










PERSONAL INFORMATION

 Mojtaba Khorasani
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 Department of Chemistry
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Martial Married | Date of birth 16/04/1985 | Nationality Iranian



WORK EXPERIENCE

2018-TO NOW Assistant Professor
Institute for Advanced Studies in Basic Science (IASBS), Zanjan, Iran

2015- 2017 Postdoctoral Researcher
Institute for Advanced Studies in Basic Science (IASBS), Zanjan, Iran

EDUCATION

2009-2015 PhD in Organic Chemistry
Thesis title: Design and synthesis of new bifunctional periodic mesoporous organosilica (BFPMO-IL) with ionic liquid-organic moieties framework: application in catalysis for some organic transformations
Supervisor: Prof. Babak Karimi
Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran

2007- 2009 MSc in Organic Chemistry
Thesis title: Design a novel nanoreactor composed tungstate immobilized in hydrophobic nanospace of SBA-15 as a recyclable catalyst for oxidation of organic sulfide molecules
Supervisor: Prof. Babak Karimi, Advisor: Dr. Mohammad Rafiee
Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran

2003-2007 BSc in Pure Chemistry
University of Zanjan, Zanjan, Iran

RESEARCH INTEREST



- Materials Chemistry
- Mesoporous Silica/Organosilica Nanoparticles
- Covalent Triazine Framework
- Covalent Organic Framework
- CO₂ Capture and Conversion

PUBLICATIONS

- 1) Babak Karimi, Dawood Elhamifar, Omolbanin Yari, Mojtaba Khorasani, Hojatollah Vali, James H. Clark, and Andrew J. Hunt, Synthesis and Characterization of Alkyl-Imidazolium-Based Periodic Mesoporous Organosilicas: A Versatile Host for the Immobilization of Perruthenate (RuO₄⁻) in the Aerobic Oxidation of Alcohols, *Chemistry A European Journal*, **2012**, *18*, 13520-13530.
- 2) Babak Karimi, Mohammad Gholinejad and Mojtaba Khorasani, Highly efficient three-component coupling reaction catalyzed by gold nanoparticles supported on periodic mesoporous organosilica with ionic liquid framework, *Chemical Communications*, **2012**, *48*, 8961-8963. (Highlighted in *Synfacts 2012*, *8*, 1263)
- 3) Babak Karimi and Mojtaba Khorasani, Selectivity Adjustment of SBA-15 Based Tungstate Catalyst in Oxidation of Sulfides by Incorporating a Hydrophobic Organic Group inside the Mesochannels, *ACS Catalysis*, **2013**, *3*, 1657-1664.
- 4) Babak Karimi, Fatemeh Bakhshandeh Rostami, Mojtaba Khorasani, Dawood Elhamifar and Hojatollah Vali, Selective oxidation of alcohols with hydrogen peroxide catalyzed by tungstate ions (WO₄⁻) supported on periodic mesoporous organosilica with imidazolium frameworks (PMO-IL), *Tetrahedron*, **2014**, *70*, 6114-6119. (Invitation of editorial board for special issue of *Nanotek for organic synthesis, and organic synthesis for nanotek*)
- 5) Babak Karimi, Mojtaba Khorasani, Hojatollah Vali, Rafael Luque, Control of plugging in bifunctional periodic mesoporous organosilica with imidazolium framework via stepwise addition of silica precursors, *Journal of Material Chemistry A*, **2015**, *3*, 6575-6585.
- 6) Babak Karimi, Mojtaba Khorasani, Hojatollah Vali, Carolina Vargas, Rafael Luque, Palladium Nanoparticles Supported in the Nanospaces of Imidazolium-Based Bifunctional PMOs: The Role of Plugs in Selectivity Changeover in Aerobic Oxidation of Alcohols, *ACS Catalysis*, **2015**, *5*, 4189-4200.
- 7) Babak Karimi, Mojtaba Khorasani, Fatemeh Bakhshandeh Rostami, Dawood Elhamifar, Hojatollah Vali, Tungstate Supported on Periodic Mesoporous Organosilica with Imidazolium Framework as an Efficient and Recyclable Catalyst for the Selective Oxidation of Sulfides, *ChemPlusChem*, **2015**, *80*, 990-999. (Highlighted as spotlight in *Angew. Chem. Int. Ed.* **2015**, *54*, 10708)
- 8) Mohammad Gholinejad, Babak Karimi, Afsaneh Aminianfar, Mojtaba Khorasani, One-Pot Preparation of Propargylamines Catalyzed by Heterogeneous Copper Catalyst Supported on Periodic Mesoporous Organosilica with Ionic Liquid Framework, *ChemPlusChem*, **2015**, *80*, 1573-1579.
- 9) Babak Karimi, Fariborz Mansouri, Mojtaba Khorasani, Recent Progress in Design and Application of Functional Ordered/Periodic Mesoporous Silicas (OMSs) and Organosilicas (PMOs) as Catalyst Support in Carbon-Carbon Coupling Reactions, *Current Organic Chemistry*, **2015**, *20*, 349-380. (Invitation of editorial board for Thematic Issue of *Coupling Chemistry-New Challenges and Novel Catalysts*)
- 10) Babak Karimi, Zahra Naderi, Mojtaba Khorasani, Hamid Mohammad Mirzaie, Hojatollah Vali, Ultra-small platinum nanoparticles supported inside the nanospaces of PMO with imidazolium network: An efficient catalyst for aerobic oxidation of non-activated alcohols in water, *ChemCatChem*, **2016**, *8*, 906-910.
- 11) Babak Karimi, Omolbanin Yari, Mojtaba Khorasani, Hojatollah Vali, Fariborz Mansouri, Aerobic

- Oxidative Dehydrogenation of Amines Catalysed by a Recoverable Ruthenium Catalyst under Mild Reaction Conditions, *ChemCatChem*, 2018, 10, 1783-1787. (Invited by the editorial board of this journal for special issue Supported Molecular Catalysts)
- 12) Kobra Zavar Mousavi, Yadollah Yamini, Babak Karimi, Shahram Seidi, Mojtaba Khorasani, Mostafa Ghaemmaghami, Hojatollah Vali, Imidazolium-based mesoporous organosilicas with bridging organic groups for microextraction by packed sorbent of phenoxy acid herbicides, polycyclic aromatic hydrocarbons and chlorophenols, *Microchimica Acta*, **2019**, 186, 239-248.
 - 13) Babak Karimi, Akram Bigdeli, Ali Asghar Safari, Mojtaba Khorasani, Hojatollah Vali and Somaiyeh Khodadadi Karimvand, Aerobic Oxidation of Alcohols Catalyzed by In Situ Generated Gold Nanoparticles inside the Channels of Periodic Mesoporous Organosilica with Ionic Liquid Framework, *ACS Combinatorial Science*, **2020**, 22, 70-79. (Highlighted in *Synfacts* 2020, 16, 576)
 - 14) Kobra Zavar Mousavi, Yadollah Yamini, Babak Karimi, Mohammad Mahdi Khataei, Mojtaba Khorasani, Shahram Seidi, Mostafa Ghaemmaghami, Plugged bifunctional periodic mesoporous organosilica as a high-performance solid phase microextraction coating for improving extraction efficiency of chlorophenols in different matrices, *Talanta*, **2021**, 235 122724.
 - 15) Majid Panahi, Ramin Jamali, Vahideh Farzam Rad, Mojtaba Khorasani, Ahamd Darudi, Ali-Reza Moradi, 3D monitoring of the surface slippage effect on micro-particle sedimentation by digital holographic microscopy, *Scientific Reports*, **2021**, 11, 12916.
 - 16) Masoumeh Razaghi, Mojtaba Khorasani, Boosting the quaternary ammonium halides catalyzed CO₂ coupling with epoxides on the hollow mesoporous silica sphere, *Journal of CO₂ Utilization*, **2022**, 61, 102028.
 - 17) Mojtaba Khorasani, Babak Karimi, Hojatollah Vali, Coupling of CO₂ with epoxides catalyzed by bifunctional periodic mesoporous organosilica with ionic liquid framework, *Reaction Chemistry and Engineering*, **2022**, 7, 2618-2628
 - 18) Masoumeh Razaghi, Mojtaba Khorasani, Zahra Mohamadnia and Foad Kazemi, Coupling of hydrophobic graphene quantum dots with photochromic molecule for fabrication of transparent photo-responsive polymeric films manifesting FRET functioning, *Journal of Photochemistry and Photobiology A: Chemistry*, 2023, 437, 114420.
 - 19) Kosar Sadat Hoseini, Masoumeh Razaghi, Tohid Nouri and Mojtaba Khorasani, Direct Coupling of CO₂ with Epoxides Catalyzed by Lanthanum(III) Supported on Magnetic Mesoporous Organosilica Nanoparticles, *Scientific Reports*, **2023**, 15, 5523.
 - 20) Ramin Jamali, Vahideh Farzam Rad, Masoumeh Razaghi, Zahra Mohamadnia, Mojtaba Khorasani, Ali-Reza Moradi, Digital holographic microscopy of spiropyran-based dynamic materials, *Journal of Microscopy*, 2023, 292, 78-89.

CONFERENCES & SEMINARS

-  3rd School on Chemistry Topics
Title: Conversion of Carbon Dioxide into Cyclic Carbonates Using Catalysts Supported on the Mesoporous Materials
Invited Speaker
Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran
August 2023
-  Weekly Seminars of the Schools of Nano Science and Physics
Title: Valorization of Carbon Dioxide to Cyclic Carbonates Using Mesoporous Silica/Organosilica Materials
Invited Speaker
Institute for Research in Fundamental Sciences (IPM), Tehran, Iran

July 2022

-  Poster Presentation
21st ICS International Chemistry Congress
Title: Mesoporous Silica Nanoparticle Supported Iron Catalyst for CO₂ Cycloaddition to Epoxides
Presenters: Tohid Nouri and Mojtaba Khorasani
Azarbaijan Shahid Madani University, Tabriz, Iran
July 2022
-  Poster Presentation
21st ICS International Chemistry Congress
Title: Coupling of CO₂ with Epoxides by Periodic Mesoporous Organosilica with Ionic Liquid Frameworks under Solvent and Metal-Free Conditions
Presenters: Sadegh Joudian, Babak Karimi and Mojtaba Khorasani
Azarbaijan Shahid Madani University, Tabriz, Iran
July 2022
-  Poster Presentation
21st ICS International Chemistry Congress
Title: Boosting the Quaternary Ammonium Halides Catalyzed CO₂ Coupling with Epoxides on the Hollow Mesoporous Silica Sphere
Presenters: Ghazale Anvarian-Asl, Arian Ajal-Afshar, Masoumeh Razaghi and Mojtaba Khorasani
Azarbaijan Shahid Madani University, Tabriz, Iran
July 2022
-  Poster Presentation
21st ICS International Chemistry Congress
Title: Efficient CO₂ Fixation Catalyzed by Ionic Liquid Supported on the Magnetic Yolk-shell Mesoporous Silica
Presenters: Sanaz Asgarlou and Mojtaba Khorasani
Azarbaijan Shahid Madani University, Tabriz, Iran
July 2022
-  Poster Presentation
21st ICS International Chemistry Congress
Title: Magnetic Mesoporous Organosilica Nanoparticle with Pyridine-Dicarboxamide units : Application as Catalyst Support for CO₂ Fixation
Presenters: Kosar sadat Hoseini, Masoumeh Razaghi and Mojtaba Khorasani
Azarbaijan Shahid Madani University, Tabriz, Iran
July 2022
-  Weekly Seminars of the Schools of Nano Science and Physics
Title: Periodic Mesoporous Organosilica with Bulky Functional Groups within Frameworks, from Bulk to Especial Morphology
Invited Speaker
Institute for Research in Fundamental Sciences (IPM) Tehran, Iran
July 2020
-  Catalysis, Chemometrics and Renewable Energy (Workshop)
Invited Speaker
Salahaddin University, Erbil, Iraq
April 2019

TEACHING EXPERIENCE

- ✚ Supramolecular Chemistry, **MSc**, IASBS, Zanjan, Iran
- ✚ Characterization of Nanostructured Materials (I), **MSc**, IASBS, Zanjan, Iran
- ✚ Synthesis of Nanostructured Materials (I), **MSc**, IASBS, Zanjan, Iran
- ✚ Mesoporous Materials, **MSc**, IASBS, Zanjan, Iran
- ✚ Synthesis of Nanostructured Materials (II), **MSc**, IASBS, Zanjan, Iran
- ✚ General Chemistry, **Continuous PhD**, IASBS, Zanjan, Iran

HONOURS AND AWARDS

- ✚ Iranian National Science Foundation (INSF) grant, 2021-2023
- ✚ AAD Scholarship, University of Münster, Germany, 2019
- ✚ Member of Iran's National Foundation of Elites, 2016
- ✚ Dr. Kazemi Ashtiani award, Iran's National Foundation of Elites, Iran, 2016
- ✚ Shahid Tehrani Moghadam award, Iran's National Foundation of Elites, Iran, 2016
- ✚ Khwarizmi Youth Award, Iran, 2015
- ✚ Rank 3 in the Entrance Examination for Master Degree among the 10903 students, Iran, 2007
- ✚ Rank 6 in 12nd Student Chemistry Olympiad, Tehran University, Tehran, Iran, 2007