

**Javier Fonseca Garcia**

**Email:** fonsecagarcia.j@northeastern.edu



**Education**

---

**Northeastern University, Boston, MA** September 2017 – April 2020

Ph.D., Chemical Engineering

- Liquid-Liquid Interface Synthesis Method of Unprecedented Metal-Organic Frameworks: Fundamental Theory, New Materials and Applications

**Institute of Chemical Research of Catalonia, Tarragona, Spain** October 2016 – July 2017

Ph.D., Chemistry (transferred after one year)

**Rovira i Virgili University, Tarragona, Spain** October 2015 – September 2016

Master, Nanoscience, Materials and Processes: Chemical Technology at the Frontier

**Salamanca University, Salamanca, Spain** September 2009 – June 2015

Bachelor and Master, Chemical Engineering

**Research, Work & Outreach Experience**

---

**University of Vienna, Vienna, Austria** January 2022 – February 2022

- Postdoctoral researcher

**CARTIF Technology Center, Valladolid, Spain** January 2021 – December 2021

- Researcher

**Lab. for Catalysis and Advanced Separations, Boston, MA** September 2017 – December 2020

- Ph.D. researcher

**Northeastern University, Boston, MA** September 2017 – December 2020

- Lab Manager and Safety Officer

**Northeastern University, Boston, MA** September 2017 – April 2020

- Teaching Assistant

**Institute of Chemical Research of Catalonia, Tarragona, Spain** October 2016 – July 2017

- Ph.D. researcher

**CARTIF Technology Center, Valladolid, Spain** June 2014 – September 2014

- Researcher

## Publications

---

1. **Fonseca, J.** & Choi,\* S. Synthesis of a Hierarchical Supramolecular Porous Material Created via Self-Assembly of Metal-Organic Framework Nanosheets. *Inorg. Chem.* **2020**, *59*, 3983–3992.
2. **Fonseca,\* J.** & Choi,\* S. Electro- and Photoelectro- Catalysts Derived from Bimetallic Amorphous Metal-Organic Frameworks. *Catal. Sci. Technol.* **2020**, *10*, 8265-8282.
3. **Fonseca,\* J.** & Choi,\* S. Synthesis of a Novel Amorphous Metal Organic Framework with Hierarchical Porosity for Adsorptive Gas Separation. *Micropor. Mesopor. Mat.* **2021**, *310*, 110600.
4. **Fonseca,\* J.** & Choi,\* S. Flexible Amorphous Metal–Organic Frameworks with  $\pi$  Lewis Acidic Pore Surface for Selective Adsorptive Separations. *Dalton Trans.* **2021**, *50*, 3145-3154.
5. **Fonseca,\* J.**, Gong, T., Jiao, L. & Jiang, H.-L. Metal-Organic Frameworks (MOFs) beyond Crystallinity: Amorphous MOFs, MOF Liquids and MOF Glasses. *J. Mater. Chem. A* **2021**, *9*, 10562-10611.
6. **Fonseca,\* J.** & Lu, J. Single Atom Catalysts Designed and Prepared by Atomic Layer Deposition Technique. *ACS Catal.* **2021**, *11*, 7018-7059.
7. **Fonseca,\* J.** & Gong, T. Fabrication of Metal-Organic Framework Architectures with Macroscopic Size: A Review. *Coord. Chem. Rev.* **2022**, *462*, 214520.
8. **Fonseca,\* J.** Nanoparticles Embedded into Glass Matrices: Glass Nanocomposites (GNCs). *Front. Mater. Sci.* **2022**.
9. **Fonseca,\* J.** & Choi,\* S. Exploiting Solid-State Nuclear Magnetic Resonance Spectroscopy for the Study of Metal-Organic Framework Glasses. (Under review).
10. **Fonseca,\* J.**, Reithofer, M., Allahyarli, K., Eder, T., Chin,\* J. M. Oriented Metal-Organic Frameworks: A Review. (Under review).

\*: Corresponding author.

## Conferences

---

1. (*Invited*) Electro- and Photoelectro- Catalysts Obtained by Pyrolysis of Bimetallic Amorphous Metal-Organic Frameworks. **Javier Fonseca**. *239th ECS Meeting*. May-June 2021.
2. Amorphous Iron Metal Organic Framework as Supported of Amine for Carbon Dioxide Capture. **Javier Fonseca** & Sunho Choi. *ACS Spring 2020 National Meeting & Expo*. March 2020. Philadelphia, PA.

3. Novel Multi-channel Supramolecular Porous Material as Supported Amine sorbent for CO<sub>2</sub> Capture. **Javier Fonseca** & Sunho Choi. *5th International Conference on Sustainable Chemical Product and Process Engineering*. June-July 2019. Tianjin, China.
4. Carbon Dioxide Adsorption in a Supported Amine Material with Multi-Pore Networks. Nan Yang, **Javier Fonseca** & Sunho Choi. *RISE conference*. April 2019. Boston, MA.
5. New Synthesis Approach for Controlling Crystal Nucleation Density. Bradley Mileson, **Javier Fonseca** & Sunho Choi. *RISE conference*. April 2019. Boston, MA.
6. New Synthesis Approach for Creating a Novel Hierarchical Self-Assembled Supramolecular Porous Material. **Javier Fonseca** & Sunho Choi. *RISE conference*. April 2019. Boston, MA.
7. Metal-organic Frameworks with High Gravimetric and Volumetric Capacity for Hydrogen Storage. **Javier Fonseca**, Tenghua Gong, Hsin-Hsiu Ho & Sunho Choi. *Frontiers in Aerospace Materials conference*. May 2018. Boston, MA.
8. A New Metal-Organic Framework for Drug Delivery. Tenghua Gong, **Javier Fonseca** & Sunho Choi. *RISE conference*. April 2018. Boston, MA.
9. Reticular Chemistry to Predict Metal Organic Frameworks Topology. **Javier Fonseca**, Tenghua Gong & Sunho Choi. *RISE conference*. April 2018. Boston, MA.

### Awards & Honors

---

Honorary Rosalind Member of London Journals Press	December 2020
NSF travel support	June 2019
RISE Award	April 2018
Fundación Catalunya La Pedrera Fellowship (Spanish National Fellowship)	October 2015

### References

---

Prof. Sunho Choi. Ph.D. Supervisor. Northeastern University, Boston, MA, USA

Prof. Ronald J. Willey. Chemical Engineering Chair. Northeastern University, Boston, MA, USA

Prof. José María Sánchez-Álvarez. Bachelor Supervisor. Salamanca University, Salamanca, Spain