

CURRICULUM VITAE



1. Contact Information:

Name: Dr. Riaz Ahmed
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Summary: Got most of my education and training at Govt. College Lahore, Quaid-i-Azam University Islamabad and Research Centre Juelich, Germany. Worked at Pakistan Institute of Nuclear Science and Technology (PINSTECH) on different positions. Worked as Head Electrochemistry, Water Chemistry and Fuel Cell Groups. Also worked as Project Director Fuel Cells, Coordinator Fuel Cells and Head Chemistry Division at PINSTECH. Have taught courses at Quaid-i-Azam University, Islamabad for M.Sc, M.Phil/Ph.D. levels.

Main areas of interest are Clean Energy and Environment. Main area of specialization is Electrochemistry. Presently working on the development of electrochemical power sources including Fuel Cells, Batteries and Electrolyzers. Worked on the development and characterization of materials, electrodes and components for electrochemical power sources. Developed different types of catalysts, electrodes, composite materials, bipolar plates, membrane electrode assemblies, designed and fabricated polymer electrolyte membrane fuel cells (PEMFCs).

Worked on the chemistry, treatment and quality control of cooling waters of nuclear reactors at PINSTECH and also taught water chemistry to nuclear reactor operators and supervisors. In the area of environment mostly worked on waste water and drinking water including their quality control and treatment mostly removal of toxic constituents.

2. Experience

2013, July – present date, Executive Director, Clean Energy & Environment Systems(NGO), Islamabad, Pakistan.

2010, Feb - 2018, Visiting Faculty, Department of Chemistry, Quaid-i-Azam University, Islamabad, Pakistan .

2016, Feb –June, Visiting Faculty, Department of Environmental Sciences, Fatima Jinnah Women University, Rawalpindi.

2013, 1st July-31st Dec.2014 , Advisor Technical Projects, CIIT, COMSATS, Islamabad.

2013, July, Convener Core Research Group on Development of Hydrogen Fuel Cells by Govt. of Pakistan, Ministry of Science & Technology, Islamabad.

2012, Visiting Faculty, Dept. of Chemistry, Allama Iqbal Open University, Islamabad.

2006-2008, Head of Division, Chemistry Division, Pakistan Institute of Nuclear Science and Technology (PINSTECH), Islamabad, Pakistan.

2008, Coordinator R&D on Fuel Cells PINSTECH, Pakistan.

2005, Adjunct Faculty, Pakistan Institute of Engineering and Applied Sciences (PIEAS), Islamabad, Pakistan

2004- 2007, Project Director, Fuel Cell project, PINSTECH, Pakistan.

2001-2003, Head of Group, Electrochemistry and fuel cell group. PINSTECH, Pakistan.

1987-2001, Head of Group, Water and electrochemistry group PINSTECH, Pakistan. Worked on the water chemistry and quality control of water.

1984, Sept-Sept,1986, Post Doc. Research Fellow , Institute of Applied Physical Chemistry Research Centre, Juelich, Germany.

1980-1983 Incharge, Electrochemistry and water analysis labs PINSTECH, Pakistan.

1976, May- Dec.1979 DAAD fellow, Institute of applied physical chemistry Research Centre, Juelich, Germany, Did Ph.D. research work.

1st June-30th Sept, 1976, German Language course, Luneberg, Germany.

1974-1975 Junior scientist Electrochemistry lab. PINSTECH.

3. Research supervision/co-supervision

- Supervised/ co-supervised the research work of 14 M.Phil. and 4 Ph.D. students in the areas of, electrochemistry, environmental pollution and fuel cell technology.
- Evaluated as external examiner 50 M.Phil and 26 Ph.D. students at different universities in Pakistan.

4. Research projects.

- Completed a project on “Research and Development of Fuel Cells” with a grant of Rs. 69.00 million (2004-2007).(Indigenously developed and fabricated first fuel cell in Pakistan. About one kW level PEMFCs were fabricated.)

- Completed a project on “Effects of Industrialization on environmental pollution of Pb and Cd in some selected areas of Pakistan” from Third World Academy of Sciences, Italy (TWAS) (1991-1993).

5. Teaching

Courses taught at M.Sc. level

- CH-462 Electrochemistry
- CH-301 Industrial chemistry
- CH-464 Surface Chemistry
- Physical Chemistry-I 2575
- Physical Chemistry-II 2580
- Water and Waste Water Analysis.

Courses taught at M.Phil./Ph.D. level

- CH-682 Electroanalytical methods and techniques.
- CH-676 Chemistry of the environment

6. Visits / Training Abroad

- June-Sept. 1976**, Did German language course at Goethe Institute, Luneburg, Germany
- Oct.1976- Dec. 1979**, Did Ph.D. research work at Research Centre Juelich Germany.
- Sept.1984- Sept. 1986**. Did Post Doc Research work at Research Centre Juelich Germany
- Feb 27 – 17 Mar 1995**, "IAEA Training Course, Tokyo and Tokai, Japan.
- Nov 27 – Dec 1 , 1995**, IAEA, Vienna. Austria.
- Oct 2-Oct 7, 2005**. Ninth Grove Fuel Cell Symposium 4-6 Oct. 2005, London, U.K.
- April 9 – Apr.22, 2006**. ElectroChem; Boston, USA.
- March, 2011** Center of Electrochemistry, University of Texas at Austin, Austin, USA.
- April 2011**, Dept. of Chem; University of Texas at Arlington, Arlington, USA.
- Nov 21-24 , 2011**, 3rd ICFCHT 2012, Kuala Lumpur, Malaysia.
- July-Aug, 2016**, Visited USA and Colorado Fuel Cell Center.

7. Publications

• Books published

i) Riaz Ahmed (ed.) Proc. of Training Workshop on “ Water Chemistry and Quality Control., NCD/L-121, Pakistan Institute of Nuclear Science and Technology, Islamabad, pp. 1-190, July, 2000.

ii). Riaz Ahmed, Saqib Ali, M.Arif Nadeem, M.Shahid Ansari (eds.). Proceedings of the Symposium on Hydrogen and Fuel Cells (July 9-11. 2012), Department of Chemistry, Quaid-i-Azam University Islamabad, Pakistan, pp. 1-341, Feb. 2013.

• **Publications**

1.	Tayyaba Asim, Riaz Ahmed and Muhammad Shahid Ansari Nickel Coated Carbon Nanomaterial for the Removal of Heavy and Toxic Metals (Cd, Cu) from Water and Wastewater Key Engineering Materials , Vol. 778, pp 79-85, 2018
2.	Tayyaba Asim, Riaz Ahmed , Muhammad Shahid Ansari Elaboration of balance through adsorption of cadmium and selenium between water and underlying sediments via their analysis in drinking, wastewater and sediment samples Desalination and Water Treatment 90 (2017) 157–167
3.	Shahid Ali, Ibrahim Khana, Safyan Akram Khan, Manzar Sohail, Riaz Ahmed , Ateeq ur Rehman, Muhammad Shahid Ansari, Mohamed Ali Morsy. Electrocatalytic performance of Ni@Pt core–shell nanoparticles supported on carbon nanotubes for methanol oxidation reaction Journal of Electroanalytical Chemistry 795 (2017) 17–25
4.	Tayyaba Asim, Riaz Ahmed , Muhammad Shahid Ansari Elaboration of balance through adsorption of cadmium and selenium between water and underlying sediments via their analysis in drinking, wastewater and sediment samples Desalination and Water Treatment 90 (2017) 157–167
5.	Rizwan Raza, Nadeem Akram , Muhammad Sufyan Javed , Asia Rafique , Kaleem Ullah , Amjad Ali , M. Saleem , Riaz Ahmed Fuel cell technology for sustainable development in Pakistan – An over-view Renewable and Sustainable Energy Reviews 53 (2016) 450–461
6.	Norani Muti Mohammed, Asad Mumtaz, Muhammad Shahid Ansari, <i>and</i> Riaz Ahmad Electrochemical study of the Pt and Pt-Ni upon multiwalled carbon nanotubes AIP Conference Proceedings 1787, 050023 (2016); https://doi.org/10.1063/1.4968121
7.	Shahid Ali, Riaz Ahmed , Manzar Sohail ,Safyan Akram Khan, Muhammad Shahid Ansari Co@Pt core–shell nanoparticles supported on carbon nanotubes as promising catalyst for methanol electro-oxidation Journal of Industrial and Engineering Chemistry, Volume 28, 2015, 344–350
8.	Rabia Naeem, Riaz Ahmed , Muhammad Shahid Ansari Effect of ceramic nanocomposite supports on catalytic activity of platinum catalysts for fuel cells Science Vision Vol.20 no.2 (2014), 63-72
9.	Riaz Ahmed , Saliha Shahid and Muhammad Shahid Ansari Synthesis, characterization and electrochemical studies of Pt-W/C catalyst for polymer electrolyte membrane fuel cells. IOP Conf. Series: Materials Science and Engineering 60 (2014) 012049
10.	Riaz Ahmed , Rabia Jamil and Muhammad Shahid Ansari Synthesis and characterization of Ternary Pt-Ni-M/C (M=Cu, Fe, Ce, Mo, W) nano- catalysts for low temperature fuel cells. IOP Conf. Series: Materials Science and Engineering 60 (2014) 012044
11.	Ambreen Shahzadi, Riaz Ahmed and Muhammad Siddiq Fabrication and characterization of Nafion/SiO ₂ - MO _x (M= Ti, Zr, W) nanocomposite membranes by

	sol-gel reaction for polymer electrolyte membrane fuel cells. IOP Conf. Series: Materials Science and Engineering 60 (2014) 012033
12.	Rabia Naeem, Riaz Ahmed , Muhammad Shahid Ansari TiO ₂ and Al ₂ O ₃ promoted Pt/C nanocomposites as low temperature fuel cell catalysts for electrooxidation of methanol in acidic media. IOP Conf. Series: Materials Science and Engineering 60 (2014) 012031
13.	Shahid Ali, Riaz Ahmed, Muhammad Shahid Ansari Evaluation of Stability and Catalytic Activity Of direct Methanol Fuel Cell nano-catalysts by Cyclic Voltammetry NUST Journal of Engineering Sciences, Vol. 6, No. 1, 2013, pp.21-26
14.	Riaz Ahmed Developments of Materials and Components for Polymer Electrolyte Membrane Fuel Cells Proceedings of the Symposium on hydrogen and Fuel Cells (July 9-11, 2012), Quaid-i-Azam University, Islamabad, Pakistan. pp.12-57, Feb. 2013
15.	Rabia Naeem, Riaz Ahmed , M.Shahid Ansari Pt/Al ₂ O ₃ -Carbon Nano-composite as a catalyst for Fuel Cells Proceedings of the Symposium on hydrogen and Fuel Cells (July 9-11, 2012), pp.65-77, Feb. 2013, Quaid-i-Azam University, Islamabad, Pakistan.
16.	Rabia Jamil, Riaz Ahmed , Muhammad Shahid Ansari, Akhtar Hussain Adsorption of CO on Pt-Ni alloys: A Density Functional Theory study Proceedings of the Symposium on hydrogen and Fuel Cells, (July 9-11, 2012) pp. Feb. 2013, Quaid-i-Azam University, Islamabad, Pakistan.
17.	Tayyaba Asim, , Riaz Ahmed , Muhammad Shahid Ansari Preparation and Characterization of Nano-nickel Graphite and Evaluation of its Catalytic Properties by Immobilization of Cadmium, Copper and Zinc. Proceedings of the Symposium on hydrogen and Fuel Cells (July 9-11, 2012), pp.174-187, Feb. 2013, Quaid-i-Azam University, Islamabad, Pakistan.
18.	Riaz Ahmed , Developments in Batteries and Fuel Cells for electric and hybrid electric vehicles- An overview Proceedings of the Symposium on hydrogen and Fuel Cells (July 9-11, 2012), pp.254-279, Feb. 2013, Quaid-i-Azam University, Islamabad, Pakistan
19.	Asad Mumtaz, Muhammad Shahid Ansari, Riaz Ahmed Synthesis of Bimetallic Efficient Pt-Ni Nanoalloy on Multiwalled Carbon Nanotubes (MWCNTs) for Direct Methanol Fuel Cells Proceedings of the Symposium on hydrogen and Fuel Cells (July 9-11, 2012), pp.319, Feb. 2013, Quaid-i-Azam University, Islamabad, Pakistan.
20.	Saliha Shahid, Riaz Ahmed , Muhammad Shahid Ansari. Synthesis and characterization of Co@Pt-W/C core-shell catalyst for the electro-oxidation of methanol. Proceedings of the Symposium on hydrogen and Fuel Cells (July 9-11, 2012), pp.331, Feb. 2013, Quaid-i-Azam University, Islamabad, Pakistan.
21.	Tayyaba Asim, R. Ahmed and M.S. Ansari Preparation and Characterization of Carbon Supported Nano- Nickel and Its Sorption Behavior for Zinc from Aqueous Solutions. Key Engineering Materials Vols. 510-511 (2012) pp 271-276

22.	Tayyaba Asim, Riaz Ahmed , Muhammad Shahid Ansari Comparison of Selenium Immobilization, using Local River sand, Graphite and Modified Nano-nickel Graphite – A Special Emphasis on Kinetic and Thermodynamic Data . International Conference on Agricultural, Environment and Biological Sciences (ICAEB'S'2012) May 26-27, 2012 Phuket, pp.28-33, 2012
23.	Rabia Naeem, Riaz Ahmed , Muhammad Shahid Ansari Pt/yittria stabilized zirconia(YSZ)–carbon nanocomposite as higher activity catalyst for proton exchange membrane fuel cells (PEMFCs) Proc. of the “The 3rd International Conference on Fuel Cell & Hydrogen Technology (ICFCHT 2011) on November 22-23, 2011 in Kuala Lumpur, Malaysia.
24.	Abdul Sattar Ali KHAN, Riaz Ahmed , Muhammad Latif MIRZA Performance evaluation of platinum-based catalysts for the development of proton exchange membrane fuel cells Turk J Chem 34 , 193 – 206, 2010
25.	A.S. A. Khan, R. Ahmed . M. L. Mirza Evaluation of kinetic parameters of uranyl acetate complexes in ethanolic solution by cyclic voltammetry. Radioanal Nucl Chern, 283:527-531, 2010
26.	Mohsin Ali Raza, Riaz Ahmed , Amir Saleem And Rafi-Ud-Din, Fabrication of Carbon–Polymer Composite Bipolar Plates For Polymer Electrolyte Membrane Fuel Cells By Compression Moulding. The Nucleus, 46(3) 351-356, 2009
27.	Tayyaba Yamin, Riaz Ahmed , Muhammad Shahid Ansari ,Muhammad Mansha Chaudhry Preparation of Carbon Supported Nickel Catalyst And Its Adsorption Behaviour For Copper From Aqueous Solutions. The Nucleus,46(3) 357-364, 2009
28.	A.S.A Khan, Riaz Ahmed , M.L. Mirza, Evaluation of catalytic activity of Pt and Pt-Ru Catalysts by cyclic voltammetry Portugaliae Electrochimica Acta, 27(4), 429-441, 2009
29.	Riaz Ahmed , Tayyaba Yamin, M.S. Ansari, M.M. Chaudhry, Effect of Nickel coating on carbon for adsorption of cadmium from aqueous solutions. The Canadian Journal of Chemical Engineering, 87,448-455 2009.
30.	Abdul Sattar Ali Khan, Riaz Ahmed and Muhammad Latif Mirza, Comparison of Catalytic Activities of Carbon Supported Pt and Pt-Ru Catalysts for Methanol Oxidation in Neutral and Alkaline Media by Cyclic Voltammetry. Turk. J. Chem.32,743-753, 2008
31.	A.S. A. Khan, Riaz Ahmed , M.L Mirza, Electro-oxidation of methanol on fuel cell catalysts and evaluation of their catalytic activities by cyclic voltammetry. J. Chem. Soc. Pak.30(6)810-816, 2008
32.	Muhammad Arshad, *, Saeed-ur-Rehman, Ammad Hussain Qureshi, Khalid Masud, Muhammad Arif, Aamer Saeed and Riaz Ahmed , Thermal Decomposition of Metal Complexes of Type MLX ₂ (M = Co(II), Cu(II), Zn(II), and Cd(II); L = DIE; X = NO ¹⁻ ₃) by TG-DTA-DTG Techniques in Air Atmosphere. Turk J Chem;32, 593 – 604. (2008)
33.	A.Sattar A.Khan, Riaz Ahmed , M.Latif Mirza, Kinetic and electrochemical studies of uranium in perchlorate and sulphate media by cyclic voltammetry. J.Chem.Soc.Pak. 30(2) 170-177, 2008.
34.	M. Arshad, Rafi-Ud-Din, Riaz Ahmed , Thermoanalytical (TG-DTA-DTG) and kinetic investigations on carbon –polymer composite Bipolar separator plate for PEFCs in air atmosphere. Proc. of the 10 th International symposium on advanced Materials, 3-7 Sept. 2007, Islamabad, Pakistan.pp.174-180.
35.	S. Z. Bajwa, Riaz Ahmed , M. S. Ansari, Studies of catalyst material for the electro-oxidation of methanol, ethanol, formaldehyde and formic acid. Proc. of the 10 th International symposium on advanced

	Materials, 3-7 Sept. 2007, Islamabad, Pakistan. Pp.160-166.
36.	A.S. A Khan, Riaz Ahmed , M.L.Mirza, Cyclic voltammetric study of electro-oxidation of methanol on platinum electrode in acidic and neutral media. The Nucleus, 44(3-4)133-142, 2007.
37.	A.Sattar A.Khan, Riaz Ahmed , M.Latif Mirza, Kinetic and electrochemical studies of uranium in acetate and formate media by cyclic voltammetry. Radiochim. Acta.95,693-699, 2007
38.	M.Saeed, S.Z.Bajwa, M.S.Ansari, Riaz Ahmed , Investigation of the Removal of Lead by Adsorption onto 1-(2-Thiazolylazo)-2-naphthol (TAN) imbedded Polyurethane Foam from Aqueous Solution. J. Chinese Chemical Society, 54,173-183, 2007
39.	Riaz Ahmed , T.Yamin, M.S. Ansari,, S.M.Hassany, Sorption behavior of Pb(II) on Haro river sand from aqueous solutions. Adsorp.Sci.Technol.24(6)475-486,2006
40.	Riaz Ahmed , T. Yamin, M.S Ansari, S. M. Hassany, Studies on sorption of cadmium (II) ions onto Haro river sand from aqueous media using radiotracer and voltammetric techniques. Radiochim. Acta 94,441-446(2006)
41.	Riaz Ahmed , Sarfraz A. Qureshi, Viqar-un-Nisa, Studies about the determination of Ascorbic Acid by Differential Pulse Voltammetry. Jour. Chem. Soc. Pak.27(2)168-173, 2005
42.	Viqar-un-Nisa, Riaz Ahmed and M.Mohammad , Levels of selected essential and toxic elements in the foodstuffs of Islamabad as analyzed by DPASV. Toxicol. Environ. Chem. 87(1-4) 67-75, 2005
43.	M. M. Saeed, S. Z. Bajwa and M. A. Ansari, R. Ahmed , Solid phase sorption of microamount of Hg (II) onto 1-(2-thiazolylazo)-2-naphthol (TAN) loaded Polyurethane Foam. Radiochim. Acta 93, 177-185 (2005)
44.	Riaz Ahmed , Studies on the Chemistry Control of Some Selected Drinking and Industrial Waters. Pak. J. Sci. Ind. Res.48 (3)174-179, 2005
45.	Riaz Ahmed, Viqar-un-Nisa, M. Hussain, R. Tanwir and S. A. Qureshi, Monitoring of fluoride and iodide levels in drinking water using ion selective electrodes. The Nucleus 41(1-4)51-58, 2004
46.	Riaz Ahmed and Sarfraz A. Qureshi, Determination of As (III) and As (V) in natural waters by differential pulse voltammetry. The Nucleus, 40(1-4) 13-17,2003
47.	Riaz Ahmed , Quality Parameters for Corrosion and Scaling Control in Industrial Waters. Publication No.123-2003. Proc.of the Seminar on "Strategies to Address the Present and Future Water Quality Issues, March 6-7,2002,Islamabad.pp.99-114
48.	Riaz Ahmed , Tayyaba Yamin, M. Shahid Ansari, Monitoring of cadmium in drinking water by voltammetry. The Nucleus.40(1-4)7-12, 2003
49.	Riaz Ahmed, Developments in Fuel Cell Technologies. Proc. of the 8th International Symposium on Advanced Materials, Islamabad, 8-11 September, 2003,pp.43-50
50.	Riaz Ahmed (ed.) Water Chemistry and Quality Control. Proc. of Training Workshop, Islamabad, NCD/L-121,pp. 1-190, July, 2000.
51.	Riaz Ahmed , Water purification and treatment. In:R.Ahmed (Ed.) Proc. of Training Workshop, Islamabad, NCD/L-121,pp. 121-133, July, 2000.
52.	Riaz Ahmed , Sampling, sample preparation and analysis of water. In:R.Ahmed (Ed.) Proc. of Training

	Workshop, Islamabad, NCD/L-121,pp. 84-102, July, 2000.
53.	Riaz Ahmed , Water chemistry of primary and secondary loops of Nuclear Reactor. In:R.Ahmed (Ed.) Proc. of Training Workshop, Islamabad, NCD/L-121,pp. 50-64, July, 2000.
54.	Riaz Ahmed , Water chemistry , in: R.Ahmed (Ed.) Proc. of Training Workshop, Islamabad, NCD/L-121,pp. 1-15, July, 2000.
55.	M. Khan, G. Bouet, R. Tanwir, Riaz Ahmed , Stability constants of thiocyanato complexes of cobalt (II), nickel (II) and copper (II) in methanol. J. Inorg. Biochem., 75,79-83(1999)
56.	R. Tanwir, S. A. Qureshi, Riaz Ahmed , Analysis of toxic metals in cataract extraction from human eyes. The Nucleus,36(3-4)221-224, 1999
57.	Viqar-un-Nisa, Riaz Ahmed , M.Mohammad, Wet digestion of milk samples for the determination of heavy and toxic metals by voltammetry. The Nucleus, 36(3-4)197-200,1999
58.	Riaz Ahmed , S. A. Qureshi, M. Hussain, Determination of cyanide in drinking and waste water by voltammetry. The Nucleus, 36(3-4)181-184, 1999
59.	Riaz Ahmed , S.A. Qureshi, M. Hussain , Determination of nitrate in drinking water by voltammetry J.Anal.& Envl. Chem.,4(2)73-77, 1999
60.	Viqar-un-Nisa, Riaz Ahmed , Determination of halides in water and waste water by Coulometry.in:J.Pickford (Ed.)Proc. of “24 th WEDC conference Sanitation and water for all” Leicestershire, U.K, 31 Aug – 4 th Sept.1998, Islamabad, pp.350-353.
61.	Riaz Ahmed , Impact of environmental pollution on the levels of lead and cadmium in drinking water from Rawalpindi-Islamabad area.in:J.Pickford (Ed.)Proc. of “24 th WEDC Conference: Sanitation and water for all” Leicestershire, U.K., 31 st . Aug. – 4 th Sept. 1998, Islamabad, pp 157-158
62.	Riaz Ahmed , Water Chemistry And Quality Control by Electrochemical Methods. Proc. of the “National Workshop on Quality Control of Drinking Water” March. 7, 1998, Islamabad.pp.
63.	Viqar-un-Nisa, Riaz Ahmed , M.Mohammad, Square wave voltammetric method for the determination of toxic metals. The Nucleus, 35(1-2), 55-63,1998.
64.	Riaz Ahmed , Viqar-un-Nisa, S. A. Qureshi M. Hussain, R. Tanwir, Quality Control of Drinking and Industrial Water. PINSTECH/NCD-116, 1-30, 1998. Pakistan Institute of Nuclear Science and Technology, Pakistan
65.	Viqar-un-Nisa, Riaz Ahmed , M.Mohammad, Levels of heavy and toxic metals (Zn, Cd, Pb,&Cu) in food materials. Proc. of the “3 rd Natl.Symp. on Environmental pollution “Feb. 24-26,1997, Islamabad, pp. 237-242.
66.	Roomina Tanwir, Riaz Ahmed , M. Zafar Iqbal, Complex formation studies of toxic metal lead with oxalate in aqueous systems and determination of heir stability constants. Proceedings of the “3 rd Natl. Symp. On Environmental Pollution” Feb 24-26, 1997, Islamabad, pp. 375-379.
67.	Riaz Ahmed Development of Electrochemical Sensors for the Determination of Toxic Gases. Proc. of the “3 rd Natl. Symp. On Environmental Pollution” Feb.24-26, 1997, Islamabad, pp. 159-163.
68.	Riaz Ahmed , Cost-effective and simple solutions of Environmental Pollution by Electrochemical Methods. Proc. of the “3 rd National Symp. On Environmental Pollution” Feb.24-26, 1997, Islamabad, pp. 347-353.

69.	Riaz Ahmed , Mazhar Hussain, Determination of trace metals in natural waters by differential pulse anodic stripping voltammetry. The Nucleus ,33(1-2) 95-100,1996
70.	N.Ashraf, N.Khatoon, D.Mohammad. RiazAhmed , M.Ishaque, S.Shabbar Hussain and A.Majid Khan Preparation of Human Hair Standard Reference Materials for Mercury and Methyl Mercury. Proc.Natl.Symp. "Spectroscopy for Material Analysis, April 4-6, 1995, Islamabad. pp.483-487
71.	Viqar-un-Nisa, Riaz Ahmed , M. Mohammd. Comparison Studies between voltammetry and atomic absorption spectroscopy for the analysis of trace metals in biological materials. Proc.Natl.Symp. "Spectroscopy for material analysis", April 4-6, 1995, Islamabad pp.427-429
72.	Roomina Tanwir, Riaz Ahmed , M.Zafar Iqbal, Determination of Pb, Cd, Cu, and Zn in Environmental samples by atomic absorption spectrophotometry. Proc.Natl.Symp. "Spectroscopy for material analysis", April 4-6, 1995, Islamabad. pp.149-154
73.	Riaz Ahmed , Determination of mercury and methylmercury in environmental samples by cold vapour atomic absorption spectrophotometry. Proc.Natl.Symp "Spectroscopy for material analysis", April, 4-6,1995, Islamabad pp.491.
74.	Riaz Ahmed , M.Stoeppler, Levels of heavy metals in owl's feathers and atmospheric pollution. Pak. J. Sci. Ind. Res.37(5)179,1994.
75.	Viqar-un-Nisa, Riaz Ahmed , M.Mohammad, Determination of heavy and toxic metals Zn, Cd, Pb and Cu in vegetables by voltammetry. Pak. J. Sci. Ind. Res. 37(1-2)33,1994.
76.	Roomina Tanwir, Riaz Ahmed , Determination of toxic metal lead in surma by differential pulse anodic stripping voltammetry. J. Envl. & Anal. Chem; 2(1),55-59, 1993.
77.	Roomina Tanwir, Riaz Ahmed , Determination of Cd,Pb,Cu and Zn in soil and sludge samples by voltammetry. Pak. J. Sci. Ind.Res.36(6-7) 232. 1993.
78.	Viqar-un-Nisa , Riaz Ahmed , Decomposition of vegetables for determination of Zn, Cd, Pb and Cu by stripping voltammetry. Mikrochim. Acta. 106,137-141, 1992.
79.	Riaz Ahmed , Electroanalytical techniques. In: M.N.Cheema, M.M.Saeed (eds.) Current Trends in Analytical Chemistry. Report NCD/L-111, 195-207, 1991. Pakistan Institute of Nuclear Science and Technology, Pakistan
80.	Riaz Ahmed , Sampling and sample preparation. In: M.N.Cheema, M.M.Saeed (eds.) Current trends in Analytical Chemistry. Report NCD/L-111, 1-14, 1991. Pakistan Institute of Nuclear Science and Technology, Pakistan
81.	N. Khalid, S. Rehman, Riaz Ahmed , I. H. Qureshi, Concentration of Nickel in edible fats. Pak. J. Sci. Ind. Res. 34 (4) 155-157, 1991.
82.	Viqar-un-Nisa, Riaz Ahmed , M. Mohammad, Studies about the distribution of heavy and toxic metals in some selected materials by voltammetry. Proc.of the Second National Chemistry Conference at Karachi. Dec.28-31, 1990. PP-77-79.
83.	M. Zubair Sadiq, Riaz Ahmed , Shamim A. Chaudhri, Determination of trace metal impurities in uranium. Proc.of the Second National Chemistry Conference at Karachi. Dec.28-31, 1990. PP-70-73.
84.	Roomina Tanwir , Riaz Ahmed , Determination of heavy and toxic metals (Cd, Pb, Cu and Zn) in soil by differential pulse anodic stripping voltammetry. Proc. of the Second National Chemistry Conference

	at Karachi. Dec.28-31, 1990. PP.73-76.
85.	S. Rehman, N. Khalid, Riaz Ahmed , I.H. Qureshi, Determination of Lead and Cadmium In pulses and cereals by Atomic Absorption Spectrophotometry. Pak. J. Sci. Ind. Res. 33 (3) 85-88, 1990.
86.	Riaz Ahmed , Environmental pollution control studies of toxic metals by voltammetry PINSTECH/NCD-114, PP.1-51, 1990. Pakistan Institute of Nuclear Science and Technology, Pakistan
87.	Riaz Ahmed , Viqar-un-Nisa, Roomina Tanwir , Shamim A.Chaudhri, Chemical characterization of Nuclear and pure materials. Proc. of "National Symposium on Modern Trends in Contemporary Chemistry" Islamabad, March 6-8, 1990.PP. 159- 167.
88.	Riaz Ahmed , Roomina Tanwir , Viqar-un-Nisa, Voltammetric trace analysis of metals. Proc. of First National Conference on Chemistry, Peshawar, Oct. 8-10, 1989.pp 109-122.
89.	Riaz Ahmed , Viqar-un-Nisa, Simultaneous determination of Cd, Pb, Cu, and Zn in different materials using differential pulse anodic stripping voltammetry. Pak.J. Sci. Ind. Res.32(9) 639-642, 1989.
90.	Riaz Ahmed , Sarfraz A.Qureshi , Mazhar Hussain, Polarographic analysis of uranium in: M.N.Cheema, M.Tufail (eds.) Uranium, tested analytical methods. Report NCD/p-109, 30-34,1989. Pakistan Institute of Nuclear Science and Technology, Pakistan
91.	Riaz Ahmed , Sarfraz A. Qureshi, Polarographic determination of oxygen to uranium ratio in uranium oxides. NCD/p-108, 1-22, 1989. Pakistan Institute of Nuclear Science and Technology, Pakistan
92.	Viqar-un-Nisa, Roomina Tanwir , Riaz Ahmed , Potentiometric determination of uranium. In: M.N. Cheema, M.Tufail (eds.) Uranium, tested analytical methods. Report NCD/P-109, 22-25, 1989. Pakistan Institute of Nuclear Science and Technology, Pakistan
93.	Riaz Ahmed , Shamim A. Chaudhri, Simultaneous potentiometric determination of free acid and uranium. In: M.N.Cheema, M.Tufail (eds) Uranium, tested analytical methods. Report NCD/P-109, 26-29, 1989. Pakistan Institute of Nuclear Science and Technology, Pakistan
94.	Riaz Ahmed , Viqar-un-Nisa , Roomina Tanwir, Trace analysis of Cd, Cu, Pb and Zn in various materials using differential pulse anodic stripping voltammetry. PINSTECH/NCD-113,1-29,1988. Pakistan Institute of Nuclear Science and Technology, Pakistan
95.	Riaz Ahmed , H.W.Durbeck, M.Stoeppler , H.W.Nurnberg, Gas Liquid chromatographic analysis of Methylmercury in fish and its comparison with total mercury. Pak. J. Sci. Ind. Res. 31(8)535-540,1988.
96.	Riaz Ahmed , Iqbal H. Qureshi, Nasir Khalid , Suhela Rahman, Measurement of lead and cadmium in milk and mercury in fish. In: M. Ataur Rahman (ed) Biochemistry for development, Shamim Printing Press, Karachi, 1988, pp. 213-223.
97.	Riaz Ahmed , M.Stoeppler, Storage and stability behaviour of mercury and methylmercury in sea water. Anal. Chim. Acta. 192, 109-113, 1987.
98.	Riaz Ahmed , K. May, M. Stoeppler, Wet deposition of mercury and Methylmercury from the atmosphere. Sci. Total Environ . 60,249-61, 1987.
99.	Riaz Ahmed , Karl May , Markus Stoeppler, Ultratrace analysis of mercury and Methylmercury (MM) in rain water using cold vapour atomic absorption spectrometry. Fresenius Z. Anal.Chem. 326, 510-16, 1987.
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• **Papers Presented.**

1.	<p>Riaz Ahmed Nano-composite catalysts for the long term durability of Proton Exchange Membrane Fuel Cells. (Invited Paper) International Workshop on Energy Materials and Nanotechnology (EMNT-2018)” 15-16 August 2018 , Abbotabad, Pakistan</p>
2.	<p>Riaz Ahmed Development of Materials and Fabrication of Stacks For Polymer Electrolyte Membrane Fuel Cells.(Invited Paper) Paper presented in the 2nd International Conference on Impact of Nanoscience on Energy Technologies (Nano-SET 2017)“ from 25-27 October, 2017,Lahore, Pakistan</p>
3.	<p>Riaz Ahmed Polymer Electrolyte Membrane Fuel Cell Energy Systems For Sustainable Development. An Overview. (Invited Paper)Paper presented in the International Conference. and Exhibition on Renewable Energy Technologies, 18-20 Oct. 2016, Islamabad, Pakistan.</p>
4.	<p>Riaz Ahmed, Developments in Fuel Cells (Invited Lecture). Paper presented in the Consultative Meeting - Strategy Planning For Promotion of Chemical Sciences in OIC Member States, 26-27 November, 2014, COMSTECH, Islamabad</p>
5.	<p>Asad Mumtaz; Asfand Yar; Riaz Ahmad; Shahid Ansari; Norani Muti Mohamed Electrochemical Study of the Pt and Pt-Ni upon Multiwalled Carbon Nanotubes Paper presented in “The 3rd International Conference on Process Engineering and Advanced Materials (ICPEAM-2014), June 03 - 05, 2014,, Kuala Lumpur, Malaysia.</p>
6.	<p>Riaz Ahmed Nano materials in polymer electrolyte membrane (PEM) fuel cell technology (Plenary paper) Paper presented in the International Conference on Impact of Nanoscience on Energy Technologies (NanoSET-2014), 18-20 March, Lahore, 2014</p>
7.	<p>Riaz Ahmed Electrochemical Energy Systems: A viable solution to energy and pollution problems (Popular Lecture) Paper presented in the 5th Chemistry Conference 2013 on “Chemistry in Engineering and life Science” Nov. 4-6, PINSTECH, PAEC, Islamabad.</p>
8.	<p>Rabia Jamil, Riaz Ahmed, Muhammad Shahid Ansari, Akhtar Hussain, A density functional theory (DFT) study of CO adsorption on nanoparticles of Pt_m-Ni_n alloy , Paper presented in the Conference on Emerging Materials and Processes (CEMP 2013) Aug. 22nd-24th, 2013 at SCME, NUST, Islamabad.</p>
9.	<p>Ambreen Shahzadi, Riaz Ahmed, Muhammad Siddiq, Preparation and characterization of heterogeneous cation exchange nanocomposite membranes for polymer electrolyte membrane fuel cells. Paper presented in the Conference on Emerging Materials and Processes (CEMP 2013) Aug. 22nd-24th, 2013 at SCME, NUST, Islamabad.</p>

10.	Ambreen Shahzadi, Riaz Ahmed , Muhammad Siddiq, Synthesis and characterization of TiO ₂ , ZrO ₂ , WO ₃ nano-particles embedded in mesoporous silica by sol-gel method. Paper presented in the 13 th International Symposium on Advanced Materials,(ISAM 2013) 23 rd to 27 th Sept, 2013, Islamabad.
11.	Riaz Ahmed Development of Materials and Components for Polymer Electrolyte Membrane Fuel Cells (Invited Lecture). Paper presented in the Symposium on hydrogen and Fuel Cells, July 9-11, 2012, Quaid-i-Azam University, Islamabad, Pakistan.
12.	Riaz Ahmed , M.A. Raza, A. Saleem Materials and manufacturing of bipolar plates for PEMFC Paper presented in the Symposium on hydrogen and Fuel Cells, July 9-11, 2012, Quaid-i-Azam University, Islamabad, Pakistan.
13.	Riaz Ahmed , Abdul Sattar Ali Khan, M. Latif Mirza Manufacturing and testing of polymer electrolyte membrane fuel cells Paper presented in the Symposium on hydrogen and Fuel Cells, July 9-11, 2012, Quaid-i-Azam University, Islamabad, Pakistan.
14.	Shahid Ali, Riaz Ahmed and Muhammad Shahid Ansari. Synthesis and characterization of Ni@Pt core-shell nanoparticles on multi-walled carbon nanotubes for direct methanol fuel cells Paper presented in the 3 rd International Conference on Fuel Cells and Hydrogen Technology ,Nov.22-23,2011, Kuala Lumpur, Malaysia.
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