

# Curriculum Vitae

Mehdi Nasrabadi

## *Personal Information*

**First Name:** Mehdi

**Last Name:** Nasrabadi

**Gender:** Male

**Date and Place of Birth:** 28 November 1981, IRAN

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## *Education*

**Jan. 2011-Sep. 2015**    PhD in Mechanical Engineering, Department of Mechanical and Materials Engineering University College Dublin (UCD).  
Dublin, Ireland.

**Subject:** "Investigation of office space conditioning using an open cooling tower with radiant cooling and displacement ventilation"

**Supervisors:** Dr. Donal Finn

**Sep. 2004-Dec. 2006**    M.Sc. in Electrical Energy Management, Department of Energy, Power & Water University of Technology, Tehran, Iran.

**Subject:** "Design gas to gas heat exchanger for increasing micro turbine efficiency considering Iranian industry potential"

**Supervisors:** Dr. Ramin Haghighi Khoshkhoo

**GPA:** 17.90/20.

**Sep. 2000-Sep. 2004**    B.Sc. in Mechanical Engineering, Isfahan University of Technology, Isfahan, Iran

**GPA:** 16.6/20.

**Sep. 1996-Sep. 2000**    Diploma in Mathematics and Physics, Shahid Beheshti High School, Birjand, Iran (affiliated with National Organization for Development of Exceptional Talents<sup>1</sup>)

**GPA:** 19.50/20.

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<sup>1</sup> This organization has high school branches in major cities in the country and accepts students using an entrance exam. Its main aim is to recognize and develop exceptional talents.

## *Awards and Honors*

### **2013:**

- UCD seed funding award for conference participation in 11<sup>th</sup> REHVA World Congress & 8<sup>th</sup> International Conference on IAQVEC, Prague, Czech Republic, June 16-19, 2013.

### **2012:**

- UCD seed funding award for conference participation in 10<sup>th</sup> International Institute of Refrigeration (IIR) Gustav Lorentzen Conference, Delft, The Netherlands, June 25-27<sup>th</sup>, 2012.

### **2006:**

- Ranked 2<sup>st</sup> among the M.Sc. graduates of Electrical Energy Management, Power & Water Institute of Technology.

### **2004:**

- Ranked top 5% among B.Sc. graduates of Mechanical Engineering, Isfahan University of Technology.

### **1999:**

- Accepted in the First Stage of the National Olympiad of Physics.<sup>2</sup>
- Accepted in the First Stage of the National Olympiad of Chemistry.

### **1994:**

- Entered the National Organization for Development of Exceptional Talents (NODET).

## *Publications*

### ▪ **Journal Papers**

1- **Mehdi Nasrabadi** and Donal P. Finn. "Mathematical modeling of a low temperature low approach direct cooling tower for the provision of high temperature-chilled water for conditioning of building spaces." *Applied Thermal Engineering* 64, no. 1 (2014): 273-282.

2- **Mehdi Nasrabadi** and Donal P. Finn. "Performance Analysis of a Low Approach Low Temperature Direct Cooling Tower for High-temperature Building Cooling Systems." *Energy and Buildings* 84 (2014): 674–689.

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<sup>2</sup> In this level about 800 students were selected among about 20,000 total participants nationwide.

3- **Mehdi Nasrabadi** and Donal P. Finn. "Application of low approach, low temperature cooling tower as a sole provider of chilled water for radiant and displacement ventilation cooling of commercial buildings in temperate climate." *Energy and Buildings* (2015) (**under preparation**).

▪ **International Conference Papers**

1- Ramin Haghighi Khoshkhoo, **Mehdi Nasrabadi**, "Improving the performance and the thermal efficiency of internal hot water boilers by Applying standard tests and using energy label", The 1st International Conference on Energy Management & Planning, University of Tehran, Tehran, June 2006 (in Farsi).

2- **Mehdi Nasrabadi**, Ramin Haghighi Khoshkhoo "Design gas to gas fin tube heat exchanger for increasing micro turbine efficiency", The 1st International Conference on Energy Management & Planning, University of Tehran, Tehran, June 2006 (in Farsi).

3- Ramin Haghighi Khoshkhoo, **Mehdi Nasrabadi**, "Design of gas-gas compact heat exchanger for improvement of micro turbine 100 kW efficiency" , 15<sup>th</sup> Annual International Conference on Mechanical Engineering, ISME 2007, Tehran, Amirkabir University of Technology, May 15-17, Paper ISME2007-1104.

4- **Mehdi Nasrabadi**, Ramin Haghighi Khoshkhoo. "Design of Fin Plate Heat Exchanger for Increasing Micro Turbine Efficiency and Introduction of Fin Plate Heat Exchanger Design Software (KhoshNasr) for this Purpose." In ASME 2008 Heat Transfer Summer Conference collocated with the Fluids Engineering, Energy Sustainability, and 3<sup>rd</sup> Energy Nanotechnology Conferences, pp. 89-90. American Society of Mechanical Engineers, 2008.

5- **Mehdi Nasrabadi**, Donal Finn, Ben Costelloe, Mathematical modeling of a low approach evaporative cooling process for space cooling in buildings, 10<sup>th</sup> International Institute of Refrigeration (IIR) Gustav Lorentzen Conference, Delft, The Netherlands, June 25-27<sup>th</sup>, 2012, Paper GL-185.

6- **Mehdi Nasrabadi**, Donal Finn, Ben Costelloe, Sensitivity Studies of a Low Temperature Low Approach Direct Cooling Tower for Building Radiant Cooling Systems, 2<sup>nd</sup> International High Performance Buildings Conference, Purdue, July 16-19, 2012, Paper 3529.

7- **Mehdi Nasrabadi** and Donal Finn, Performance Analysis of a Low Approach Low Temperature Direct Cooling Tower for Building Radiant Cooling Systems, 11<sup>th</sup> REHVA World Congress & 8<sup>th</sup> International Conference on IAQVEC, Prague, Czech Republic, June 16-19, 2013.

▪ **National Conference Papers (in Farsi)**

1- Ali Zabihi, **Mehdi Nasrabadi**, Amin Mosakhani, "Electrical energy optimisation manners in North dry cement unit", 6<sup>th</sup> National Energy Conference, Tehran, June 12-13, 2007, Paper 98-F-EEF-502 (in Farsi).

2- Ramin Haghighi Khoshkhoo, **Mehdi Nasrabadi**, "Design of Regenerator (rotational compact heat exchanger) as a new generation of gas to gas heat exchanger for increasing micro turbine efficiency" The 1<sup>st</sup> Conference on Rotating Equipment in Oil and Power Industries, Tehran, 18-19 Oct, 2008. (in Farsi).

3- Ramin Haghighi Khoshkhoo, **Mehdi Nasrabadi**, " Selection and recuperator design of existed 100 kW micro turbine based on Iranian production facility", The 1<sup>st</sup> Conference on Fuel, Energy and Environment National Congress, Tehran, 27-29 May, 2008 (in Farsi).

4- Ali Zabihi, Amin Mosakhani, **Mehdi Nasrabadi**, "Electrical energy optimisation in North dry cement unit", The 1<sup>st</sup> Conference on Fuel, Energy and Environment National Congress, Tehran, 27-29 May, 2008 (in Farsi).

### *Teaching Experience*

**Summer 2005**

Teaching assistant of **Dr. I. Najafi**,  
*Laboratory of Fluid mechanics for undergraduate students,  
Department of Energy, Power & Water Institute of Technology.*

**Total Number of Students:** 30 (Two groups)

**Fall 2005**

Teaching assistant of **Dr. A. Fasihfar**,  
*Laboratory of Fluid mechanics for undergraduate students,  
Department of Energy, Power & Water Institute of Technology.*

**Total Number of Students:** 15

**Spring 2011,  
2012,2013, 2014**

Teaching assistant of **Dr. D. Timoney**,  
*Laboratory of Energy Engineering for undergraduate students,  
Department of Mechanical and Materials Engineering University College Dublin (UCD).*

**Total Number of Students:** 200 (10 groups)  
(4 semesters)

**Fall 2013**

Teaching assistant of **Dr. D. Finn**,  
*Laboratory of Heat transfer for undergraduate students,  
Department of Mechanical and Materials Engineering University College Dublin (UCD).*

**Total Number of Students:** 200 (10 groups)

## *Work Experience*

- Summer 2004** Summer internship in kaveer tier Co., Birjand, Iran
- July. 2005-Nov. 2005** Research Engineer, *Niroo Research Institute (Power Research Institute) , Tehran, Iran*
- Project Subject:** Improving productivity and increasing thermal efficiency of steel and cast iron hot water boilers.
- Brief Description:** Direct thermal efficiency of several boilers, (2 steel and 3 cast iron) manufactured by Iran and a cast iron boiler manufactured by Germany were calculated by means of a standard test method (BS 7190). Also, using several equipments such as combustion analyzer and contact thermometer, different types of heat loss were measured by indirect method.
- Nov. 2005-July 2006** Research Engineer, *Niroo Research Institute, Tehran, Iran*
- Project Subject:** Improving efficiency in micro turbines
- Brief Description:** By the year 2000, microturbines are predicted to become popular in the distributed power generation field; their major advantages are low emissions, multifuel capability, compact size, high reliability and low maintenance. For this type of small turbogenerator, an exhaust heat recovery recuperator is mandatory in order to realize a thermal efficiency of 30% or higher.  
This project describes the design of all types of heat exchanger for improving micro turbine efficiency according to Iran facilities.
- Aug 2006-Oct 2006** Research Engineer, *Niroo Research Institute, Tehran, Iran*
- Project Subject:** Developing a new software for fin plate heat exchanger
- Brief Description:** After research on all types of heat exchangers, fin plate heat exchanger was introduced as optimum choice for manufacturing in Iran industry. Knowing that there had not been any particular software for designing the heat exchanger, the design program was written by MATLAB. Since there were some practical charts about heat transfer and pressure drop of fins in design of the heat exchanger, all the existing experimental curves were converted to data (using "Image Processing" technique in MATLAB) and utilized in design process of the program.

**Aug 2007-April 2009**

Piping Engineer, *Monenco Iran, Consulting Engineers*

**Project Subject:** Piping consulter and designer of combined cycle and gas power plants

**Brief Description:** Piping consulter of Damavand power plant and layout piping designer of Khashan power plant

## **References**

1. Dr. Ramin Haghighi Khoshkhoo

Assistant professor of faculty of energy,  
power & water university of technology,  
Tehran

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2. Dr. Donal Finn

Senior Lecturer, School of Mechanical &  
Materials Engineering, University College  
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