YAHYA ABSALAN, Ph.D.

Research Scientist | Materials & Inorganic Chemistry | Photocatalysis | Functional Nanomaterials & MOFs

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ACADEMIC PROFILE

Materials and inorganic chemist completing a Ph.D. in materials chemistry from the University of Georgia with research experience in the areas of 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; co-investigator on seven funded research projects; co-inventor on patent/IP; invited speaker at 21 international conferences; and experienced in university teaching, research training and project monitoring, laboratory management, and research-project development.

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

RESEARCH FOCUS & FUTURE DIRECTIONS

- Molecularly engineered photocatalytic materials: MOFs, inorganic coordination compounds, ligand functionalization, encapsulation, and hybridization.
- Semiconductor and hybrid nanomaterials: TiO_2-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.
- Electrochemical materials: TiO_2-based composite anodes, cyclic voltammetry, and impedance spectroscopy; future focus on sodium-ion storage and interface mechanisms.

EDUCATION

- **Ph.D., Materials Chemistry - University of Georgia, Athens, USA** **Defended July, graduating December 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
- **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-Present**
  - 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.
- **Research Scientist - 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 contributed to graduate student research project development and progress monitoring.
  - Managed laboratory operations and research documentation; trained graduate students in photocatalysis and materials synthesis.
- **Research Scientist - RUDN University, Moscow** **2014-2019**
  - Conducted research on Ti- and Zr-based coordination compounds with hydroxyl-containing ligands as precursors for nanoscale catalysts and photocatalysts.
  - Synthesized TiO_2, metal titanates, and rare-earth- and transition-metal-modified Ti-based nanomaterials for UV-Vis and visible-light photocatalysis.
  - Investigated photodegradation of organic pollutants and structure-property relationships in inorganic and nanomaterial systems.

TEACHING EXPERIENCE

- **Organic Chemistry Laboratory Instructor (I & II) - University of Georgia** **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.
  - Monitored and trained 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 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**
  Co-Investigator: Core-shell titanium fluoride materials and photocatalytic applications.
- **International Research Grant - South Korea** **2022**
  Co-Investigator: Modification of NH2-MIL-125(Ti)-based catalysts for photocatalytic applications.
- **International Research Grant - University of Guelph, Canada** **2019**
  Co-Investigator: Titanium complexes with biomolecular ligands and catalytic application in Buchwald-Hartwig amination.
- **Research Grant - RUDN University, Moscow** **2018**
  Co-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

1. Efficient Photocatalytic Degradation of Textile Dyes Using Four-Element-Doped Anatase Nanocrystals Under Low-Intensity LED Light
   Yahya Absalan*, Abhyuday Mandal, Ramaraja Pandian Ramasamy, Baviththira Suganthan, Yehia Khalifa, and Suraj Sharma. *ACS Omega*, 2026. Paper Link
2. Recent progress on organic metal compound MOF hybrids: From controllable synthesis to potential catalytic applications
   Yahya Absalan*, Mostafa Gholizadeh, Eun-Bi Kim, Sadia Ameen*, Yousheng Wang*, Yudi Wang*, Hongming He. *Coordination Chemistry Reviews*, 2024. Paper Link
3. Key Parameters in Photocatalyst Design for Effective Textile Dye Degradation Through Designing MOF
   Yahya Absalan*, Sergiy Minko, Suraj Sharma. *Comments on Inorganic Chemistry*, 2025. Paper Link
4. Fabrication of Aligned Polyhydroxybutyrate Fibrous Scaffolds via a Touch Spinning Apparatus
   Md Mazbah Uddin, Ummay Mowshome Jahan, Vijay Mohakar, Amit Talukder, **Yahya Absalan***, Brianna Blevins, Nataraja S. Yadavalli, Vladimir Reukov, Sergiy Minko, and Suraj Sharma. *ACS Omega*, 2025. Paper Link
5. Synthesis of TiC@C-TiO_2 as an emerging efficient nanostructure for anode modification in high-power microbial fuel cells
   Mozhdeh Dehghanian, Mahmood Akhavan Mahdavi, Reza Gheshlaghi, Ghasem Barati Darband, **Yahya Absalan***. *International Journal of Hydrogen Energy*, 2025. Paper Link
6. Improvement of Power Generation in Microbial Fuel Cells Via Anode Modification with TiC@C-TiO_2/PANI Nanocomposite
   Mozhdeh Dehghanian, Mahmood Akhavan Mahdavi, Reza Gheshlaghi, Ghasem Barati Darband, **Yahya Absalan***. *Applied Biochemistry and Biotechnology*, published online 2025; volume 198 (2026). Paper Link
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
   Zeinab Soleimani, **Yahya Absalan***, Mostafa Gholizadeh, Mona Asadinamin, Andrey N Utenishevd, Ravil Galeev, Kambiz Souri. *ACS Applied Energy Materials*, 2024. Paper Link

8. Encapsulation of $Ti_xFe_yLa_mO_z$ nanoparticle into NH_2-MIL-125(Ti) to fabricate a promising photocatalyst for C-N coupling reaction
Yahya Absalan*, Mohammad Rafsanjani Dehghazi, Reza Samavati, Kambiz Souri, and Mostafa Gholizadeh. *Reaction Chemistry & Engineering*, 2024. Paper Link
9. A green synthetic method for cobalt(II,III) oxide nanoparticles with high surface activity
Yahya Absalan*, Rusul Alabada, Mohammad R. Razavi, Mostafa Gholizadeh, Oksana V. Avramenko, Irina N. Bychkova, Olga V. Kovalchukova. *Tonkie Khimicheskie Tekhnologii*, 2024. Paper Link
10. The Cu/La@TiOx composite: A sustainable and efficient photocatalyst for N-benzylation reaction under visible-light
Mohammad Reza Razavi, Zahra Toozandehjani, **Yahya Absalan***, Mostafa Gholizadeh*, Reza Samavati. *Chemistry Select*, 2024. Paper Link
11. Optoelectronic Alteration of Metal-Organic Frameworks for Enhanced Photocatalytic Water Splitting Activity Under Solar Radiation
Yahya Absalan*, Faezeh Mokari, Behnaz Delaram, Mostafa Gholizadeh, Kambiz Suri. *Comments on Inorganic Chemistry*, 2023. Review article. Paper Link
12. Noble-Free Nano Photocatalyst of $Ti_xFe_yLa_mO_z$ for Efficient Photocatalytic C-N Cross-Coupling Reactions Under Visible Light
Mohammad Rafsanjani Dehghazi, **Yahya Absalan***, Mostafa Gholizadeh, Mohammad Reza Razavi, Kambiz Souri. *ACS Applied Nano Materials*, 2023. Paper Link
13. Synthesis of TiC@C-anatase/rutile@polyvinyl alcohol/xylan: a powerful photocatalyst for degradation of organic pollutant under visible light
Yahya Absalan*, Mostafa Gholizadeh, Mohammad Reza Razavi, Zeynab Dastani, Olga Kovalchukova. *Royal Society Open Science*, 2022. Paper Link
14. Removing bromophenol blue from the aqueous environment by $Ti_xNi_yLa_mO_z$ photocatalyst under different conditions
Mohammad Reza Razavi, **Yahya Absalan***, Mostafa Gholizadeh, Stanislav Strashnov, Olga Kovalchukova. *Environmental Technology & Innovation*. 2022. Paper Link
15. Enhance the photocatalytic performance of TiO_2 nano-semiconductor by simultaneously doping of transition and lanthanide elements for the C-C homocoupling reaction under sunlight irradiation
Yahya Absalan*, Mohammad Reza Razavi, Mostafa Gholizadeh, Ali Ahmadpour, Saeed Poursabagh, Olga Kovalchukova. *Nano-Structures & Nano-Objects*. 2022, 100858. Paper Link
16. A composite of 2-aminoterephthalic acid coupled with TiF_3@TiO_2/polyvinyl alcohol with enhanced visible-light photocatalytic reactivity; investigation of the photocatalytic mechanism
Zeynab Dastani, **Yahya Absalan***, Mostafa Gholizadeh, Olga Kovalchukova. *Journal of Materials Research and Technology*. 2022, 7158-7173. Paper Link
17. Unusual Substitution in Hydrazinobenzoic Acid upon Complexation. Crystal and Molecular Structure of Hydrazinobenzoic Acid Hydrochloride
R. Alabada, O. V. Avramenko, S. B. Strashnova*, V. S. Sergienko, **Yahya Absalan*** & O. V. Kovalchukova. *Crystallography Reports*, 2022, 429-432. Paper Link
18. Zeeman effect on various reactions under magnetized solvent condition
Yahya Absalan*, Mostafa Gholizadeh, Hyoung Jin Choi. *Journal of Molecular Liquids*. 2021, 116167. Review article. Paper Link
19. Schiff bases-titanium (III) & (IV) complex compounds: novel photocatalysts in Buchwald-Hartwig C-N cross-coupling reaction
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. Paper Link
20. Investigation an environmentally friendly method under magnetic field as a green solvent for the synthesis of brookite phase nanoparticles at room temperature
Yahya Absalan*, Mostafa Gholizadeh, Vladimir V. Kopylov, Leonid A. Butusov, Valiolah Bagherzadeh, Seyed Hamid Hosseini Sajed, and Olga Kovalchukova. *Journal of Materials Science: Materials in Electronics*. 2021. Paper Link
21. Physicochemical Characteristics and Catalytic Activity of Composite Materials Based on Mixed Oxides $MTiO_3/TiO_2$ (M = Co, Ni) in 1,2-Dihydroxybenzene Photodegradation Reactions in Aqueous Solutions
Yahya Absalan*, N. Yu. Isaeva, I. G. Bratchikova, O. V. Kovalchukova, and A. G. Cherednichenko. *Petroleum Chemistry*. 2020, 557-562. Paper Link
22. Complex compound of gallic acid-titanium a powerful precursor for synthesizing titania nanotubes (TNTs); examining photocatalytic degradation of the obtained TNTs
Yahya Absalan*, Mostafa Gholizadeh, Leonid Butusov, Irena Bratchikova, Vladimir Viktorovich Kopylov, Olga Kovalchukova. *Arabian Journal of Chemistry*. 2020, 7274-7288. Paper Link
23. Thermal decomposition of bimetallic titanium complexes: a new method for synthesizing metal-TiO_2 nano-sized catalysts and photocatalytic application
Yahya Absalan*, Mikhael A. Ryabov, Olga V. Kovalchukova. *Materials Science and Engineering: C*. 2019, 813-826. Paper Link
24. Removing organic harmful compounds from the polluted water by a novel synthesized cobalt(II) and titanium (IV) containing photocatalyst under visible light
Yahya Absalan*, Rusul Alabada, Mikhail Ryabov, Valeri Tolstoy, Leonid Butusov, Victor Nikolskiy, Vladimir Kopylov, Mostafa Gholizadeh, Olga Kovalchukova. *Environmental Nanotechnology, Monitoring & Management*. 2020, 100304. Paper Link

25. Complex compounds of transition metals with hydroxyaromatic carboxylic acids as precursors for the synthesis of nanosized metal oxides
R. Alabad, O. V. Avramenko, **Yahya Absalan***, N. Yu. Isaev, O. V. Kovalchukova. *Russian Chemical Bulletin*. 2020, 934-940. Paper Link
26. Doped rare and transition metal titanate nanoparticles: A new method for developing synthesizing and photocatalytic ability
Yahya Absalan*, Irena Bratchikova and Olga.V. Kovalchukova. *Journal of Molecular Liquids*. 2018, 882-894. Paper Link
27. Ti (IV) complexes with some diphenols as precursors for TiO2 nano-sized catalysts
Yahya Absalan*, Elena A. Fortalnova, Nikolai. N. Lobanov, Ekaterina V. Dobrokhotova, Olga.V. Kovalchukova. *Journal of Organometallic Chemistry*. 2018, 80-91. Paper Link
28. Novel synthesis method for photo-catalytic system based on some 3d-metal titanates
Yahya Absalan*, Irena G. Bratchikova, Nikolai N. Lobanov and Olga V. Kovalchukova. *Journal of Materials Science: Materials in Electronics*. 2017, 1-13. Paper Link
29. Accurate investigation to determine the best conditions for using $NiTiO_3$ for bromophenol blue degradation in the environment under UV-vis light based on concentration reduction and to compare it with TiO_2
Yahya Absalan*, Irena G. Bratchikova, and Olga V. Kovalchukova. *Environmental Nanotechnology, Monitoring & Management*. 2017, 244-253. Paper Link
30. Zoning of soil's salinity by using Kriging, Cokriging methods, inverse distance weight method of Kriging regression
Abuzar Nasiri, Shojaei Saeed*, Ali Asghari, **Yahya Absalan***, Shirokova V. Alekcandrovna, and Zareie Sajad. *Elixir Agriculture Journal*. 2016, 41845-41847. Paper Link
31. Optimization of the ways of synthesis of the catalysts based on titanium dioxide by the thermal decomposition of titanium tetra butoxide
Yahya Absalan*, Oksana V. Avramenko, and Olga V. Kovalchukova. *English-Russian Chemical Journal*. 2016. Paper Link
32. Synthesis and studies of complex compounds of carboxyl derivatives of methyl pheloroglucinol with metals
Olga Kovalchukova, **Yahya Absalan***, Sergey Bobylev, Dmitry Kuznetsov, Konstantin Kobrakov. *Journal of Advances in Chemistry*. 2014, 10(1). Paper Link

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 TiO_2, 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 & STUDENT RESEARCH TRAINING

- 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; monitored project progress and trained students in photocatalysis, materials synthesis, experimental design, and characterization.
- Monitored research progress and trained 1-2 undergraduate researchers per semester at the University of Georgia (2022-2026).

STUDENT RESEARCH TRAINING & PROJECT MONITORING

Provided research monitoring and project-development support for the following student projects; responsibilities included project conception, proposal development, experimental planning, progress monitoring, and technical 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 TiO_2 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—Student, Ferdowsi University of Mashhad** **2022-2024**
   Research project: 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—Student, Ferdowsi University of Mashhad** **2022-2024**
   Research project: Synthesis of the nanoparticles based on titanium and bismuth oxide to use as photocatalysts for removing textile dyes from water.
6. **Mohana Ahmadi—Student, Ferdowsi University of Mashhad** **2021-2024**
   Research project: Synthesizing a photocatalyst obtained from the encapsulation of MOF with a $TiFeO_2$ nanoparticle, modified with a polymer for removing textile dyes from water.
7. **Mohammad Rafsanjani—Student, Ferdowsi University of Mashhad** **2020- 2022**
   Research project: Fe@TiO_2 photocatalytic C-N cross-coupling and synthesis of 1,5-pentanediylbis(triphenylphosphonium) dichromate and reductant for organic reactions.
8. **Zaynab Soleimani—Student, Ferdowsi University of Mashhad** **2020- 2022**
   Research project: 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—Student, Ferdowsi University of Mashhad** **2019- 2021**
   Research project: Synthesizing nano-photocatalysts of TiC@C-TiO_2 and TiF@F-TiO_2 for C-C and C-N coupling reactions.
10. **Mohammadreza Razavi—Student, Ferdowsi University of Mashhad** **2019- 2021**
    Research project: 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-Propranolol - 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. Touchspinning 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 the nanoparticle 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 pollutant under visible light, Amsterdam, Netherlands, 2023 - II International Scientific Conference, p. 174.
10. Metal complexes of hydrxybenzoic acid as 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 compound of IV B metals with some ligands containing hydroxyl group, and their application for degrading harmful organic substances under UV-Vis light, Moscow, 2018 - The 8th International Congress on Nano Science & Nanotechnology: Basic and Applications.
15. Complex compounds of titanium (IV) as precursors for the synthesis of nano-scale catalysts for the photodegradation of polyphenols, Tuapse, 2018 - Modern Chemical-Physics Symposium.

16. Synthesizing ZrO2 nanoparticle as a catalyst through thermal decomposition of phenol-zirconium complexes in order to degradation of harmful organic substance sunder 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 hetero-aromatic ligands, Saint Petersburg, 2017 - International Conference of St. Petersburg (Mendeleev), St. Petersburg University.
19. Synthesis 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 Nano catalyzed 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 research scientist appointment 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).
- Scientific interview with EurekAlert!, Moscow (November 2017).

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