

## Dr Nadia Mofidi

PhD MSc BSc CEng FIMechE MIFireE

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### Current Positions

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**Adjunct Professor in Fire Safety** – Starting from April 2025

Cal Poly (California Polytechnic State University) – Wildfire and WUI

**Visiting Researcher in Civil and Environmental Engineering**– Aug 2023 - present

University College London

**Member at Steering and Modelling Groups for UK Climate Resilience Roadmap**

UK Green Building Council (UKGBC) – Wildfire studies – Nov 2023 – present

### Academic Education

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**PhD in Civil and Environmental Engineering – Fire Science** – Sep 2021 – Aug 2024

University College London, UK

Thesis: Air Entrainment Structure in a Turbulent Diffusion Flame Under Cross Wind:

A Three-Dimensional Perspective

**PhD Candidate at Fire Protection Engineering** - Jan 2019 – Aug 2021

Worcester Polytechnic Institute, Worcester, MA, USA

**MSc in Fire Protection Engineering** – Jan 2017 - Dec 2018

Worcester Polytechnic Institute, Worcester, MA, USA

Research study: Soot Characterization of Wildland Fuels

**BSc in Mechanical Engineering** – Aug 2004 - Dec 2008

Shahid Rajaee University, Tehran, Iran

Thesis: Developing of a Simulink model for a small-scale jet engine

### Publications

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- **Flow dynamics of turbulent diffusion flame under cross wind**  
Presented in Proceedings of combustion Institute 2022
- **Soot Characterization of Burning Wildland Porous Fuel Bed**  
11<sup>th</sup> national meeting of Combustion Institute, CA, USA, Mar 2019  
<https://wssci.us/meetings/ncm2019/papers/>
- **A study of cavity effect on flame spread over kerosene-soaked sand bed**  
Eastern States Section of the Combustion Institute, PA, USA, Mar 2018  
<http://sites.psu.edu/essci2018/downloads/>
- **Simulation of Water Mist in ICUs** International Water Mist Conference, Amsterdam, Netherlands, Oct 2015  
[http://iwma.net/fileadmin/user\\_upload/IWMC\\_2015/Narfoam\\_Mofidi\\_IWMC2015\\_paper.pdf](http://iwma.net/fileadmin/user_upload/IWMC_2015/Narfoam_Mofidi_IWMC2015_paper.pdf)
- **CFD simulation of water mist and sprinkler system in Resalat tunnel of Tehran**  
International Water Mist Conference, Istanbul, Turkey, Oct 2014  
[http://iwma.net/fileadmin/user\\_upload/IWMC\\_2014/Narfoam\\_Mofidi\\_Nadia\\_IWMC\\_2014\\_paper.pdf](http://iwma.net/fileadmin/user_upload/IWMC_2014/Narfoam_Mofidi_Nadia_IWMC_2014_paper.pdf).

## Work in Progress Publications

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- Theoretical study of flame spread over a non-planar kerosene-soaked sand bed
- Macro scale air entrainment mechanism in diffusion flame under cross wind
- Micro scale air entrainment mechanism in diffusion flame under cross wind
- Dimensionless analysis of large-scale diffusion flame under cross wind: revising the boundary layer theory
- A methodology to quantify the air entrainment in diffusion flames under cross wind
- Flame under cross wind: what is the state-of-the-art and next steps

## Professional Development and Awards

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### Professional Memberships:

- Fellow of the Institution of Mechanical Engineers (FIMechE), 2024, UK
- Chartered engineer (CEng) and Member of Institution of Mechanical Engineers (MIMechE), 2021, UK
- Member of Institution of Fire Engineers (MIFireE), 2021, UK (Chartership under review)

### Visibility:

- Active STEM Ambassador in the UK and previously in the USA
- Women in construction Ambassador in London Build expo, UK
- Support line volunteer at British Red Cross, 2022, UK

### Awards:

- 3<sup>rd</sup> Place Award Climate Code Red Hackathon competition at UCL, 2021, UK
- 1<sup>st</sup> Place Award of WPI Graduate Research Innovation Exchange, April 2018, USA
- Extinction in Chemistry and literature Olympiad, 2003, Iran

### Scholarships and Grants:

- WPI Graduate Studies Scholarship, September 2017 and 2020, USA
  - NFPA Fire Protection Engineering Graduate Support Grant, May 2017, USA
  - Maatman Scholarship, James S. Kemper Foundation Fellowship, April 2017, USA
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### Other:

- Accepted in Combustion Institute summer school at Princeton University, 2017 to 2019, USA
  - Endorsed by the Royal Academy of Engineering as Global Promise in Fire Safety, 2021, UK
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## Previous Work Experience

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15+ years of international experience in design, engineering, consulting and fire safety science research – environmental, building and oil & gas industry.

### Hydrock, National, UK

Technical Director (Research and Innovation)

November 2023 – January 2025

### Hydrock, London/Bristol, UK

Technical Director (South West and Wales)

April 2023 – November 2023

### Hydrock, London/Bristol, UK

Associate Fire Engineer (South West and

January 2023 – March 2023

### Foster + Partners, London, UK

Senior Fire Engineer (Associate Partner)

April 2022 – December 2022

Curriculum Vitae

Nadia Mofidi

**Foster + Partners, London, UK**  
Senior Fire Engineer (Associate)

February 2020 – March 2022

**Oskar Brands (Startup), USA**  
Researcher

June 2019 - January 2020

**Engineering Planning and Management (EPM), Framingham, MA, USA**  
Fire Engineer

January 2018 – August 2018

**Fire Protection Engineering and Mechanical Engineering, WPI, Worcester, MA, USA**  
Teaching Assistant

January 2017 - May 2020

**Combustion and Fire Science Laboratories, WPI, Worcester, MA, USA**  
Lab Assistant

January 2017 - January 2020

**Narfoamkar Co., Tehran, Iran**

Technical lead and Project Manager

May 2014 - December 2016

Fire Engineer

May 2010 - May 2014

### **FPE Software and Application Skills**

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Software: Python, Matlab, FDS, PyroSim, AutoSPRINK, PIPENET, FLUENT, Microsoft Office, Microsoft Project, AutoCAD, Solidworks, AutoPLANT, CADWorx, CAESAR II, Revit

Analysis: Desk-based studies, Performance-Based Design, overarching studies of international codes, fire risk assessment, explosion protection, experimental data analysis

Fire protection systems: Gaseous, water-based, Foam-based, dry chemical, twin agent, customized deluge packages, storage tanks, fire pump package

### **Showcase projects:**

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1. Battersea Power Station, London
2. Kuwait International Airport, Kuwait
3. Sarvestan & Saadat Abad Oil field Project, Iran
4. Bandar Abbas Gas Condensate Refinery, Iran
5. Iran Mall, Iran