

Resume

Dr. Asif Mahmood, Assistant Professor

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Saud University, P.O. Box 800, Riyadh 11421, Saudi Arabia.
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Languages: English, Urdu, Korean, Arabic (Basic)

Educational Background

- **PhD** (2007-2010)
Specialization Chemical Engineering
University University of Science and Technology (UST), South Korea
- **M.Sc** (2003-2006)
Specialization Chemical Engineering
University Korea Advanced Institute of Science and Technology (KAIST), South Korea
- **B.Sc** (1999-2003)
Specialization Chemical Engineering
University University of Punjab, Lahore, Pakistan.

Current Research Work

Catalytic Reaction Engineering, Heterogeneous/homogeneous catalysis, Mesoporous Silica based catalyst, Photocatalysts, Development and characterization of high temperature superconductors to relate with Chemical reaction engineering, Simulation, Dilute magnetic semiconductors (DMS).

Research Interests

- a- Photocatalyst, Heterogeneous/homogeneous catalysis, Reaction engineering.
- b- Catalytic chemistry and Nano-structured materials.
- c- Catalytic conversion of olefins, epoxides, CO, and CO₂ to value-added chemicals
- d- Electrodeposition of Metals in Catalyst Synthesis

- e- Combinatorial method, Fuel cell, Solar cell
- f- Solidification process, Dilute magnetic semiconductors (DMS)
- g- Grain refinement & single crystal growth
- h- Development and characterization of high temperature superconductors to relate with reaction engineering.

Research/Teaching Experience

Sep. 2011 - To date

Institute: King Saud University, Riyadh, Saudi Arabia

Position: Assistant Professor

Role:

- Teaching Lab course “**Energy Transport Operations, CHE 317**”
- Leading a research group for an industrial project funded by Saudi Basic Industries Corp (SABIC)
- Work on designing, setup and performance of experimental rig for the synthesis of catalyst for methanol production
- Working for Electrodeposition of Metals in Catalyst Synthesis
- Working on design, setup and performance of Magnetic resonance imaging (MRI)

Sep. 2010 - Aug. 2011

Institute: Hanyang University, Seoul, Republic of Korea

Position: Research Assistant Professor

Role:

- Project leading for Piezoelectric Energy Harvesting for Energy Supply
- Worked on design, setup and performance of flywheel energy storage system and Magnetic resonance imaging (MRI) using High Temperature Superconductors

Sep.2010 - Dec.2010

Institute: Korea Polytechnic University, Ansan, Republic of Korea

Position: Postdoctoral Research Fellow

Role:

- Lead an experimental team to prepare the photocatalyst for solar system.

Mar.2007 - Aug. 2010

Institute: University of Science and Technology (UST), South Korea

Position: Project Researcher during PhD

Role:

- Fabrication, Characterization and application of homogeneous and heterogeneous catalysts for EO production

Mar. 2006 - Feb.2007

Institute: Korea Atomic Energy Research Institute (KAERI), Republic of Korea.

Position: Research Fellow

Role:

Fabrication, Characterization and application of single crystal YBCO bulk superconductors as well as correlation of Chemical Reaction Engineering and single crystal YBCO bulk superconductors

Ongoing Research Collaboration

- Centre for High Energy Physics, University of the Punjab, Quaid-e-Azam Campus, 54590, Lahore, Pakistan
- Centre of Excellence in Solid State Physics, University of the Punjab, New Campus, Lahore-54590, Pakistan
- Department of Physics, University of the Punjab, Lahore, Pakistan
- Department of Physics, G. C. University Faisalabad, Allama Iqbal Road, Faisalabad, Punjab 38000, Pakistan
- Department of Physics, Syed Babar Ali School of Science and Engineering (SBASSE), Lahore University of Management Sciences (LUMS), Lahore 54792, Pakistan
- Interdisciplinary Research Centre in Biomedical Materials (IRCBM), COMSATS Institute of Information Technology, Lahore, Pakistan
- Colleges of Science, Department of Physics and Astronomy, King Saud University, Riyadh, Saudi Arabia
- King Abdullah Institute for NANO Technology, King Saud University, Riyadh, Saudi Arabia.
- Research and Development Centre (R&D centre), Saudi Basic Industries Corp (SABIC), Riyadh, Saudi Arabia

Publications

2016	
1	Asif Mahmood* , S. M. Ramay, Y. S. Al-Zaghayer, S. Atiq, S. H. Ansari, “Thermal/plasma treatment effect on photocatalytic degradation of aqueous solution of methylene blue using Au-doped Fe/TiO ₂ photocatalyst, <i>Desalination and Water Treatment</i> , 57 , 5183–5192, 2016
2	A. A. Ansari, J. Labis, M. Alam, S. M. Ramay, N. Ahmad, Asif Mahmood , “Influence of copper ion doping on structural, optical and redox properties of CeO ₂ nanoparticles” <i>Journal of Electroceramics</i> , DOI 10.1007/s10832-016-0018-1, 2016.
3	M. A. Sattar, M. Rashid, M. R. Hashmi, M. N. Rasool, Asif Mahmood , S. A. Ahmad, “Spin-polarized calculations of structural, electronic and magnetic properties of Half Heusler alloys FeVX (X=Si, Ge, Sn) using Ab-initio method” <i>Materials Science in Semiconductor Processing</i> , 51 , 48-54, 2016.

4	W. Khan, G. Murtaza, T. Ouahrani, Asif Mahmood , R. Khenata, M. E. A. Monir, H. Balatche, "Electronic, bonding, linear and non-linear optical properties of novel $\text{Li}_2\text{Ga}_2\text{GeS}_6$ compound" <i>Journal of Alloys and Compounds</i> , 674 , 109-115, 2016
5	A. A. Ansari, J. P. Labis, M. Alam, S. M. Ramay, N. Ahmad, Asif Mahmood, "Synthesis, Structural and Optical Properties of Mn-Doped Ceria Nanoparticles: A Promising Catalytic Material" <i>Acta Metall. Sin. (Engl. Lett.)</i> , 29 , 265-273, 2016
6	Mahmood Q, Alay-e-Abbass, Asif Mahmood , Noor N A. "Investigations of mechanical, electronic, and magnetic properties of non-magnetic MgTe and ferro-magnetic $\text{Mg}_{0.75}\text{TM}_{0.25}\text{Te}$ ($\text{TM} = \text{Fe}, \text{Co}, \text{Ni}$): An ab-initio calculation" <i>Chin. Phys. B</i> , 25 , 047101, 2016.
7	S. Hussain, G. Murtaza, S. H. Khan, A. Khan, M. A. Ali, M. Faizan, Asif Mahmood , R. Khenata, First principles study of structural, optoelectronic and thermoelectric properties of $\text{Cu}_2\text{CdSnX}_4$ ($\text{X} = \text{S}, \text{Se}, \text{Te}$) chalcogenides, <i>Materials Research Bulletin</i> , 79 , 73-83, 2016.
8	Q. Mahmood, M. Hassan, M. A. Faridi, B. Sabir, G. Murtaza, Asif Mahmood, "The study of electronic, elastic, magnetic and optical response of $\text{Zn}_{1-x}\text{Ti}_x\text{Y}$ ($\text{Y} = \text{S}, \text{Se}$) through mBJ potential" <i>Current Applied Physics</i> , 16 , 549-561, 2016.
9	S. M. Ramay, Asif Mahmood , S. Atiq, A. N. AlHazaa, N. S. Alzayed, Study of divalent elements (Mg, Sr, and Ba) doped LaMnO_3 nano-manganites, <i>International Journal of Modern Physics B</i> , 30 , 1650020, 2016.
10	P. Ahmad, M. U. Khandaker, Y. M. Amin, G. Khan, S. M. Ramay, Asif Mahmood , M. Amin, N. Muhammad, Catalytic growth of vertically aligned neutron sensitive Boron nitride nanotubes, <i>Journal of Nanoparticle Research</i> , 18 , 25, 2016.
11	Q. Mahmood, S. M. Alay-e-Abbass, Asif Mahmood , M. Yaseen, I. Mahmood, N.A. Noor, "Study of half-metallic ferromagnetism in $\text{Be}_{0.75}\text{Ti}_{0.25}\text{Y}$ ($\text{Y} = \text{S}, \text{Se}$ and Te) using ab initio calculations: Potential candidate for spintronic devices" <i>Journal of Superconductivity and Novel Magnetism</i> , 29 , 521-530, 2016
12	M. Ejaz, A. Mahmood, M. A. Khan, A. Hussain, A. Sultan, Asif Mahmood , A. H. Chughtai, M. N. Ashiq, M. F. Warsi, I. Shakir, Influence of Yb^{3+} on the structural, dielectric and magnetic properties of $\text{Mg}_{0.7}\text{Co}_{0.3}\text{Fe}_2\text{O}_4$ nanocrystallites synthesized via co-precipitation route, <i>Journal of Magnetism and Magnetic Materials</i> , 404 , 257-264, 2016.
13	M. A.Sattar, M. Rashid, M. N. Rasool, Asif Mahmood , M. R.Hashmi, S. A. Ahmad, M. Imran, F. Hussain, "Half-Metallic Ferromagnetism in New Half-Heusler Compounds: an Ab Initio Study of CrTiX ($\text{X} = \text{Si}, \text{Ge}, \text{Sn}, \text{Pb}$)" <i>Journal of Superconductivity and Novel Magnetism</i> , 29 , 2016.
14	M. E. A. Monir, H. Baltache, G. Murtaza, Asif Mahmood , "First-principles Investigation of Half-metallicity and Ferrimagnet Properties of Co_2ScZ ($\text{Z} = \text{As}, \text{Sb}, \text{and Bi}$)" <i>Journal of Superconductivity and Novel Magnetism</i> , 29 , 501-508, 2016.
15	A.A. Ansari, J. Labis, M. Alam, S. M. Ramay, N. Ahmad, and Asif Mahmood , "Effect of cobalt doping on structural, optical and redox properties cerium oxide nanoparticles" <i>Phase Transitions</i> , 89 , 261-272, 2016.
16	Q. Mahmood, S. M. Alay-e-Abbass, M. Yaseen, Asif Mahmood , M. Rashid & N. A. Noor, Theoretical Investigation of Half-metallic Ferromagnetism in $\text{Mg}_{0.75}\text{Ti}_{0.25}\text{Y}$ ($\text{Y} = \text{S}, \text{Se}, \text{Te}$) Alloys by Using DFT-mBJ Studies, <i>Journal of Superconductivity and Novel Magnetism</i> , 29 , 277, 2016.
17	S. Atiq, M. S. Anwar, Asif Mahmood , S. M. Ramay, "High dielectric constant study of TiO_2 -polypyrrole composites with low contents of filler prepared by in-situ polymerization" <i>Advances in Condensed Matter Physics</i> , 2016 , 4793434, 2016.
18	I.Ullah, G. Murtaza, R. Khenata, Asif Mahmood , M. Muzzami, N. Amin, and M. Saleh, Structural and Optoelectronic Properties of X_3ZN ($\text{X} = \text{Ca}, \text{Sr}, \text{Ba}; \text{Z} = \text{As}, \text{Sb}, \text{Bi}$) Anti-Perovskite Compounds, <i>Journal of Electronic Materials</i> , Accepted 2016.
19	M. El Amine Monir, H. Baltache, R. Khenata, G. Murtaza, Asif Mahmood , Structural, Magnetic, and Optoelectronic Properties of TbNi_5 , TbNi_3Ti_2 and TbNi_3V_2 Compounds, <i>Journal of Superconductivity and Novel Magnetism</i> , 2016 , 1-12, 2016.

20	A. Basit, S. A. Khan, G. Murtaza, Asif Mahmood , R. Khenata, S. Bin Omran, M.Yaseen, "Electronic, optical and thermoelectric properties of XNMg_3 (X=P, As, Sb, Bi) compounds" <i>Materials Science in Semiconductor Processing</i> , 43 , 69-74, 2016.
2015	
21	A. A. Ansari, J. Labis, M. Alam, S. M. Ramay, N. Ahmad and Asif Mahmood , Physicochemical and Redox Characteristics of Fe Ion-doped CeO_2 Nanoparticles, <i>J. of the Chinese Chemical Society</i> , 62 , 925, 2015.
22	W. Tanveera, M.A. Faridi, N.A. Noor, Asif Mahmood , B. Amin, "First-principles investigation of structural, elastic, electronic and magnetic properties of $\text{Be}_{0.75}\text{Co}_{0.25}\text{Y}$ (Y=S, Se and Te) compounds" <i>Current Applied Physics</i> , 15 , 1324, 2015
23	Asif Mahmood* , S. M. Ramay, Y. S. Al-Zaghayer, A. N. AlHazaa, W. A. Al Masary, S. Atiq, Synthesis and investigation of photocatalytic properties of $\text{Au/Fe}_3\text{O}_4$ nano-composite materials for degradation of methylene blue" <i>Desalination and Water Treatment</i> , 1-7 , 2015
24	S. M. Ramay, S. A. Siddiqi, S. Atiq, M. Saleem, Asif Mahmood , S. Naseem. "Magnetite Tailoring the Magnetic Properties of $\text{Mn}_{0.5}\text{Cu}_{0.5}\text{Fe}_2\text{O}_4$ Ferrites by Ni Substitution". <i>Materials Today: Proceedings</i> , 2 , 5510 – 5514, 2015.
25	Saira Riaz, Mahwish Bashir, M. Akram Raza, Asif Mahmood , and Shahzad Naseem, "Effect of calcination on structural and magnetic properties of Co-Doped ZnO nanostructures" <i>IEEE Transactions on Magnetics</i> , 51 , 2400804, 2015.
26	Asif Mahmood* , S. M. Ramay, Y. S. Al-Zaghayer, S. Atiq, M. Saleem, "Synthesis, structural and magnetic behavior of un-doped and Mn doped anatase- TiO_2 nano-particles" <i>Modern Physics Letter B</i> , 29 , 1550015, 2015
27	I.U. Khawaja, Q. Choudhry, Asif Mahmood , Z. A. Gilani, S. A. Shahid, M. Farooq , "Structural, morphological and electrical properties of heat treated CaHPO_4 biomaterials, <i>Optoelectronics and advanced materials – rapid communications</i> , 9 , 1171, 2015
28	M. Saleem, M. S. Anwar, Asif Mahmood , S. Atiq, S. M. Ramay, S. A. Siddiqi, "Defects induced magnetization in B-doped ZnFeO dilute magnetic semiconductors" <i>Physica B</i> , 465 , 16, 2015
29	M. Amin, S. A. Siddiqi, A. Ashfaq, M. Saleem, S. M. Ramay, Asif Mahmood , and Yousef S. Al-Zaghayer, Study of structural and magnetic properties of melt spun $\text{Nd}_2\text{Fe}_{13.6}\text{Zr}_{0.4}\text{B}$ ingot and ribbon, <i>Modern Physics Letter B</i> , 29 , 1550250, 2015
30	S. Atiq, M. S. Anwar, Asif Mahmood , S. M. Ramay, "Synthesis and investigating the magnetic properties of magnetite nano crystallites for drug delivery" <i>Modern Physics Letters B</i> , 29 , 1550122, 2015
31	Asif Mahmood* , S. M. Ramay, Y. S. Al-Zaghayer, A. N. AlHazaa, W. A. Al Masary, S. Atiq, "Au doping effect on the electrical and magnetic properties of Fe_3O_4 nanoparticles" <i>Modern Physics Letters B</i> , 29 , 1550213, 2015
32	R. Shehzadi, H.M. Rafique, I. Abbas, M. A. Sohl, S. M. Ramay, Asif Mahmood and M. N. Sohl, "Assessment of drinking water quality of Tehsil Alipur, Pakistan" <i>"Desalination and Water Treatment</i> , 55 , 2253-2264, 2015
33	S. Haider, F. F. Binagag, A. Haider, Asif Mahmood , N. Shah, W. A. Al Masry, S. D. Khan, S. M. Ramay, "Adsorption Kinetic and Isotherm of Methylene Blue, Safranin T and Rhodamine B onto Electrospun Ethylenediamine Grafted Polyacrylonitrile Nanofibers Membrane" <i>Desalination and Water Treatment</i> , 55 , 1609-1619, 2015
34	Haider, Sajjad; Binagag, Faez F.; Haider, Adnan; Mahmood, Asif; Al Masry, Waheed A.; Alhoshan, Mansour; Khan, Salah Ud-Din, "Fabrication of the Diethylenetriamine Grafted Polyacrylonitrile Electrospun Nanofibers Membrane for the Aqueous Removal of Cationic Dyes". <i>Science of Advanced Materials</i> , 7(2) 309, 2015
35	S. M. Ramay, Asif Mahmood , S. Atiq, S. A. Siddiqi, S. Naseem, "Photodegradation of organic

	pollutants using Fe-doped ZnO". <i>Materials Today: Proceedings</i> , 2 (10) 5485, 2015
36	S Atiq, SM Ramay, A Mahmood, S Riaz, S Naseem, "Magnetically recycle-able Pd-modified NiFe ₂ O ₄ nanoparticles" <i>DOI:10.1109/INTMAG.2015.7157716</i> , 2015
2014	
37	Asif Mahmood* , S. Ramay, Y. S. Al-Zaghayer, S. Atiq, I. Ahmad, M. A. Shar, and S. D. Khan, "Study the structure and performance of thermal/plasma modified Au nanoparticle-doped TiO ₂ photocatalyst" <i>Modern Physics Letter B</i> , 28, 1450208, 2014
38	Asif Mahmood* , S. M. Ramay, Y. S. Al-Zaghayer, S. Atiq, M. S. Al-Johani. "Magnetic and photocatalytic response of Ag-doped ZnFeO nano-composites for photocatalytic degradation of reactive dyes in aqueous solution" <i>J. of Alloys and Compounds</i> , 614, 436, 2014.
39	Asif Mahmood* , S. M. Ramay, Y. Saeed. "First principles study of band structure and density of states of rare earth oxytellurides R ₂ O ₂ Te (R=La, Ce, Pr and Nd)" <i>Optoelectronics and advanced materials - rapid communications</i> , 8, 724, 2014.
40	Asif Mahmood* , S. M. Ramay, H. M. Rafique, Y. Al-Zaghayer. "First-principles study of electronic, optical and thermoelectric properties in cubic perovskite materials AgMO ₃ (M = V, Nb, Ta)", <i>Modern Physics Letter B</i> , 28, 1450077, 2014.
41	M. Saleem, S. Atiq, S. M. Ramay, Asif Mahmood , S. A. Siddiqi, and M. A. Shar. "Phase Pure Synthesis and Morphology Dependent Magnetization in Mn Doped ZnO Nanostructures" <i>Advances in Materials Science and Engineering</i> , 2014, 6, 2014.
42	S. M. Ramay, S. Atiq, M. Saleem, Asif Mahmood , S. A. Siddiqi, S. Naseem, Y. Al-Zaghayer, N. S. Alzayed, and M. Shahabuddin. "Enhanced Magnetization of Sol-Gel Synthesized Pb-Doped Strontium Hexaferrites Nanocrystallites at Low Temperature." <i>Journal of Nanomaterials</i> , 2014, 7, 2014.
43	S. M. Ramay, S. A. Siddiqi, S. Atiq, M. Saleem, Asif Mahmood , and S. Naseem, Low-Temperature Synthesis by Autocombustion and Investigation of Structural and Magnetic Properties of Mn _{0.5} Cu _{0.5-x} Ni _x Fe ₂ O ₄ Nanocrystallites, <i>IEEE Transactions on Magnetics</i> , 50, 2200204, 2014
44	H. M. Rafique, I. Abbas, R. Shehzadi, S. Mahmood, Y. Al-Zaghayer, Asif Mahmood* . "Appraisal of drinking water quality of Tehsil Jampur, Pakistan" <i>Desalination and Water Treatment</i> , 52, 4641, 2014. * <i>Corresponding Author</i>
45	Asif Mahmood* , S. M. Ramay, Y. Al-Zaghayer, S. Haider, "Thermal Treatment Effect on Catalytic Activity of Au/TiO ₂ for CO Oxidation", <i>Applied Mechanics and Materials</i> , 548-549, 254-258, 2014
46	L. Mustafa, S. Anjum, S. Waseem, R. Zia, R. Chaudhary, S. Ramay, Asif Mahmood , and S. Atiq "Investigation of Structural, Magnetic and Optical properties of ZnO codoped with Co and Cd" <i>Advances in Condensed Matter Physics</i> , 2014, 1-6, 2014.
47	I. Abbas, H. M. Rafique, A. Falak, S. Mahmood, Y. Al-Zaghayer, Asif Mahmood* . "Spatio-temporal analysis of groundwater regime within Rawalpindi Municipal Jurisdiction, Pakistan" <i>Desalination and Water Treatment</i> , 52, 1472, 2014, * <i>Corresponding Author</i>
2013	
48	Asif Mahmood , S. I. Woo. "Activity promotion of Au/TiO ₂ catalyst by defect generation for oxidation and preferential oxidation of CO". <i>Korean J. Chem. Eng.</i> 30, 1876, 2013.
49	Asif Mahmood* , Y. Al-Zaghayer. "Ruderman-Kittel-Kasuya-Yosida magnetic interactions in chemically synthesized Zn-Fe-AlO nanocrystallites", <i>Advanced Materials Research</i> , 748, 65-69, 2013.
50	M. Imran, D. H. Kim, Asif Mahmood , A. Hassan, W. A. Al-Masry, S. Haider, S. Ramay. "Manganese-, cobalt-, and zinc-based mixed-oxide spinels as novel catalysts for the chemical recycling of Poly(ethylene terephthalate) via glycolysis". <i>Polymer Degradation and Stability</i> , 98, 904-915, 2013.
51	S. Haider, Asif Mahmood , Y. Al-Zaghayer, W. aheed A. Al-Masry, Fekri A. Ahmed Ali, Muhammad Omer Aijaz, Adnan Haider, "Highly Aligned Narrow Diameter Chitosan Electrospun

	<i>Nanofibers” Journal of Polymer Research, 20, 1-11, 2013.</i>
52	M. Imran, S. Haider, K. Ahmad, Asif Mahmood , W. A. Al-Masry, “Fabrication and Characterization of Zinc Oxide nanofibers for renewable energy applications”. <i>Arabian Journal of Chemistry, (Accepted, In Press), 2013</i>
53	S. M. Ramay, M. Saleem, S. Atiq, S. A. Siddiqi, M. Imran, Y. Al-Zeghayer and Asif Mahmood* . “RKKY magnetic interactions in chemically synthesized $Zn_{0.95-x}Fe_{0.05}Al_xO$ ($x=0, 0.03, 0.05, 0.07$) nanocrystallites” <i>Arabian Journal of Chemistry, 2013 (Accepted, In Press).</i> * Corresponding Author
2012	
54	Asif Mahmood , T. H. Sung. “Enhancement of critical current density of liquid infiltration processed Y-Ba-Cu-O bulk superconductors using milled Y_2BaCuO_5 powder”. “ <i>Supercond. Sci. Technol.</i> ” 25, 045008, 2012.
2011	
55	H. K. Jang, D. Song, Asif Mahmood , S. Kim, C. Yang, T. H. Sung, “Improving superconductor levitation for seismic isolation device by applying eddy current effect” <i>Progress in Superconductivity and Cryogenics, 12, 93-98, 2011.</i>
2010	
56	Asif Mahmood , B. H. Jun, Y. H. Han, C. J. Kim. “Effective pore control and critical current density in liquid infiltration growth processed YBCO superconductors with Ag addition”. <i>Supercond. Sci. Technol, 23, 065005, 2010.</i>
57	Asif Mahmood , B. H. Jun, Y. H. Han, C. J. Kim. “Milling effects of Y_2BaCuO_5 precursor powder with 1 wt.% CeO_2 addition on the critical current density of liquid infiltration growth processed YBCO bulk superconductors.” <i>Progress in Superconductivity and Cryogenics, 12, 6, 2010.</i>
2009	
58	Asif Mahmood , B. H. Jun, C. J. Kim. “Improvement of the superconducting properties of an infiltrated YBCO bulk superconductor by a $BaCeO_3$ addition”. <i>Physica C-Superconductivity and its applications, 469, 1165, 2009.</i>
59	J. S. Youn, Y.H. Kim, Asif Mahmood , B. H. Jun, Y. H. Han, T. H. Sung, C. J. Kim. “Particle distribution in melt-processed $Y_{1.5}Ba_2Cu_3O_x$ superconductors with $BaCeO_3$ addition”. <i>Physica C-Superconductivity and its applications, 469, 1239, 2009.</i>
2008	
60	Asif Mahmood , B. H. Jun, H. W. Park, C. J. Kim. “Pre-sintering effects on the critical current density of YBCO bulk prepared by infiltration method”. <i>Physica C-Superconductivity and its applications, 468, 1350, 2008.</i>
61	Asif Mahmood , H. W. Park, B. H. Jun, K. B. Kim, T. H. Sung, S. H. Lee, C. J. Kim. “Effect of $BaCeO_3$ addition on the microstructure and current density of melt processed $Y_{1.5}Ba_0Cu_3O_x$ superconductors”. <i>Physica C-Superconductivity and its applications, 468, 1355, 2008.</i>
2007	
62	C. J. Kim, Najam ul Qadir, Asif Mahmood , Y. H. Han, T. H. Sung. “The effect of $BaCeO_3$ nano particles on the current density of a melt-processed YBCO superconductor”. <i>Physica C-Superconductivity and its applications, 463-465, 344-347, 2007.</i>
63	S. I. Woo, K. W. Kim, H. Y. Cho, K. S. Oh, M. K. Jeon, N. H. Tarte, T. S. Kim, Asif Mahmood . “Current status of combinatorial- and high-throughput methods for discovering new materials and catalysts”. <i>QSAR & Combinatorial Science, 24, 2005, 138.</i>

Book Chapters

- 1- J. H. Liu, M. K. Jeon, **Asif Mahmood** and S. I. Woo. “*Combinatorial and high throughput discovery and optimization of catalysts and materials*”. Edited by Radislav A. Potyrailo and Wilhelm F. Maier, **Chapter. 14, Page. 259~279, 2006**
- 2- **Asif Mahmood**, Issues in Extreme Conditions Technology Research and Applications, , Q. Ashton Acton, General Editor, **Chapter 10 “Superconductivity” Page 312, 2011 Edition.**
- 3- **Asif Mahmood** “*Importance of heterogeneous catalysts in the field of reaction engineering*”----- **In progress (2015)**

Patents

Muhammad Imran Yaqub, Sayari-Al, Abdullah S, Dosari-Al, Fahad Salem, Waheed A. Al-Masry, Yousef Al-Zeghayer, **Asif Mahmood**. “A process to produce non-aqueous peracetic acid for alkenes epoxidation” **Ref. KS80025US/SABIC Ref.14CHEM0112-US-PSP**

Design/written Ongoing Projects

At King Saud University, Kingdom of Saudi Arabia

Project # 1:

Project Title: Development of ethylene oxide (EO) production process by epoxidation of ethylene with peracetic acid.

Funding Body:	Saudi Basic Industries Corp (SABIC)
Duration:	May 2015 to May 2018 (3 year)
Team:	Waheed A. Al-Masry, Asif Mahmood , Y. S. Alzoghayer, A. M. Ajbar, E. M. Ali
Role:	Experimental Team Leader- Co-investigator
Contributions	<ol style="list-style-type: none">a. Procurement of chemicals and equipmentsb. Reaction packing synthesis and optimizationc. Catalyst synthesis of EO productiond. Experiment running, Data collection and analysise. Analysis of reaction productsf. Catalyst synthesis of EO productiong. Development of CSTR reactor for EO productionh. Involvement in equipment designing and installing experimental set upi. Separation process for the products in Phase I (Synthesis of Peracetic Acid, PAA)j. Analysis of requirementsk. Assessment, clarification and handling of system changesl. Control of system verification and validation

Project #2:

Project Title: Nanomaterials synthesis and their applications (Research Group Project No. RGP-VPP-311.)

Funding Body: Deanship of Scientific Research (DSR), King Saud University (KSU)

Duration: 4 year

Team: Asif Mahmood, S. M. Ramay, Y. Al-Zeghayer

Role: Principal-investigator

Project #3:

Project Title: Photocatalysts synthesis and their applications (Research Group Project No. RGP-VPP-106)

Funding Body: Deanship of Scientific Research (DSR), King Saud University (KSU)

Duration: 3 year

Team: Y. Al-Zeghayer, Asif Mahmood, S. M. Ramay

Role: Co-investigator

Project #4:

Project Title: Nano- magnetic ceramics synthesis and their applications (research group Project No. RG 1435-004)

Funding Body: Deanship of Scientific Research (DSR), King Saud University (KSU)

Duration: 4 year

Team: S. M. Ramay, Asif Mahmood, Y. Al-Zeghayer.

Role: Co-investigator

Instrumental Skills

- X-ray Diffraction (XRD).
- Optical Microscope (OM).
- Scanning Electron Microscopy (SEM).
- Gas Chromatography (GC)
- X-ray Photoelectron Spectroscopy (XPS)
- UV-vis Spectrometer
- BET surface area analysis
- Transmission Electron Microscopy (TEM)
- Electronic Structure calculations with Wien2K code

- FTIR Analysis
- TG/DTG/DTA Analysis
- Superconductor Quantum Interference Device (SQUID) magnetometer.
- Vibrating Sample Magnetometer (VSM)

Scientific Lectures/International Conferences

- 1 **Asif Mahmood**, Y. Alzeghayer, Waheed Al-Masary, “Enhancement of Catalytic Activity of Au/TiO₂ By Thermal and Plasma Treatment”. **12th International Conference on Gas-Liquid & Gas-Liquid-Solid Reactor Engineering (GLS12)**, June 28 to 1st July 2015, Crowne Plaza, Times Square Manhattan in New York, USA, Oral Presentation
- 2 **Asif Mahmood**, S. M. Ramay, Y. Al-Zeghayer, S. Haider, “*Thermal Treatment Effect on Catalytic Activity of heterogeneous catalyst for EO production*” **3rd International Conference on Manufacturing Engineering and Process (ICMEP 2014)**, May 10-11, 2014, Seoul, South Korea. Oral Presentation
- 3 **Asif Mahmood**, Y. Alzeghayer, “*Ruderman-Kittel-Kasuya-Yosida magnetic interactions in chemically synthesized Zn-Fe-AlO nanocrystallites*” **International Conference on Material and Manufacturing Technology (ICMMT 2013)**, May 11-12, 2013, Seoul, South Korea, Oral Presentation
- 4 **Asif Mahmood**, Yousef Alzeghayer, “*Enhancement of critical current density of liquid infiltration processed Y-Ba-Cu-O bulk superconductors using milled Y₂BaCuO₅ powder*” **M2S Conference, Washington, DC, USA, Aug. 2012**, Poster presentation (P1-10)
- 5 **Asif Mahmood**, *Enhancement of critical current density of liquid infiltration processed Y-Ba-Cu-O bulk superconductors using milled Y₂BaCuO₅ powder*” **ICSM 2010, Antalya, Turkey, April 2010**, Oral presentation (S-P 117)
- 6 **Asif Mahmood**, J. B. Lee, G. W. Hong. “*Growth of Y₂O₃ film as a seed layer on the metal substrate for YBCO coated conductors by CSD approach.*” **ICAUMS, Korea, 5-8th Dec. 2010**, Poster presentation.
- 7 **Asif Mahmood**, B. H. Jun, Y. H. Han, C. J. Kim. “*BaCeO₃ addition effect on the superconducting properties of LIG processed YBCO bulk superconductors*” **ISS, Japan, 27th Oct.2008**, Poster presentation.
- 8 **Asif Mahmood**, Woo Seong Ihl, “*Activity promotion of Au/TiO₂ catalyst by defect generation for oxidation and preferential oxidation of CO*” **20th North American Catalysis Society Meeting, Texas, USA. 18th Jun.2007**, Poster presentation (P-S4-08A).
- 9 **Asif Mahmood**, C. J. Kim. “*Pre-sintering effects on the critical current density of YBCO bulk prepared by infiltration method*”. **ISS, Japan, 5th Nov.2007**, Poster presentation.
- 10 **Asif Mahmood**, B. H. Jun, C. J. Kim. “*The effect of sintering temperature on the microstructure and critical current density of YBCO bulk prepared by infiltration method*”. **ISAMPM, Korea, 1st June. 2007**, Oral presentation.

- 11** Asif Mahmood, C. J. Kim. “Activity promotion of Au/TiO₂ catalyst by defect generation for oxidation and preferential oxidation of CO”. *ISAMPM, Korea, 30th Oct. 2006, Oral Presentation*
- 12** Asif Mahmood, B. H. Jun, Y. H. Han, C. J. Kim. “Milling effects of Y₂BaCuO₅ precursor powder with 1 wt.% CeO₂ addition on the critical current density of liquid infiltration growth processed YBCO bulk superconductors”. *KSS, Korea, 7th Jul. 2010, Poster presentation*
- 13** Asif Mahmood, B. H. Jun, Y. H. Han, C. J. Kim. “Liquid infiltration process for the fabrication of YBCO bulk using milled Y211 precursor powder”. *KIASC, Korea, 25th Sep. 2009, Oral presentation*
- 14** Asif Mahmood, B. H. Jun, Y. H. Han, C. J. Kim. *Comparative study of LIG process and MTG process for the fabrication of YBCO bulk superconductors*. *KSS, Korea, 8th Jul. 2009, Poster presentation*
- 15** Asif Mahmood, B. H. Jun, Y. H. Han, C. J. Kim. “Sintering effect of Ag-doped Y211 for the improvement of superconducting properties of YBCO bulk superconductors”. *KSS, Korea, 9th Jul. 2008, Poster presentation*
- 16** Asif Mahmood, B. H. Jun, Y. H. Han, C. J. Kim. “Growth mechanism and morphology of melt-processed Y_{1.5}BCO with BaCeO₃ addition”. *KSS, Korea, 16th Aug. 2007, Poster presentation*
- 17** Asif Mahmood, B. H. Jun, Y. H. Han, C. J. Kim. “Infiltration process and liquid concentration effect on the microstructure of Y211”. *KSS, Korea, 16th Aug. 2006, Poster presentation*

Scientific Societies

- Pakistan Engineering Council (PEC), Pakistan
- Korean Ceramic Society (KCS), South Korea
- Korean Superconductivity Society (KSS), South Korea,

Distinctions and Research Awards

- Merit scholarship holder in Ph. D. (School of Engineering) sponsored by University of Science and Technology (UST), Korea (2007~ 2010).
- Merit scholarship holder in MSc. (Chemical Engineering) sponsored by KAIST, Korea (Sep. 2003~Feb. 2006).
- Best Oral Presentation Award, Korea Institute of Applied Superconductivity and Cryogenics (KIASC), Korea, 2009.
- Best Poster Presentation Award, Korean Superconductivity Society (KSS), Korea, July 2008.
- Best Oral Presentation Award, International Symposium on Advanced Modeling and Processing of Materials (ISAMPM), Korea, 1st June. 2007.
- Best Oral Presentation Award, International Symposium on Advanced Modeling and Processing of Materials (ISAMPM), Korea, 30th Oct. 2006.

Computer Skills

- Computing software like, Origin, Sigma plot, Root Programming (Basics), Excel, Word, Photoshop, Equation editor.

On the Review Panel of Peer Reviewed Journal

Biomass and Bioenergy

Current Nano Science

Polymer Engineering and Science

Arabian Journal of Chemistry

Journal of Hazardous Material

Journal of Chemical Research