Curriculum Vitae

Azam Anaraki Firooz

Associate professor
Head of chemistry department
Fuel cell research Laboratory, chemistry department, Shahid Rajaee Teacher Training University, Tehran, Iran.
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❖ Qualification Summary:

Knowledge and Experience on:
Catalysis and Nano-Structured materials: Synthesis, Characterization and Application
Chemical sensors, synthesis of metal oxide semiconductors as chemical sensor,
Photocatalyst, synthesis of metal oxide semiconductors as photocatalyst
Fuel cell, synthesis of metal oxide semiconductors as electrocatalyst at low temperature
Chemistry education: Green chemistry, learning, misconception, concept map, creativity, experiment design,

…

- Design and construct of photocatalyst setup.
- Catalyst and nanostructured materials; preparation, testing and characterization by XRD, BET, SEM, TEM, EDX, FT-IR,…

Awards:

First degree between PhD Inorganic Chemistry Students in Tarbiat Modares University, 2005.

Awarded by Ministry of Science and Technology for sabbatical to Japan, 2009

❖ Education

Ph.D. in Inorganic chemistry, University of Tarbiat Modares University, Tehran, Iran, 2010

Title:. ***The effect of morphology and additives on sensing and catalytic functions of SnO_2 nanostructures***

M.Sc. in Inorganic chemistr, University of Tarbiat Modares University, Tehran, Iran, 2006

Title: *Synthesis and characterization of some N-carbonyl phosphor amidates*

Articles:

1. RA Mirzaie, AA Firooz, P Ghorbani,The effect of reaction layer composition on Pt/NiO function for glucose oxidation reaction in neutral media, Materials Science and Engineering: C, 111061, 2020.
2. A Anaraki Firooz, M Keyhani, The Effect of Different Dopants (Cr, Mn, Fe, Co, Cu and Ni) on Photocatalytic Properties of ZnO Nanostructures International Journal of Nanoscience and Nanotechnology 16 (1), 59-65, 2020
3. RA Mirzaie, AA Firooz, M Bakhtiari, Highly Efficient Electrocatalyst of Pt Electrodeposited on Modified Carbon Substrate with Ni/ZnO for Methanol Oxidation Reaction, Journal of Electronic Materials 48 (5), 2971-2977, 2019
4. Alireza Mahjoub Azam Anaraki Firooz, The effect of different additives on sensing properties of tin dioxide, Journal of applied research in chemistry 12 (4), 5-18, 2019.
5. S. Mirzaei, A.Anaraki Firooz, R. Abdullah Mirzaei, The effect of green chemistry education based on practical activity on learning and attitude of pre-service chemistry teachers, Journal of technology education 13 (2), 349-361, 2019.
6. R Abdullah Mirzaie, A Anaraki Firooz, M Bakhtiari, Electrochemical evaluation of electrodeposited platinum on modified carbon substrate with cobalt, nickel and copper doped zinc oxide for the methanol oxidation reaction, Iranian Journal of Hydrogen & Fuel Cell 5 (1), 49-55, 2018.
7. Azam Anaraki Firooz, RA Mirzaie, F Kamrani, Effect of Morphological ZnO Nanostructures on the Optical and Decolorization Properties, Journal of Structural Chemistry 59 (3), 739-743, 2018.
8. Azam Anaraki Firooz, Mo-Doped SnO2 Nanoparticles: A Case Study for Selective Epoxidation of Cycloocten, International Journal of Nanoscience and Nanotechnology 14 (2), 159-163, 2018.
9. M Ghalkhani, J Beheshtian, B. Hosseini nia, Azam Anaraki Firooz, Synthesis of undoped and Fe nanoparticles doped SnO2 nanostructure: study of structural, optical and electrocatalytic properties, Journal of Materials Science: **Materials in Electronics** 28 (11), 7568-7574, 2017.
10. A Anaraki Firooz, MH Darvishnejad, Biomorphic ZnO structures: Synthesis and optical properties, Inorganic and Nano-Metal Chemistry 47 (3), 412-415, 2017.
11. Azam Anaraki Firooz, BH Nia, J Beheshtian, M Ghalkhani, Voltammetric Sensor Based on Fe-doped ZnO and TiO2 Nanostructures-modified Carbon-paste Electrode for Determination of Levodopa, Journal of Electronic Materials, 1-7, 2017.
12. Azam Anaraki Firooz, A Akbari, Highly sensitive CO sensors based on star-like ZnO nanostructures, **Journal of Materials Science**: Materials in Electronics 27 (11), 11488-11494, 2016.
13. A Anaraki Firooz, M Ghalkhani, J Beheshtian, Experimental study of the effect of undoped ZnO, Fe and Mn doped ZnO nanostructures and the electrochemical response of the nanostructured modified carbon paste electrode, Iranian Chemical Communication 4, 483-492, 2016.
14. A Anaraki Firooz, A low temperature hydrothermal synthesis of ZnO doped SnO2 nanoparticles with high photocatalytic activity, International Journal of Nanoscience and Nanotechnology 12 (1), 1-5, 2016.
15. MH Darvishnejad, Azam Anaraki Firooz, J Beheshtian, AA Khodadadi, Highly sensitive and selective ethanol and acetone gas sensors by adding some dopants (Mn, Fe, Co, Ni) onto hexagonal ZnO plates, Rsc Advances 6 (10), 7838-7845, 2016.

16. M Gholami, AA Khodadadi, AAnaraki Firooz, Y Mortazavi, In2O3–ZnO nanocomposites: High sensor response and selectivity to ethanol, **Sensors and Actuators B: Chemical** 212, 395-403, 2015.
17. A Banisharif, AA Khodadadi, Y Mortazavi, AA Firooz, J Beheshtian, ..., Highly active Fe2O3-doped TiO2 photocatalyst for degradation of trichloroethylene in air under UV and visible light irradiation: experimental and computational studies, **Applied Catalysis B: Environmental** 165, 209-221, 2015.
18. A Akbari, AAnaraki Firooz, J Beheshtian, AA Khodadadi, Experimental and theoretical study of CO adsorption on the surface of single phase hexagonally plate ZnO, **Applied Surface Science** 315, 8-15, 2014.
19. RA Mirzaie, AAnaraki Firooz, F Kamrani, AA Khodadadi, Highly efficient MoO 2.5 (OH) 0.5-doped ZnO nanoflower for photodecolorization of azo dye, **Solid State Sciences** 26, 9-15, 2013.
20. A Banisharif, S Hakim Elahi, A Anaraki Firooz, A A Khodadadi, ...,International Journal of Nanoscience and Nanotechnology 9 (4), 193-202, 2013.
21. A Anaraki, Effect of different morphologies of nanostructured SnO2 and their nanocomposites on sensing behavior, JOURNAL OF MATHEMATICAL NANOSCIENCE 3 (1), 13-16, 2013.
22. M Sabbaghan, AAnaraki Firooz, VJ Ahmadi, The effect of template on morphology, optical and photocatalytic properties of ZnO nanostructures, Journal of Molecular Liquids 175, 135-140, 2012.
23. H Fatemi, AA Khodadadi, AA Firooz, Y Mortazavi, Apple–biomorphic synthesis of porous ZnO nanostructures for glucose direct electrochemical biosensor,**Current Applied Physics** 12 (4), 1033-1038, 2012.
24. RA Mirzaie, F Kamrani, AA Firooz, AA Khodadadi, Effect of α-Fe2O3 addition on the morphological, optical and decolorization properties of ZnO nanostructures**, Materials Chemistry and Physics** 133 (1), 311-316, 2012.
25. S Hemmati, AA Firooz, AA Khodadadi, Y Mortazavi, Nanostructured SnO2–ZnO sensors: Highly sensitive and selective to ethanol, **Sensors and Actuators B: Chemical** 160 (1), 1298-1303, 2011.
26. AA Firooz, AR Mahjoub, AA Khodadadi, M Movahedi, High photocatalytic activity of Zn2SnO4 among various nanostructures of Zn2xSn1− xO2 prepared by a hydrothermal method**, Chemical engineering journal** 165 (2), 735-739, 2010.
27. BM Matin, Y Mortazavi, AA Khodadadi, A Abbasi, AA Firooz, Alkaline-and template-free hydrothermal synthesis of stable SnO2 nanoparticles and nanorods for CO and ethanol gas sensing, **Sensors and Actuators B: Chemical** 151 (1), 140-145, 2010.
28. AA Firooz, AR Mahjoub, AA Khodadadi, A Shahrjerdi, Highly sensitive tin oxide hollow microspheres and nanosheets to ethanol gas prepared by hydrothermal method, Journal of nanoscience and nanotechnology 10 (9), 6049-6055, 2010.
29. AA Firooz, AR Mahjoub, AA Khodadadi, Fabrication and highly sensitive gas sensors based on h-MoO3/SnO2 hollow nanostructures operated at low temperatures, Journal of nanoscience and nanotechnology 10 (9), 6155-6160, 2010.
30. AA Firooz, T Hyodo, AR Mahjoub, AA Khodadadi, Y Shimizu, Synthesis and gas-sensing properties of nano-and meso-porous MoO3-doped SnO2, **Sensors and Actuators B: Chemical** 147 (2), 554-560, 2010.
31. AA Firooz, AR Mahjoub, AA Khodadadi, Highly sensitive CO and ethanol nanoflower-like SnO2 sensor among various morphologies obtained by using single and mixed ionic surfactant templates, **Sensors and Actuators B: Chemical** 141 (1), 89-96, 2009.
32. AA Firooz, AR Mahjoub, AA Khodadadi, Effects of flower-like, sheet-like and granular SnO2 nanostructures prepared by solid-state reactions on CO sensing, Materials Chemistry and Physics 115 (1), 196-199, 2009.

33. AA Firooz, AR Mahjoub, AA Khodadadi, Preparation of SnO2 nanoparticles and nanorods by using a hydrothermal method at low temperature , Materials Letters 62 (12-13), 1789-1792, 2008.
34. K Gholivand, AM Alizadehgan, F Mojahed, AA Firooz, Synthesis & Spectral Characterization of Some New Carbacylamidophosphate Derivatives. Crystal Structures of CCl 3 C (O) NHP (O)[NH (C 5 H 9)] 2 and CH 3 C 6 H 4 C (O) NHP (O.., South African Journal of Chemistry 60, 91–101, 2007.
35. K Gholivand, AM Alizadehgan, S Arshadi, AA Firooz, Conformational, structural analysis and vibrational spectra of a new carbacylamidophosphate compound: Experimental and theoretical study, Journal of molecular structure 791 (1), 193-200, 2006.
36. K Gholivand, AM Alizadegan, AA Firooz, K Khajeh, H Naderi-manesh, ..., Anticholinesterase activity of some major intermediates in carbacylamidophosphate synthesis: preparation, spectral characterization and inhibitory potency determination, Journal of enzyme inhibition and medicinal chemistry 21 (1), 105-111, 2006.
37. RPD Kh. Gholivand, C.O. Della Vedova, ,A. Anaraki Firooz, A. Madani ..., Syntheses, crystal structure and ab initio calculations of two new phosphoric triamides, Journal of Molecular Structure 750 (1-3), 64-71, 2005.

International Conferences:

1. International catalysis conferences, Tehran, Iran, 2006.
2. International conferences of nano in Tehran university, Iran, 2007.
3. International Karlsruhe Nanoscience Workshop, Germany, 2007.
4. 1st International Conference From Nanoparticles and Nanomaterials to Nanostructures and Nanodevices, Greec, 2008.
5. Nanotech insight conference, espain, 2009.
6. 2th International conferences on nanostructures, Kish, Iran, 2008.
7. 2nd International congress on nanoscience& nanotechnology, Tabriz, Iran, 2008.
8. 1st International congress on nanotechnology and its applicationsin petroleum gas and petrochemical industries, Tehra, Iran, 2008.
9. 3th International conferences on nanostructures, Kish, Iran, 2010.
10. Nanotech India, cochi, India, 2010.
11. 3rd International Conference on Ultrafine and Nanostructured Materials, Tehran, Iran, 2010.
12. International conference of Energy and Environment, venice, Italy, 2011.
13. 2th International Conference on Bio-Sensing Technology, Amesterdam, Neatherlands, 2011.
14. 4rd International Conference on Ultrafine and Nanostructured Materials, Tehran, Iran, 2013.
15. 2nd International Conference on Modern Applications of Nanotechnology, Minsk, Belaruse, 2014.
16. Nanostructures: Fundamental and applications, Kosic, oslovaky, 2015.
17. *67th* Annual Meeting of the International Society of Electrochemistry, Denhaug, Neatherlands, 2016.

18. ٢٠th international conference on advanced nanotechnology , Amesterdam, Neatherlands, 2017
19. 3rd International Conference on Green Energy Technology, Amesterdam, Neatherlands, 2018.
20. S Alirezaei, Z Bagheri, AA Khodadadi, AA Firooz, P2NG. 21-Ni-doped ZnO sensors for highly selective detection of acetone, Proceedings IMCS 2018, 884-885

Referees:

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