

Dr. Anwar-ul-Haq Ali Shah
Associate Professor

E-mail: anwarulhaqalishah@uop.edu.pk and anwhq_pk@yahoo.com

Telephone Off: +92 91 9216652, Cell: 03459318002

Postal Address: Institute of Chemical Sciences
University of Peshawar
Khyber Pukhtunkhwa, Pakistan

Qualification:

Post-doctorate (Chemnitz University of Technology, Germany)
Ph.D (Chemnitz University of Technology, Germany) (magna cum laude)
M.Phil. (University of Peshawar)
M.Sc. (University of Peshawar)

Specialization: Physical Chemistry/ Electrochemistry

Experience:

1. Two years M.Phil research experience in the Department of Chemistry, University of Peshawar.
2. Four years Ph.D research experience in the Institute of Chemistry/ Electrochemistry, Chemnitz University of Technology, Germany.
3. Eighteen months and fifteen days Post-doctoral experience in the Institute of Chemistry/ Electrochemistry, Chemnitz University of Technology, Germany.
4. Six years teaching experience as Lecturer in various Govt. Colleges of Khyber Pukhtunkhwa (Higher Education Department).
5. Four months and sixteen days teaching and research experience as Assistant Professor in the Department of Chemistry, Abdul Wali Khan University, Mardan.
6. 5 years and 7 months teaching and research experience as Assistant Professor in the Institute of Chemical Sciences, University of Peshawar.
7. 6 years teaching and research experience as Associate Professor in the Institute of Chemical Sciences, University of Peshawar (continue...)

Academic Record:

S. No.	Certificate / Degree	Year of Passing	Major Subjects	Division C.G.P.A	Board/ University
1.	S.S.C.	1989	Chemistry, Biology, Physics, Mathematics	1 st	Peshawar Board
2.	F. Sc.	1991	Chemistry, Botany, Zoology, Physics,	1 st	Peshawar Board
3.	B.Sc.	1993	Chemistry, Botany, Statistics	1 st	Gomal University
4.	M. Sc.	1996	Physical Chemistry	1 st	University of Peshawar

5.	M.Phil	2001	Physical Chemistry	3.5	University of Peshawar
6	Ph. D	2007	Physical Chemistry / Electrochemistry	1 st	Chemnitz University of Technology, Germany

Honors and Awards:

President scholarship under the auspices of University Grant Commission of Pakistan at M. Sc level.

PhD Scholarship under the auspices of Ministry of Science and Technology and Higher Education Commission of Pakistan.

Merit Scholarship awarded by Gomal University D.I. Khan at B.Sc. level

Research Productivity Awards 2010, 2011, 2012, 2013, 2014, 2015, 2016

Projects earned:

1. Synthesis and Characterization of Soluble Polyaniline Co-doped with Sulfuric Acid and Dodecylbenzene Sulfonic Acid. (as Co-PI, Rs: 4.78 million sponsored by HEC) **Completed.**
2. Synthesis and characterization of polyaniline co-doped with PVA and transition metals (as PI, Rs: 0.481 million sponsored by UOP) **Completed.**
3. Conducting Polyaniline, Poly(*o*-aminophenol) and Poly(aniline-co-*o*-aminophenol) Coated Electrodes as Sensors: Experimental and Theoretical Aspects (as PI, Rs: 14.421 million sponsored by HEC). **Completed.**
4. Hydrogen Fuel Generation Via Photoelectrochemical Water Splitting Over Iron Based Photoelectrodes (as Co-PI, Rs: 7.0 million sponsored by HEC). **In 2nd phase.**
5. High performance nanostructured electrode materials for energy storage in supercapacitors as PI, Rs: 19.9 million (**Evaluated and accepted by HEC**).

Travel grants availed:

1. Travel grant of Rs. 271,000/- for presenting paper in “Symposium on Polymer Spectroscopy (ESOPS 19) on 07-11.07.2013 at Prague, Czech Republic.(Sponsored by HEC.
2. Travel grant of Rs. 219,691/- for presenting paper in “Surface Enhanced Spectroscopies(SES 2014) On 07-10.08.2014 at Germany.(Sponsored by HEC).
3. Travel grant of Rs.217,000/- for presenting paper in “ Bayreuth Polymer Symposium 2015” (BPS2015) on 20-22.09.2015 at Bayreuth University, Germany.
4. Travel Grant of Rs: 237,000/-for presenting paper in “9th International Workshop on Impedance Spectroscopy” on 23-29.09.2016 at Chemnitz University of Technology, Germany.

5. Travel Grant of Rs:191400/- for presenting paper in the 16th International Symposium on Electroanalytical Chemistry (16th ISEAC) On 17-20.08.2017 at Chinese Academy of Sciences, Changchun China.

Memberships:

Member of Chemical Society of Pakistan

International Society for Development and Sustainability, Japan

Service Activity: Teaching, research and contribution in administrative activities

Research students supervised

1. M.Phil supervised : 21
2. Ph.D co-supervised: 03
3. Ph.D supervised: 03

Research Interests:

Electrochemistry, Spectroelectrochemistry, Conducting polymers, Polymer composites, Thin layer films, Photovoltaic, sensors and biosensors, super capacitors, Computational chemistry

Patents Granted

1. Salma Bilal, Salma Gul, **Anwar-ul-Haq Ali Shah**, Intellectual property organization, Government of Pakistan, Patent No: 142054, 2015.
 2. Salma Bilal, Imran Khan, **Anwar-ul-Haq Ali Shah**, Intellectual property organization, Government of Pakistan, Patent No: 142758, 2018.
 3. Salma Bilal, **Anwar ul Haq Ali Shah**, Rudolf Holze and Salma Gul, Intellectual property organization, Government of Pakistan, Patent No: 143315, 2020.
 4. Salma Bilal, Bushra Begum, Salma Gul, **Anwar-ul-Haq Ali Shah**, Intellectual property organization, Government of Pakistan, Patent No: 143483, 2021.
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Publications:

Citation: 2200

h- index: 28

i10 index: 56

1. Adeel Mehmood, Gul Rahman, **Anwar ul Haq Ali Shah**, Oh-shim Joo, Shabeer Ahmad Mian “Template-Free Hydrothermal Growth of Nickel Sulfide Nanorods as High-Performance Electroactive Materials for Oxygen Evolution Reaction and Supercapacitors” *Energy & Fuels* 35, 8 (2021) 6868-6879. DOI: 10.1021/acs.energyfuels.1c00262 **Impact factor: 3.421**).
2. Zainab Najaf, Dang Le Tri Nguyen, Sang YounChae, Oh-Shim Joo, **Anwar ul Haq Ali Shah**, Dai-Viet N.Vo, Van-Huy Nguyen, Quyet Van Le, GulRahman “Recent trends in development of hematite (α -Fe₂O₃) as an efficient photoanode for enhancement of photoelectrochemical hydrogen production by solar water splitting” *International Journal of Hydrogen Energy* 46 (2021) 23334- 23357 .<https://doi.org/10.1016/j.ijhydene.2020.07.111> (**Impact factor: 5.816**).
3. Salma Bilal, Wahid Ullah, **Anwar ul Haq Ali Shah**, Hajera Gul, Salma Gul, Rizwan Ullah “Corrosion Inhibition Properties of Sulfonated Polyaniline-Poly(Vinyl Alcohol) Composite on Mild Steel” *Iranian Journal of Chemistry and Chemical Engineering*” in press.
4. Latif-ur-Rahman, **Anwar ul Haq Ali Shah**, Afzal Shah, Syed Muhammad Salman, Abdul Khaliq Jan “Synthesis and Spectroscopic Analysis of Au-Ag Alloy Nanoparticles with Different Composition of Au and Ag” *Biointerface Research in Applied Chemistry* 12,1 (2022) 377-390 (**Impact factor: 0.873**).
5. Sami ur Rahman, Philipp Röse, **Anwar ul Haq Ali Shah**, Ulrike Krewer, Salma Bilal, Shehna Farooq “Exploring the Functional Properties of Sodium Phytate Doped Polyaniline Nanofibers Modified FTO Electrodes for High-Performance Binder Free Symmetric Supercapacitors” *Polymers* 13 (2021) 2329 <https://doi.org/10.3390/polym13142329> (**Impact factor: 4.329**).
6. Tanveer ul Haq Zia , **Anwar ul Haq Ali Shah** “Understanding the adsorption of 1 NLB antibody on polyaniline nanotubes as a function of zeta potential and surface charge density for detection of hepatitis C core antigen: A label-free impedimetric immunosensor” *Colloid and Surfaces A: physicochemical and Engineering Aspects* “ 626 (2021) 127076 (**Impact factor: 4.539**).
7. Rizwan Ullah, Sobia Yaseen, Anwar ul Haq Ali Shah, Salma Bilal, Muhammad Kamran, Maheen Rahim “ Anticorrosive polyaniline synthesized using coconut oil as the dispersionmedium” *Materials Chemistry and Physics* 273(2021) 125071. (**Impact factor: 4.094**).
<https://doi.org/10.1016/j.matchemphys.2021.125071>
8. Bushra Begum, Salma Bilal, **Anwar ul Haq Ali Shah**, Philipp Rose “Physical, Chemical, and Electrochemical Properties of Redox-Responsive Polybenzopyrrole as Electrode Material for Faradaic Energy Storage” *Polymers* 13 (2021) 2883. <https://doi.org/10.3390/polym13172883> (**Impact factor: 4.329**).
9. Tanveer ul Haq Zia , **Anwar ul Haq Ali Shah** “Label-free photoelectrochemical immunosensor based on sensitive photocatalytic surface of Sn doped ZnO for detection of hepatitis C (HCV) anticore mAbs 19D9D6”

Colloid and Surfaces A: physicochemical and Engineering Aspects “ 630 (2021) 127586. <https://doi.org/10.1016/j.colsurfa.2021.127586> (**Impact factor: 4.539**).

10. Maheen Rahim, Anwar ul Haq Ali Shah, Salma Bilal, Ishrat Rahim, Rizwan Ullah “Highly efficient humidity sensor based on sulfuric acid doped polyaniline-copper oxide composites” Iranian journal of science and technology, Transactions A: Science (2021) (online)

2020

11. **Anwar ul Haq Ali Shah**, Sami Ullah, Salma Bilal, Gul Rahman, Humera Seema “ Reduced Graphene Oxide/Poly (Pyrrole-co-Thiophene) Hybrid Composite Materials: Synthesis, Characterization, and Supercapacitive Properties” Polymers 12 (2020) 1110. doi:10.3390/polym12051110 **Impact factor: 4.329**
12. Sami ur Rahman, **Anwar ul Haq Ali Shah**, Salma Bilal “Synthesis and Characterization of Polyaniline-Chitosan Patches with Enhanced Stability in Physiological Conditions” Polymers 12 (2020) 2870. doi:10.3390/polym12122870. **Impact factor: 4.329**
13. Sami ur Rahman, Philipp Röse, Mit Surati, **Anwar ul Haq Ali Shah**, Ulrike Krewer, Salma Bilal “3D Polyaniline Nanofibers Anchored on Carbon Paper for High-Performance and Light-Weight Supercapacitors” Polymers 12 (2020) 2705. doi:10.3390/polym12112705, **Impact factor: 4.329**
14. Gul Rahman, Adil Akhtar, Noureen Amir Khan, Sang Youn Chae, **Anwar ul Haq Ali Shah**, Oh-Shim Joo “Direct growth of dual-faceted BiVO₄ microcrystals on FTO-coated glass for photoelectrochemical water oxidation” Optik- International Journal for Light and Electron Optics 224 (2020) 165516, 1-9. (**Impact factor 2.443**)
15. Sami ur Rahman, Philipp Röse, **Anwar ul Haq Ali Shah**, Ulrike Krewer, Salma Bilal “An Amazingly Simple, Fast and Green Synthesis Route to Polyaniline Nanofibers for Efficient Energy Storage” Polymers 12 (2020) 2212, 1-19. **Impact factor: 4.329**). doi:10.3390/polym12102212
16. Gul Rahman, Zainab Najaf, **Anwar ul Haq Ali Shah**, Shabeer Ahmad Mian “ Investigation of the structural, optical, and photoelectrochemical properties of Fe₂O₃ nanorods synthesized via a facile chemical bath deposition” Optik - International Journal for Light and Electron Optics 200 (2020) 163454, 1-11. (**Impact factor: 2.443**). <https://doi.org/10.1016/j.ijleo.2019.163454> .
17. Hajera Gul, **Anwar ul haq Ali Shah**, Salma Bilal, Ulrike Krewer, Study on Direct Synthesis of Energy Efficient Multifunctional Polyaniline–Graphene Oxide Nanocomposite and Its Application in Aqueous Symmetric Supercapacitor Devices, Nanomaterials 10, 118 (2020) . <https://doi.org/10.3390/nano10010118> (**Impact factor: 5.076**).
18. Gul Rahman, Wareeda Nawab, Wagma Zazai, Salma Bilal, **Anwar ul Haq Ali Shah**, Shabeer Ahmad Mian “Exploring the Structural and Charge Storage Properties of Ni-ZnS/ZnO Composite Synthesized by One-Pot Wet Chemical

Route” Materials Chemistry and Physics 252 (2020) 123203.
<https://doi.org/10.1016/j.matchemphys.2020.123203> (**Impact factor: 3.408**).

19. Bushra Begum, **Anwar ul haq Ali Shah**, Salma Bilal “ Tunable electrochemical activity of polyaniline salt by doping anion exchange” Materials International 1(2020) 0044-0051 .
20. Nauman Ali, Nasiha Naz, Ziarat Shah, **Anwar ul Haq Ali Shah**, Adnan Khan, Rubila Nawaz “Selective transportation of molybdenum from model and ore through poly inclusion membrane” Bulletin of the Chemical Society of Ethiopia 34 (2020) 93-104. <https://dx.doi.org/10.4314/bcse.v34i1.9> (**Impact factor: 1.320**).
21. Hanif ur Rahman, **Anwar ul Haq Ali Shah**, Adnan Khan, Nauman Ali “In situ transport and electrodeposition of Ag(I) on stainless steel electrode across carrier mediated supported liquid membrane” Desalination and Water Treatment 205 (2020) 189-197. DOI: <https://doi.org/10.5004/dwt.2020.26344> (**Impact factor: 1.17**).
22. Amir Muhammad, **Anwar ul Haq Ali Shah**, Salma Bilal “ Effective adsorption of hexavalent chromium and divalent nickel ions from water through polyaniline, iron oxide and their composites” Applied Sciences 10 (2020) 2882. <https://doi.org/10.3390/app10082882> (**Impact factor: 2.474**).
23. Naimat Ullah, **Anwar ul Haq Ali Shah**, Fazal Akbar Jan, Rotaba Ansir, Wali Muhammad “Application of Modified PANI-ZnO Composites for NH₃Gas Sensor at Ambient Temperature” Journal of the Chemical Society of Pakistan 42,3, (2020) 390-398.
24. Mo Thi Nguyen, Cam Minh Le, Tuan Minh Nguyen, Hao Hoang Nguyen, **Anwar ul Haq Ali Shah**, Hung Van Hoang “Synthesis and Characterization of CuMnO_x-Bentonite as Efficient Catalyst for Oxidation of m-xylene” Journal of the Chemical Society of Pakistan 42, 4 (2020) 504-514.

2019

25. Amir Muhammad, **Anwar ul Haq Ali Shah**, Salma Bilal “Comparative Study of the Adsorption of Acid Blue 40 on Polyaniline, Magnetic Oxide and Their Composites: Synthesis, Characterization and Application” Materials 12, 2854 (2019) , 1-22, [doi:10.3390/ma12182854](https://doi.org/10.3390/ma12182854). (**Impact factor: 3.057**).

26. Hajera Gul, **Anwar-ul-Haq Ali Shah**, Salma Bilal “Achieving Ultrahigh Cycling Stability and Extended Potential Window for Supercapacitors through Asymmetric Combination of Conductive Polymer Nanocomposite and Activated Carbon” *Polymers* 11, 1678 (2019) 1-16.
doi:10.3390/polym11101678. (**Impact factor: 3.426**)
27. **Anwar-ul-Haq Ali Shah**, Ayesha Inayat, Salma Bilal “Enhanced Electrocatalytic Behaviour of Poly(aniline-co-2-hydroxyaniline) Coated Electrodes for Hydrogen Peroxide Electrooxidation” *Catalysts* 9, 631(2019) 1-17 doi:10.3390/catal9080631 (**Impact factor: 3.520**).
28. Shehna Farooq, Asif Ali Tahir, Ulrike Krewer, **Anwar ul Haq Ali Shah**, Salma Bilal “ Efficient photocatalysis through conductive polymer coated FTO counter electrode in platinum free dye sensitized solar cells” *Electrochimica Acta* 320 , 134544 (2019) 1-11.
doi.org/10.1016/j.electacta.2019.07.055 (**Impact factor: 6.215**).
29. Hira Zaman, Nisar Ali, **Anwar ul haq Ali Shah**, Xiaoyan Gao, Shizhong zhang, Kun Hong, Muhammad Bilal “Effect of pH and salinity on stability and dynamic properties of magnetic composite amphiphilic demulsifier molecules at the oil-water interface” *Journal of Molecular liquids* 290 (2019) 111186 (**Impact factor: 5.065**).
30. Hajera Gul, **Anwar ul Haq Ali Shah**, Salma Bilal “Fabrication of Eco-Friendly Solid-State Symmetric Ultracapacitor Device Based on Co-Doped PANI/GO Composite” *Polymers* 11, 1315 (2019) 1-20.
doi:10.3390/polym11081315 (**Impact factor: 3.426**).
31. Salma Bilal, Ayesha Akbar, **Anwar ul Haq Ali Shah** “Highly Selective and Reproducible Electrochemical Sensing of Ascorbic Acid Through a Conductive Polymer Coated Electrode” *Polymers* 11, 1346 (2019) 1-17,
doi:10.3390/polym11081346, (**Impact factor: 3.426**).
32. Salma Bilal, Muhammad Arif, Muhammad Saleem Khan, Anwar ul Haq Ali Shah “Characterization of Sodium and Potassium Nitrate Contaminated Polyaniline-Poly (Ethylene Oxide) Composites Synthesized via Facile Solution Casting Technique” *Materials* 12, 2168 (2019) , 1-14.
doi:10.3390/ma12132168. (**Impact factor: 3.057**).

33. Gul Rahman, Mansoor Khan, Zahid Khan, **Anwar-ul-Haq Ali Shah**, Muhammad Saleem Khan, Luqman Ali Shah “Nickel Oxide-incorporated Polyaniline/Polyvinyl Alcohol Composite for Enhanced Antibacterial Activity” *Zeitschrift für Physikalische Chemie* 233 (2019) 1261-1274 (**Impact factor 2.030**).
34. Amir Muhammad, **Anwar-ul-Haq Ali Shah**, Salma Bilal, Gul Rahman “Basic Blue Dye Adsorption from Water Using Polyaniline/Magnetite (Fe₃O₄) Composites: Kinetic and Thermodynamic Aspects” *Materials* 12, 1764 (2019) 1-26. doi:10.3390/ma12111764. (**Impact factor 3.057**).
35. Gul Rahman , Zainab Najaf, Asad Mehmood , Salma Bilal , **Anwar-ul-Haq Ali Shah** , Shabeer Ahmad Mian and Gulam Ali “An Overview of the Recent Progress in the Synthesis and Applications of Carbon Nanotubes” *C*, 5,3 (2019)1-31 <https://doi.org/10.3390/c5010003>.
36. Nisar Ali, Hira Zaman, Muhammad Bilal, **Anwar- ul-Haq Ali Shah**, Muhammad Shahzad Nazir, Hafiz M.N.Iqbal, Environmental perspectives of interfacially active and magnetically recoverable composite materials - A review. *Science of Total Environment* 670 (2019) 523-538. (**Impact factor 6.551**).
37. Muhammad Fahim, **Anwar-ul-Haq Ali Shah**, Salma Bilal, Highly Stable and Efficient Performance of Binder-Free Symmetric Supercapacitor Fabricated with Electroactive Polymer Synthesized via Interfacial Polymerization. *Materials* 12, 1626 (2019) 1-17. doi:10.3390/ma12101626. (**Impact factor 3.057**).
38. **Anwar-ul-Haq Ali Shah**, Muhammad Kamran, Salma Bilal and Rizwan Ullah “Cost Effective Chemical Oxidative Synthesis of Soluble and Electroactive Polyaniline Salt and Its Application as Anticorrosive Agent for Steel” *Materials* 12, 1227 (2019) . doi:10.3390/ma12091527 (**Impact factor 3.057**).
39. **Anwar-ul-Haq Ali Shah**, Saima Shaheen, Muhammad Kamran, Humaira Seema, Rizwan Ullah and Salma Bilal “ Synthesis of soluble and highly thermally stable polyaniline- Titanium dioxide composite via inverse emulsion polymerization” *Journal of the Chemical Society of Pakistan* 41, 6 (2019) 921-931. (**Impact factor 0.393**).

2018

40. Salma Bilal, Bushra Begum, Salma Gul and **Anwar-ul-Haq Ali Shah** “ PANI/DBSA/H₂SO₄: A promising and highly efficient electrode material for aqueous supercapacitors” *Synthetic Metals* 235 (2018) 1-15 (**Impact factor 2.526**).
41. Salma Bilal, Muhammad Fahim, Irum Firdous and **Anwar-ul-Haq Ali Shah** “Insight into Capacitive Performance of Polyaniline/Graphene Oxide

- Composites with Ecofriendly Binder” Applied Surface Science 435 (2018) 91-101. **(Impact factor 4.439).**
42. Gul Rahman, Oh Shim Joo, Sang Youn Chae, **Anwar-ul-Haq Ali Shah**, Shabeer Ahmad Mian “Enhanced Water Oxidation Photoactivity of Nano-Architected -Fe₂O₃-WO₃ Composite Synthesized by Single-Step Hydrothermal Method” Journal of Electronic Materials, 47 (2018) 2359-2365 **(Impact factor 1.566).**
 43. **Anwar-ul-Haq Ali Shah**, Muhammad Owais Khan, Salma Bilal, Gul Rahman, Hung Van Hoang “Electrochemical Co-Deposition and Characterization of Polyaniline and Manganese Oxide Nano Fibrous Composites for Energy Storage Properties” Advances in polymer Technology 37 (2018) 2230-2237 **(Impact factor 2.07).**
 44. Hajera Gul, **Anwar-ul-Haq Ali Shah**, Salma Gul, Jalal Arjomandi, Salma Bilal “Study on the Thermal Decomposition Kinetics and Calculation of Activation Energy of Degradation of Poly(o-toluidine) Using Thermogravimetric Analysis” Iranian Journal of Chemistry and Chemical Engineering 37 (2018) 193- 204 **(Impact factor 0.860).**
 45. Salma Bilal, Wahid Ullah, **Anwar-ul-Haq Ali Shah** “Polyaniline@CuNi nanocomposite: A highly selective, stable and efficient electrode material for binder free non-enzymatic glucose sensor” Electrochimica Acta, 284 (2018) 382-391 **(Impact factor 5.383).**
 46. **Anwar ul Haq Ali Shah**, Shafaq Akhlaq, Murtaza Sayed, Salma Bilal, Nauman Ali “ Synthesis and characterization of polyaniline–zirconium dioxide and polyaniline–cerium dioxide composites with enhanced photocatalytic degradation of rhodamine B dye” Chemical Papers 72 (2018) 2523-2538. **Impact factor 0.963)**
 47. Hajera Gul, Salma Gul, Salma Bilal and **Anwar-ul-Haq Ali Shah** “ One pot synthesis of highly thermally stable poly(2-methylaniline) for corrosion protection of stainless steel” Iran J.Sci.Technol. Trans.Sci 42(2018) 1915-1922 **(Impact factor 0.757).**
 48. Shehna Farooq, **Anwar-ul-Haq Ali Shah**, Salma Bilal “Some insights into the structure and morphology of surfactant doped poly(o toluidine)” Advances in polymer Technology 37 (2018) 3701-3710. <https://doi.org/10.1002/adv.22154> **(Impact factor 2.07).**
 49. Rizwan Ullah, Salma Bilal, Anwar ul Haq Ali Shah, Gul Rahman, Khurshid Ali “Ternary composites of polyaniline with polyvinyl alcohol and Cu by inverse emulsion polymerization: A comparative study” Advances in polymer Technology 37 (2018) 3448-3459. <https://doi.org/10.1002/adv.22129> **(Impact factor 2.07).**

2017

50. Rizwan Ullah, Habib Ullah, **Anwar-ul-Haq Ali Shah**, Salma Bilal, Khurshid Ali “Oligomeric Synthesis and Density Function Theory of Leucoemeraldine Base form of Polyaniline” Journal of Molecular Structure 1127 (2017) 734-741. **(Impact factor 2.011).**
51. **Anwar-ul-Haq Ali Shah**, Nabila Yasmeen, Gul Rahman, and Salma Bilal “High Electrocatalytic Behavior of Ni Impregnated Conducting Polymer

- Coated Platinum and Graphite Electrodes for Electrooxidation of Methanol” *Electrochimica Acta* 224 (2017) 468-474 (**Impact factor 5.116**).
52. Hajera Gul, Salma Gul, **Anwar-ul-Haq Ali Shah**, Salma Bilal “Poly(*o*-toluidine) as low cost electrode material for high performance electrochemical supercapacitor” *Indian Journal of Chemistry: A* 56(2017) 493-500 (**Impact factor 0.851**).
53. Anwar-ul-Haq Ali Shah, Irum Firdous, Zalanda Khattak, Muhammad Arif, Muhammad Fahim, Salma Bilal “Efficient glucose oxidation on Polyaniline film by *Escherichia coli* with Neutral Red mediator” *Journal of the Chemical Society of Pakistan* 39 (2017) 820-826 (**Impact factor 0.327**).
54. Salma Bibi, Salma Bilal, **Anwar-ul-Haq Ali Shah** and Habib Ullah “Systematic Analysis of Poly(*o*-aminophenol) Humidity sensors” *ACS Omega* 2 (2017) 6390-6390. (**Impact factor 2.450**).

2016

55. Rizwan Ullah, Salma Bilal, **Anwar-ul-Haq Ali Shah**, Khurshid Ali, Fadi Alakhras “Synthesis and characterization of polyaniline doped with polyvinyl alcohol by inverse emulsion polymerization” *Synthetic metals* 222 Part B (2016) 162-169 (**Impact factor 2.435**).
56. **Anwar-ul-Haq Ali Shah**, Nabila Yasmeen, Gul Rahman, Mazhar Mehmood and Salma Bilal “Electrooxidation of methanol at PANI/ POAP Bilayered Structure modified Platinum and Graphite Electrodes” *Electrochimica Acta* 188(2016)367-377. (**Impact factor 4.798**).
57. Roohul Amin, Salma Bilal, Anwar-ul-Haq Ali Shah “ Synthesis and characterization of thermally stable organic composites of polyaniline with polyethylene oxide” *Journal of Chemical Society of Pakistan* 38 (2016) 937-943 (**Impact factor 0.345**).
58. Gul Rahman, Shabeer Ahmad Mian, **Anwar-ul-Haq Ali Shah**, Oh-Shim Joo “ Electro catalytic behavior of glassy carbon electrode modified with Ruthenium nanoparticles and Ruthenium film” *Journal of Applied Electrochemistry* 46(2016)459-468. (**Impact factor 2.409**).
59. Salma Bilal, Sania Bibi, Rudolf Holze, **Anwar-ul-Haq Ali Shah** “Structural and Spectroscopic Properties of Homo- and Co-oligomers of *o*-Phenylenediamine and *o*-Toluidine: Theoretical Insights Compared with Experimental Data” *The Journal of Physical Chemistry C* 120 (2016) 27141-27147 (**Impact factor 4.772**).
60. Hajera Gul, **Anwar-ul-Haq Ali Shah**, Salma Bilal “Electrochemical behavior of POT in different electrolytes” *Journal of Scientific and Innovative Research* 5 (2016) 187-192.

2015

61. Shah Masood Ahmad, Salma Bibi, Salma Bilal, Khurshid Ayub, **Anwar-ul-Haq Ali Shah** “Electronic and Spectral Characteristics of Poly(*o*-toluidine-co-*o*-chloroaniline: Density Functional Theory Calculations” *Synthetic Metals* 205 (2015) 153-163. (**Impact factor 2.252**).
62. Salma Bibi, Habib Ullah, Shah Masood Ahmad, **Anwar-ul-Haq Ali Shah**, Salma Bilal, Muhammad Tahir Asif, Khurshid Ayub “Molecular and

- Electronic Structure Elucidation of Polypyrrole Gas Sensors” The Journal of Physical Chemistry C 119(2015) 15994-16003. **(Impact factor 4.772).**
63. Salma Bilal, Salma Gul, Rudolf Holze and **Anwar-ul-Haq Ali Shah** “ An Impressive Emulsion Polymerization Route for the Synthesis of Completely Soluble and Highly Conducting Polyaniline Salts ” Synthetic metals 206 (2015) 131-144. **(Impact factor 2.252).**
64. Muhammad Kamran, Habib Ullah, **Anwar-ul-Haq Ali Shah**, Salma Bilal, Asif Ali Tahir, Khurshid Ayub “Combined Experimental and Theoretical Study of Poly(Aniline-co-Pyrrole) Oligomers” Polymer 72 (2015) 30-39 **(Impact factor 3.562).**
65. Salma Bilal, Salma Bibi, Shah Masood Ahmad, **Anwar-ul-Haq Ali Shah** “Counterpoise-corrected Energies, NBO, HOMO-LUMO and Interaction Energies of Poly(*o*-aminophenol) for Ammonia Sensing by DFT Methods” Synthetic metals 209 (2015) 143-149. **(Impact factor 2.253).**
66. Salma Gul, **Anwar-ul-Haq Ali Shah**, Salma Bilal “Effect of High Temperature on the Electrochemical and Optical Properties of Emeraldine Salt Doped with DBSA and Sulfuric Acid” Journal of Chemistry 2015 (2015) 1-9. **(Impact factor (0.772).**
67. Salma Bilal, Salma Gul, **Anwar-ul-Haq Ali Shah** “Calculation of Particle size distribution of polyaniline salts using imageJ. Journal of Scientific and Innovative Research 4 (2015) 17-21.
68. Salma Bilal, Fozia Parveen, **Anwar-ul-Haq Ali Shah** “Chemical Synthesis of Polypyrrole doped with dodecylbenzenesulfonic acid” Journal of Scientific and Innovative Research 4 (2015) 33-42.
69. Latif-ur- rehman, Afzal Shah, Rumana Qureshi, Sher Bahadar Khan, Abdullah. M. Asiri, **Anwar-ul-Haq Ali Shah**, M.Saleem Khan, Suzanne Kay Lunsford “Spectroscopic analysis of Au-Cu alloy nanoparticles of various compositions synthesized by chemical reduction method” Advances in material science and engineering 2015(2015) 1-8. **(Impact factor 0.744).**

2014

70. Salma Bilal, Shehna Farooq, **Anwar-ul-Haq Ali Shah**, Rudolf Holze “ Improved solubility, conductivity, thermal stability and corrosion protection properties of poly(*o*-toluidine) synthesized *via* chemical polymerization” Synthetic metals 197(2014) 144-153 **(Impact Factor = 2.252).**
71. Rizwan Ullah, Salma Bilal, Anwar-ul-Haq Ali Shah, Khurshid Ali “Synthesis and characterization of polyaniline doped with Cu II chloride by inverse emulsion polymerization” Synthetic metals 198 (2014) 113-117 **(Impact Factor = 2.252).**
72. Habib Ullah, Abdur Rauf, Zakir Ullah, Fazl-i-Sattar, Muhammad Anwar, **Anwar-ul-Haq Ali Shah**, Ghias Uddin and Khurshid Ayub “Density functional theory and phytochemical study of pistgermic acid” Spectrochimica Acta A: molecular and biomolecular spectroscopy 118(2014) 210-214. **(Impact Factor = 2.129).**
73. Mohammad Sohail, Salma Bilal, **Anwar-ul-Haq Ali Shah** “Synthesis and characterization of soluble and thermally stable polypyrrole-DBSA salts” Journal of Chemical Society of Pakistan 36 (2014) 976-981 **(Impact Factor = 0.345).**

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99. **Anwar-ul-Haq Ali Shah** and Rudolf Holze "Spectroelectrochemistry of Aniline-*o*-Aminophenol Copolymers" *Electrochimica acta*, 52 (2006) 1374 – 1382 (**Impact Factor = 2.955**).
100. **Anwar-ul-Haq Ali Shah** and Rudolf Holze "Poly (*o*-aminophenol) with two Redox Processes: A Spectroelectrochemical Study" *Journal of Electroanalytical Chemistry* 597 (2006) 95-102 (**Impact Factor = 2.339**).
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104. Khurshid Ali, **Anwar-ul-Haq**, Salma Bilal, Shazia Siddiqi. "Concentration and Temperature Dependence of Surface Parameters of Some Aqueous Salt Solutions". *Colloid and Surfaces A: Physicochemical and Engineering Aspects* 272 (2006) 105-110 (**Impact Factor = 1.499**).
104. Azhar-ul-Haq, Malik A., Khan M. T. H., **Anwar-ul-Haq**, Khan S. B., Ahmad A., Choudhary M. I "Tyrosinase inhibitin lignans from the methanolic extract of the roots of *Vitex negundo* and their structure activity relationship" *Phytomedicine* 13 (2006) 255-260 (**Impact Factor = 1.403**)

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106. Azhar-ul-Haq, Abdul Malik, **Anwar-ul-Haq**, Sher Bahadar Khan, Muhammad Raza shah, and Pir Muhammad "Spinoside, New Coumaroyl Flavone Glycoside from *Amaranthus spinosus*" *Arch. Pharm. Res.* 27 (2004) 1216-1219.

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Conference Contributions

- 1) Elektrochemische Grundlagenforschung und deren Anwendung in der Elektroanalytik (ELACH7) from September 17–20, 2006 in Waldeim **Germany**
- 2) GDCH-JCF Frühjahrssymposium from March 22–27, 2007 in Chemnitz **Germany**.
- 3) 8th International and 20th National Chemistry Conference from February 15 - 17, 2010 at Quaid-I-Azam University **Islamabad**.
- 4) 1st National Conference on Physical and Environmental Chemistry from September 26 - 30, 2010 at Baragali.
- 5) Pakistani & German Universities – Joining Forces for a Better Future DAAD Alumni Seminar from October 29 – 31, 2010, Islamabad.
- 6) First International Symposium on Vacuum Science and Technology, 2-6 November, 2010, Islamabad.
- 7) 1st National Conference on Material Processing, Characterization, Properties and their Economic Potential December 1-3, 2010, **at University of Peshawar**.
- 8) 3rd National Conference on Recent trends in Chemistry, Oct. 17-19, 2011, **at PINSTECH, Islamabad**.
- 9) 10th International and 22nd National Chemistry Conference from Nov. 21-23, 2011
at University of Agriculture, Faisalabad.
- 10) 2nd National Conference on Material Processing, Characterization, Properties and their Economic Potential Nov. 30th-Dec. 2nd, 2011, **University of Peshawar**.
- 11) One day Research Poster Symposium, December 23rd, 2011 at NCE in Physical Chemistry, **University of Peshawar**
- 12) National Science Conference: Roadmap of Cutting Edge Technologies, from January 10-12, 2012 at **PMAS-Arid Agriculture University Rawalpindi**.

- 13) First International conference on Bioenergy at **PMAS-Arid Agriculture University Rawalpindi**. April 18th to 20th 2012.
- 14) 6th Vacuum and Surface Science Conference of Asia and Australia October 9th - 13th 2012 at **Pak-China Centre Islamabad**.
- 15) 2nd Symposium on Recent Trends in Indigenous Chemical Research and Awareness on Data Presentation Skills July 1-5, 2012, At **Baragali Summer Campus University of Peshawar**.
- 16) Seminar for VCs and Alumni of German Universities in KPK at **S. A. Q. Meusam Hall University of Peshawar** 2nd April, 2013.
- 17) 3-Days International Conference on Environmental Science from Pollution to Remediation at Baragali Summer Campus, June 3-5, 2013.
- 18) International symposium on Advance Material, 23-27 September, 2013, At Institute of Space Technology, Islamabad.
- 19) 19th European Symposium on polymer Spectroscopy (ESOPS19) 7-11 July 2013, Prague, Czeck Republic.
- 20) Surface Enhanced Spectroscopies 2014 (SES2014) 7-10 August 2014, Chemnitz, Germany.
- 21) Chemical Trends 2014, October 17, 2014, Department of Chemistry, Lahore University of Management Sciences.
- 22) 25th National and 13th International Chemistry Conference October 20-22, 2014, Institute of Chemistry, University of Punjab, Lahore
- 23) 3rd Asean-Pakistan Conference on Material Science (APCoMS-3) NUST, 25-27 November 2014.
- 24) Bayreuth Polymer Symposium (BPS 15), September 20-22, 2015 in Bayreuth University, Germany.
- 25) Conductive plastics 2015 from 29th June to 1st July 2015 in Düsseldorf Germany.

Books Chapters Authored

Encyclopedia of Applied Electrochemistry (2014) (Publisher Springer Verlag GmbH Germany)

Chapter: **UV-Vis Spectroelectrochemistry**, Article ID: 303671 Chapter ID: 242

