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Economic Geology department,
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Date of birth: September 1978

Education:

- **Ph.D. in Economic Geology**, July 2010
Tarbiat Modares University (TMU), Tehran, Iran
- **M.Sc. in Economic Geology**, November 2003
Tarbiat Modares University (TMU), Tehran, Iran
- **B.Sc. in Geology**, September 2000
Esfahan University, Esfahan, Iran

Research Interest:

- Study on different mineral deposits, specially volcanogenic massive sulfide (VMS) deposits, ophiolite-hosted deposits, sedimentary-exhalative (SEDEX) deposits, Banded Iron Formations (BIF), volcanogenic manganese deposits, sedimentary copper, carbonate-hosted base metal deposits, and also porphyry, skarn, epithermal and manto-type deposits

Memberships:

- Geological Society of Iran
- Iranian Mining Engineering Organization
- Society of Mineralogy and Crystallography of Iran
- Society of Economic Geologist (SEG), USA
- Society of Applied Geochemists (AAG), Canada

Awards and honors:

2008-2009,

- SEG Grant, Society of Economic Geologists, Littleton, Colorado, USA
- ioStipend Grant, ioGlobal co. Ltd., Australia

2004,

- Honored as the top (1st) student in the Ph.D entrance exam in Economic Geology, held by Tarbiat Modares University, Tehran, Iran

Visits:

- Presenting papers at 33rd International Geological Congress, Oslo, Norway, August 2008.
- Visiting VMS deposits of the Bergslagen region, Sweden, August 2008 (IGCP-502 project)
- Study opportunity/sabbatical period, Australia, 2008-2009, CODES, University of Tasmania, Australia
- Visiting VMS deposits of the Mount Read volcanic belt, Western Tasmania, Australia, 2009

Review of journal articles:

- Economic Geology
- Ore Geology Reviews
- Journal of Geochemical Exploration
- Several other journals

Theses:

- **Mousivand F**, 2003, Mineralogy, geochemistry and genesis of copper mineralization in the Surian volcano-sedimentary complex, Bavanat area, Fars Province. M.Sc. thesis, Tarbiat Modarres University, Iran, 300p.
- **Mousivand, F.**, 2010, Geology, geochemistry and genesis of the Chahgaz Zn-Pb-Cu deposit, south of Shahre Babak; and its comparison with the Bavanat Cu-Zn-Ag volcanogenic massive sulfide deposit, in the South Sanandaj-Sirjan zone. Ph.D. thesis, Tarbiat Modares University, 505p.

Collaboration in projects, and reports:

- Exploration of volcanogenic massive sulfide (VMS) deposits in southwest of Jiroft, Kerman province, southern Iran. Geological Survey of Iran, 2006.
- Project on ‘national strategy of exploration’. Geological Survey of Iran, 2006.
- Project no. P2B3: volcanic-hosted massive sulfide deposits. ARC Centre of Excellence in Ore Deposit Research (CODES), University of Tasmania, Australia, 2010-2011.
- IGCP-502: Global comparisons of VMS districts. UNESCO, 2004-2008.

- Mousivand, F., 2006, Copper massive sulfide deposits of the Rameshk area, south of Kerman province, Kahanroba Co., Ltd., Unpublished.
- Dulatkah, R., Mousivand, F, 2006, Copper and manganese deposits and occurrences in the Sargaz-Mata district; prospecting for VMS deposits, southwest of Jiroft, Geological Survey of Iran. Unpublished.
- Mousivand F, Rastad E, Peter JM, Solomon, M., 2011, Lithogeochemistry and hydrothermal alteration of volcanogenic massive sulfide mineralization in the Chahgaz region, South Sanandaj-Sirjan zone of Iran. *Explore*, 149, p. 2-10.
- Exploration project manager of manganese district at southeast of Shahrood, 2017.
- Exploration of zones no. 12 and 13, project consultant of copper district at south of Kerman, 2018.
- Mousivand F, 2021, Geological and mineralization potential investigation on the Kanif Chromite and copper prospect, Eastern Iran.
- Mousivand F, 2022, Geological and mineralization potential investigation on the Khaleghe Jam copper prospect, Northeast of Iran.
- Mousivand F, 2022, Geological and mineralization potential investigation on the Heydarabad copper prospect, Southeast of Iran.
- Mousivand F, 2022, Geological and mineralization potential investigation on the Sabzevar chromite prospect, Northeast of Iran.
- And Exploration Geologist for various companies from 2008-2022.

Journal articles:

- Orang, K., Mohajjel, M., Mousivand, F., Rastad, E., 2012, Deformation in the Chahgaz volcanogenic massive sulfide deposit, South of Shahre Babak. *Geosciences Scientific Quarterly Journal*, v. 86, 193-202. . (in Persian with English abstract) 10.22071/GSJ.2012.54085
- Mousivand, F., Rastad, E., Peter, J.M., Solomon, M., Genesis of the Chahgaz Bathurst-type Zn-Pb-Cu volcanogenic massive sulfide deposit, in the Sanandaj-Sirjan Zone: constraints from mineralogical, mineral chemical, fluid inclusion, and sulfur isotope studies (under revision)
- Mousivand, F., Rastad E, Emami, M.H., Peter, J.M., Solomon, M., Mineralogical, mineral chemical, fluid inclusion microthermometry, and sulfur isotope studies on the Bavanat Besshi-type Cu-Zn-Ag volcanogenic massive sulfide deposit, southern Iran (under revision)
- Mousivand F, Rastad E, Hoshino K, Watanabe M (2007) The Bavanat Cu-Zn-Ag orebody: First recognition of a Besshi-type VMS deposit in Iran: *Neues Jahrbuch Fur Mineralogie-Abhandlungen*, 183: 297-315. DOI: 10.1127/0077-7757/2007/0075
- Mousivand F, Rastad E, Peter JM, Solomon, M., 2011, Bathurst-type Zn-Pb-Cu volcanogenic massive sulfide mineralization in the Chahgaz area, south of Shahre Babak, South Sanandaj-Sirjan Zone. *Geosciences Scientific Quarterly Journal*, v. 82, 164-151. (in Persian with English abstract) 10.22071/GSJ.2011.54451

- Mousivand, F., Rastad, E., Meffre, S., M., Peter, J. M., M., Solomon, Khin Zaw, 2011, U-Pb geochronology and Pb isotope characteristics of the Chahgaz volcanogenic massive sulfide deposit, South of Iran. *International Geology Review*, v. 53, no. 10, p. 1239-1262. <https://doi.org/10.1080/00206811003783364>
- Mousivand, F., Rastad, E., Meffre, S., Peter, J.M., Mohajjel, M., Emami, M.H., 2012, Age and tectonic setting of the Bavanat Besshi-type Cu-Zn-Ag deposit, Sanandaj-Sirjan zone, Southern Iran. *Mineralium Deposita*. 47:911–931. DOI: 10.1007/s00126-012-0407-6
- Mousivand, F., Rastad E, Emami, M.H., Peter, 2013, Formation of Various Types of Volcanogenic Massive Sulfide (VMS) Deposits and Its Relationship With Tectono-Magmatic Evolution in the Sanandaj-Sirjan Zone. *Geosciences Scientific Quarterly Journal*, v. 901, 11-20. (in Persian with English abstract)
- Maghfouri, S., Rastad, E., Mousivand, F., 2014, Stratigraphic position, origin and characteristics of manganese mineralization horizons in the Late Cretaceous volcano-sedimentary sequence, south-southwest of Sabzevar. *Journal of Economic Geology*, v. 6, No. 2, 201-216. (in Persian with English abstract)
- Maghfouri, S., Rastad, E., Mousivand, F., Ye, Lin, 2014, Nudeh volcanogenic massive sulfide (VMS) deposit, an example of Besshi-type deposits, southwest of Sabzevar. *Geosciences Scientific Quarterly Journal*, v. 94, 73-86. . (in Persian with English abstract)
- Maghfouri, S., Rastad, E., Mousivand, F., 2015, Chemostratigraphic studies and elemental pattern in the ore facies of the Nudeh Besshi-type volcanogenic massive sulfide (VMS) deposit, southwest of Sabzevar. *Geosciences Scientific Quarterly Journal*, v. 95, 307-316. (in Persian with English abstract)
- Tashi, M., Mousivand, F., Ghasemi, H., 2016, Occurrence process of native copper mineralization in the volcanic rocks hosting the Garmabe Paein Cu-Ag volcanogenic massive sulfide deposit, southeast of Shahrood. *Iranian Journal of Geology*, v. 40, p. 89-105.
- Mousivand F, Rastad E, Emami, M.H., Peter JM, Solomon, M., 2016, Ore facies, alteration pattern and physio-chemical conditions of the Bavanat (Jian) Cu-Zn-Ag Besshi-type volcanogenic massive sulfide deposit, Fars province. *Geosciences Scientific Quarterly Journal*, v. 99, 61-74. . (in Persian with English abstract)
- Tashi, M., Mousivand, F., Ghasemi, H., 2017, Cu-Ag Besshi -type volcanogenic massive sulfide mineralization in the Late Cretaceous volcano- sedimentary sequence: the case of Garmabe Paein deposit, southeast of Shahrood. *Journal of Economic Geology*, Vol. 9, No. 1, 213-233.
- Hashemi, F., Mousivand, F., Rzaei Kakhkhaei, M., 2017, Ore horizons, ore facies, mineralogy and geochemistry of the Varandan Ba-Pb-Cu volcanogenic massive sulfide (VMS) deposit, southwest of Qamsar, Iran. *Journal of Economic Geology*, v. 9, No. 1, 587-616.
- Maghfouri, S., Rastad, E., Mousivand, F., Lin, Y., Zaw, K., 2016, Geology, ore facies and sulphur isotopes geochemistry of the Nudeh Besshi- type volcanogenic massive sulphide deposit, Southwest Sabzevar basin, Iran. *Journal of Asian Earth Sciences* 125: 1-21. DOI: 10.1016/j.jseaes.2016.04.022
- Maghfouri, S., Rastad , E., Mousivand , F Choulet , F., Ye, F., 2017, Geological and geochemical constraints on the Cheshmeh-Frezi volcanogenic stratiform

- manganese deposit, southwest Sabzevar basin, Iran. *Ore Geology Reviews* 89: 96–113. <https://doi.org/10.1016/j.oregeorev.2017.06.015>
- Maghfouri, S., Rastad, E., Lentz, D.R., Mousivand, F., Choulet, F., Ye, F., 2018, Mineralogy, microchemistry and fluid inclusion studies of the Besshi-type Nuddeh Cu-Zn VMS deposit, Iran. *Chemie der Erde (Geochemistry)* 78, 40-57. <https://doi.org/10.1016/j.chemer.2017.11.005>
 - Mousivand, F., Tashi, M., Ghasemi, H., 2018, Nakhlak (Salamrud) manganese mineralization in the Late Cretaceous volcano-sedimentary sequence, southeast of Shahrood, Sabzevar subzone. *Advanced Applied Geology*, v. 26, 51-65. 10.22055/AAG.2018.20811.1654
 - Mobasheri, M., Mousivand, F., Rostami, M., 2017, Geological and mineralogical evolution of Lower Paleozoic (Late Cambrian) Corundum-Rich Metabauxite in the Southeast Sirjan, Sanandaj-Sirjan Zone. *Journal of Economic Geology*, v. 10, No. 1, 381-402.
 - Mousivand, F., Rastad, E., Peter, J.M., Maghfouri, S., 2018, Metallogeny of volcanogenic massive sulfide deposits of Iran. *Ore Geology Reviews* 95, 974-1007. <https://doi.org/10.1016/j.oregeorev.2018.01.011>
 - Kazemi, Z., Ghasemi, H., Mousivand, G., Griffin, W., 2018, Whole-rock Geochemistry and Mineral Chemistry of the Late Cretaceous Dacites in SW Sabzevar: constrain on their origin and tectonic setting. *Petrology*, v. 9, No. 35, 79-100.
 - Kazemi, Z., Ghasemi, H., Mousivand, G., Griffin, W., 2018, Late Cretaceous island-arc subduction magmatism at the northern edge of Central Iran, southwest of Sabzevar. *Iranian Journal of Geology*, v. 49, p. 1-21.
 - Kazemi, Z., Ghasemi, H., Tilhac, R., Griffin, W., Shafaii Moghadam, H., O'Reilly, S., & Mousivand, F., 2019, Late Cretaceous subduction-related magmatism on the southern edge of Sabzevar basin, NE Iran. *Journal of the Geological Society* 176(3), 530-552. DOI: 10.1144/jgs2018-076
 - Maghfouri, S., Rastad, E., Movahednia, M., Hoseinzadeh, M.H., Lin, Y., Mousivand, F., 2019, Metallogeny and temporal-spatial distribution of manganese mineralizations in Iran: Implications for future exploration. *Ore Geology Reviews* 115, 103026 DOI: 10.1016/j.oregeorev.2019.103026
 - Mousivand, F., Hashemi, F., Rezaei Kahkhaei, M., Pakizeh Sanajerdi, A., 2018, Geology, geochemistry and genesis of Darreh Amroud Pb- (Ag) deposit in the Urumieh-Dokhtar magmatic arc, south of Ghohroud. *Geosciences Scientific Quarterly Journal*, v. 114, 259-268. (in Persian with English abstract) 10.22071/GSJ.2018.122431.1438
 - Pakizeh Sanajerdi, A., Mousivand, F., Rajabi, A., Maghfouri, S., 2019, Nohkuhi volcanogenic massive sulfide (VMS) deposit: Bathurst- type mineralization in northwest of Kerman. *Geosciences Scientific Quarterly Journal*, v. 115, 111-122. (in Persian with English abstract) 10.22071/GSJ.2019.117154.1397
 - Ghefleh Maramazi, H., Mousivand, F., Zarasvandi, A., 2021, Ore facies, ore horizons and genesis of the Gol-e-Zard sedimentary-exhalative (SEDEX) zinc-lead deposit, Lorestan province. *Geosciences Scientific Quarterly Journal*, v. 118, 153-164. . (in Persian with English abstract) 10.22071/GSJ.2020.151062.1545

- Mahdevari, M., Mousivand, F., Sadeghian, M., Movahednia, M., 2021, Ore facies, geochemistry and genesis of Kuhe Rig Fe-Sr-(Mn) deposit, South of Shahrood. *Geosciences Scientific Quarterly Journal*, v. 120, 79-90. (in Persian with English abstract) [10.22071/GSJ.2020.189496.1666](https://doi.org/10.22071/GSJ.2020.189496.1666)
- Zarasvandi, A., Tashi, M., Raith, J. G., Rezaei, M., Mousivand, F., Saki, A., 2020, Geochemical discrimination of intrusions in the Chorán Cu-Au deposit, Iran, using silicate chemistry. *Journal of Geochemical Exploration* 217: 106589. <https://doi.org/10.1016/j.gexplo.2020.106589>
- Maghfouri, S., Rastad, E., Borg, G., Hosseinzadeh, M.R., Movahednia, M., Mahdavi, M., Mousivand, F., 2020, Temporal-spatial distribution of sediment-hosted stratabound copper deposits in Iran; Implications for future exploration. *Ore Geology Reviews*. <https://doi.org/10.1016/j.oregeorev.2020.103834>
- Mousivand, F., Ghaffar, G., Maghfouri, S., Maslennikov, V., Sadykov, S.A., 2021, The Eocene Poshteh Ba-Pb-Zn-Cu deposit, Iran: geological, mineral-chemical, fluid inclusion, and S-O isotopic analysis of a Kuroko-type VMS deposit with paleo-hydrothermal vent chimneys. *International Journal of Earth Sciences* 110: 487-511. DOI: [10.1007/s00531-020-01965-y](https://doi.org/10.1007/s00531-020-01965-y)
- Maghfouri, S., Mousivand, F., Rastad, E., Lentz, D.R., 2021, Chemical composition of magnetite and chlorite from the stringer zone of the Nudéh volcanogenic massive sulfide (VMS) deposit, Iran: geological implications. *Mineralogy and Petrology* 115: 241-256. <https://doi.org/10.1007/s00710-021-00737-z>
- Pezeshki Gharache, F., Mousivand, F., Rezaei-Kahkhaei M., and Fardoost, F., 2021, Ore facies, mineralogy, alteration, geochemistry and genesis of the Vanakan (Sokan) barite-zinc-lead-copper deposit, north east of Semnan. *Journal of Economic Geology*, Vol. 13, No.1, 29-55.
- Tashi, M., Mousivand, F., Ghasemi, H., Maghfouri, S., Maslennikov, V., Peter, J.M., Sadykov, S.A., 2021, Evolution of the Garmab-e-Paein native copper-rich volcanogenic massive sulfide deposit from northeast Iran: Insights from sulfur isotope and chlorite chemistry. *Ore Geology Reviews* 138, 104345 <https://doi.org/10.1016/j.oregeorev.2021.104345>
- Jafarzadeh, M., Shoghani-Motlagh, M., Mousivand, F., Criniti S., Critelli S., 2022, Compositional and Geochemical Signatures of Oligocene volcanoclastic sandstones of Abbasabad-Kahak area, NE Iran: Implications for provenance relations and paleogeography. *Marine and Petroleum Geology* 139(6):105605 <https://doi.org/10.1016/j.marpetgeo.2022.105605>
- Esmaeili, F., Mousivand, F., Sadeghian, M., Heidari, S.M., 2022, Genesis of the Miandasht copper deposit, East of Mayamey: Based on geological, mineralogical and geochemical evidences. *Geosciences*, V.32, NO. 4, 305-317.
- Zafarzadeh, M., Mousivand, F., Ramezani Omali, R., Mahdavi, A., 2022, Genesis of Dochileh copper deposit, east of Mayamey; based on geological, mineralogical and geochemical constraints. *Iranian Journal of Geology*, v.16, no. 64, 1-15.
- Alizadeh Fard, Y. and Mousivand, F., 2023. Ore Zoning, Geochemistry and Genesis of Iron Mineralization in Hormuz Volcano-Sedimentary Sequence, Larak

Island, South of Bandar Abbas. *Journal of Economic Geology*, 15(2): 163–188.
(in Persian with English abstract)

Conference articles:

- **Mousivand F**, Rastad E, 2005, Using trace and rare earth elements in exploration of VMS deposits in the Bavanat area, NE of Shiraz, 23rd Symposium of Geosciences, Geological Survey of Iran. (Full article)
- **Mousivand F**, Rastad E, Emami MH, 2004, Bavanat copper deposit; a Besshi-type volcanogenic massive sulfide deposit in Iran, 22nd Symposium of Geosciences, Geological Survey of Iran. (Full article)
- **Mousivand F**, Rastad E, Emami, MH, 2003, Cu-Zn (Ag) massive sulfide mineralization in the Surian volcano-sedimentary complex, in the Bavanat area, Sanandaj-Sirjan zone. 21st Symposium of Geosciences, Geological Survey of Iran. (Full article, in Persian)
- **Mousivand F**, Rastad E, Mohajjel, M, 2003, Effects of metamorphism on copper mineralization in the Surian volcano-sedimentary complex, Bavanat area, Sanandaj-Sirjan zone. 21st Symposium of Geosciences, Geological Survey of Iran. (Full article, in Persian)
- **Mousivand F**, Rastad E, Peter JM, 2008a, An overview of volcanogenic massive sulfide deposits of Iran. 33rd Int Geol Congress, Oslo. (Abstract)
- **Mousivand F**, Rastad E, Peter JM, 2008b, Chahgaz: A metamorphosed Zn-Pb-Cu volcanogenic massive sulfide deposit in the Sanandaj-Sirjan zone, southern Iran. 33rd Int Geol Congress, Oslo. (Abstract)
- Yarmohammadi, A., Rastad E, **Mousivand F**, Watanabe, M., 2008, Barika Au-Ag-(Zn-Pb-Cu) deposit: First recognition of gold-rich Kuroko-type VMS mineralization in Iran. 33rd Int Geol Congress, Oslo. (Abstract)
- **Mousivand F**, Rastad E, Peter JM, 2007, Zn-Pb-Cu volcanogenic massive sulfide mineralization at south of Shahre Babak, southern Iran. 26th Symposium of Geosciences, Geological Survey of Iran. (Full article, in Persian)
- **Mousivand F**, Rastad E, Peter JM, Solomon, M., 2010, Chahgaz deposit: a Bathurst-type Zn-Pb-Cu volcanogenic massive sulfide mineralization in Iran. 27th Symposium of Geosciences, Geological Survey of Iran. (Full article, in Persian)
- **Mousivand F**, Rastad E, Peter JM, 2010, Mesozoic arc magmatism and volcanogenic massive sulfide mineralization in the Sanandaj-Sirjan zone. 13rd IAGOD symposium, Adelaide, Australia. (Extended abstract)
- **Mousivand F**, Rastad E, Mohajjel, M., Emami, M.H., Peter JM, Solomon, M., 2011, Formation of various types of volcanogenic massive sulfide deposits in the Sanandaj-Sirjan zone, Iran. 29th Symposium of Geosciences, Geological Survey of Iran. (Full article, in Persian)
- Maghfouri, S., Rastad, E., **Mousivand, F.**, 2011a. Occurrence of Nodeh copper massive sulfide deposit in Late Cretaceous volcano-sedimentary

sequence in southwest of Sabzevar. Second conference of Society of Economic Geologists of Iran, Khoramabad, Lorestan, Iran. CD-ROM (Full article, in Persian)

- Maghfouri, S., Rastad, E., **Mousivand, F.**, 2011b. Different ore facies in the Nodeh copper massive sulfide deposit; based on structural and textural and mineralogical aspects. 15th conference of Geological Society of Iran, Tehran. CD-ROM (Full article, in Persian)
- Maghfouri, S., Rastad, E., Mousivand, F., 2012, Nodeh deposit: Besshi-type volcanogenic massive sulfide (VMS) mineralization in the Sabzevar back-arc basin. 30th Symposium of Geosciences, Geological Survey of Iran, Tehran. (Full article, in Persian)
- Tashi, M., Mousivand, F., Ghasemi, H., 2014, Volcanogenic massive sulfide Cu-Ag mineralization in the Kharturan area, southeast of Shahrood. International Workshop on IWTOMA, October12-16, Wuhan, China.
- Hashemi, F., Mousivand, F., Rezaei-Kahkhaei, M., 2014, Volcanogenic massive sulfide mineralization in the Kashan-Delijan region, Iran. International Workshop on IWTOMA, October12-16, Wuhan, China.
- Mousivand, F., Rastad, E., and Peter, J.M., 2015, Tethyan orogenesis and metallogeny of volcanogenic massive sulfide deposits in Iran. Second International Workshop on Tethyan Orogenesis and Metallogeny in Asia, Wuhan, China.
- Mousivand, F., Bagherzadeh, Z., and Sadeghian, M., 2015, Tectonic setting of the Bande Qichi volcanic-exhalative manganese-celestine deposit, South of Shahrood, North East Iran. Second International Workshop on Tethyan Orogenesis and Metallogeny in Asia, Wuhan, China.
- Mousivand, F., Ghaffar, G., Maghfouri, S., Maslennikov, V., Sadykov, S.A., 2022, Sulfur isotope and fluid inclusion characteristics of hydrothermal chimneys in the Eocene seafloor from the Poshteh Ba-Pb-Zn-Cu VMS deposit, East of Semnan. Metallogeny of Lead-Zinc deposits conference, Shahrood, Iran.
- And more than 20 other conference articles

Supervisor/advisor of thesis

- Supervision of 29 MSc thesis
- Advisor of 4 MSc and 2 PhD thesis

Book publication:

Rastad, E., Mousivand, F., 2017, Volcanogenic massive sulfide deposits of Iran. Geological Survey of Iran, 300p.

Workshops attendance:

- “Geochemistry, origin and tectonic setting of igneous rocks” (by Dr. Mark Allen). Geological Survey of Iran, 2009

- “Mineral resources: geology and geochemistry of ore deposits” and “ ore deposits related to granitoids” (by prof. Bernd Lehmann), Geological Survey of Iran, 2010
- “ Giant metallic ore deposits: gold, VMS and Sedex” (by prof. Peter Laznika), Geological Survey of Iran, 2010
- “ Modern techniques in mapping of geochemical anomalies and mineral prospectivity” (by Dr. John Carranza), Shahrood University of Technology, 2011
- Ore deposit modelling workshops by David Huston, David Leach, and Jeremy Richards, Samaneh Kansar Co., 2017, Tehran
- Ore deposit modelling workshop by Fernando Tornos, on Iron deposits, Samaneh Kansar Co., 2018, Tehran
- And several other workshops