



## Education

- **Kyushu University, Fukuoka, Japan** (2016-2019)  
*Ph.D., Department of Materials Process Engineering*  
Thesis: “Study about the employing both Hydrogen and Microwave Irradiation for a Novel Pre-treatment of High Sulfur Iron Ore”
  
- **Iran University of Science and Technology, Tehran, Iran** (2009-2012)  
*M.Sc. Degree, Department of Metallurgy and Materials Engineering*  
Thesis: “Effect of Synthetic Slag on Qualitative Characteristics of Plain Carbon Steel”
  
- **Bu-Ali-Sina University, Hamadan, Iran** (2004-2008)  
*B.Sc. Degree, Department of Engineering-Ceramic Engineering*  
Thesis: “Preparing a transparent alumina bubble”

## Research Interests

- Minerals processing
- Electromagnetic processing of materials;
- Employing microwave irradiation to speed up chemical reactions;
- Pyrometallurgical processes including (not limited to) ladle metallurgy, desulfurization, dephosphorization, and inclusion removal;
- Synthesis of metals and ceramics;
- Recycling processes.

## Work Experience

- **Polytechnique Montreal, QC, Canada** Postdoctoral fellowship 2019-date
  
- **SARV Oil & Gas Industries Development Co.,** Quality control specialist 2013-2015  
Tehran, IRAN

**Journal Publications**

- **A. Amini**, M. Latifi, J. Chaouki, "Electrification of materials processing via microwave irradiation: A review of mechanism and applications," *Applied Thermal Engineering*, 2021, Vol. 195, 117003 (Impact Factor = 4.72).
- A.C. García, M. Latifi, **A. Amini**, J. Chaouki, "Separation of Radioactive Elements from Rare Earth Element-Bearing Minerals," *Metals*, 2020, Vol. 10, 1524.
- **A. Amini**, K. Ohno, T. Maeda, K. Kunitomo, "Effect of sulfur on hydrogen-reduction behavior of iron oxide during microwave heating," *Minerals Engineering*, 2020, Vol. 148, 106198 (Impact Factor = 3.79).
- **A. Amini**, K. Ohno, T. Maeda, K. Kunitomo, "A Kinetic Comparison between Microwave Heating and Conventional Heating of FeS-CaO Mixture during Hydrogen-Reduction," *Chemical Engineering Journal*, 2019, Vol. 374, 648-657 (Impact Factor = 10.6).
- **A. Amini**, T. Maeda, K. Ohno, K. Kunitomo, "Carbothermic Reduction Behaviour of FeS in the Presence of CaO during Microwave irradiation," *ISIJ International*, 2019, Vol. 59, No. 4.
- **A. Amini**, K. Ohno, T. Maeda, K. Kunitomo, "Effect of the Ratio of Magnetite Particle Size to Microwave Penetration Depth on Reduction Reaction Behaviour by H<sub>2</sub>," *Scientific Reports*, 2018, 8, Article No. 15023, (Impact Factor = 4.259).
- **A. Amini**, K. Ohno, T. Maeda, K. Kunitomo, "Effect of particle size and apparent density on the initial stages of temperature increase during the microwave heating of Fe<sub>3</sub>O<sub>4</sub>," *Powder Technology*, 2018, Vol. 338, pp. 101-109, (Impact Factor = 3.2).
- **A. Amini**, A. Zakeri, H. Sarpoolaky, "Effect of Fourth Component (Na<sub>2</sub>O, SrO, MgO and BaO) Addition to CaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> Synthetic Slag on Sulfur Removal from Plain Carbon Steel," *Iranian Journal of Materials Science and Engineering*, 2015, Vol. 12, No. 3, 48-55.
- **A. Amini**, A. Zakeri, M.Sh. Bafghi, M.K. Zavvar, "WC-Al<sub>2</sub>O<sub>3</sub> Composite Synthesis via Microwave Heating of Mechanical Activated WO<sub>3</sub>-Al-C Mixture," *Iranian Journal of Ceramic Science & Engineering*, 2014, Vol. 2, No. 2. (In Persian)
- **A. Amini**, A. Zakeri, H. Sarpoolaky, "Desulfurization of Plain Carbon Steel by CaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> and CaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub>-X (X = Na<sub>2</sub>O, SrO) Synthetic Slags," *Journal of Metallurgical and Materials Engineering*, 2013, Vol. 24, No. 2. (In Persian)

**Conference Publications**

- **A. Amini**, K. Ohno, T. Maeda, K. Kunitomo, K. Kashimura "H<sub>2</sub>-reduction Behavior of FeS-CaO Mixture during Microwave Heating," *AMPERE 2019, 17th International Conference on Microwave and High Frequency Heating*, Editorial Universitat Politècnica de València, Valencia, **Spain**, October 2019.
- **A. Amini**, K. Ohno, T. Maeda, K. Kunitomo, "Interaction between Microwaves and Fe<sub>3</sub>O<sub>4</sub> Particles at Temperatures Lower than the Curie point," *The 12th Japan Society of Electromagnetic Wave Energy Applications Symposium*, Kitakyushu, **Japan**, November 2018.

- **A. Amini**, K. Ohno, T. Maeda, K. Kunitomo, “Coupling of Magnetite Particles with Microwaves at Temperatures lower than the Curie Point,” The 9th International Symposium on Electromagnetic Processing of Materials (EPM2018), Hyogo, **Japan**, October 2018, *IOP Conf. Ser.: Mater. Sci. Eng.* 424, 012042.
- **A. Amini**, K. Ohno, T. Maeda, K. Kunitomo, “Magnetite reduction by H<sub>2</sub> during microwave heating,” 8th International Congress on Science and Technology of Ironmaking, Vienna, **Austria**, September 2018.
- **A. Amini**, T. Maeda, K. Ohno, A. Zakeri, K. Kunitomo, “Effect of SrO addition to the CaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> slag on desulfurization of plain carbon steel,” 1st International Conference on Energy and Material Efficiency and CO<sub>2</sub> Reduction in the Steel Industry, Kobe, **Japan**, October 2017.
- **A. Amini**, Y. Mugita, K. Nishihiro, K. Ohno, T. Maeda, K. Kunitomo, “Carbothermic reduction of FeS in the presence of lime using microwave heating,” CAMP-ISIJ, **Japan**, Vol. 30, 2017.
- **A. Amini**, M.K. Zavvar, A. Zakeri, M.Sh. Bafghi, “Tungsten carbide synthesis via milling and microwave heating of WO<sub>3</sub>-Al-C mixtures,” The 4th Joint Conference of Iranian Metallurgical Engineering Society & Iranian Foundry Men’s Society, Iran University of Science and Technology, Tehran, **Iran**, 2010.

## Patent

- M.Sh. Bafghi, M.K. Zavvar, **A. Amini**, A. Zakeri, “Tungsten Carbide Synthesis via Milling and Microwave Heating of WO<sub>3</sub>-Al-C Mixtures,” Iranian Patent No. 70492, 2011.

## Awards

- **MEXT PhD scholarship** awarded by Ministry of Education, Culture, Sport, Science and Technology of Japan.