



Nader Rahimi Kakavandi

Address:

Department of Occupational Health and Safety Engineering, Faculty of Health, Ilam University of Medical Sciences, Ilam, Iran

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Scientific profiles

Current Position:

Assistant Professor of Toxicology

Education

Grade	University	Country
<i>MSc of Toxicology</i>	<i>Tehran University of Medical Sciences</i>	<i>Iran</i>
<i>PhD of Toxicology</i>	<i>Tehran University of Medical Sciences</i>	<i>Iran</i>

Thesis

PhD thesis: Evaluation of treatment with Edaravone, on acute cardiac toxicity of Phosphine

Supervisors: Dr. Mohammad Abdollahi, Dr. Mohammad Sharifzadeh

MSc Thesis: Ion-pair switchable-hydrophilicity solvent-based homogeneous liquid-liquid microextraction for the determination of paraquat in environmental and biological samples before high-performance liquid chromatography.

Supervisors: Dr. Mahmoud Ghazi-Khansari, Dr. Khosrou Abdi, Dr. Seyed Jamaledin Shahtaheri

Teachings

1. Toxicology
2. Management of poisoning
3. Pharmacology
4. Analytical Chemistry
5. Occupational diseases
6. Application of advanced instrumental methods in the analysis of chemical compounds

Additional Skills And Research Interests

1. The expert of the devices in the laboratory for the analytical toxicology experiments:
 - High Performance Liquid Chromatography
 - Gas Chromatography
 - Atomic Absorption
 - GC-Mass
 - UV/Visible, Plate Readers
 - FT-IR for determine the functional groups
2. The expert of the Power Lab system to in vivo evaluation of xenobiotic-induced cardiotoxicity
3. The expert in sample preparation techniques such as LLME, SPME, etc.
4. Bio-analyzers; for assessing biochemistry of animals biological samples (Serum, Plasma, Urine, etc.)
5. In-vitro studies with cell culture
6. Perfect Cognition with USP pharmacopeia and how to use it.
7. Perfect Cognition with BP pharmacopeia and how to use it.
8. Determine Assay and purity and testing qualitative drugs for raw materials and products pharmaceutical company.
9. Systematic Review and Meta-analysis

Membership

- Scopus Profile: 56582244000
- Research Gate: <https://www.researchgate.net/profile/Nader-Rahimi-Kakavandi>
- ORCID Page: <https://orcid.org/0000-0002-9328-1408>
- ISID: https://isid.research.ac.ir/Nader_RahimiKakavandi
- Web of Science ResearcherID: JEF-1054-2023
- <https://rpis.research.ac.ir/> = 6 Completed Research Projects
- H-Index in Scopus= 6

Publications

1. **Rahimi Kakavandi, Nader**, Maryam Ezoddin, Khosrou Abdi, Mahmoud Ghazi-Khansari, Mohsen Amini, and Seyed Jalalaldin Shahtaheri. *"Ion-pair switchable-hydrophilicity solvent-based homogeneous liquid-liquid microextraction for the determination of paraquat in environmental and biological samples before high-performance liquid chromatography."* **Journal of separation science** 40, no. 18 (2017): 3703-3709.
2. **Rahimi Kakavandi, Nader**, Amin Hasanvand, Mahmoud Ghazi-Khansari, Ahmad Habibian Sezavar, Hassan Nabizadeh, and Mohammad Parohan. *"Maternal dietary nitrate intake and risk of neural tube defects: A systematic review and dose-response meta-analysis."* **Food and Chemical Toxicology** 118 (2018): 287-293.
3. **Rahimi Kakavandi, Nader**, Tayebbeh Asadi, Behrouz Jannat, Khosrou Abdi, Mahmoud Ghazi-Khansari, Hossein Shahali, and Karim Naraki. *"Method development for determination of imatinib and its major metabolite, N-desmethyl imatinib, in biological and environmental samples by SA-SHS-LPME and HPLC."* **Biomedical Chromatography** 35, no. 7 (2021): e5088.
4. **Rahimi Kakavandi, Nader**, Motahareh Hashemi Moosavi, Tayebbeh Asadi, Morteza Abyadeh, Habib Yarizadeh, Ahmad Habibian Sezavar, and Mohammad Abdollahi. *"Association of maternal intake of nitrate and risk of birth defects and preterm birth: a systematic review and dose-response meta-analysis."* **Archives of Environmental & Occupational Health** (2021): 1-10.
5. Yarizadeh, Habib, Sara Asadi, Hussein Baharloo, Leila Setayesh, **Nader Rahimi Kakavandi**, Catherine Hambly, Kurosh Djafarian, and Khadijeh Mirzaei. *"Beneficial impact of exercise on bone mass in individuals under calorie restriction: a systematic review and Meta-analysis of randomized clinical trials."* **Critical reviews in food science and nutrition** 61, no. 4 (2021): 553-565.
6. Lamei, Navid, Maryam Ezoddin, **Nader Rahimi Kakavandi**, Khosrou Abdi, and Mahmoud Ghazi-khansari. *"Ultrasound-assisted switchable solvent in determination of quaternary ammonium herbicide paraquat in biological, environmental water, and apple juice samples using chemical reduction process coupled to GC-MS detection."* **Chromatographia** 81, no. 6 (2018): 923-930.

7. Asadi, Tayebbeh, **Nader Rahimi Kakavandi**, Amir Nili Ahmadabadi, Ali Heshmati, Akram Ranjbar, Khosrou Abdi, and Maryam Ezoddin. "*Development of effervescence-assisted switchable-polarity solvent homogeneous liquid-phase microextraction for the determination of permethrin and deltamethrin in water samples prior to GC-FID.*" **Biomedical Chromatography** (2021): e5304.
8. Sezavar, Ahmad Habibian, Bahman Pourhassan, **Nader Rahimi Kakavandi**, Mohammad Reza Hooshangi Shayeste, and Morteza Abyadeh. "*Association of maternal blood lead concentration with the risk of small for gestational age: A dose-response meta-analysis.*" **Archives of Environmental & Occupational Health** (2021): 1-9.
9. Habibian, Ahmad, Morteza Abyadeh, Mostafa Abyareh, **Nader Rahimi Kakavandi**, Atefeh Habibian, Maliheh Khakpash, and Mahmoud Ghazi-Khansari. "*Association of maternal lead exposure with the risk of preterm: a meta-analysis.*" **The Journal of Maternal-Fetal & Neonatal Medicine** (2021): 1-9.
10. Osdaghi, Ebrahim., and **Nader Rahimi Kakavandi**. "*A new leaf disease on Populus euphratica in south-western Iran.*" **Forest Pathology** 45, no. 4 (2015): 336-341.
11. Osdaghi, Ebrahim., and **Nader Rahimi Kakavandi**. "*First report of Alternaria alternata causing leaf spot on Populus euphratica in Iran.*" **Iranian Journal of Plant Pathology** 50, no. 3 (2014): 309-310.
12. **Nader Rahimi Kakavandi**, Tayebbeh Asadi, Mohammad Reza Hooshangi Shayesteh, Maryam Baeeri, Mahban Rahimifard, Amir Baghaei, Marzieh Nourozi, Mohammad Sharifzadeh, Mohammad Abdollahi. "*The electrocardiographic, hemodynamic, echocardiographic, and biochemical evaluation of treatment with edaravone on acute cardiac toxicity of aluminum phosphide*". **Frontiers in Pharmacology**, no. 41 (2022).
13. Ezoddin, Maryam, Karim Naraki, Khosrou Abdi, **Nader Rahimi Kakavandi**, Mahmoud Ghazi-Khansari, Mahdiyeh HS Javadi, and Nazanin Pirooznia. "*Deep eutectic solvent as the acceptor phase in three-phase hollow fiber liquid-phase microextraction for the determination of pyrethroid insecticides from environmental water samples prior to HPLC*". **Biomedical Chromatography**, no. 36 (2022).
14. **Nader Rahimi Kakavandi**, Tayebbeh Asadi, Hojatollah

Kakaei. "*Piperonyl butoxide*". **Elsevier-Encyclopedia of toxicology 4th Edition.**

15. Homa Faghihi, Negar Mottaghi-Dastjerdi, Mohammad Sharifzadeh, **Nader Rahimi Kakavandi**. "*ChAdOx1 nCoV-19 Vaccine and Thrombosis with Thrombocytopenia Syndrome among Adults: A Systematic Review*". **Advanced Pharmaceutical Bulletin.** (2023).
16. **Nader Rahimi Kakavandi**, Ayda Moradi, Seyed Jamaledin Shahtaheri. "*Molinate*". **Elsevier-Encyclopedia of toxicology 4th Edition.**
17. Hojatollah Kakaei, Seyed Jamaledin Shahtaheri, Khosrou Abdi, **Nader Rahimi Kakavandi**. "*Separation and quantification of diazinon in water samples using liquid-phase microextraction-based effervescent tablet-assisted switchable solvent method coupled to gas chromatography-flame ionization detection*". **Biomedical Chromatography**, no. 37 (2023).
18. Behnam Ghorbani Nejad, **Nader Rahimi Kakavandi**, Soheila Mirzaei, Nima Rastegar Pouyani, Ahmad Habibian Sezavar. "*Exposure to atrazine by drinking water and the increased risk of neonatal complications in consequence: a meta-analysis*". **International Journal of Environmental Health Research.** (2023).
19. **Nader Rahimi Kakavandi**, Taraneh Mousavi, Tayebbeh Asadi, Ayda Moradi, Mahta Esmaeili, Ahmad Habibian Sezavar, Shekoufeh Nikfar, Mohammad Abdollahi. "*An updated systematic review and dose-response meta-analysis on the relation between exposure to arsenic and risk of type 2 diabetes*". **Toxicology Letters.** no 384 (2023).

Abstracts & Posters

1. **Rahimi Kakavandi, Nader**, Maryam Ezoddin, Khosrou Abdi, Mahmoud Ghazi-Khansari, Mohsen Amini, and Seyed Jalalaldin Shahtaheri. *Detection and determination of trace amount of paraquat with ion pair-switchable hydrophilicity solvent based homogeneous liquid-liquid microextraction by HPLC in urine sample.* **Lecture in The 14th Iranian Congress of Toxicology**, 24-26 October, 2017, Shiraz University of Medical Sciences, Shiraz, Iran.
2. **Rahimi Kakavandi, Nader**, Khosrou Abdi, Mahmoud Ghazi-Khansari, Maryam Ezoddin, Mohsen Amini, Ahmad

Habibian Sezavar. *Determination of paraquat with SHS-LPME-GC following chemical reduction with sodium borohydride in urine sample.* **Poster in The 14st Iranian Congress of Toxicology**, 24-26 October, 2017, Shiraz University of Medical Sciences, Shiraz,Iran.

3. **Rahimi Kakavandi, Nader**, Tayebeh Asadi, Khosrou Abdi, Mahmoud Ghazi-Khansari. *Method development and validation for the determination of trace amount of imatinib in biological and environmental samples by salting out assisted switchable- polarity solvent based liquid phase microextraction and HPLC.* **Poster in The 15st Iranian Congress of Toxicology**, 19-22 November, 2019, Shahid Beheshti University of Medical Sciences, Tehran ,Iran.
4. **Rahimi Kakavandi, Nader**, Tayebeh Asadi, Mahmoud Ghazi-Khansari. *Maternal dietary nitrate intake and risk of neural tube defects: A systematic review and dose-response meta-analysis.* **Poster in The 15st Iranian Congress of Toxicology**, 19-22 November, 2019, Shahid Beheshti University of Medical Sciences, Tehran ,Iran.

Projects

1. Maternal dietary nitrate intake and risk of neural tube defects: A systematic review and dose-response meta-analysis.
2. determination and detection of pyrethroid insecticides (Deltamethrin & Permethrin) using HF-LPME method by HPLC in surface water.
3. Association of maternal blood lead concentration with the risk of small for gestational age: A dose-response meta-analysis.
4. Detection and determination of trace amounts of paraquat using SPS-LLME-HPLC method in urine sample.
5. Simultaneous detection and determination of chlordiazepoxide, diazepam, and alprazolam using nanocellulose adsorbent coated with Deep eutectic solvent by HPLC in plasma samples.
6. Detection and determination of amitriptyline and nortriptyline

in plasma using switchable hydrophilicity solvent -liquid liquid Microextraction and high-performance liquid chromatography.

7. Detection and determination of Diazinon using nanocellulose adsorbent coated with Deep eutectic solvent by HPLC in surface water.
8. Method development for determination of imatinib and its major metabolite, N-desmethyl imatinib, in biological and environmental samples by SA-SHS-LPME and HPLC.
9. Development of effervescence-assisted switchable-polarity solvent homogeneous liquid-phase microextraction for the determination of permethrin and deltamethrin in water samples prior to GC-FID.
10. Evaluation of treatment with Edaravone, on acute cardiac toxicity of Phosphine.
11. Investigating the protective effects of fucoidan on acute cardiac toxicity induced by aluminum phosphide in Wistar rats.
12. Development of effervescence-assisted switchable-polarity solvent homogeneous liquid-phase microextraction for the determination of diazinon in water samples prior to GC-FID.

Books

Two chapters of Encyclopedia of Toxicology 4th Edition:

1- Piperonyl butoxide

2- Molinate

Relevant Software

- 1- **Refereeing Committee**, 14th Iranian Congress of Toxicology, 24-26 October 2017, Shiraz, Iran.
- 2- **Scientific Committee**, Iranian pharmaceutical sciences congress (IPSC 2015).
- 3- **Scientific Committee**, Nano Medicine and Nano Safety (NSNM 2016).

1. **Graph Pad Prism**: Biostatistics, curve fitting, and scientific graphing.
2. **EndNote**: Publishing and managing bibliographies, citations and references.
3. **SPSS**: Statistical analysis.
4. **ChemBioDraw**: A scientific drawing program to draw accurate, chemically-aware structures.
5. **STATA**

