

Resume of **DR. MRS. NAVEED KAUSAR JANJUA** born on 20-03-1965

Associate Professor (Tenured) since 14-5-2014

Department of Chemistry, Quaid-i-Azam University, Islamabad, Pakistan-45320

Father's name: Muhammad Khan Janjua

Husband' name: Ijaz Hussain Janjua

Domicile and Nationality: Punjab, Pakistan

Highest Qualification: **Ph.D. in Physical Chemistry**

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Post-Doc Research

Availed Post-Doc under HEC program for 9 months from 3-2012 to 11-2012 at JTSI Group, University of St Andrews, Fife, Scotland, United Kingdom. The fuel cell research was explored in many directions starting from slurry formulations of materials, particle sizing with rotary and planetary ball milling, screen printing the electrolyte ink, tape casting of electrodes and fuel cell fabrication, the impregnation of catalytic ions onto these cell parts and, finally fuel cell testing in symmetric and fuel cell modes. Besides, the nanostructures of all synthetic/fabrication steps were elaborated using SEM and XRD techniques. The thin films and fractured cells were observed for the true nanostructures under high magnifications in SEM and correlated with the basic synthetic schemes. Engineering the porosity in anode, cathode, and electrolyte parts of the fuel cell, was also learnt and comprehended with the use of slurry formulations and pore formers.

Research interests

My research interests pertain to current and potential applications as well as new methodologies in material science and electrochemistry; to name a few:

- Electrochemistry and fuel cell research in SOFCs, PEMFCs
- Material characterization for SOFCs and fuel cell development.
- Designing simple routes for synthesis of electroactive nanomaterials for electrodes.
- Functional nanomaterials like metal oxides and gold nanoparticles and electrochemical applications.
- Electrochemical bio-sensing, anti-diabetic drug development and their electrochemical studies.

Association

- ❖ Head of the Physical section in the Department of Chemistry, Quaid-i-Azam University Islamabad, since 1st March 2016 until 31-08-2016
- ❖ Life member of The Chemical Society of Pakistan (CSP)
- ❖ Member of The International Society of Electrochemistry (ISE) US, 2010- 2016
- ❖ Member of The American Chemical Society (ACS) 2014- to-2016
- ❖ Associate member of The Royal Society of Chemistry, (AMRSC) UK 2014- to-date
- ❖ Member of the Ph.D. Admission Committee of the Department of Chemistry, Quaid-i-Azam University Islamabad, since 2015-to-date
- ❖ Member of the M. Phil. Admission Committee of the Department of Chemistry, Quaid-i-Azam University Islamabad, since 2013 -to-date
- ❖ Member of the Departmental Tenure Committee of the Department of Chemistry, Quaid-i-Azam University Islamabad, 2015-to-date
- ❖ Member of the Quality Enhancement Cell of the Department of Chemistry, Quaid-i-Azam University Islamabad, 2011-to-date
- ❖ Student Advisor of the Department of Chemistry, Quaid-i-Azam University Islamabad, 2011-to-date
- ❖ Member of the executive council of the Department of Chemistry in Academic Staff Association during 2006 and 2013
- ❖ Member of the Academic Council of the Allama Iqbal open University Islamabad, 2016-to-date
- ❖ Invited meeting at MoST Islamabad Pakistan on Hydrogen Fuel Energy, June 2013.
- ❖ Member of The International Bioelectrochemical Society (BES) for 2010-2012
- ❖ Member of the Faculty Board of Natural Sciences, Quaid-i-Azam University Islamabad, 2006-2009, 2015-to-date
- ❖ Coordinated 20th National and 8th International Chemistry Conference, 15-16th Feb, 2010
- ❖ Coordinated 1st Chemistry Alumni Meeting and Seminar on "Frontiers of Chemistry" in Quaid-i-Azam University Islamabad, 15-16th May, 2009
- ❖ Was Girl Guide In charge of Islamabad College for Girls, F-6/2 Islamabad Company during 1997-2000 and worked for social uplift of the society especially for draught-hit Balochistan in that tenure.
- ❖ Reviewer of many international research journals including Elsevier and ACS.

List of publications (Total = 38)

Impact Factor = ~88 as on 10-2018 * = corresponding author

Publications during 2019

1. Synthesis, characterization, docking and electrochemical studies of nitroaromatic amides, Asifa Nigar, Muhammad Shabbir, Zareen Akhter, Sana Sabahat, M. Qaiser Fatmi, Michael Bolte, Iqbal Ahmad, **Naveed Kausar Janjua**, Sadia Mehmood, Journal of Molecular Structure. doi: 10.1016/j.molstruc.2018.09.024. *Journal of Molecular Structure*, 1176 (2019) 791-797.

IF = 1.71

2. Ferrocene Derivatives: Potential Material for Anticancer Drugs, Asifa Nigar, **Naveed Kausar Janjua**, Asghari Gul, Abid Ali, Zareen Akhter*, Sadia Mehmood *Journal of Chemical Society of Pakistan*, 41 (3) (2019) 1046. No. JCSP-081117-11691. IF = 0.280

Publications during 2018

3. Ferrocene-functionalized gold nanoparticles: Study of a simple synthesis method and their electrochemical behavior, Sana Sabahat, Naveed Kausar Janjua, Zareen Akhter, Muhammad Umair Hassan, Accepted and online *Chemical Papers* (2018) <https://doi.org/10.1007/s11696-018-0646-9> IF = 0.963
4. Removal of metal ions using metal-flavonoid-DNA, adduct protocol, Erum Jabeen, **Naveed Kausar Janjua***, Safeer Ahmed*, Accepted and online *Journal of Saudi Chemical Society* (2018) IF = 2.456
5. Effect of lanthanum and hydrogen peroxide on the thermal and microstructural properties of NiO-Ce_{0.8}Sm_{0.2}O_{1.9} composite, M. Naveed Akbar, Mustafa Anwar, Zuhair S. Khan, **Naveed K. Janjua**, *Journal of the Australian Ceramic Society*, 54 (2018) 191–197. IF = 0.587

Publications during 2017

6. A selective and sensitive monitoring of the OH radical using flavonoid-modified electrodes Erum Jabeen, **Naveed Kausar Janjua***, Safeer Ahmed, Enrique Domínguez-Álvarez*, Claus Jacob*, *Electrochimica Acta* 258 (2017) 228–235. doi.org/10.1016/j.electacta.2017.10.065 IF = 4.798
7. DFT prediction s, synthesis, stoichiometric structures and anti-diabetic activity of Cu (II) and Fe (III) complexes of quercetin, morin, and primuletin, Erum Jabeen, **Naveed Kausar Janjua***, Safeer Ahmed, Iram Murtaza, Tahir Ali, Nosheen Masood, Gulam Murtaza Aysha, Sarfraz Rizvi, *Journal of Molecular Structure*, 1150 (2017) 459-468. doi.org/10.1016/j.molstruc.2017.09.003

IF = 1.71

8. Radical scavenging propensity of Cu²⁺, Fe³⁺ complexes of flavonoids and in-vivo radical scavenging by Fe³⁺-primuletin, Erum Jabeen, **Naveed Kausar Janjua***, Safeer Ahmed, Iram Murtaza, Tahir Ali, Shahid Hameed, *Spectrochimica Acta Part A*: 171 (2017) 432-438. Doi:10.1016/j.saa.2016.08.035, Elsevier IF = 2.536
9. Fabrication of Colrx/γ-Al₂O₃ modified electrode and use in electrochemical oxidation of hydrazine, **Naveed Kausar Janjua**, Naveeda Firdous, *Functional Nanostructures Proceedings*, No.32, vol. 1, Issue 2 (2017) pages 1-3, 4th NANOENERGY Conference, 26-28 July 2017 (Helsinki, Finland).

Publications during 2016

10. Electrochemical study of natural gas fueled electrodes for low temperature solid oxide fuel cell, M. Jafar Hussain, Rizwan Raza, Mukhtar Ahmad, Akbar Ali, Imran Ahmad, Waqar A. A. Syed, Naveed Kausar Janjua, M. Anis-ur-Rehman, M. Ajmal Khan, Shaukat A. Shahid, and Ghazanfar Abbas, *International Journal of Modern Physics B*, 30 (2016) No. 23 (doi: 10.1142/S0217979216501617) IF = 0.850
11. Study on thermal, spectroscopic and electrochemical behavior of some ferrocene-containing organometallic polyesteramides and their siloxane-based block copolymers, Muhammad Saif Ullah Khan, **Naveed Kausar Janjua**, Sana Sabahat, Zareen Akhter*, Mohibullah, *Journal of Polymer Research*. 23 (2016) 112. DOI 10.1007/s10965-016-1003-8 IF = 1.615
12. LiNiFe-based layered structure oxide and composite for advanced single layer fuel cells, Bin Zhu*, Liangdong Fan*, Hui Deng, Yunjune He, Muhammad Afzal, Wenjing Dong, Azra Yaqub, Naveed K. Janjua*, *Journal of Power Sources* 316 (2016) 37-43, IF = 6.945
13. AuCu@Pt Nanoalloys for Catalytic Application in Reduction of 4-Nitrophenol, Sadia Mehmood, **Naveed Kausar Janjua***, Farhat Saira and Hicham Fenniri, *Journal of Spectroscopy*, Volume 2016 (2016), Article ID 6210794, 8 pages, <http://dx.doi.org/10.1155/2016/6210794> Hindawi

IF = 0.761

14. Optimal Co-Ir bimetallic catalysts supported on γ-Al₂O₃ for hydrogen generation from hydrous hydrazine, Naveeda Firdous, **Naveed Kausar Janjua***, Ibrahim Qazi, Muhammad Hamid Sarwar Wattoo. *International Journal of Hydrogen Energy*, 4 (1) (2016) 984-995. Doi:10.1016/j.ijhydene.2015.10.084. Elsevier IF = 3.582
15. Electrochemical sensing platform based on CuO@CeO₂ hybrid oxides, Ayesha Mujtaba, **Naveed K. Janjua***, doi:10.1016/j.jelechem.2015.12.050, *Journal of Electroanalytical Chemistry* 763 (2016) 125–133 Elsevier IF = 3.012
16. All in One Multifunctional Perovskite Material for Next Generation SOFC, Wenjing Dong, Azra Yaqub, **Naveed K. Janjua**, Rizwan Raza, Muhammad Afzal, Bin Zhu*, *Electrochimica Acta*, 193 (2016) 225–230, Elsevier, <http://dx.doi.org/doi:10.1016/j.electacta.2016.02.061> IF = 4.798

Publications during 2015

17. Synthesis and characterization of B-site doped La_{0.20}Sr_{0.25}Ca_{0.45}TiO₃ as SOFC anode materials, Azra Yaqub, **Naveed K. Janjua***, Cristian Savaniu, John T. S. Irvine,

<http://dx.doi.org/10.1016/j.ijhydene.2014.08.083>, *International Journal of Hydrogen Energy*, 40 (2015) 760–766. Elsevier **IF = 3.582**

18. Fabrication and electrocatalytic application of CuO@Al₂O₃ hybrids, Ayesha Mujtaba, **Naveed K. Janjua***, doi: 10.1149/2.0351506jes, *Journal of Electrochemical Society*, 162(6) (2015) H328-H337 (2015). (USA) **IF=2.760**
19. Electrochemical Properties of Barium Cerate Doped with Zinc for Methanol Oxidation **Naveed K. Janjua***, Mahwish Jabeen, Mehrosh Islam, Azra Yaqub, Sana Sabahat, Sadia Mehmood, Misbah Mumtaz, Ayesha Mujtaba, Rizwan Raza, Ghazanfer Abbas, *Journal of Chemical Society of Pakistan*, 37 (05) (2015) 850-858. ISSN: 0253–5106. **IF = 0.280**

Publications during 2014

20. Preparation and catalytic evaluation of Ir and Ru catalysts supported in γ -Al₂O₃ for hydrazine **Naveed K. Janjua***, Naveeda Firdous, Arshad Saleem Bhatti, Zuhair S. Khan, *Applied Catalysis A: General*, <http://dx.doi.org/10.1016/j.apcata.2014.04.025>, *Applied Catalysis A: General* 479 (2014) 9–16. Elsevier **IF = 4.339**
21. β -Cyclodextrin assisted solubilization of Cu and Cr complexes of flavonoids in aqueous medium: A DNA-interaction study, Erum Jabeen, **Naveed Kausar Janjua***, Shahid Hameed, *Spectrochimica Acta Part A*: 128 (2014) 191–196. Doi: 10.1016/j.saa.2014.02.132, Elsevier **IF = 2.536**
22. Microwave assisted non-aqueous sol-gel synthesis of LiNiPO₄ and its copper doped analogues Misbah Mumtaz, **Naveed Kausar Janjua***, Azra Yaqub, Sana Sabahat, *Journal of Sol-Gel Science and Technology*, doi: 10.1007/s10971-014-3423-4 72, Issue 1, (2014) 56–62. Springer **IF = 1.575**
23. Cyclic Voltammetric Investigation of Interactions between Bisnitroaromatic Compounds and ds.DNA, **Naveed Kausar Janjua***, Zareen Akhter, Fariya Jabeen, and Bushra Iftikhar, *Journal of the Korean Chemical Society*, 58 (2) (2014) 153–159. Republic of Korea, <http://dx.doi.org/10.5012/jkcs.2014.58.2.153>. **IF = 0.179**
24. Electrocatalytic activity of LiNiPO₄ and the copper doped analogues towards oxygen reduction, **N. Kausar Janjua***, M. Mumtaz, A. Yaqub, S. Sabahat, A. Mujtaba *The Nucleus* 51, 1 (2014) 109–115. NCLE AM, ISSN 0029- 5698

Publications during 2013

25. Preparation via a solution method of La_{0.20}Sr_{0.25}Ca_{0.45}TiO₃ and its characterization for anode supported solid oxide fuel cells, Azra Yaqub, Cristian Savaniu, **Naveed K. Janjua**, John T.S. Irvine*, *Journal of Materials Chemistry A*, 1 (2013) 14189–14197. RSC / ISSN:2050-7488, DOI:10.1039/c3ta12860a. **IF = 8.867**
26. Spin Trapping Radicals from Lipid Oxidation in Liposomes in the Presence of Flavonoids, Nasima Arshad*, **Naveed K. Janjua**, Leif H. Skibsted, Mogens L. Andersen, *Journal of Chemical Society of Pakistan*, 35, No.2, (2013) 544. ISSN: 0253–5106. **IF = 0.280**

Publications during 2012

27. Synthesis, physicochemical studies and potential applications of high-molecular weight ferrocene-based poly(azomethine)ester and its soluble terpolymers, Asghari Gul, Zareen Akhter*, Arshad Bhatti, Muhammad Siddiq, Abbas Khan, Humaira M. Siddiqe, **Naveed Kausar Janjua**, Amber Shaheen, Sehrish Sarfraz, Bushra Mirza, *Journal of Organometallic Chemistry*, 719 (2012) 41–53. DOI:10.1016/j.jorganchem.2012.08.010 Elsevier **IF = 2.184**
28. Electrochemical studies of interactional mechanism and scavenging activity of antioxidants towards dinitroaromatics, Nasima Arshad*, **Naveed K. Janjua**, Athar Y. Khan, Javeed H. Zaidi, Leif H. Skibsted, *Monatshette für Chemie / Chemical Monthly*, 143 (2012) 377–383. DOI:10.1007/s00706-011-0606-3. Springer-Verlag **IF = 1.282**
29. Natural Flavonoids Interact with Dinitrobenzene System in Aprotic Media: An Electrochemical Probing, Nasima Arshad, **Naveed K. Janjua***, Athar Y. Khan, Azra Yaqub, Torsten Burkholz and Claus Jacob, *Natural Product Communications*, Vol. 7 (3) (2012) 311–315. (USA) **IF = 0.884**

Publications during 2011

30. Electrochemical fabrication of self assembled monolayer using ferrocene-functionalized gold nanoparticles on glassy carbon electrode, Sana Sabahat, **Naveed Kausar Janjua***, Mathias Brust, Zareen Akhter, Elsevier *Electrochimica Acta*, 56 (20) (2011) 7092–7096, doi:10.1016/j.electacta.2011.05.10. **IF = 4.798**
31. Flavonoid-DNA binding studies and thermodynamic parameters, **Naveed Kausar Janjua***, Amber Shaheen, Azra Yaqub, Fouzia Perveen, Sana Sabahat, Misbah Mumtaz, Claus Jacob, Lalla Aicha Ba, Hamdoon A. Mohammed, *Spectrochimica Acta Part A*, Elsevier. 79 (5), (2011) 1600–1604, doi:10.1016/j.saa.2011.05.018. Elsevier **IF = 2.536**
32. Synthesis, structure and DNA binding studies of 1,4-bis((4-nitrophenoxy)methyl)benzene and its reduction derivative, Ali Haider, Zareen Akhter*, Fariya Jabeen, **Naveed Kausar Janjua**, Michael Bolte, Elsevier *Journal of Molecular Structure*, 994 (1-3) (2011) 242–247. doi:10.1016/j.molstruc.2011.03.026 Elsevier. **IF = 1.71**

iii) B.S. Level

- 1) General Chemistry, 2) Lab for General Chemistry, 3) Physical Chemistry 4) Physical Chemistry Lab
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Ph.D. Students Supervised and Awarded Degree (08)

- 1. Dr. Ms. Nasima Arshad** is Assistant Professor at AIOU, Islamabad. Dr. A. Y. Khan co-supervised her Ph.D. Thesis. She had a 6 months training under Dr Lief Skibsted at Copenhagen University, Denmark. Ph.D.
Thesis Titled: Electrochemical and ESR Investigations of Antioxidants. Her Viva Voce exam was held on 11-02-2010. Employed in AIOU Islamabad.
 - 2. Dr. Ms. Sana Sabahat** is working as Assistant Professor at COMSATS CIIT, Islamabad). She had a 12 months training with Dr Mathias Brust at Liverpool University, UK. Her Viva Voce exam was held on 7-7-2011. Prof. Dr. Zareen Akhter co-supervised her Ph.D. Thesis.
Thesis titled: Electrochemical and Spectroscopic Studies of Ferrocene Modified Gold Nanoparticles (3-9-2005 to 7-7-2011). Employed in CIIT Islamabad.
 - 3. Dr. Ms. Azra Yaqub** is working as Research Officer at PINSTECH, Islamabad. She had 18 months training with Prof. Dr John TS Irvine at University of St. Andrews, Fife, Scotland, UK. Her Viva Voce was held on 5-6-2014. Thesis titled: Synthesis and Application of Calcium Doped Lanthanum Strontium Titanate as Anode Support for Fuel Cell Applications (8-7-2009 to 5-2014). Employed in PINSTECH.
 - 4. Dr. Ms. Misbah Mumtaz.** She had a 20 months training with Prof. Dr John TS Irvine at University of St. Andrews, Fife, Scotland, UK. Her Viva Voce exam was held on 16-2-2015. Thesis titled: Synthesis and characterization of lithium metal phosphates as conductive materials for electrochemical devices (24-5-2008--- 16-2-2015). Interim placement at PIEAS.
 - 5. Ms. Sadia Mehmood** She had a 6 months training under IRSIP/HEC with Prof. Hicham Fenneri at University of Alberta Canada. Her Viva Voce exam was held on 24-6-2016. Thesis titled: Synthesis, Characterization and Applications of Noble Metal Nanoalloys. Teaching BS courses at QAU.
 - 6. Ms. Ayesha Mujtaba.** She did all her experimental work indigenously. Her Viva Voce exam was held on 24-6-2016. Thesis titled: Fabrication and electrocatalytic applications of metal oxide–metal oxide hybrids. Teaching BS courses at QAU.
 - 7. Ms. Erum Jabin.** She did all the experimental work indigenously in our labs and collaborated with biochemistry researchers for biological studies. Thesis titled: Synthesis and Evaluation of Radical Scavenging Potencies and DNA Binding of Metal-Flavonoid Complexes for their Versatile Applications (delivered seminar on 01-06-2016) Thesis submitted for foreign evaluation on 13-10-2016 and was approved. Her Viva Voce exam held on 28-2-2017. (1-12-2013---9-3-2017). Employed in AIOU Islamabad.
 - 8. Ms. Naveeda Firdous.** She did all the experimental work indigenously in our labs and γ -Al₂O₃ Supported Bimetallic Catalysts: Synthesis and Applications for Hydrazine Decomposition (delivered seminar on 08-06-2016). Thesis has been submitted for foreign evaluation in 4-2017, 20-09-2012--06-12-2017. Employed in Research Islamabad.
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References

- Prof. Dr. John T. S. Irvine jtsi@st-andrews.ac.uk
Post-Doc. Supervisor
- Prof. Dr. Claus Jacob c.jacob@mx.uni-saarland.de
International Research Collaborator
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International Research Collaborator
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Ph.D. Supervisor
- Prof. Dr. Ather Yaseen Khan atharkhan@fcollege.edu.pk & aykqau@yahoo.com
Ph.D. Co-Supervisor