



Assistant Professor

Eye Research Center, Five Senses Institute, Rassoul-e-Akram Hospital, Iran University of Medical Sciences, Tehran, Iran

KOWSAR BAGHERZADEH

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Skill Highlights

- Molecular Dynamic Simulations
- Umbrella Sampling
- QM/MM MD Metadynamic Simulations
- Docking Techniques
- Drug Design and Discovery
- Electrochemical Analysis
- UV-Spectrophotometry
- Chemometrics and Curve Resolutions
- Project management
- Developing Strategic plans
- Strong decision maker
- Complex problem solver
- Collaborative
- Writing/Editing Scientific Texts

Languages

English A+

Experience

- **Full Time Research Assistant Professor** 2020 - Present
Eye Research Center, Five Senses Institute, IUMS
- **Part Time Assistant Professor** 2020 - Present
Stem Cell & Regenerative Medicine Research Center, IUMS
- **Editor-in-Chief** 2017- 2020
Iranian Journal of Pharmacology and Therapeutics
- **Executive Director** 2020 – Present
Eye Research Center, Five Senses Institute, IUMS
- **Administrator of MediTec and Erasmus Programs** 2020-2022
Chancellery of International Affairs, IUMS
- **Full Time Research Assistant Professor** 2015 - 2020
Razi Drug Research Center, IUMS
- **Manager of Research and Research Centers Assessment** ^{Office} 2017-2019
Chancellery of Research and Technology, IUMS
- **Monitoring the Implementation of the Strategic Plan** 2017-2019
Chancellery of Research and Technology, IUMS

Education

- **MBA** 2019 - 2020
Faculty of Management and Economics, Sharif University of Technology
- **PhD in Analytical Chemistry** 2009 - 2014
Department of Analytical Chemistry, University of Tehran
- **MS in Analytical Chemistry** 2006- 2008
Department of Analytical Chemistry, University of Tehran
- **BS in Applied Chemistry** 2001 –2005
Department of Applied Chemistry, Islamic Azad University of Tehran
- **BA in English Literature** 2001 –2005
Faculty of Foreign Languages, University of Tehran

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Honors and Awards

- Selected as “**Chosen Young Scientist**” by Rassoul-e-Akram Hospital, IUMS, 2020
- Won “**Best Research Topic Award**” in Biotechnology, National Students Congress on Pharmaceutical Sciences, Sari, Iran, 2014
- Won “**Best Poster Award**” in Discovery Chemistry international congress Barcelona, Spain, 2014
- Chosen as “**The Gifted Student**” via Office of Gifted Students, UT, 2008
- Appreciated for my **Efforts in Research**, by Faculty of Sciences, UT, 2007

Teaching Experience

- General Chemistry
- Analytical Chemistry
- Instrumental Chemistry
- Computational Medicinal Chemistry
- Structural Bioinformatics
- Simulations in Nanoscale
- In Silico Design of Biotherapeutics
- English (General, IELTS)

Achievements

- **Establishment and Equipment** of Analysis Lab. Razi Drug Research Center, Iran University of Medical Sciences, 2016
- **Establishment and Equipment** of Computational Bio-Research Lab. with a grant received from Iran Ministry of Health, 2017
- **Development of the Course** “Simulations in Nanoscale” for the students of PhD and MA degrees, School of Advanced Technologies in Medicine, IUMS, 2017
- **Development of the Course** “Structural Bioinformatics” for the students of PhD and MA degrees, School of Advanced Technologies in Medicine, IUMS, 2021

Positions Held

- **Member of Iran University of Medical Sciences (IUMS) President office**
Think Thank Editor-in-Chief **2019- 2020**
- **Member of Iran University of Medical Sciences (IUMS) Chancellery of Research and Technology Think Thank** **2020- 2021**
- **Member of the Academic Accreditation Committee, IUMS** **2020-2022**
- **Researcher** **2012-2014**
COSMOLAB, Parc Scientific de Barcelona, Spain
- **Research Assistant** **2009-2015**
Pharmaceutical Sciences Research Center, TUMS
- **Research Assistant** **2015 - 2020**
Center of Excellence in Electrochemistry, TUMS
- **Researcher** **2005**
Pasteur Institute of Iran

The Most Contributed Publications

Articles

- **Computational Engineering of Protein L to Achieve an Optimal Affinity Chromatography Resin for Purification of Antibody Fragments.** *Analytical Chemistry*. 2021, 93(46): 15253-15261. (I designed the computational studies and it was fully supervised by me. I also wrote the computational results and discussions section and prepared the correspondence Figures)
- **Human IL-2R α subunit binding modulation of IL-2 through a decline in electrostatic interactions: A computational and experimental approach.** *PloS one*. 2022, 17(2), pp. e0264353. (I proposed the computational studies and analysis were fully performed by me. I also wrote the computational results and discussions section and prepared the correspondence Figures).
- **Key criteria for engineering mycotoxin binding aptamers via computational simulations: Aflatoxin B1 as a case study.** *Biotechnology Journal*. 2022, 17(2), 2100280. (The computational studies and analysis were fully supervised by me I also wrote the computational results and discussions section and prepared the correspondence Figures)
- **Destruction mechanisms of ozone over SARS-CoV-2.** *Scientific Reports*. 2021, 11(1):18851. (The mechanism through which Ozone destructs the virus was extracted and written and reviewed by me)

Patents

- Interleukin-2 mutant with higher antitumor activity in comparison to the wild type in immunotherapy. **Patent Num. 106243. 2022.**
- Modified L protein resin to purify antibody fragments with kappa light chain. **Patent Num. 102857. 2021.**