

مرکز تحقیقات آبهای زیرزمینی (متأب)، دانشگاه فردوسی مشهد، مشهد، ایران  
Groundwater Research Center (GRC), Ferdowsi University of Mashhad, Mashhad, Iran  
P.O. Box: 91775-1436, Tel: +98-511-8797275, Tel: +98-910-5000155, Fax: +98-511-8797275



## بیوگرافی علمی (CV) مجری طرح (در سایت زیر قابل دسترس میباشد)

### اطلاعات شخصی:

- نام و نامخانوادگی: حسین محمدزاده
- تاریخ و محل تولد: ۱۳۴۶، مشهد
- آدرس، نشانی الکترونیکی و آدرس صفحه خانگی:  
مشهد، میدان آزادی، پردیس دانشگاه فردوسی مشهد، دانشکده علوم پایه، مرکز تحقیقات آبهای زیرزمینی (متأب)، کد پستی: ۹۱۷۷۵-۱۴۳۶، تلفن: ۰۵۱۱-۸۷۹۷۲۷۵ و ۰۵۱۱-۵۰۰۰۱۵۵، فاکس: ۰۵۱۱-۸۷۹۷۲۷۵  
Groundwater Research Center, Faculty of Science, University of Ferdowsi Mashhad, P.O.Box: 91775-1436, IRAN  
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### تحصیلات:

- فوق دکتری (۱۳۸۸-۱۳۸۶): کاربرد فناوری ایزوتوپهای محیطی در منابع آب، دانشگاه اتاوا، کانادا
- دکتری (۱۳۸۶-۱۳۸۰): منابع آب و محیط زیست (علوم زمین)، دانشگاه اتاوا، کانادا
- دوره تکنیکهای صحرایی در هیدروژئولوژی (۱۳۸۴): دانشگاه واترلو، کانادا
- کارشناسی ارشد (۱۳۷۳-۱۳۷۰): هیدروژئولوژی، دانشگاه شیراز، ایران
- کارشناسی (۱۳۷۰-۱۳۶۵): زمین شناسی، دانشگاه فردوسی مشهد، ایران

### سمت:

- عضو هیات علمی و سرپرست مرکز تحقیقات آبهای زیرزمینی (متأب) دانشگاه فردوسی مشهد

### عضویت در مجامع علمی (Professional Activities):

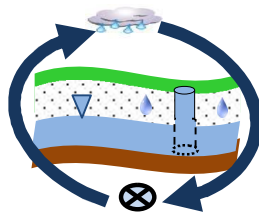
- 1996 - Present, International Association of Hydrogeologists (IAH)
- 1997- Present, Iranian Association of Water Resources (IAWR)

### فعالیت های آموزشی و پژوهشی (Teaching and Research Activities):

- 1994 - Present, Lecturer of Department of Geology, Faculty of Science, Ferdowsi University of Mashhad (Advanced Hydrogeology, Contamination of Water Resources, Tracers and Isotopes, Waste Materials and the Environments, Groundwater Geochemistry, Hydrogeology, Hydrology and Physical Geology).
- 2001 – 2007, Teaching Assistance at Department of Earth Sciences, University of Ottawa [Introduction to Hydrogeology (GEO 3342), Groundwater Geochemistry (GEO 4342), Geological Data Analysis (GEO 3152), Introduction to Earth Systems (GEO 1111), and G.G. Hatch Isotopes laboratory].
- 2001 – 2009, Doing Research at University of Ottawa and Waterloo University, Canada.
- 1996 - 2001, Research Consultant Ministry of Agriculture, Mashhad, Iran.

### مقالات علمی در نشریه ها (Journal Publications):

- *Mohammadzadeh, H.*, Clark, I. (Under Review). “Distinguishing bioreactive attenuation from dilution in groundwaters impacted by landfill leachate using compound-specific  $\delta^{13}\text{C}$ ”, Ground Water.

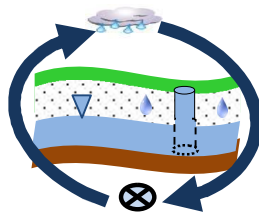


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- Mirnejad, H., Sisakht, V., **Mohammadzadeh, H.**, Amini, A.H., Rostron, B.J., and Haghparast, G., “(Accepted). “Source history and economic evaluation of the Marun oil-field brines, SW Iran: Evidence from trace element contents and oxygen and hydrogen isotopic compositions”, *Geological Journal*.
- **Mohammadzadeh, H.**, Clark, I. (2008). “Degradation Pathways of Dissolved Carbon in Landfill Leachate traced with compound-specific  $^{13}\text{C}$  analysis of DOC”, *Journal of Isotopes in Environmental and Health Studies*, Vol. 44, No. 3, pp 1-28.
- **Mohammadzadeh, H.**, Clark, I., Marschner, M., St-Jean, G. (2005). “Compound Specific Isotopic Analysis (CSIA) of Landfill Leachate DOC Components”, *Chemical Geology*, Vol. 218, pp 3-13.
- **Mohammadzadeh, H.**, Gohari Moghaddam, M., (2001). “Evaluation and Management of Groundwater Resources by Mathematical Models”, *Journal of Science, Ferdowsi University of Mashhad, Iran*, Vol. 3, No. 2, pp. 59-72.
- **Mohammadzadeh, H.**, (2000). “Groundwater of Baharieh – Kashmar plain”, *Journal of Sciences, Ferdowsi University of Mashhad, Iran*.
- Adabi, M.H., **Mohammadzadeh, H.**, (1997). “Study of origin and hydrogeology of Bazangan lake, in Eastern Kopet – Dagh Basin “, *The International Journal of Research in Geography*, no. 47, pp. 31-43.

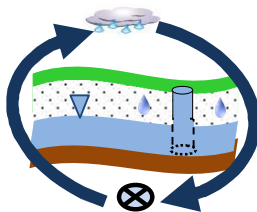
#### مقالات در همایش ها (Presented Papers in Conference):

- **Mohammadzadeh, H.**, (May 2010). “The Meteoric Relationship for  $^{18}\text{O}$  and  $^2\text{H}$  in Precipitations and Isotopic Compositions of water resources in Mashhad Area (NE Iran)”, 1<sup>st</sup> International Applied Geological Congress, Mashhad, Iran.
- **Mohammadzadeh, H.**, (may, 2010). “Spatial Statistical Analysis of Groundwater using Geopack and ArcGIS”, 1<sup>st</sup> International Applied Geological Congress, Mashhad, Iran.
- **Mohammadzadeh, H.**, (October 2009). “Environmental Stable Isotope Measurements Techniques: Sampling, Sample preparation, Standards and Measurements tools” 1<sup>st</sup> Natinal Conference on Hydrogeology, Behbahan, Iran.
- **Mohammadzadeh, H.**, (October 2009). “Environmental Stable Isotope Measurements Techniques: Sampling, Sample preparation, Standards and Measurements tools” 1<sup>st</sup> Natinal Conference on Hydrogeology, Behbahan, Iran.
- **Mohammadzadeh, H.**, (June 2009). “The quality and isotope geochemistry of the Garow saline water springs, Mashhad –Iran”, *Goldschmidt2009, Davos, Switzerland*, p. A891.
- **Mohammadzadeh, H.**, Clark, I. (May 2009). “Application of  $^{13}\text{C}$  isotope and carbon geochemistry to identify impact from landfill on surrounding groundwater”, *The 8th International Congress of Civil Engineering, Shiraz, Iran*.
- **Mohammadzadeh, H.**, (September 2008). “ $^{18}\text{O}$ ,  $^2\text{H}$  and  $^{13}\text{C}$  Isotopic Compositions of Water in Torogh and Kardeh Dams, Mashhad – NE Iran”, *Joint European Stable Isotope User Meeting, Giens Peninsula, France*.
- **Mohammadzadeh, H.**, Robin, M.J.L., Khanehbad M. (July 2008). “An investigation of the origin and the groundwater discharge to Bazangan Lake, Eastern Kopet-Dagh Basin-Iran, using geochemistry and stable isotopes”, *Goldschmidt2008, Vancouver, Canada*, p. A641.
- **Mohammadzadeh, H.**, Clark, I. (May 2008). “Assessment of dissolved organic carbon degradation in landfill leachate using hydrogen and carbon isotopes”, *The 2nd Conference and Exhibition on Environmental Engineering, Tehran, Iran*, p.
- **Mohammadzadeh, H.**, Clark, I. (Nov. 2007). “Characterization of  $\text{CH}_4$  production pathways and estimating the rate of  $\text{CH}_4$  production using stable isotopes”, *stable isotope tools for the assessment of chemical and microbial transformation reactions in complex natural and contaminated environment, Monte Verita, Switzerland*, p. 46.



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- **Mohammadzadeh, H.**, Clark, I., Aravena, R., Bourbonnais, A., Lue, I., Middlestead, P. (Aug. 2006). “Isotopic Analysis of Ammonium ( $\delta^{15}\text{N}$ ), Nitrate ( $\delta^{18}\text{O}$  &  $\delta^{15}\text{N}$ ) and Dissolved Carbon ( $\delta^{13}\text{C}$ ) in Landfill Leachate Plum”, 2ed International Conference on Environmental Science and Technology, Houston, Texas, USA, pp. 145-150.
- **Mohammadzadeh, H.**, Clark, I., Middlestead, P. (Sep. 2004). “Carbon Geochemistry and Environmental Stable Isotopes of Landfill Leachate-Impacted Groundwater”, 3<sup>rd</sup> Meeting of the France Stable Isotope Society (FSIS), UNESCO, Paris, France.
- Clark, I., Marschner, M., **Mohammadzadeh, H.**, St-Jean, G., Middlestead, P. (July 2004). “Compound-specific  $\delta^{13}\text{C}$  analysis of DOC in groundwater by LC-TIC.TOC – continuous flow (IAEA-CN-104/P-139)”, International Symposium on Isotope Hydrology and Integrated Water Resources Management, IAEA, Vienna, Austria.
- **Mohammadzadeh, H.**, Clark, I., (Sep. 2004). “Evaluation of Groundwater pollution in Trail Road Landfill site, Canada, Using a Geochemical and Isotopic Approach”, 8<sup>th</sup> Symposium of Geological Society of Iran, Shahrood, Iran.
- **Mohammadzadeh, H.**, Clark, I., St-Jean, G., Middlestead, P. (July 2004). “Tracing Landfill Leachate Impacts on Groundwater Using DOC Geochemistry and  $\text{d}13\text{C}$ ”, 4<sup>th</sup> International Conference on Groundwater Quality, GQ-2004, Waterloo, Canada.
- **Mohammadzadeh, H.**, Marshner, M., Clark, I., St-Jean, G., Middlestead, P. (Sep. 2003). “Compound-Specific Isotope Analysis of DOC in Landfill Leachate”, 13<sup>rd</sup> annual Goldschmidt Conference, Kurashiki, Japan.
- **Mohammadzadeh, H.**, Clark, I., St-Jean, G., Middlestead, P. (2003). “Trail Road Landfill Leachate Compound Specific Isotopic Analysis (CSIA) Using HPLC, TIC/TOC and IRMS”, Graduate students conference, University of Ottawa, Ottawa, Canada.
- **Mohammadzadeh, H.**, (2000). “Effects of natural factors on groundwater quality, Case study: Korbal, Birjand & Kashmar plains”, 5<sup>th</sup> International Conference on Civil Engineering, Mashhad, Iran.
- **Mohammadzadeh, H.**, Adabi, M.H., (2000). “Water balance and touristic attractions of the biggest natural lake of Khorasan state ‘Bzangan’ ”, 5<sup>th</sup> International Conference on Civil Engineering, Mashhad, Iran.
- **Mohammadzadeh, H.**, Sadeghi, A., (2000). “Study on Cr+6 and hydrochemistry of groundwater in Aliabad plain - Birjand ”(Abstract), 7<sup>th</sup> Iranian Seminar of Pharmaceutical Sciences (ISPS), Mashhad, Iran.
- **Mohammadzadeh, H.**, Kazemi, R., (1999). “Groundwater and hydrogeochemical studies of Shirvan and its role on development of the Shirvan city”, Proceeding of the 3<sup>rd</sup> Symposium of the Geological Society of Iran, Shiraz, Iran, pp. 593 – 597.
- **Mohammadzadeh, H.**, Zare, M., (1998). “Hydrogeological Techniques for identification of karstic and alluvial groundwater mixing: A case study of Rahmat anticline, Perspolice”, The 2<sup>nd</sup> International Symposium on Karstic Water Resources, Tehran – Kermanshah, Iran.
- **Mohammadzadeh, H.**, Amini, A., Ghafourian, R., (1998). “The role of geological and hydrogeochemical studies in Baharieh floodwater spreading project”, Proceeding of the 2<sup>nd</sup> Symposium of the Geological Society of Iran, Mashhad, Iran, pp. 431 - 436.
- **Mohammadzadeh, H.**, Ghohari Moghaddam, M., (1998). “Evaluation and management of groundwater resources by mathematical models”, The First Conference on Optimization and its Applications, Mashhad, Iran.
- **Mohammadzadeh, H.**, Ghafouri, M., (1998). “The role of groundwater in landslide”, Proceeding of the 2<sup>nd</sup> Symposium on Landslide, Sanandaj, Iran, pp. 1 - 14.
- **Mohammadzadeh, H.**, (1997). “Water quality and it’s role in agricultural development”, Proceeding of the First Symposium on Industrial Role in Agricultural Development, Isfahan, Iran, pp. 233 – 246.
- Adabi, M.H., **Mohammadzadeh, H.**, (1997). “Study of origin and hydrogeology of Bazangan lake, in Eastern Kopet – Dagh Basin “, The International Journal of Research in Geography, no. 47, pp. 31-43.



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- **Mohammadzadeh, H.,** Ghafourian, R., (1997). “Importance of hydrogeological and hydrogeochemical studies in floodwater spreading projects”, 8th International Conference on Rainwater Cathment System, Tehran, Iran, pp. 1523 - 1524.
- **Mohammadzadeh, H.,** (1995). “ Investigation on the causes of salinity in the Karstic springs of Rahmat mountain, Zagros, Iran” Proceeding of the 3<sup>rd</sup> Symposium on the Study of Water Resources, Tehran, Iran, pp. 430 – 452.
- **Mohammadzadeh, H.,** (1994). “The harmful effects arising out of irregular extractoin of groundwater resources”, Second Conference of Civil Engineering Students, Tehran, Iran.

#### گزارشات علمی (Technical Reports):

- Gafouri, M., **Mohammadzadeh, H.,** (1999). “Identification & evaluation of suitable sites for Mashhad waste disposal, A preliminary study”, Office of Vice – Chancellor for research, Mashhad University.
- **Mohammadzadeh, H.,** (1996). “Hydrogeological and hydrogeochemical studies of Baharieh plain, in Khorasan state, NE of Iran”, Natural Resources and Livestock Research Center, Ministry of Agriculture.
- **Mohammadzadeh, H.,** (1992). “Pumping test of wells and groundwater study of Bakan plain, in Fars State, SE of Iran”, Ministry of Agriculture.

#### مهارتهای عملیات صحرایی، آزمایشگاهی و کامپیوتری (Field, Laboratory and Computer Skills):

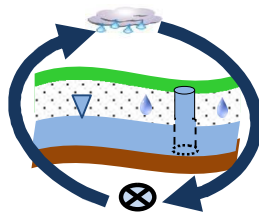
- Measuring Field parameters (Eh, pH, EC, DO, and T) using appropriate meters and an in-line flow-through cell.
- Measuring stable Oxygen, and Hydrogen, isotopes using Continuous Flow-Isotope Ratio Mass Spectrometry (CF-IRMS).
- Measuring concentrations and <sup>13</sup>C-isotopic composition of DIC and DOC using a total inorganic/organic carbon analyzer (TCA) interfaced with a CF-IRMS.
- CH<sub>4</sub> concentrations and <sup>13</sup>C isotope measurements of headspace gases using GC and CF-IRMS.
- Compound specific isotope analysis (CSIA) of carbon compounds using DAX-8 resin column separation, TCA and HPLC.
- Isotopic analysis of ammonium ( $\delta^{15}\text{N}$ ), nitrate ( $\delta^{18}\text{O}$  and  $\delta^{15}\text{N}$ ) and N<sub>2</sub> ( $\delta^{15}\text{N}$ ) using “simultaneous distillation and titration method”, “denitrifier method”, “gas-diffusion samplers”, Elemental Analysis (EA) and IRMS.
- Microsoft Word, Excel, PowerPoint, Outlook, GIS, Dreamweaver, Windows XP.

#### علاقه تحقیقاتی (Research Interests):

- Application of Geochemical Techniques and Stable Isotope in Environmental Geosciences
- Landfill Impacts Assessment using Geochemical Techniques and Stable Isotopes
- Evaluating Landfill Methane Production Rate Using Isotope Mass Balance
- Hydrogeology and Groundwater Contaminant Transport in Porous Media
- Microbial Activities for Remediation of Groundwater Contamination
- Application of GIS in Groundwater Hydrology
- Groundwater Hydrology in Semi-arid and arid zone
- Topics of Medical Geology related to contaminated water resources
- Geothermal Energy and the Application of Geochemical Techniques to Geothermal Studies

#### جوایز و بورسها (Awards and Scholarships):

- 2005, OCGC’s Brian Rust Memorial Scholarship from University of Ottawa in the academic year of 2004-2005.



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- 
- 2003 and 2004, Ottawa University (Dept. of Earth Sciences, FGPS & GSAED) and UNESCO grants for attending to International Goldschmidt conference (in Japan, 2003), groundwater quality conference (GQ2004 Waterloo, Canada), international workshop on the application of isotope techniques in hydrological and environmental studies (in Paris, France, 2004) and the second Environmental Science and Technology conference (in Houston, USA, 2006).
  - 1999, Recognition of Excellence as a Lecturer (Teaching Achievement Award), Ferdowsi University of Mashhad, Iran.
  - 1994, Distinction M.Sc. Student, Dept. of Geology, Shiraz University, Iran.
  - 1991 – 1994, M.Sc. admission scholarship from Ministry of Science, Research and Technology of Iran.
  - 1991, Top B.Sc. Student and Distinction B.Sc. Student, Ferdowsi University, Iran.
  - 1987 – 1991, B.A. admission scholarship from Ministry of Science, Research and Technology of Iran.

تسلط به زبانهای **(Languages)**: English, Persian