

Dr. Nasrin Oroujzadeh



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Education:

Ph.D. 2004-2009 in Inorganic Chemistry, Tarbiat Modares University, Tehran, Iran
M.Sc. 2001-2003 in Inorganic Chemistry, Tarbiat Modares University, Tehran, Iran
B.Sc. 1995-1999 in Applied Chemistry, Isfahan University of Technology, Isfahan, Iran

Positions & Membership of relevant organizations/associations

2015- Present Evaluation Council member of Iranian Research Organization for Science and Technology (IROST)
2004-2006 Secretary of the Association of Students of College of Basic Sciences, Tarbiat Modares University

Research Interest

- 1) Organophosphorous compounds (specially Phosphoramides , Phosphoesters...) :
Synthesis, Spectroscopic Studies, Crystal Structure Determination, Complex Preparation, Quantum Calculations and Biological Effects Consideration

- 2) Nanocomposites and nanoparticles : *synthesis and applications*
- 3) Metal Complexes: *synthesis and applications*
- 4) Quantum Chemical Calculations
- 5) Catalysts and nano Catalysts : *synthesis and applications*
- 6) Bitumen and pavement

Research Projects

1. Investigating the effect of phosphorus-based amino amide compounds on the durability of asphalt mixtures, **2017**, IROST, Tehran, Iran
2. Synthesis of new biopolymeric nano-composite to remove pollutants from polluted waters, **2016**, IROST, Tehran, Iran
3. Asphalt improvement studies of southern Kerman roads' network, **2016**, IROST, Tehran, Iran
4. Zoning of the Boushehr province on the basis of bitumen performance grade, **2016**, IROST, Tehran, Iran
5. Guidelines codification for technical specifications and implementation of Warm, Chipseal Dressing and Microsurfacing Dressing asphalts, **2016**, IROST, Tehran, Iran
6. Fabrication of novel magnetic nanocomposites containing N-Nicotinyl Phosphoramidic compounds based on chitosan for removal of Cu(II) ions and bacteria from contaminated water, **2015**, IROST, Tehran, Iran
7. Analysis of factors affecting the operation of Hot Mix Asphalt (HMA) and guidelines for their producing and operating, **2015**, IROST, Tehran, Iran
8. Synthesis and characterization of novel phosphoramidate nanoparticles containing nicotinamide group, **2015**, IROST, Tehran, Iran

9. Quantum Chemical calculations on physical sorption of cyclophosphamide drug nano particles on the surface of fullerene and its derivatives, **2014**, Amirkabir University of Technology, Tehran, Iran
10. New Phosphoramidate and phosphorester Derivatives: Synthesis, Spectroscopic Study, Crystal Structure determination and Biological effects consideration, **2009**, Tarbiat Modares University, Tehran, Iran
11. Reaction of POCl_3 with some Amides and Amines, **2003**, Tarbiat Modares University, Tehran, Iran

Collaborations

1. Anodic electro catalysis for low temperature solid oxide fuel cells, Iranian National Science Foundation, INSF, 90006825, **2014**, IROT Tehran, Iran
2. Biological study of new phosphoramidate compounds, **2008**, Islamic Azad University, Garmsar Branch, Garmsar, Iran.

Teaching Experiences

- Surface Chemistry, for Ph.D. level
- Bioinorganic Chemistry, for Ph.D. level
- Catalysts, for Ph.D. level
- New topics in Inorganic Chemistry, for Ph.D. level
- New topics in Nano Chemistry, for M.Sc. level
- Inorganic Chemistry I, for B.Sc. level
- General Chemistry I, for B.Sc. level
- General Chemistry II, for B.Sc. level
- General Chemistry lab, for B.Sc. level
- Inorganic Chemistry lab, for B.Sc. level

Journal Papers:

1. **Nasrin Oroujzadeh**, Hamid Sabbagh, " Increasing the Durability of Asphalt Mixture against Moisture (A case study in IRAN) ", *Indian Journal Science and Technology*, Accepted.
2. **Nasrin Oroujzadeh**, khodayar Gholivand, Negin R. Jamalabadi, "New Carbacylamidophosphates containing Nicotinamide: Synthesis, Crystallography and antibacterial activity", *Polyhedron*, 122, **2017**, 29–38
3. **Nasrin Oroujzadeh**, Shahin Rezaei, " New Nano Composite of N-nicotinyl,N',N''-bis(tert-butyl)Phosphorictriamide Based on Chitosan: Fabrication and Antibacterial Investigation ", *Phosphorus, Sulfur, and Silicon and the Related Elements*, 191(11-12), **2016**, 1572-1573
4. **Nasrin Oroujzadeh**, Elham Delpazir, "Ultrasonic down to up and up to down method to synthesize nano particles of N-nicotinyl phosphorictriamide ", *Phosphorus, Sulfur, and Silicon and the Related Elements*, 191(11-12), **2016**, 1467-1469
5. **Nasrin Oroujzadeh**, Shahin Rezaei, " Fabrication of a novel magnetic nanocomposite to remove Cu(II) ions from contaminated water ", *Phosphorus, Sulfur, and Silicon and the Related Elements*, 191(11-12), **2016**, 1501-1503
6. **Nasrin Oroujzadeh**, Khodayar Gholivand, " Conformational and structural study of N-nicotinyl N',N''-bis(diisobutyl amine)phosphoric triamide", *Phosphorus, Sulfur, and Silicon and the Related Elements*, 191(9) **2016**, 1274-1279
7. **Nasrin Oroujzadeh**, Khodayar Gholivand, " New Organophosphorus Compounds Containing Nicotinamide: Synthesis, Structure and DFT calculations", *J. IRAN. CHEM.SOC(JICS)*, 13, **2016**, 847-857
8. Khodayar Gholivand, Foroogh Molaei, **Nasrin Oroujzadeh**, Rezvan Mobasseri, Hossein Naderimanesh, " Two novel Ag(I) complexes of N-nicotinyl phosphoric triamide

derivatives: synthesis, X-ray crystal structure and in vitro antibacterial and cytotoxicity studies ", *Inorganica Chimica Acta*, 423, **2014**, 107-116

9. Khodayar Gholivand, Zahra Shariatinia, **Nasrin Oroujzadeh**, " Phosphoramides: synthesis, spectroscopy, X-ray crystallography", *Heteroatom chemistry*, 24(5), **2013**, 404-412.
10. **Nasrin Oroujzadeh**, Khodayar Gholivand, Zahra Shariatinia, " The spectroscopy and structure of new diazaphospholes and diazaphosphorinanes", *Phosphorus, Sulfur, and Silicon*, 188, **2013**, 183–191.
11. Khodayar Gholivand, **Nasrin Oroujzadeh**, Maryam Rajabi, "Novel N-nicotinyl and N-isonicotinyl, N,N -di aryl phosphorictriamides with new Er(III) complex (Synthesis, spectroscopic study and crystal structures)", *Journal of Iranian Chemical Society*, 9, **2012**, 865-876 .
12. Khodayar Gholivand, **Nasrin Oroujzadeh**, Zahra Shariatinia, " The first polymorph for a phosphoramidate; chlorine substituents effects investigation in new phosphoric triamides", *Heteroatom chemistry*, 21(3), **2010**, 168-180.
13. Khodayar Gholivand, **Nasrin Oroujzadeh**, Farzaneh Afshar" New organotin(IV) complexes of Nicotinamide , Isonicotinamide and some of their novel phosphorictriamide derivatives; syntheses, spectroscopic study and crystal structures", *J. Organomet. Chem*, 695, **2010**, 1383-1391.
14. Khodayar Gholivand, **Nasrin Oroujzadeh**, Zahra Shariatinia, "New N-2,4-Dichlorobenzoyl phosphoric triamides; Synthesis, Spectroscopic Characterization and X-ray Crystallography", *Journal of chemical science*, 122(4), **2010**, 549-559.
15. Khodayar Gholivand, **Nasrin Oroujzadeh**, Mauricio F. Erben , Carlos O. Della Védova

- "Synthesis, spectroscopy, computational study and prospective biological activity of two novel 1,3,2-diazaphospholidine-2,4,5-triones ", *Polyhedron*, 28 , **2009**, 541.
16. Khodayar Gholivand, **Nasrin Oroujzadeh**, "New N-nicotinyl and N-2,4-dichlorobenzoyl phosphoric triamides: syntheses, spectroscopic study and crystal structures", *Main Group Chemistry*, 7(4), **2008**, 251.
17. Khodayar Gholivand, Hossein Mostaanazadeh, Zahra Shariatinia, **Nasrin Oroujzadeh**, "Syntheses, crystal structures and dynamic ¹H NMR study of diastereotopic CH₂ protons in several new phosphoric triamides", *Main Group Chemistry*, 5 (2), **2006**, 95.

Conference Papers:

1. **N. Oroujzadeh**, H. Sabbagh , " Compacting of hot asphalt mixtures by oscillation technology ", The Second International and the fourth national Conference of Architecture , Construction and Urban Environment, 20 June, 2016, Hamedan, Iran.
2. **Nasrin Oroujzadeh** , Shahin Rezaei, " Fabrication of a novel magnetic nanocomposite to remove Cu(II) ions from contaminated water", The 21st International Conference on Phosphorous Chemistry, 5-10 June, 2016, Kazan, Russia(Lecture).
3. Elham Delpazir , **Nasrin Oroujzadeh** , " Novel Nano particles of N-nicotinyl, N , N - bis(piperidinyl)Phosphoric triamide: Synthesis, characterization and evaluation Anti-bacterial effects", The 21st International Conference on Phosphorous Chemistry, 5-10 June, 2016, Kazan, Russia
4. **Nasrin Oroujzadeh** , Shahin Rezaei, "Fabrication and antibacterial activities of a novel nanocomposite containing N-Nicotinyl Phosphoric triamide ", The 21st International Conference on Phosphorous Chemistry, 5-10 June, 2016, Kazan, Russia

5. Elham Delpazir , **Nasrin Oroujzadeh** , " Ultrasonic down to up and up to down method to Synthesize Nano particles of two N-nicotinyl Phosphorictriamide ", The 21st International Conference on Phosphorous Chemistry, 5-10 June, 2016, Kazan, Russia
6. **N. Oroujzadeh**, H. Sabbagh , " The use of recycled broken glass in the asphalt of Tehran", 3rd International congress on Civil Engineering, Architecture and urban Development, 29-31December, 2015, Tehran, Iran
7. **N. Oroujzadeh**, H. Sabbagh , " Performance Evaluation of GTR/PPA Modified Bitumen", International conference on Civil Engineering, Architecture and urban infrastructure, 29-30 July, 2015, Tabriz, Iran
8. **N. Oroujzadeh**, H. Sabbagh , "An Experimental Investigation on the Influence of Hydrated Lime on Asphalt Mixtures (CaseStudy In IRAN)" 6th International Conference Bituminous Mixtures and Pavements, 1-3 June, 2015, Thessaloniki, Greece (Lecture).
9. **Nasrin Oroujzadeh**, Elham Delpazir, "Novel Nano Rods of N-icotinyl,N,N - bis(hexamethylenyl)Phosphorictriamide", The International Nanotech & NanoScience Conference & Exhibition , 15-17 June, 2015, Paris, France(Lecture).
10. **Nasrin Oroujzadeh**, Elham Delpazir , Zahra Shariatinia, " Synthesis and characterization of a Novel N-Nicotinyl N', N''-bis (N-methylenylcyclohexyl) phosphoric triamide nano compound", National Conference on Application of Chemical Science in Chemical, Pharmaceutical Industries and Environment, 25,26 February, 2015, Ahar, Iran (Lecture).
11. **Nasrin Oroujzadeh** , Shahin Rezaei, " Synthesis and characterization of a novel nanocomposite film of Chitosan/N-Nicotinyl phosphoramidate/ Fe₃O₄ NPs", National Conference on Application of Chemical Science in Chemical, Pharmaceutical Industries and Environment, 25,26 February, 2015, Ahar, Iran (Lecture).
12. **Nasrin Oroujzadeh** , Shahin Rezaei, Mohammad Hassan Armanmehr" Synthesis and characterization of a novel biopolymer nanocomposite film containing N-Nicotinyl phosphoramidate and Fe₃O₄ NPs", National Conference on Application of Chemical

Science in Chemical, Pharmaceutical Industries and Environment, 25,26 February, 2015, Ahar, Iran

13. **N. Oroujzadeh**, H. Sabbagh, "The Role of Road Pavement Management System(PMS) in sustainable transport of Metropolises" The international Urban Management Congress, 19-20 November, 2014, Sari, Iran.
14. **N. Oroujzadeh**, H. Sabbagh , S. Foroutan, " Durability Increasing and Fatigue Reducing of Asphalt mixtures by Adding Hydrated Lime Filler (case study)" 6th National Conference of Iranian bitumen and Asphalt, 18-19 November, 2014, Tehran, Iran
15. **N. Oroujzadeh**, K. Gholivand , "N-Nicotinyl phosphoramides containing heterocyclic amine" 17th Congress of Iranian Chemistry, 1-3 September, 2014, Rafsanjan, Kerman, Iran.
16. **N. Oroujzadeh**, K. Gholivand , "Organometal complexes of nicotinamide(nia) and its phosphorictriamide derivatives"17th Congress of Iranian Chemistry, 1-3 September, 2014, Rafsanjan, Kerman, Iran.
17. **N. Oroujzadeh**, K. Gholivand , "Novel Hg(II) Complex of a N-Nicotinyl Phosphoric triamide", 16th Iranian Inorganic Chemistry Conference, 27-29 August, 2014, Bu-Ali Sina University, Hamedan, Iran.
18. **N. Oroujzadeh**, K. Gholivand , "Structure, Spectroscopy and DFT study of new N-nicotinyl, N,N -bis(cyclo alkyl) phosphorictriamides" 16th Iranian Inorganic Chemistry Conference, 27-29 August, 2014, Bu-Ali Sina University, Hamedan, Iran
19. **N. Oroujzadeh**, K. Gholivand , S. Rezaei, " Nicotinamide and Linear type 2 amines in the structure of some new phosphorictriamides " 22nd Iranian Seminar of Organic Chemistry, 19-21 August 2014, University of Tabriz, Tabriz, Iran.
20. **N. Oroujzadeh**, K. Gholivand , "Spectroscopy and Single Crystal Structure of new N-nicotinyl phosphorictriamides" 22nd Iranian Seminar of Organic Chemistry, 19-21 August 2014, University of Tabriz, Tabriz, Iran.

21. zahra Shariatinia, Elnaz Jalalimoghaddam, **Nasrin Oroujzadeh**, " Band gap prediction for a new phosphoramidate ",16th Iranian Physical Chemistry Conference, 29-31 october 2013, University of Mazandaran, Babol, Iran.
22. zahra Shariatinia, Elnaz Jalalimoghaddam, **Nasrin Oroujzadeh**, " A new cadmium nitrate complex bearing phosphoramidate ligand",16th Iranian Physical Chemistry Conference, 29-31 october 2013, University of Mazandaran, Babol, Iran.
23. **N. Oroujzadeh**, K. Gholivand, Z. Shariatinia, "New Phosphoramidates: synthesis, spectroscopy and crystal structure", 15th Iranian Inorganic Chemistry Conference, 3-4 September, 2013, Sabzevar, Khorasan Razavi, Iran.
24. **N. Oroujzadeh**, K. Gholivand, "Two Novel Ag(I) Complexes of N-Nicotinyl Phosphoric triamide Derivatives", 15th Iranian Inorganic Chemistry Conference, 3-4 September,2013, Sabzevar, Khorasan Razavi, Iran.
25. Z. Shariatinia, **N. Oroujzadeh**, "The most preferred coordination donor site of a phosphoric triamide nanoparticle", Conference of Nano Computations, 16 February, 2013, Islamic Azad University (Pharmaceutical sciences branch), Tehran, Iran.
26. **N. Oroujzadeh**, K. Gholivand, Z. Shariatinia, " Synthesis and spectroscopy of some novel heterocyclic compounds", National Conference on Nanotechnology and Green Chemistry-NCNG, 11 March, 2013, Islamic Azad University (East branch),Tehran, Iran.
27. **N. Oroujzadeh**, Z. Shariatinia, F. Afshar , K. Gholivand, "New 1,3,2-diazaphosphorinanes and diazaphospholes", 19th International Conference on Phosphorus Chemistry, 8-12 July, 2012, Rotterdam, The Netherlands.
28. H. Sabbagh, A. Kavooosi, **N.Oroujzadeh**, "Properties of Recycled Glass Bituminous Mixes from Wastes in Tehran" 5th International Conference Bituminous Mixtures and Pavements, 1-3 June, 2011, Thessaloniki, Greece.

29. F. Afshar, z. Shariatinia, F.ghaziani, **N. Oroujzadeh**, "Synthesis and Ab Initio calculation study of two new diazaphosphole and diazaphosphorinane" 14th Iranian Physical Chemistry Conference, 25-28 February, 2011, University of Tehran, Kish, Iran.
30. **Nasrin Oroujzadeh**, Khodayar Gholivand, Farzaneh Afshar, "Synthesis, spectroscopy and quantum chemical calculation study of two novel 1,3,2- diazaphospholidine-2,4,5-trion" 14th Iranian Physical Chemistry Conference, 25-28 February, 2011, University of Tehran, Kish, Iran.
31. **Nasrin Oroujzadeh**, Khodayar Gholivand, " The effect of Chlorine substituent number on spectral properties of some new phosphoric triamides: synthesis, spectroscopy and structural study" 18th International Conference on Phosphorus Chemistry, 11-15 July, 2010, Wroclaw University of Technology, Wroclaw, POLAND.
32. Farzaneh Afshar, **Nasrin Oroujzadeh**, Khodayar Gholivand, " Some new phosphoramidate derivatives of Isonicotinamide and their organotin complexes: syntheses, spectroscopic study and crystal structures" 18th International Conference on Phosphorus Chemistry, 11-15 July, 2010, Wroclaw, University of Technology,
33. **Nasrin Oroujzadeh**, Khodayar Gholivand, Hamid Sabbagh Mollahosseini " The first polymorphism for a phosphoramidate: synthesis, spectroscopic and structural characterizations" 18th International Conference on Phosphorus Chemistry, 11-15 July, 2010, Wroclaw, University of Technology, Wroclaw, POLAND.
34. **Nasrin Oroujzadeh**, Khodayar Gholivand, " Synthesis, spectroscopic study and crystal structures of some novel N-2,4-dichlorobenzoyl phosphorictriamides " 18th International Conference on Phosphorus Chemistry, 11-15 July, 2010, Wroclaw University of Technology, Wroclaw, POLAND.
35. Khodayar Gholivand , Farzaneh Afshar, Fatemeh Ghaziani, **Nasrin Oroujzadeh**, " Synthesis and spectroscopic characterization of some new Organotin (IV) complexes " 11th Iranian Inorganic Chemistry Conference, 13-14 May 2009, Isfahan University of Technology & University of Isfahan, Isfahan, Iran.

36. Khodayar Gholivand , **Nasrin Oroujzadeh**, Zahra Shariatinia, Hamid Sabbagh Mollahosseini, " Crystal Structure and Synthesis of N-2,4-Dichlorobenzoyl-N,N - bis(diethyl) phosphorictriamide" 11th Iranian Inorganic Chemistry Conference, 13-14 May 2009, Isfahan University of Technology & University of Isfahan, Isfahan, Iran.
37. Khodayar Gholivand , **Nasrin Oroujzadeh**, Zahra Shariatinia, " NMR Studies and Preparation of Two Novel N-2,4-Dichlorobenzoyl phosphoric triamides" 11th Iranian Inorganic Chemistry Conference, 13-14 May 2009, Isfahan University of Technology & University of Isfahan, Isfahan, Iran.
38. Khodayar Gholivand, Fatemeh Ghaziani, Farzaneh Afshar, **Nasrin Oroujzadeh**, "Synthesis and spectroscopic characterization of two new organophosphorus compounds ", 15th Iranian Seminar of Organic Chemistry, 27-29 August 2008, Razi University, Kermanshah, Iran.
39. Khodayar Gholivand , Farzaneh Afshar, **Nasrin Oroujzadeh**, Fatemeh Ghaziani, "Syntheses and spectroscopic characterization of two new compounds: diazaphosphole (1) and diazaphosphorinane (2)", 15th Iranian Seminar of Organic Chemistry, 27-29 August 2008, Razi University, Kermanshah, Iran.
40. Khodayar Gholivand, **Nasrin Oroujzadeh**, Fatemeh Ghaziani, Farzaneh Afshar, "Synthesis, characterization and spectral study of two novel carbacylamidophosphates;(1,2-Cl₂C₆H₄)C(O)NHP(O)(R)₂", 15th Iranian Seminar of Organic Chemistry, 27-29 August 2008, Razi University, Kermanshah, Iran.
41. Khodayar Gholivand and **Nasrin Oroujzadeh**, " N,N',N''-Tribenzyl phosphorictriamide P(O)(NH-CH₂-C₆H₅)₃, Syntheses, Crystal structure and spectroscopic characterization ", 9th Iranian Inorganic Chemistry Conference, 7-8 March 2007, Semnan University, Semnan, Iran.
42. Khodayar Gholivand and **Nasrin Oroujzadeh**, "Synthesis and spectroscopic characterization of two new N-carbonyl phosphoramidates", 8th Iranian Inorganic Chemistry Congress, Azarbaijan University of Tarbiat Moallem, 24-26 August 2004, Tabriz, Iran.

43. Khodayar Gholivand and **Nasrin Oroujzadeh**, “Synthesize and spectroscopic characterization of some of new phosphoramidates. The study of NMR, DNMR and IR of these compounds”, 7th Iranian Seminar of Inorganic Chemistry, Zanjan University, 26 & 27 February 2003, Zanjan, Iran.

44. Khodayar Gholivand and **Nasrin Oroujzadeh**, “Synthesis and spectroscopic characterization of the compound N-formyl- phosphoramidodichloride”, The Third Congress of Chemistry of Islamic Azad University, Science and Research, Central Tehran, North Tehran Branches and Louis Pasteur University, 10-11 April 2002, Tehran, Iran.