

# Resume of Dr. Amirhomayoun Saffarzadeh

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*(Updated April 26, 2018)*



## **Amirhomayoun Saffarzadeh**

Work address: Kyushu University, 916, West 3, 744 Motooka, Nishi-ku, Fukuoka, 819-0395, Japan

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Handy: +81 (80) 6431 1967

E-mail address: amir@doc.kyushu-u.ac.jp & a\_saffarzadeh@yahoo.com

Nationality: Iran

Language: Persian

Date of Birth: 9 May 1967

Place of Birth: Tehran, Iran

Sex: Male

Marital Status: married

## **Public Profiles:**

<http://amirsaffarzadeh.com/>

<https://www.linkedin.com/in/amirhomayoun-saffarzadeh-2a336a25/>

[https://www.researchgate.net/profile/Amirhomayoun\\_Saffarzadeh2](https://www.researchgate.net/profile/Amirhomayoun_Saffarzadeh2)

<https://scholar.google.com/citations?user=uvP5qL0AAAAJ&hl=en>

## Education:

**Oct. 2002- Sept. 2005: D.Eng.** in Earth Resources Engineering, Dept. of Earth Resources Engineering, Faculty of Engineering, Kyushu University (<http://www.kyushu-u.ac.jp/english/index.php>), Fukuoka, Japan.

Thesis topic: *Mineralogical, geochemical and petrological study of glassy products derived from melting treatment of municipal solid waste with respect to their environmental impacts.* The project included detailed petrographic study, geochemical analysis, electron microscopy and leaching analysis of molten slag products from 17 incineration-melting facilities, aiming at modeling the melting treatment and characterization of toxic heavy metals with respect to environmental considerations.

**Feb. 1992- Dec. 1996: M.Sc.** in Sedimentary Geology, Faculty of Sciences, University of Tehran (<http://www.ut.ac.ir/en>), Tehran, Iran.

Thesis topic: *Petrographic and geochemical study of pyroclastic deposits of Karaj Formation in Gateh-Deh area (Gateh-Deh feldspar mine), Central Alborz, Taleghan, Iran.* The project included mapping, petrographic study, chemical analysis, XRD investigation, interpretation, and genesis of a feldspar-rich sub-volcanic mass, formerly introduced as pyroclastic sequences.

**Feb. 1987- June 1991: B.Sc.** in Geology (**highest honors**), Kharazmi (former Tarbiat Moallem) University (<http://khu.ac.ir/>), Tehran, Iran.

**Second Language Capability:** Good command of *English* (IELTS: overall score 7), basic Japanese and French.

**Computer Skills:** Microsoft Word, Excel, PowerPoint, Grapher 4, Adobe Illustrator 10, Corel Draw 12, Arc GIS 9.2, Landfill Gas Emissions Model (LandGEM) version 3.02, WinROOF version 7, VMinteq version 3.

## Skills on Laboratory Techniques:

- Polarized microscopy of natural rocks and minerals and industrial materials
- XRD analysis of materials and their interpretation using JADE and PDXL software packages
- XRF analysis of powdered samples for chemical identification
- Detailed SEM-EDX operation, imagery and interpretation (1- Shimadzu

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SUPERSCAN SS-550 coupled with EDAX EDS system and Genesis Software, 2- Elionix ERA 8900S coupled with EDAX EDS system and Genesis Software)

- X-ray Analytical Microscopy (XGT-5000) for handling elemental mapping and spot analysis in solid samples
- Electron probe microanalysis (EPMA) imagery and interpretation
- Thermal Gravimetric/Differential Thermal Analysis (TG/DTA)
- Inductively coupled plasma mass spectrometry (ICP-MS)
- Inductively coupled plasma optical emission spectrometry (ICP-OES)
- Liquid ion chromatography
- Specific surface area analyzer
- Total Organic Carbon (TOC) analyzing technique

### **Training Courses Participated:**

June 9, 2015: Leaching Assessment and LeachXS Training Course, Santander, Spain.

July 2-3, 2009: Health, Safety and Environment (HSE) Description of Requirements, DAS Certificate, Tehran, Iran.

Oct. 31- Nov. 1, 2008: ISO 15544:2000 & ISO 13702:1999 Preparedness and Emergency Response Training Course, IMQ Academy Certificate, Tehran, Iran.

Sept.2001 (one week): International Summer School on Direct Application of Geothermal Energy, Bad Urach, Germany.

Aug. 2000- Dec. 2000: Geothermal Energy and Environmental Sciences, Organized by Kyushu University and Japan International Cooperation Agency (JICA), Fukuoka, Japan.

April 2000 (one week): Principles of Drilling (Theory and Practice) Held at the National Iranian Drilling Company (NIDC), Iran SouthWest Oil Fields- Khuzestan Province, Iran.

July 28, 1990- Sept 9, 1990: Stratigraphy, Structural Geology and Drilling Subsurface Test, courses offered by National Iranian Oil Company, Exploration and Production Division, Tehran, Iran.

### **Fellowship and Awards:**

- Best paper award for the paper submitted to The 7th International Conference on Hydrogen Production (ICH<sub>2</sub>P), May 8-11, 2016, Zhejiang University, Hangzhou, China (see publication list for details).
- Best presentation award for the paper submitted to The Conference on Korea Society of Waste Management, May 15-17, 2014, Busan, Korea (see publication list for details).
- Recognized as a distinguished researcher by The Marquis Who's Who in 2013.
- Kyushu University COE program fellowship (as visiting researcher), May 31<sup>st</sup> – August 21<sup>st</sup> 2007, Japan.

### **Employment History:**

- Sept. 1<sup>st</sup>, 09- Present: Faculty member (**Associate Professor**) at the Department of Urban and Environmental Engineering, Environmental Systems Analysis and Control Engineering Lab., Kyushu University, Fukuoka, Japan. In this position, I carry out research on the characterization, stabilization, and detoxification of alkaline waste materials (from different sources and various thermal treatments) for the purpose of safe disposal and possible recycling. In addition, I have responsibility for teaching and mentoring students (at both undergraduate and graduate levels).
- Mar. 06- July 22, 09: Environmental geologist at Natural Disaster Research Institute of Iran (NDRI), Head of Training Department, Tehran, Iran. In the position, I was responsible for conducting post-disaster environmental research and education on the recent disasters occurred in the country as well as preparing training for post-disaster environmental impacts.
- Feb. 06- Nov. 06: Part-time consultant to Atec Consulting Engineers, Tehran, Iran. Providing consultancy service for implementing renewable energy (geothermal) projects in NW Iran.
- Oct. 02- Sept. 05: Full-time doctoral course student at Kyushu University, Fukuoka, Japan.

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- Oct. 01-Sept. 02: Commercial Manager at Venan Engineering and Industrial Co., Supplying gas measuring and regulation apparatus and systems for industrial and household applications, Tehran, Iran.
- Mar. 99- Oct. 01: Full time geologist at the Geothermal Division of the Renewable Energy Organization of Iran, an affiliate of the Iranian Ministry of Energy, Tehran, Iran.
- May 97- Jan. 99: Obligatory National Service, Civil Engineering Department, Ground Water Division, Tehran, Iran.
- Apr.95- Mar. 97: Member of the Directors Board of Zamin Pouyan Geological Co. Implementation of geological Projects and supplying laboratory equipment Tehran, Iran.

### **Most recent research project commitments (since 2009):**

- Stabilization of hazardous heavy metals in municipal solid waste incineration (MSWI) fly ash using natural fishbone hydroxyapatite (HAP): A novel approach to the treatment of waste material.  
*Funded by: Grants-in-Aid for Scientific Research, Japan Society for the Promotion of Science (JSPS 1 8 K 1 1 6 9 7) 2018- 2020*  
*PI: Assoc. Prof. Amirhomayoun Saffarzadeh (Kyushu University)*
- Development of new environmentally-safe technology for a seismic-resistant landfill capable of withstanding a massive earthquake (Kyushu University, 2014- 2017). Collaboration with *Ando-Hazama Corporation*.  
*Funded by: Ministry of the Environment of Japan*  
*PI: Prof. Takayuki Shimaoka (Kyushu University)*
- Mineralogical and chemical study on the influence of water quenching process in WtE plants on MSWI bottom ash formation and its characteristics: special focus on chlorine and metal behavior for recycling purpose. Collaboration with *Takuma Corporation*.
- Studying the characteristics, behavior, and efficient treatment of radioactive cesium in the waste incineration residues (Kyushu University, 2012- 2014). Collaboration with *Takuma Corporation*.  
*Funded by: Ministry of the Environment of Japan*

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*PI: Prof. Takayuki Shimaoka (Kyushu University)*

- Hydrogen gas generation mechanism from MSW incineration ash residues and evaluating the capacity for commercial hydrogen production- a green innovation. Collaboration with *Takuma Corporation*.

*Funded by: 1) The Fukuoka Research Commercialization Center for Recycling Systems (Kyushu University, 2015- 2016), and 2) Grants-in-Aid for Scientific Research, Japan Society for the Promotion of Science (JSPS) (Kyushu University, 2016- 2019)*

*PI: Prof. Takayuki Shimaoka (Kyushu University)*

- Evaluating the impacts of an innovative thermal treatment technology on the quality optimization, heavy metals leachability, and chloride behavior of municipal solid waste incineration bottom ash (MSWIBA). Collaboration with *Takuma Corporation*.
- Investigating the behavior of chloride-rich components in fine ash products derived from the thermal treatment of paper industry sludge: toward utilization of ash as an alternative recycled material for cement. Collaboration with *Sumitomo Corporation*.
- Cooperative study for the development of recycle-based waste management system using cement factories in Chinese mega-cities (Kyushu University, 2009- 2011).

*Funded by: International Research and Development Cooperative Project: New Energy and Industrial Technology Development Organization (NEDO), Japan*

*PI: Prof. Takayuki Shimaoka (Kyushu University)*

- Investigating the influence of natural weathering on the physicochemical characteristics, mineralogical behavior and stability of municipal solid waste (MSW) combustion residues in the landfills (Kyushu University, 2009- 2011).

*Funded by: the Grant-in-Aid for Japan-USA joint research project and Research Grant-in-Aid for Sustainable Society and Waste Management funded by the Ministry of Environment*

*PI: Prof. Takayuki Shimaoka (Kyushu University)*

## **Teaching and student guidance experiences:**

### **1- Kyushu University, Fukuoka, Japan**

Department of Urban and Environmental Engineering (graduate course):

- Hydrogen Energy: Principles and Applications
- Materials Cycle and Waste Management

### **2- Kharazmi University, Tehran, Iran**

Departments of Geology and Civil Engineering (undergraduate and graduate courses):

- Environmental impacts of municipal solid waste disposal
- Environmental geochemistry
- Environmental geology
- Pollution remediation of contaminated lands
- Sedimentary environments

### **3- Tehran Islamic Azad University, Faculty of Eng, Dept. of Cartography**

- Applied geology (undergraduate course)

### **4- Organization of Forests, Range and Watershed Management of Iran**

- Advanced Sedimentology

### **5- Training Center of the Iran Ministry of Road and Transportation**

- Principles of geology
- Geomorphology

### **6- Natural Disaster Research Institute of Iran, Tehran, Iran**

- Advanced and specialized English courses for architecture students

**7- SUPERVISING EXPERIENCES:** I have been involved in the **supervising**, **co-supervising** and **advising** of 13 students at both undergraduate and graduate (Master and Doctoral) levels in Iran and Japan since 2008.

### **Research interests:**

- Environmental behavior of waste materials
- Geochemistry and mineralogy of mineral and industrial wastes (municipal solid waste (MSW) incinerator ashes: bottom ash and fly ash, coal ash, MSW molten slag, and metallurgical slag)
- Hydrogen generation from low-cost waste
- Managing wastes from mining and related activities
- Pollution remediation of contaminated lands
- Management of waste from petroleum exploration and production industries
- Assessment, reutilization and recycling of wastes from natural disasters
- Beneficial reutilization of construction and demolition (C&D) waste

### **Teaching interests:**

- Introduction to environmental sciences and engineering
- Solid waste engineering and management
- Energy and environment
- Geochemistry and environmental geochemistry
- Environmental geology
- Urbanization and sustainable development
- Global environmental crisis
- Environmental impacts of natural disasters

### **Society membership:**

- Member of the International Society for the Environmental and Technical Implications of Construction with Alternative Materials (ISCOWA)
- Member of the Mineralogical Association of Canada (MAC)
- Former member of the Iranian Solid Waste National Committee, Iran Department of Environment (DOE)



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- Former member of the Policy Council for Safe Community affiliated to Tehran Municipality, Iran

### **Editorial responsibilities:**

- *Environmental Sciences Europe*: A member of the Advisory Board  
<http://www.enveurope.com/about/edboard>
- *Environmental Technology Reviews*: A member of Editorial Board  
<http://www.tandfonline.com/loi/tetr20#.VxQw6dR96mU>
- *Journal of Geoscience and Environment Protection*: Editorial Board Member  
<http://www.scirp.org/journal/gep/>
- *Edorium Journal of Waste Management*: Editorial Board Member  
<http://www.ejwastemanagement.edoriumjournals.com/editorial-board.php>
- *International Journal of Sustainable Construction Engineering and Technology*: Editorial Board Member  
<http://penerbit.uthm.edu.my/ojs/index.php/IJSCET/about/editorialTeam>

### **Reviewing tasks for *Journals and Organizations*:**

- Detritus (IWWG)
- Catalysis Today (CATTOD)
- Journal of Environmental Radioactivity (JENVRAD)
- Journal of Material Cycles and Waste Management (JMCW)
- Waste Management (WM)
- Waste Management and Research (WM&R)
- Environmental Technology (Taylor & Francis)
- Environmental Technology Reviews (Taylor & Francis)
- Journal of Cleaner Production (JCLEPRO)
- Environmental Science and Technology (EST)
- International Journal of Hydrogen Energy (IJHE)
- Journal of Hazardous Materials (JHAZMAT)
- Waste and Biomass Valorization
- Bioresource Technology
- Journal of Environmental Engineering
- Environmental Sciences Journal
- Journal of Geoscience and Environment Protection (GEP)

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- International Journal of Sciences, Islamic Republic of Iran (University of Tehran, Iran)
- Earth Sciences Quarterly Journal (Geological Survey of Iran, Tehran, Iran)
- Journal of Engineering Geology (Kharazmi University, Tehran, Iran)
- Scientific Journal of Geology and Environment (Azad University, Tehran, Iran)
- *Dutch Technology Foundation STW*

### **Contribution to organizing Conferences:**

- 10<sup>th</sup> International Conference on the Environmental and Technical Implications of construction with Alternative Materials, WASCON 2018, June 6-8, 2018, Tampere, Finland.
- The 7th China-Japan Joint Conference on Material Recycling and Waste Management, July 18-21, 2016, Naha, Okinawa, Japan.
- 3rd ScienceOne International Conference on Environmental Sciences (ICES 2014), member of the Program Technical Committee, January 21-23, 2014, Dubai, UAE
- The 2<sup>nd</sup> Forum on Tehran City Safe Society, organized by: Municipality of Tehran, Oct. 2009, Tehran, Iran
- The 8<sup>th</sup> Health, Safety and Environment (HSE) Congress in Mines and Mineral Industries, organized by: Ministry of Industries and Mines, Iran Mineral Production and Supply Co., Iran Central Iron Ore Co., Iran Mines and Mining Industries and Renovation Organization Dec. 2008, Tehran, Iran
- Conference on Environment, Steel and Affiliated Industries, Iran's Department of Environment, Oct. 2008, Tehran, Iran
- 5<sup>th</sup> Iranian Conference on Engineering Geology and the Environment, Iranian Society of Engineering Geology, 25-27 Feb. 2008, Tehran, Iran
- 3<sup>rd</sup> Regional Conference on Geology and Environment, Azad University, Eslamshahr Branch, 5-6 March 2008, Tehran, Iran
- The 26<sup>th</sup> Symposium on Geosciences, Geological Survey of Iran (GSI), 17-19 Feb. 2008, Tehran, Iran

### **Extracurricular:**

Photography, listening to music, playing badminton, flying drone

### **Others:**

I hold a valid Japanese driving license

## **Major publications**

### **Journal papers (peer-reviewed):**

Mu, Y., Saffarzadeh, A., and T. Shimaoka (2018) Influence of ignition of waste fishbone on enhancing heavy metal stabilization in municipal solid waste incineration (MSWI) fly ash. Submitted to *Journal of Cleaner Production* (Accepted, publication in progress).

Mu, Y., Saffarzadeh, A., and T. Shimaoka (2018) Utilization of waste natural fishbone for heavy metal stabilization in municipal solid waste incineration (MSWI) fly ash. *Journal of Cleaner Production*, 172, 3111-3118.

Nithiya, A., Saffarzadeh, A., and T. Shimaoka (2018) Hydrogen gas generation from metal aluminum-water interaction in municipal solid waste incineration (MSWI) bottom ash. *Waste Management*, 73, 342-350.

Saffarzadeh, A., Shimaoka, T., Nakayama, H., Hanashima, T., Yamaguchi, K., and K. Manabe (2017) Efforts for the management of disaster waste upon April 2016 Kumamoto Earthquake, Japan. *Natural Hazards*, 89 (3) 1273-1290.

Inkaew, K., Saffarzadeh, A., and T. Shimaoka (2017) Characterization of residues involved in the ash quenching system: A material recycling perspective. *Applied Mechanics and Materials*, 866, 112-115.

Mu, Y., Saffarzadeh, A., and T. Shimaoka (2016) Influence of ignition process on mineral phase transformation in municipal solid waste incineration fly ash: Implications for estimating loss-on-ignition (LOI). *Waste Management*, 59, 222-228.

Yang, S., Saffarzadeh, A., Shimaoka, T., Kawano, T., and Y. Kakuta (2016) The impact of thermal treatment and cooling methods on municipal solid waste incineration bottom ash with an emphasis on Cl. *Environmental Technology*, 37 (20) 2564-71.

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- Inkaew, K., **Saffarzadeh, A.**, and T. Shimaoka (2016) Modeling the formation of the quench product in municipal solid waste incineration (MSWI) bottom ash. *Waste Management*, 52, 159-168.
- Mu, Y., **Saffarzadeh, A.**, and T. Shimaoka (2016) Feasibility of using natural fishbone apatite on removal of Pb from municipal solid waste incineration (MSWI) fly ash. *Procedia Environmental Sciences*, 31, 345-350.
- Saffarzadeh, A.**, Arumugam, N., and T. Shimaoka (2016) Aluminum and aluminum alloys in municipal solid waste incineration (MSWI) bottom ash: A potential source for the production of hydrogen gas. *International Journal of Hydrogen Energy*, 41, 820-831.
- Saffarzadeh, A.**, Shimaoka, T., Kakuta, Y., and T. Kawano (2014) Cesium distribution and phases in proxy experiments on the incineration of radioactively contaminated waste from the Fukushima area. *Journal of Environmental Radioactivity*, 136, 76-84.
- Inkaew, K., **Saffarzadeh, A.**, and T. Shimaoka (2014) Characterization of grate sifting deposition ash, unquenched bottom ash and water-quenched bottom ash from mass-burn moving grate waste to energy plant. *Journal of Japan Society of Civil Engineers, Ser. G (Environmental Research)*, 70, No. 7, III\_469-III\_475.
- Watanabe, Y., **Saffarzadeh, A.**, Tojo, Y., and T. Shimaoka (2014) Identification of the existing form of cesium in bottom ash and fly Ash in municipal solid wastes (in Japanese). *SPRING-8/SACLA Research Report*, Section B: Industrial Application Report, 2, No. 1, 89-93.
- Saffarzadeh, A.**, and T. Shimaoka (2014) Occurrence and significance of secondary iron-rich products in landfilled MSWI bottom ash. *International Journal of Waste Resources*, Vol. 4, Issue 3, doi:10.4172/2252-5211.1000150.
- Wei, Y., **Saffarzadeh, A.**, Shimaoka, T., Zhao, C., Peng, X., and J. Gao (2014) Geoenvironmental weathering/deterioration of landfilled MSWI-BA glass. *Journal of Hazardous Materials*, 278, 610–619.
- Yang, S., **Saffarzadeh, A.**, Shimaoka, T., and T. Kawano (2014) Existence of Cl in municipal solid waste incineration bottom ash and dechlorination effect of thermal treatment. *Journal of Hazardous Materials*, 267, 214- 220.

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Shimaoka, T and **A. Saffarzadeh** (2012) Formation of secondary products under natural weathering and their affinity with heavy metals in landfilled MSWI bottom ash (in Japanese with English Abstract). *Material Cycles and Waste Management Research* 23, No.5, 401-407.

**Saffarzadeh, A.**, Shimaoka, T., Wei, Y, Gardner, K. H., and C. N. Musselman (2011) Impacts of natural weathering on the transformation/neof ormation processes in landfilled MSWI bottom ash: A geoenvironmental perspective. *Waste Management*, 31, 2440–2454.

Wei, Y., Shimaoka, T., **Saffarzadeh, A.** and F. Takahashi (2011) Alteration of municipal solid waste incineration bottom ash focusing on the evolution of iron-rich constituents. *Waste Management*, vol. 31, Issues 9-10, 1992-2000.

Wei, Y., Shimaoka, T., **Saffarzadeh, A.** and F. Takahashi (2011) Mineralogical characterization of municipal solid waste incineration bottom ash with an emphasis on heavy metal-bearing phases. *Journal of Hazardous Materials*, vol. 187, Issues 1-3, 534-543.

**Saffarzadeh, A.**, Shimaoka, T., Motomura, Y., and K. Watanabe (2009) Characterization study of heavy metal-bearing phases in MSW slag. *Journal of Hazardous Materials*, vol. 164, Issues 2-3, 829-834.

**Saffarzadeh, A.**, Shimaoka, T., Motomura, Y., and K. Watanabe (2009) Petrogenetic characteristics of molten slag from the pyrolysis/melting treatment of MSW. *Waste Management*, vol. 29, 1103–1113.

**Saffarzadeh, A.**, Shimaoka, T., Motomura, Y., and K. Watanabe (2006) Chemical and mineralogical evaluation of slag products derived from the pyrolysis/melting treatment of MSW. *Waste Management*, vol. 26, Issue 12, 1443-1452.

Sahabi, F., and **A. Saffarzadeh** (1996) Petrology and petrogenesis of the Gateh – deh Subvolcanic Dome, Taleghan, Central Alborz, Iran. *Geosciences Quarterly Journal*, Geological Survey of Iran (in Persian with English Abstract), vol. 6, No. 21- 22, p. 32 – 39.

### **Conference participation (oral or poster presentations):**

Miyake, M., Komiya, T., **Saffarzadeh, A.**, and T. Shimaoka (2017) Evaluating the crucial factors affecting hydrogen gas generation from municipal solid waste incineration bottom ash (MSWIBA). 16<sup>th</sup> International Waste Management and Landfill Symposium, Oct. 2-6, Cagliari, Italy.

Mu, Y., **Saffarzadeh, A.**, and T. Shimaoka (2017) Utilization of waste natural fishbone for heavy metal stabilization in municipal solid waste incineration (MSWI) fly ash. The 8th China-Japan Joint Conference on Material Recycling and Waste Management, Sept. 16-20, Hangzhou, China.

**Saffarzadeh, A.**, Arumugam, N. and T. Shimaoka (2016) Hydrogen generation from aluminum-water reactions in municipal solid waste incineration (MSWI) bottom ash. 6th International Symposium on Energy from Biomass and Waste (Venice 2016), Nov. 14-17, Venice, Italy.

Mu, Y., **Saffarzadeh, A.**, and T. Shimaoka (2016) Evaluating the effectivity of using natural fishbone hydroxyapatite on lead stabilization in municipal solid waste incineration (MSWI) fly ash. 5<sup>th</sup> International Conference on Industrial and Hazardous Waste Management (Crete 2016), Sept. 27-30, Chania, Crete, Greece.

Arumugam, N., **Saffarzadeh, A.**, and T. Shimaoka (2016) Effect of municipal solid waste incineration bottom ash cooling methods on hydrogen evolution. The International Conference on Combustion, Incineration/Pyrolysis, Emission and Climate Change (9<sup>th</sup> i-CIPEC), Sept. 20-23, Kyoto Research Park (KRP), Kyoto, Japan.

**Saffarzadeh, A.**, Arumugam, N. and T. Shimaoka (2016) Hydrogen gas recovery from municipal solid waste incineration (MSWI) bottom ash. The 7th China-Japan Joint Conference on Material Recycling and Waste Management, July 18-21, Naha, Okinawa, Japan.

Mu, Y., **Saffarzadeh, A.**, and T. Shimaoka (2016) Feasibility of using natural fishbone apatite on removal of Pb from municipal solid waste incineration (MSWI) fly ash. The 7th China-Japan Joint Conference on Material Recycling and Waste Management, July 18-21, Naha, Okinawa, Japan.

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Mu, Y., **Saffarzadeh, A.**, and T. Shimaoka (2016) Effectivity of using natural fishbone hydroxyapatite (HAP) on Pb removal from municipal solid waste incineration (MSWI) fly ash: Evaluating the influence of liquid/solid (L/S) ratio, The 9th Intercontinental Landfill Research Symposium (ICLRS), June 13-15, Noboribetsu Onsen, Hokkaido, Japan.

**Saffarzadeh, A.**, Arumugam, N. and T. Shimaoka (2016) Enhancing hydrogen production from municipal solid waste incineration (MSWI) bottom ash by adding metal aluminum as a promoter, 7th International Conference on Hydrogen Production (ICH<sub>2</sub>P), May 8-11, Zhejiang University, Hangzhou, China (*Best paper award*).

Mu, Y., **Saffarzadeh, A.**, and T. Shimaoka (2015) Feasibility of using natural fishbone apatite on removal of Pb from municipal solid waste incineration (MSWI) fly ash, The 10<sup>th</sup> International Conference on Waste Management and Technology (ICWMT 10), October 28-30, Mianyang, China.

Mu, Y., **Saffarzadeh, A.**, and T. Shimaoka (2015) Influence of ignition process on mass loss and mineral phase change in MSWI fly ash, The 6th China-Japan Joint Conference on Material Recycling and Solid Waste Management, August 6-9, Qingdao, China.

**Saffarzadeh, A.**, Shimaoka, T., Yang, S., and T. Kawano (2015) Distribution of chlorine in MSWI bottom ash and the possibility of chlorine reduction through thermal treatment, The 9th International Conference on the Environmental and Technical Implications of Construction with Alternative Materials (WASCON 2015), June 10-12, Santander, Spain.

Inkaew, K., **Saffarzadeh, A.**, and T. Shimaoka (2015) Impacts of water quenching on MSWI bottom ash characterization, IWWG-ARB2015, April 12-15, Shanghai, China.

Inkaew, K., **Saffarzadeh, A.**, and T. Shimaoka (2014) Characterization of grate sifting deposition ash, unquenched bottom ash and water-quenched bottom ash from mass-burn moving grate waste to energy plant, The 51<sup>st</sup> Forum on Environmental Engineering Studies, December 20-22, Yamanashi University, Tokyo, Japan.

Arumugam, N., **Saffarzadeh, A.**, and T. Shimaoka (2014) Municipal solid waste incineration bottom ash: A potential source for hydrogen generation, The 2014 3<sup>rd</sup> International Conference on Frontier of Energy and Environment Engineering (ICFEEE 2014), Dec 6-7, Taichung, Taiwan.

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**Saffarzadeh, A.**, and T. Shimaoka (2014) Occurrence and forms of cesium compounds in bottom ash products derived from the thermal treatment of solid waste- Implications for radioactively contaminated waste from the Fukushima area, The 9<sup>th</sup> International Conference on Waste Management and Technology (ICWMT), October 29-31, Beijing, China.

Arumugam, N., Shimaoka, T., and **A. Saffarzadeh** (2014) Hydrogen generation potential in MSW incinerator bottom ash, 2014 Conference on Korea Society of Waste Management, May 15-17, Busan, Korea (**Best presentation award**).

Shimaoka, T., and **A. Saffarzadeh** (2014) Chemical forms of cesium in the synthesized ash residues, Eurasia Waste Management Symposium, April 28-30, 2014, Istanbul, Turkey.

Inkaew, K., Shimaoka, T., Nakayama, H., and **A. Saffarzadeh** (2013) A comparative evaluation of chlorine removal process for MSWI ashes recycling in Japan, The 7th International Symposium on the East Asian Environmental Problems (EAEP 2013), Nov. 12-14, Fukuoka, Japan.

**Saffarzadeh, A.**, and T. Shimaoka (2013) Partitioning behavior of Cs in the matrix of simulated ash residues, Goldschmidt Conference, August 25-30, 2013, Florence, Italy.

Yang, S., **Saffarzadeh, A.**, Shimaoka, T., and T. Kawano (2013) Distribution of Chloride in Municipal Solid Waste Incineration Bottom Ash, 3rd International Conference on Sustainable Construction Materials & Technologies – SCMT3, 18-21 August 2013, Kyoto Research Park, Kyoto, Japan.

Yang, S., **Saffarzadeh, A.**, and T. Shimaoka (2012) Influence of ignition process on the weight loss and mineral phase change in MSWI ash: LOI of incineration ash, The 6th International Symposium on the East Asian Environmental Problems (EAEP 2012), Nov. 6-7, 2012, Fukuoka, Japan.

Shimaoka, T., and **A. Saffarzadeh** (2012) Stabilization of municipal solid waste incineration residues in landfill, The 7th International Conference on Waste Management and Technology, Sep. 5-7, 2012, Beijing, China.

**Saffarzadeh, A.**, and T. Shimaoka (2012) Formation of secondary Fe-rich products in landfilled MSWI bottom ash as a result of natural weathering, the 8th International Conference on the Environmental and Technical Implications of Construction with Alternative Materials (WASCON 2012), May 30- June 1, 2012, Gothenburg, Sweden.



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