

YAHYA ABSALAN, Ph.D.

Materials & Inorganic Chemistry | Photocatalysis | Functional Nanomaterials | MOF-Based Systems
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ACADEMIC PROFILE

Materials and inorganic chemist with two Ph.D. degrees and an interdisciplinary research portfolio spanning photocatalysis, metal-organic frameworks (MOFs), coordination chemistry, Ti-based and mixed-metal nanomaterials, polymer/aerogel composites, and sustainable functional materials. Research centers on the rational design of visible-light-active photocatalysts for environmental remediation, C-C/C-N chemical transformations, and energy-related applications. Corresponding author on 32 peer-reviewed publications; principal/co-principal investigator on seven funded research projects; co-inventor on a patent/IP; invited speaker at 21 international conferences; and experienced in university teaching, graduate/undergraduate mentoring, laboratory management, and research-project development.

32 peer-reviewed publications (corresponding author on all) | 7 funded projects | 5 books/chapters | 21 invited presentations | 7 graduate research projects | patent/IP

RESEARCH FOCUS & INDEPENDENT PROGRAM

- Molecularly engineered photocatalytic materials: MOFs, inorganic coordination compounds, ligand functionalization, encapsulation, and hybridization.
- Semiconductor and hybrid nanomaterials: TiO₂-based and doped oxides, mixed-metal oxides, morphology/dimensional control, polymer-aerogel systems, and emerging MXene-containing composites.
- Mechanism-guided sustainable photocatalysis: visible-light activation, structure-property relationships, charge-transfer control, wastewater/textile-dye remediation, C-C/C-N transformations, and energy-related applications.

EDUCATION

- **Ph.D., Materials Chemistry - University of Georgia, Athens, USA (Expected December 2026; dissertation defended July 25, 2026)**
Dissertation: Synthesis of Novel Photocatalyst Composites Based on Aerogels for Removing Different Types of Textile Dyes from Water
Advisor: Dr. Sergiy Minko | Co-Major Professor: Dr. Suraj Sharma | GPA: 3.82/4.00
- **Ph.D., Inorganic Chemistry - RUDN University, Moscow (Top 23 chemistry department in the world) (2014-2018)**
Dissertation: The Synthesis of Nano-Sized Catalysts Obtained by Complex Compounds of Ti and Zr Metals with Hydroxyl-Group Ligands for Organic Photodegradation under UV-Vis Light
Advisor: Dr. Olga Kovalchukova | GPA: 3.9/4.00
- **M.S., Inorganic Chemistry—RUDN University, Moscow (2012-2014)**
Thesis: Synthesis and Studies of Complex Compounds of Carboxyl-Derivatives of Methylphloroglucinol with Metals
Advisor: Dr. Olga Kovalchukova | GPA: 5.0/5.0
- **B.S., Applied Chemical Industries—Shiraz University, Shiraz (2006-2010)**
Academic standing: Top student in undergraduate program | GPA: 17.63/20.00

RESEARCH EXPERIENCE

- **Research Scientist - University of Georgia, Athens, USA 2022-2026**
 - Designed and synthesized MOFs, metal oxides, polymers, aerogels, and hybrid materials for environmental and sustainable-material applications.
 - Developed visible-light-active photocatalysts for degradation of textile dyes and other organic pollutants in water.
 - Investigated structure-property relationships using XRD, FT-IR, SEM, UV-Vis spectroscopy, thermal analysis, and complementary methods.
 - Collaborated on interdisciplinary research involving coatings, polymers/textiles, photocatalysis, and sustainable materials.
- **Postdoctoral Fellow - Ferdowsi University of Mashhad, Mashhad 2019-2022**
 - Synthesized nanomaterials, MOFs, and modified catalysts for organic reactions and wastewater treatment.
 - Investigated photocatalytic C-N and C-C coupling reactions and supervised research-project development.
 - Managed laboratory operations and research documentation; trained graduate researchers in photocatalysis and materials synthesis.
- **Postdoctoral Fellow - RUDN University, Moscow 2018-2019**
 - Synthesized rare-earth- and transition-metal-modified titanium nanomaterials for visible-light photocatalysis.

- Investigated photocatalytic degradation of harmful organic compounds and inorganic coordination-chemistry routes to nanomaterials.

TEACHING EXPERIENCE

- **Adjunct Assistant Professor of Chemistry - Texas A&M University, San Antonio, USA** **2026-Present**
 - Teach General Chemistry I & II and Organic Chemistry I & II
 - with responsibility for pre-laboratory instruction, laboratory safety, experimental supervision, grading, and student support
- **Organic Chemistry Laboratory Instructor (I & II) - University of Georgia, Athens, USA** **2022-2026**
 - Taught three 4-hour laboratory sections per week, with approximately 24 students per section (~72 students/week).
 - Held full instructional responsibility for lecture/pre-lab instruction, examinations, assignments, grading, and course administration.
 - Course evaluations consistently exceeded 95%; received departmental Thank-a-Teacher recognition.
 - Mentored undergraduate researchers alongside formal teaching responsibilities.
- **Chemistry Instructor - RUDN University, Moscow** **2017-2019**
 - Taught General Chemistry and Inorganic Chemistry, two 4-hour sections per week with approximately 20 students per section.
 - Held responsibility for lectures, examinations, assignments, grading, and course administration.

RESEARCH FUNDING & GRANT LEADERSHIP

Funded-project experience includes roles as principal and co-principal investigator in photocatalysis, nanomaterials, sustainable materials, and catalytic applications.

- **AATCC Research Grant - AATCC, USA** **2024**
Co-Principal Investigator: Development of photocatalysts for textile-dye degradation; award administered through the project PI/institution.
- **HATCH Project Grant—USDA/Hatch Program, University of Georgia, USA** **2023**
Co-Principal Investigator: Sustainable nanocellulose-based textile materials; award administered through the project PI/institution.
- **International Research Grant—University of Georgia, USA** **2022**
Co-Principal Investigator: MOF-based catalysts for environmental applications; award administered through the project PI/institution.
- **Scientific Research Grant - University of Georgia, USA** **2022**
Principal Investigator: Core-shell titanium fluoride materials and photocatalytic applications.
- **International Research Grant - South Korea** **2022**
Principal Investigator: Modification of NH₂-MIL-125(Ti)-based catalysts for photocatalytic applications.
- **International Research Grant - University of Guelph, Canada** **2019**
Principal Investigator: Titanium complexes with biomolecular ligands and catalytic application in Buchwald-Hartwig amination.
- **Research Grant - RUDN University, Moscow** **2018**
Principal Investigator: Photocatalytic degradation of organic pollutants.

INDUSTRY ENGAGEMENT & PROPOSAL DEVELOPMENT

- Industry research collaboration with a California-based textile/fabric company on natural-fiber and sustainable-material systems.
- Contributed to proposal development for the funded USDA/HATCH project at the University of Georgia.

PEER-REVIEWED PUBLICATIONS (Corresponding Author)

Yahya Absalan = corresponding author on all publications listed below. Additional asterisks identify co-corresponding authors.*

1. Efficient Photocatalytic Degradation of Textile Dyes Using Four-Element-Doped anatase nanocrystals Under Low-Intensity LED Light [Paper](#)
Yahya Absalan*, Abhyuday Mandal, Ramaraja Pandian Ramasamy, Bavithira Suganthan, Yehia Khalifa, and Suraj Sharma. *ACS Omega*, 2026.
2. Recent progress on organic metal compound/MOF hybrids: From controllable synthesis to potential catalytic applications [Paper](#)
Yahya Absalan*, Mostafa Gholizadeh, Eun-Bi Kim, Sadia Ameen*, Yousheng Wang*, Yudi Wang*, Hongming He. *Coordination Chemistry Reviews*, 2024

3. Key Parameters in Photocatalyst Design for Effective Textile Dye Degradation Through Designing MOF [Paper](#)
Yahya Absalan*, Sergiy Minko, Suraj Sharma. *Comments on Inorganic Chemistry*, 2025.
4. Fabrication of Aligned Polyhydroxybutyrate Fibrous Scaffolds via a Touch spinning Apparatus [Paper](#)
Md Mazbah Uddin, Ummay Mowshome Jahan, Vijay Mohakar, Amit Talukder, **Yahya Absalan***, Brianna Blevins, Nataraja S.Yadavalli, Vladimir Reukov, Sergiy Minko, Suraj Sharma. *ACS Omega*, 2025.
5. Synthesis of TiC@C-TiO₂ as an emerging efficient nanostructure for anode modification in high-power microbial fuel cells [Paper](#)
Mozhdeh Dehghanian, MahmoodAkhavan Mahdavi, Reza Gheshlaghi, Ghasem,Barati Darband, **Yahya Absalan***. *International Journal of Hydrogen Energy*, 2025.
6. Improvement of Power Generation in Microbial Fuel Cells Via Anode Modification with TiC@C-TiO₂/PANI Nanocomposite [Paper](#)
Mozhdeh Dehghanian, MahmoodAkhavan Mahdavi, Reza Gheshlaghi, Ghasem,Barati Darband, **Yahya Absalan***. *Applied Biochemistry and Biotechnology*, published online 2025; volume 198 (2026).
7. Unveiling the Mechanisms of Enhanced Photocatalysis: A Comprehensive Study on Metal-Organic Framework Encapsulation Strategies and the Synthesis of Pt@MOF for Efficient C-N Coupling Reactions [Paper](#)
Zeinab Soleimani, **Yahya Absalan***, Mostafa Gholizadeh, Mona Asadinamin, Andrey N Utenishev, Ravil Galeev, Kambiz Souri. *ACS Applied Energy Materials*, 2024.
8. Encapsulation of TixFeyLamOz nanoparticle into NH₂-MIL-125(Ti) to fabricate a promising photocatalyst for C-N coupling reaction [Paper](#)
Yahya Absalan*, Mohammad Rafsanjani Dehghazi, Reza Samavati, Kambiz Souri, and Mostafa Gholizadeh. *Reaction Chemistry & Engineering*, 2024.
9. A green synthetic method for cobalt(II,III) oxide nanoparticles with high surface activity [Paper](#)
Yahya Absalan*, Rusul Alabada, Mohammad R. Razavi, Mostafa Gholizadeh, Oksana V. Avramenko, Irina N. Bychkova, Olga V. Kovalchukova. *Tonkie Khimicheskie Tekhnologii*, 2024.
10. The Cu/La@TiO_x composite: A sustainable and efficient photocatalyst for N-benzylolation reaction under visible-light [Paper](#)
MohammadReza Razavi, Zahra Toozandehjani, **Yahya Absalan***, Mostafa Gholizadeh*, Reza Samavati. *ChemistrySelect*, 2024.
11. Optoelectronic Alteration of Metal-Organic Frameworks for Enhanced Photocatalytic Water Splitting Activity Under Solar Radiation [Paper](#)
Yahya Absalan*, Faezeh Mokari, Behnaz Delaram, Mostafa Gholizadeh, Kambiz Suri. *Comments on Inorganic Chemistry*, 2023. Review article.
12. Noble-Free Nano Photocatalyst of TixFeyLamOz for Efficient Photocatalytic C-N Cross-Coupling Reactions Under Visible Light [Paper](#)
Mohammad Rafsanjani Dehghazi, **Yahya Absalan***, Mostafa Gholizadeh, Mohammad Reza Razavi, Kambiz Souri. *ACS Applied Nano Materials*, 2023.
13. Synthesis of TiC@C-anatase/rutile@polyvinyl alcohol/xylan: a powerful photocatalyst for degradation of organic pollutant under visible light [Paper](#)
Yahya Absalan*, Mostafa Gholizadeh, Mohammad Reza Razavi, Zeynab Dastani, Olga Kovalchukova. *Royal Society Open Science*, 2022.
14. Removing bromophenol blue from the aqueous environment by TixNiyLamOz photocatalyst under different conditions [Paper](#)
Mohammad Reza Razavi, **Yahya Absalan***, Mostafa Gholizadeh, Stanislav Strashnov, Olga Kovalchukova. *Environmental Technology & Innovation*. 2022.
15. Enhance the photocatalytic performance of TiO₂ nano-semiconductor by simultaneously doping of transition and lanthanide elements for the C-C homocoupling reaction under sunlight irradiation [Paper](#)
Yahya Absalan*, Mohammad Reza Razavi, Mostafa Gholizadeh, Ali Ahmadpour, Saeed Poursabagh, Olga Kovalchukova. *Nano-Structures & Nano-Objects*. 2022, 100858.
16. A composite of 2-aminoterephthalic acid coupled with TiF₃@TiO₂/polyvinyl alcohol with enhanced visible-light photocatalytic reactivity; investigation of the photocatalytic mechanism [Paper](#)
Zeynab Dastani, **Yahya Absalan***, Mostafa Gholizadeh, Olga Kovalchukova. *Journal of Materials Research and Technology*. 2022, 7158-7173.
17. Unusual Substitution in Hydrazinobenzoic Acid upon Complexation. Crystal and Molecular Structure of Hydrazinobenzoic Acid Hydrochloride [Paper](#)
R. Alabada, O. V. Avramenko, S. B. Strashnova*, V. S. Sergienko, **Yahya Absalan*** & O. V. Kovalchukova. *Crystallography Reports*, 2022, 429-432.
18. Zeeman effect on various reactions under magnetized solvent condition [Paper](#)
Yahya Absalan*, Mostafa Gholizadeh, Hyoung Jin Choi. *Journal of Molecular Liquids*. 2021, 116167. Review article.

19. Schiff bases-titanium (III) & (IV) complex compounds: novel photocatalysts in Buchwald-Hartwig C-N cross-coupling reaction [Paper](#)
Yahya Absalan*, Nazanin Noroozi Shad, Mostafa Gholizadeh, Ghodrat Mahmoudi, Hossein Sabet Sarvestani, Pavel Strashnov, Khashayar Ghandi, Olga Kovalchukova. *Journal of Photochemistry and Photobiology A: Chemistry*. 2021.
20. Investigation an environmentally friendly method under magnetic field as a green solvent for the synthesis of brookite phase nanoparticles at room temperature [Paper](#)
Yahya Absalan*, Mostafa Gholizadeh, Vladimir V. Kopylov, Leonid A. Butusov, Valiollah Bagherzadeh, Seyed Hamid Hosseini Sajed, and Olga Kovalchukova. *Journal of Materials Science: Materials in Electronics*. 2021.
21. Physicochemical Characteristics and Catalytic Activity of Composite Materials Based on Mixed Oxides MTiO₃/TiO₂ (M = Co, Ni) in 1,2-Dihydroxybenzene Photodegradation Reactions in Aqueous Solutions [Paper](#)
Yahya Absalan*, N. Yu. Isaeva, I. G. Bratchikova, O. V. Kovalchukova, and A. G. Cherednichenko. *Petroleum Chemistry*. 2020, 557-562.
22. Complex compound of Gallic acid-titanium a powerful precursor for synthesizing Titania nanotubes (TNTs); examining photocatalytic degradation of the obtained TNTs [Paper](#)
Yahya Absalan*, Mostafa Gholizadeh, Leonid Butusov, Irena Bratchikova, Vladimir Viktorovich Kopylov, Olga Kovalchukova. *Arabian Journal of Chemistry*. 2020, 7274-7288.
23. Thermal decomposition of bimetallic titanium complexes: a new method for synthesizing metal-TiO₂ nano-sized catalysts and photocatalytic application [Paper](#)
Yahya Absalan*, Mikhael A. Ryabov, Olga V. Kovalchukova. *Materials Science and Engineering: C*. 2019, 813-826.
24. Removing organic harmful compounds from the polluted water by a novel synthesized cobalt(II) and titanium (IV) containing photocatalyst under visible light [Paper](#)
Yahya Absalan*, Rusul Alabada, Mikhail Ryabov, Valeri Tolstoy, Leonid Butusov, Victor Nikolskiy, Vladimir Kopylov, Mostafa Gholizadeh, Olga Kovalchukova. *Environmental Nanotechnology, Monitoring & Management*. 2020, 100304.
25. Complex compounds of transition metals with hydroxyaromatic carboxylic acids as precursors for the synthesis of nanosized metal oxides [Paper](#)
R. Alabad, O. V. Avramenko, **Yahya Absalan***, N. Yu. Isaev, O. V. Kovalchukova. *Russian Chemical Bulletin*. 2020, 934-940.
26. Doped rare and transition metal titanate nanoparticles: A new method for developing synthesizing and photocatalytic ability [Paper](#)
Yahya Absalan*, Irena Bratchikova and Olga.V. Kovalchukova. *Journal of Molecular Liquids*. 2018, 882-894.
27. Ti (IV) complexes with some diphenols as precursors for TiO₂ nano-sized catalysts [Paper](#)
Yahya Absalan*, Elena A. Fortalnova, Nikolai. N. Lobanov, Ekaterina V. Dobrokhotova, Olga.V. Kovalchukova. *Journal of Organometallic Chemistry*. 2018, 80-91.
28. Novel synthesis method for photo-catalytic system based on some 3d-metal titanate [Paper](#)
Yahya Absalan*, Irena G. Bratchikova, Nikolai N. Lobanov and Olga V. Kovalchukova. *Journal of Materials Science: Materials in Electronics*. 2017, 1-13.
29. Accurate investigation to determine the best conditions for using NiTiO₃ for bromophenol blue degradation in the environment under UV-vis light based on concentration reduction and to compare it with TiO₂ [Paper](#)
Yahya Absalan*, Irena G. Bratchikova, and Olga V. Kovalchukova. *Environmental Nanotechnology, Monitoring & Management*. 2017, 244-253.
30. Zoning of soil's salinity by using Kriging, Cokriging methods, inverse distance weight method of Kriging regression [Paper](#)
Abuzar Nasiri, Shojaei Saeed*, Ali Asghari, **Yahya Absalan***, Shirokova V. Alekcandrovna, and Zareie Sajad. *Elixir Agriculture Journal*. 2016, 41845-41847.
31. Optimization of the ways of synthesis of the catalysts based on titanium dioxide by the thermal decomposition of titanium tetra butoxide [Paper](#)
Yahya Absalan*, Oksana V. Avramenko, and Olga V. Kovalchukova. *English-Russian Chemical Journal*. 2016.
32. Synthesis and studies of complex compounds of carboxyl derivatives of methyl pheloroglucinol with metals [Paper](#)
Olga Kovalchukova, **Yahya Absalan***, Sergey Bobylev, Dmitry Kuznetsov, Konstantin Kobrakov. *Journal of Advances in Chemistry*. 2014, 10(1).

BOOKS, BOOK CHAPTERS & TRANSLATION

1. Absalan, Y. Use of the Advantages of Titanium in the Metal: Organic Framework. Intech Open, 2022.
2. Absalan, Y. Complex compounds of metals with organic ligands as precursors of nanosized oxide catalysts, 2022.
3. Crabtree, R. H. Translated by Yahya Absalan. The organometallic chemistry of the transition metals, 2020.
4. Absalan, Y. Eliminating phenol by different methods, 2017.
5. Absalan, Y. Everything about TiO₂, 2017.

PATENTS & INTELLECTUAL PROPERTY

Gels, Methods of Making Gels, and Uses Thereof. Yahya Absalan, co-inventor. U.S. Provisional Patent Application No. 63/655,269, filed June 3, 2024; related international application PCT/US2025/032062 and publication WO 2025/255110. [WIPO](#)

RESEARCH LEADERSHIP, LABORATORY MANAGEMENT & MENTORING

- Laboratory management experience (2019-2021), including day-to-day coordination of research activities and research documentation.
- Responsible for laboratory chemical/material procurement at the University of Georgia (2025-2026).
- Authored three standard operating procedures (SOPs) and trained researchers on UV-Vis, FT-IR, and XRD instrumentation.
- Developed research proposals and full project plans for seven graduate research projects; trained graduate researchers in photocatalysis, materials synthesis, experimental design, and characterization.
- Mentored 1-2 undergraduate researchers per semester at the University of Georgia (2022-2026).

GRADUATE RESEARCH MENTORING & PROJECT DEVELOPMENT

Research mentor/project developer for the following graduate projects; responsibilities included project conception, proposal development, experimental planning, and training in photocatalysis and materials synthesis.

1. **James Ricci—Student, University of Georgia** **2025-2026**
Research project: Synthesize multi-doped anatase phase in the nanoscale
2. **Ella Rogers—Student, University of Georgia** **2024-2025**
Research project: Photocatalytic degradation of the textile dye through novel photocatalysts based on nanoparticles of TiO₂ doped with different elements
3. **Srishti Talati—Student, University of Georgia** **2024-2025**
Research project: Synthesis of the inorganic complex compounds of the complex organic compounds with different transition metals.
4. **Faezeh Mokari—Ph.D., Ferdowsi University of Mashhad** **2022-2024**
Research project/dissertation: Synthesis of the inorganic complex compounds of the first-row transition metals to use as photocatalysts for removing textile dyes from water.
5. **Behnaz Delaram—Ph.D., Ferdowsi University of Mashhad** **2022-2024**
Research project/dissertation: Synthesis of the nanoparticles based on titanium and bismuth oxide to use as photocatalysts for removing textile dyes from water.
6. **Mohana Ahmadi—M.S., Ferdowsi University of Mashhad** **2021-2024**
Research project/dissertation: Synthesizing a photocatalyst obtained from the encapsulation of MOF with TiFeO₂ nanoparticle, modified with polymer for removing textile dyes from water.
7. **Mohammad Rafsanjani—M.S., Ferdowsi University of Mashhad** **2020- 2022**
Research project/dissertation: Fe@TiO₂ photocatalytic C-N cross-coupling and synthesis of 1,5-pentanediylibis(triphenylphosphonium) dichromate and reductant for organic reactions.
8. **Zaynab Soleimani—M.S., Ferdowsi University of Mashhad** **2020- 2022**
Research project/dissertation: Modification of the catalyst based on MOF MIL-125-NH₂(Ti) through platinum-complex encapsulation for oxidation coupling reactions under different conditions.
9. **Zaynab Dastani—M.S., Ferdowsi University of Mashhad** **2019- 2021**
Research project/dissertation: Synthesizing nano-photocatalysts of TiC@C-TiO₂ and TiF@F-TiO₂ for C-C and C-N coupling reactions.
10. **Mohammadreza Razavi—M.S., Ferdowsi University of Mashhad** **2019- 2021**
Research project/dissertation: Synthesizing nano-photocatalysts of lanthanide- and transition-metal-doped titanium for removing harmful organic substances from water.

INVITED CONFERENCE PRESENTATIONS

All presentations listed below were delivered by invitation as a speaker.

1. Efficient Visible-Light Photocatalysis of Textile Dyes via Multi-Block Doped Anatase Nanocrystals, Boston, MA, USA, 2026 - Catalysis and Chemical Engineering (TM) (CCE-2026).
2. Immobilization and Optimization of Secondary Alcohol Dehydrogenase on Metal-Organic Frameworks (MOFs) for the Enantioselective Resolution of rac-Propenolol—15th Southeast Enzyme Conference, Atlanta, GA, USA, 2025.
3. Innovative Anion-Doped TiO₂ Nanocrystals for Efficient Photocatalytic Degradation of Textile Dyes under Visible Light - American Chemical Society (ACS), San Diego, CA, USA, 2025.

4. Synthesis and Characterization of a Novel Anion-Doped TiO₂ Nanoparticle for Photocatalytic Degradation of Textile Dyes, Durham, NC, USA, 2024 - AATCC.
5. Touch-Spinning Nanofibers for Enhanced Photocatalysis: A Novel Method for Controlled Fabrication, Savannah, GA, USA, 2024 - Textile Discovery Summit.
6. Synthesis and Characterization of Novel Photocatalysts Based on Nanoparticles for Efficient Removal of Textile Dyes from Water, Savannah, GA, USA, 2024 - Textile Discovery Summit.
7. Innovative Photocatalytic Solutions for Sustainable Dye Removal, Greensboro, NC, USA, 2024 - The Fiber Society Spring 2024 Conference, p. 81.
8. The influence of pH on the state of organic dyes in aqueous solutions in the presence of nano-sized catalysts, Moscow, 2023 - II International Scientific Conference, p. 79.
9. TiC@C-anatase/rutile polyvinyl alcohol/xylan composite as a powerful photocatalyst for degradation of organic pollutants under visible light, Amsterdam, Netherlands, 2023 - II International Scientific Conference, p. 174.
10. Metal complexes of hydroxybenzoic acid as a precursor for TiO₂ nano-sized photocatalyst modified by transition metal cations, Amsterdam, Netherlands, 2019 - 2nd International Conference on Material Science and Technology, p. 69.
11. Surface characterization and catalytic activity of MTiO₃/TiO₂ (M = Co, Ni) perovskite-like composites in the process of photo destruction of 1,2-Dihydroxybenzenes in aqueous solution, Amsterdam, Netherlands, 2019 - 2nd International Conference on Material Science and Technology, p. 34.
12. Obtaining Nanoparticles by Decomposition of Complex Compound of Titanium Metal with Some Ligands Containing Hydroxyl Group and Their Application for Degrading Harmful Organic Substances Under UV-Vis Light, Frankfurt, Germany, 2018 - 2nd International Conference on Materials Science and Research.
13. Complex compounds of transition metals with alpha-hydroxyaromatic carboxylic acids as precursors of nano-sized oxide catalysts, Saint Petersburg, 2017 - XXI Mendeleev Congress (under the auspices of IUPAC).
14. Obtaining nanoparticles by decomposition of complex compounds of IV B metals with some ligands containing hydroxyl groups and their application for degrading harmful organic substances under UV-Vis light, Moscow, 2018 - The 8th International Congress on Nanoscience & Nanotechnology: Basic and Applications.
15. Complex compounds of titanium (IV) as precursors for the synthesis of nanoscale catalysts for the photodegradation of polyphenols, Tuapse, 2018 - Modern Chemical-Physics Symposium.
16. Synthesizing ZrO₂ nanoparticles as a catalyst through thermal decomposition of phenol-zirconium complexes in order to degrade harmful organic substances under UV light, 2018 - Conference of Advanced Research in Materials and Environmental Science; conference paper published in International Journal of Engineering & Technology, 7(2.23), 472-474.
17. Complex compounds of VIB group metals with some dihydroxy aromatic ligands, Nizhny Novgorod, 2017 - 27th International Chugaev Conference on Coordination Chemistry and 4th Young Conference School. "Physicochemical Methods in the Chemistry of Coordination Compounds."
18. Titanium complex compound with hydroxyl aromatic and heteroaromatic ligands, Saint Petersburg, 2017—International Conference of St. Petersburg (Mendeleev), St. Petersburg University.
19. Synthesis of TiO₂ and modified TiO₂ by salt metal to prepare CoTiO₃ under thermal decomposition of titanium butoxide (IV), Moscow, 2017—International Conference of Moscow, RUDN University.
20. Synthesis and studies of complex compounds of carboxyl derivatives of methyl pheloroglucinol with metals, Yekaterinburg, 2016—9th Scientific Conference of Iranian Students in Yekaterinburg University.
21. Synthesis of nanocatalyzed hydroformylation, Saint Petersburg, 2015 - 8th Scientific Conference of Iranian Students in St. Petersburg. St. Petersburg University.

HONORS, AWARDS & RESEARCH RECOGNITION

- **ACS Publications Peer Reviewer - Certificate of Recognition & Appreciation.** American Chemical Society (ACS), 2025.
- **Top 4 Finalist—Herman & Myrtle Goldstein Graduate Student Paper Competition.** November 2024: Invited to present at the Fall Research Committee Meetings, UL Solutions, North Carolina, USA; recognized for exceptional academic writing among the highest-quality submissions.
- **Treasurer, AATCC Student Chapter.** Selected December 2024.
- **Selected as an Elite - Headquarters for Cooperation with Overseas Specialists.** Ferdowsi University of Mashhad, 2019-2022; selected for a postdoctoral position as an elite overseas specialist.
- **Marie Skłodowska-Curie Actions Training.** University of Padova, Italy, May 2019; 'Master the Research and Training Needs' program.
- **Top Paper Award.** Ninth Conference of Iranian Students, Yekaterinburg, July 2016.
- **Top Paper Award.** Seventh Conference of Iranian Students, Moscow, March 2014.
- **Top Student, Master's Program.** RUDN University, 2012-2014; GPA 5.0/5.0.
- **Top Student, Undergraduate Program.** Shiraz University, 2006-2010; GPA 17.63/20.00.

RESEARCH VISIBILITY & MEDIA

- Scientific interview with Newswise, Moscow (August 2022). [Link](#)

SELECTED RESEARCH COLLABORATIONS

Selected institutional collaborations have supported catalyst/material design and photocatalytic applications, including C-C/C-N coupling, phenol removal, textile-dye remediation, and related functional-material systems; collaborative work has contributed to publications and funded research activities.

- University of Guelph (Canada)
- Ohio University (USA)
- Inha University (South Korea)
- Clemson University (USA)
- Stanford University (USA)

PROFESSIONAL SERVICE, EDITORIAL ACTIVITY & MEMBERSHIPS

- Peer reviewer for more than 30 manuscripts across chemistry, materials, nanoscience, and sustainability journals.
- Selected peer-review services include Journal of the American Chemical Society (JACS), Nanoscale, and Advanced Energy and Sustainability Research.
- Editorial reviewer, Materials Physics and Chemistry Journal (October 2019-Present).
- Editorial reviewer, Journal of Materials Science: Materials in Electronics (August 2019-Present).
- Editorial reviewer, Modern Chemistry Journal (June 2018-Present).
- Professional memberships: American Chemical Society (ACS); American Association of Textile Chemists and Colorists (AATCC).

TECHNICAL & RESEARCH EXPERTISE

- **Characterization:** UV-Vis spectroscopy, FT-IR spectroscopy, PXRD, TGA, FESEM-EDS, TEM, DSC, HPLC, DLS.
- **Electrochemistry:** Cyclic voltammetry, Mott-Schottky analysis, electrochemical impedance spectroscopy (EIS).
- **Synthesis & fabrication:** Nanoparticles, metal-organic frameworks (MOFs), inorganic coordination compounds, aerogels, nanofibers, polymer/hybrid composites, MXene-containing composites.
- **Applications:** Photocatalytic organic reactions, textile-dye degradation, pollutant remediation, visible-light photocatalysis, sustainable materials.
- **Software:** Match (XRD), Mestrelab (NMR), OriginPro, ChemDraw, Mendeley, EndNote, ImageJ, VESTA, Gaussian.

LANGUAGES

English | Russian | Persian