



## Personal details:

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<b>Nationality</b>	Iranian (Kurdish)
<b>Position</b>	Associate professor, Department of occupational health engineering
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<b>ResearchGate</b>	<a href="https://www.researchgate.net/profile/Kamaladdin-Abedi">https://www.researchgate.net/profile/Kamaladdin-Abedi</a>

## Education:

<b>Ph.D.</b>	Hamadan University of Medical Sciences, Hamadan, Iran, [November 2014]
<b>M.Sc.</b>	Isfahan University of Medical Sciences, Isfahan, Iran, [2007]
<b>B.Sc.</b>	Tehran University of Medical Sciences, Tehran, Iran, [2004]

## Academic Positions:

<b>Lecturer</b>	Zanjan University of Medical Sciences, Zanjan, Iran, [2007-2010]
<b>Assistant Professor</b>	Kurdistan University of Medical Sciences, Sanandaj, Iran, [2015-2023]
<b>Associate Professor</b>	Kurdistan University of Medical Sciences, Sanandaj, Iran, [2023-Present]

## Administrative Positions:

<b>Head of Occupational Health Department</b>	Faculty of Health, [2017-2019]
<b>Deputy of Education</b>	Faculty of Health, [2019-2025]
<b>Head of HSE Department</b>	Faculty of Health, [2024-Present]
<b>Director of technology and industry relations</b>	Kurdistan University of Medical Sciences, [2025-Present]

## Research Interests:

- Application of Artificial Intelligence in HSE and OSH
- Industrial ventilation and control of air pollution, advanced oxidation technologies
- Exposure assessment to air pollutants and other harmful agents in industrial settings and workplaces
- Chemical health and safety risk assessment



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### **Supervision of Theses:**

- Main Supervisor of MSc thesis: “Development of a Machine Learning Model for Predicting Chemical Exposure Risk and Comparison with the Singapore Semi-Quantitative Method: A Case Study in the Rubber Industry, [2025].”
- Main Supervisor of MSc thesis: “Development of a Machine Learning–Based Predictive Model for Occupational Exposure Risk Assessment and Management in Hospital Environments, [2025].”
- Co-Supervisor of MSc thesis: “Prediction and Risk Analysis of Occupational Accidents Using Machine Learning Algorithms and Comparison with the FMEA Method in the Gas Industry, [2025].”
- Co-Supervisor of MSc thesis: “Predictive Modeling of Occupational Diseases Risk Using Machine Learning Based on Periodic Medical Examinations and Exposure Data: A Case Study in Industries of Kurdistan Province, [2025].”
- Co-Supervisor of MSc thesis: “Combining Machine Vision Methods and Deep Learning Networks for Early Detection of Occupational Pulmonary Diseases Based on Chest X-Ray Images, [2025].”

### **Research Grants & Projects (Current):**

- Principal Investigator, Research Project (Kurdistan university of medical sciences): Modeling of Chemical Exposure among Workers Using Environmental and Behavioral Data in Industrial Settings, [2025].
- Principal Investigator, Technology Project (Kurdistan university of medical sciences): An Intelligent Machine Vision System for Monitoring Unsafe Behaviors in Work Environments, [2025].

### **Awards & Honors (Current):**

- Winner of a National Award in Artificial Intelligence Applications in HSE (2024). Recognized as Distinguished Researcher at Kurdistan University of Medical Sciences.

### **Teaching Experience:**

<b>B.Sc. Courses taught</b>	Industrial ventilation design, air pollution control methods, personal air sampling techniques, sample preparation and analysis techniques, chemical safety, machinery safety, fire safety, risk assessment and management, industrial management, fluid mechanics in OSH, dynamics of gases and aerosols
<b>M.Sc. Courses taught</b>	Exposure assessment and modeling, HSE rules and standards, technical English, Artificial Intelligence in HSE, Control of Harmful Chemical Agents

### **Educational Innovations:**

- Designed and implemented an OSPE (Objective Structured Practical Examination) for Occupational Safety and Health (OSH) students to evaluate competencies in practical and applied skills, enhancing objective assessment in HSE education (2022).
- Developed and introduced a new Master’s level course on “Artificial Intelligence in HSE”, integrating machine learning, data science, and occupational health to prepare students for future-oriented approaches in safety and exposure risk assessment (2024).

### **Publications (Selected- Full publication list available on Google Scholar):**

- Farshid Ghorbani Shahna, Abdulrahman Bahrami, Iraj Alimohammadi, Rassuol Yarahmadi, Babak Jaleh, Mastaneh Gandomi, Hossein Ebrahimi, Kamal Ad-Din Abedi, Chlorobenzene degeradation by non-thermal plasma combined with EG-TiO<sub>2</sub>/ZnO as a photocatalyst: Effect of photocatalyst on CO<sub>2</sub> selectivity and byproducts reduction, *Journal of Hazardous Materials*, 2017; 324, 544-553.
- Abedi K, Ghorbani-Shahna F, Jaleh B, Bahrami A, Yarahmadi R, Haddadi R, Gandomi M. Decomposition of chlorinated volatile organic compounds (CVOCs) using NTP coupled with TiO<sub>2</sub>/GAC, ZnO/GAC, and TiO<sub>2</sub>-ZnO/GAC in a plasma-assisted catalysis system. *Journal of Electrostatics*. 2015 Feb 28;73:80-8.
- Moghadam SM, Alimohammadi I, Taheri E, Rahimi J, Bostanpira F, Rahmani N, Abedi K, Ebrahimi H. Modeling effect of five big personality traits on noise sensitivity and annoyance. *Applied Acoustics*. 2021 Jan 15;172:107655.
- Abedi K, Ghorbani-Shahna F, Jaleh B, Bahrami A, Yarahmadi R. Enhanced performance of non-thermal plasma coupled with TiO<sub>2</sub>/GAC for decomposition of chlorinated organic compounds: influence of a hydrogen-rich substance. *Journal of Environmental Health Science and Engineering*. 2014 Sep 16;12(1):119.
- Darvishi E, Ghasemi F, Sadeghi F, Abedi K, Rahmati S, Sadeghzade G. Risk assessment of the work-related musculoskeletal disorders based on individual characteristics using path analysis models. *BMC musculoskeletal disorders*. 2022 Jun 27;23(1):616.
- Jaleh B, Gandomi Rouzbahani M, Abedi K, Azizian S, Ebrahimi H, Nasrollahzadeh M, Varma RS. Photocatalytic decomposition of VOCs by AC-TiO<sub>2</sub> and EG-TiO<sub>2</sub> nanocomposites. *Clean Technologies and Environmental Policy*. 2019 Aug 15;21(6):1259-68.
- Mozaffari S, Abedi KA, Garmaroudi AA. Assessing The Emergency Preparedness of The Educational Hospitals in Kurdistan's University of Medical Sciences, using The Resilience Engineering Method In 2018. *Iran Occupational Health*. 2021;26:476-84.
- Abedi K, Shahmoradi B, Mohammadi E, Wantala K, Maleki A, Zandsalimi Y, Salimi S, Kohzadi S. Photocatalytic degradation of VOCs from air stream using Mo: TiO<sub>2</sub>/GAC nanocomposites. *Materials Research Express*. 2022 Feb 4;9(2):025502.
- Mehri A, Rashidi MA, Rashidi AH, Abbasi M, Mohammadian F, Abedi K, Darvishi E. The effect of traffic noise on divided attention and perception concerning individual role differences: an experimental study. *Auditory and Vestibular Research*. 2022 Dec 11.
- Mohammadian F, Sadeghi M, Hanifi SM, Noorizadeh N, Abedi K, Fazli Z. Modeling important factors on occupational accident severity factor in the construction industry using a combination of artificial neural network and genetic algorithm. *Work*. 2022 Sep 19;73(1):189-202.
- Darvishi E, Abedi K, Mohammadian F, Osmani H, Saedi P, Khoubi J, Yari A, Nuri B. Identification of Hazards, Risk Assessment of the Campus Collection of Kurdistan University of Medical Sciences With the Aim of Crisis Management. *Scientific Journal of Kurdistan University of Medical Sciences*. 2024 Jul 10;29(3):113-26.
- Rahimi Z, Shahmoradi B, Abedi K, Mohammadi E, Choi HJ. Evaluation of airborne and blood lead concentration in auto repair technicians in Sanandaj industrial town. *Water, Air, & Soil Pollution*. 2025 Jan;236(1):71.
- Mandali H, Ghasemi F, Farshad AA, Moradi Hanifi S, Abedi K, Ghorbani M, Ebrahimi H. Risk and Reliability Assessment of Metal Lathe Machining Operation with DBN-FFTA Hybrid Approach. *Mathematical Problems in Engineering*. 2023;2023(1):8873531.
- Madjidi F, Abedi K. A simple method to improve VCP by reducing DGR in an interior lighting installation. *Light & Engineering*. 2018;26(1):73-80.
- Majidi F, Abedi K, Pirsaraei SR. Occupational exposure to infrared radiation in aluminum and cast-iron foundries in Zanjan, Iran. *International journal of occupational hygiene*. 2011;3(1):33-7.



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### Key Skills:

<b>Computational &amp; Data Analysis</b>	Computer basics and ICDL (Word, PowerPoint, Excell, ...), SPSS, Statistical modeling, Data visualization tools, Database management
<b>AI &amp; Advanced Analytics</b>	Artificial intelligence, machine learning, python, deep learning, Predictive modeling for health risk assessment,
<b>Occupational Health &amp; Safety (HSE) Methods</b>	Exposure modeling, Safety risk assessment, Industrial ventilation design and installation, AutoCAD, Noise monitoring and control techniques, PPE evaluation and testing methods, chemical risk assessment, Ergonomic risk assessment
<b>Laboratory &amp; Experimental Techniques</b>	GC/MS, UV/Visible Spectroscopy, Nanoparticles synthesis and Dip-Coating Techniques, Non-thermal Plasma, Photocatalytic oxidation, Sol-gel, Indoor air sampling techniques, Sample preparation and analysis techniques
<b>Research &amp; Academic Skills</b>	Scientific writing and peer-review experience, Grant proposal writing, Supervision of MSc/PhD theses, international collaboration and academic networking, EndNote, Ethics in writing, Development and innovation in education

### Professional Memberships:

- Member, Iranian Society of Occupational Health
- Researcher, Environmental Health Research Center, Kurdistan University of Medical Sciences

### Conducting workshops:

- Safety and emergency responses in chemical accidents
- The assessment of chemical agents
- Risk assessment and management
- General safety
- AI in HSE and OSH
- Exposure assessment

### Books:

- Author, Towards the 3rd generation Universities [in Persian], Arena Publications, [2016]
- Author, Risk assessment [in Persian], Fannavarar Publications [2016]
- Author, Innovation and Entrepreneurship in the Health Sector: From Idea to Objective Realization [in Persian], Arshadan Publications, [2018]

### Interests:

- Classical music & Classical poetry & Jalaluddin Rumi
- Sociology, Philosophy, Psychology
- Gardening, Birds breeding, Mountaineering, Bike riding
- Book reading

### Languages:

- Kurdish and Persian (Native)
- English (Fluent)