010.
45	Muhammad Ishaq Abro , A. G. Pathan, Bohm A and A. H. Mallah, “Effect of Various Parameters on the Dispersion of Ultra Fine Iron Ore Slurry. Part-1.”, Pak. J. Anal. Environ. Chem. Vol. 10, No. 1-2, pp: 34-38, (2009), [ISSN-1996-918X].

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47	Muhammad Ishaq Abro , Khurshid Abbasi, Ali Nawaz Memon, “Determination of Transition Temperature of Leaf Spring”, Sindh University Research Journal (Science Series), Vol. 29, NO.01, pp 55-59, 1997.
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RESEARCH ACTIVITIES

Research
Projects
Supervised

PhD Project(s)

Synthesis of Nano-Structures with Enhanced Catalytic Properties for Water Splitting Application.

ME Project(s)

Development of nano cerium oxide and assessment of its antibacterial efficiency

Synthesis and electrochemical study of ceria based nano composite material for low temperature solid oxide fuel cell (LT-SOFC)

Green synthesis and characterization of silver nano particles

To Study The Metallurgical Characteristics of Locally Manufactured Steel Bars, M.E Thesis, MUET Jamshoro 2014

Effect of vacuum heat treatment process on toughness and wear of H13 tool steel, M.E Thesis, MUET Jamshoro 2013

Damage analysis of steam generation tubes at Lpgcl (Khanote)

Characterization of dual phase steel produced through intercritical heat treatment

Effect of Vacuum Heat Treatment Process on Toughness and Wear of H13 Tool Steel

Selective flocculation studies on hematite quartz system in presence of polyvalent metal ions. 2015

Dephosphorization of Dilband Iron Ore By Hydro-Metallurgical Process, M.E Thesis, MUET Jamshoro 2013

Selective flocculation studies on hematite quartz system in presence of polyvalent metal ions. 2015

Desulfurization of Zard Koh And Kulli Koh Indigenous Iron Ores Separation Efficiency of Heavy Minerals of Thar Dune Sand, 2015

HEC Funded Project(s)

Selective flocculation of synthetic iron ore under complex conditions (Rs 12.192 Million Funded by HEC F 2014). Completed in 2018

Collaborations

Collaboration with:

- Collaboration with NCEAC
- Institute of Chemistry SU
- Collaboration with HEJ, Karachi

Conference
Organized

Three days conference on “1st International Conference on Advanced Materials and Processing (ICAMP-17)”, Mehran University of Engineering and Technology, Jamshoro, Pakistan. (Feb 28-March 2, 2017)

Professional Expertise

Teaching	<p><i>PhD Courses</i></p> <p>Advanced Characterization Techniques, Biomaterials, Energy materials</p> <p><i>ME courses</i></p> <p>Design and selection of engineering materials, Phase transformations, Mineral Processing</p> <p><i>BE courses</i></p> <p>Manufacturing Processes, Physical Metallurgy, Heat Treatment, Mineral Dressing</p>
Equipment Trainings/ Technical Expertities	<p><i>At MUET Jamshoro Pakistan</i></p> <p>X-Ray Diffractometer (D-8), Scanning Electron Microscope (JEOL: JSM-6380L), Horriba-Lazer Particle Analyzer (LA-300), Zeta Sizer (Malvern nano zs), Double beam UVs Spectrometer, FTIR, BET surface area analyzer, Atomic Adsorption Spectrometer (AA700), High Intensity Magnetic Separator, Creep & Rupture Testing Machine (Model: CRL-3000), Deep Drawing Machine (Model: SAS-12-05), Charpy Impact Testing Machine (Model: CI-30), Torsion Testing Machine (Model: AT-6), Rotary Bending Fatigue Testing Machine (Model: FTO-10), Brinell Hardness Testing Machine (Model: BH-3-CH), Vicker's Hardness Testing Machine (Model: MV-1), Rockwell Hardness Testing Machine (Model: RH-3N)</p> <p><i>At Montan University Leoben, Austria</i></p> <p>Helium Pycnometers (Model: AccuPyc II 1340), Andreasen Particle Size Analysis Instrument, Stereomicroscope, Frantz Isodynamic Magnetic Barrier Separator (Model: L-1 S.G. Frantz Com. New Jersey)</p> <p>Establishment of Advanced Characterization Lab, in Department of Metallurgy and Materials Engineering.</p>
Other Activities	<p>Commissioning of Fabrication Laboratory consisting Two High Rolling Mill, and Wire Drawing Machine in the Department of Metallurgy & Materials Engineering, MUET</p> <p>Commissioning of High Temperature Creep Testing Machine in the Department of Metallurgy & Materials Engineering, MUET</p> <hr/> <p>Commissioning of Torsion Testing Machine in the Department of Metallurgy & Materials Engineering, MUET</p> <hr/>