

Amirhossein Azimi

Contact Information

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Profiles: [LinkedIn](#) | [ResearchGate](#) | [Academia](#)

Education

M.Sc. in Aerospace Engineering

[Sharif University of Technology](#), Tehran, Iran [[QS Ranking](#)]

Sep. 2016 -
Jan. 2019

Thesis Title: "Experimental and Numerical Study on Spray Combustion under Hot-Diluted Conditions"

Advisor: [Dr. Amir Mardani](#)

CGPA: 3.89/4.0

B.Sc. in Mechanical Engineering

Tehran Polytechnic ([Amirkabir University of Technology](#)), Tehran, Iran [[QS Ranking](#)]

Sep. 2011 -
Aug. 2016

Studied as Second Major

Advisor: [Dr. Hamid Naderan](#)

CGPA: 3.76/4.0

B.Sc. in Aerospace Engineering

Tehran Polytechnic ([Amirkabir University of Technology](#)), Tehran, Iran [[QS Ranking](#)]

Sep. 2011 -
Apr. 2016

Studied as First Major

Thesis Title: "Design and Construction of an Atmospheric Gas Turbine Combustor Test Rig"

Advisor: [Prof. Sadegh Tabejamaat](#)

CGPA: 3.89/4.0

Research Experience

Oct. 2016 -
Apr. 2019

Graduate Research Assistant

Sharif University Aerospace Advanced Combustion Laboratory ([AACL](#)), Tehran, Iran

Under Supervision of [Dr. Amir Mardani](#)

- * Designed and constructed a laboratory-scale test rig to investigate the combustion of liquid fuels under hot-diluted conditions
- * Developed an image processing code for analysis of flame photographs

[\[more info on my website\]](#)

Feb. 2015 -
Sep. 2016

Undergraduate Researcher

Amirkabir University Combustion Laboratory ([ACL](#)), Tehran, Iran

Under Supervision of [Prof. Sadegh Tabejamaat](#)

- * Participated in the design and construction of a gas turbine combustor test rig
- * Participated in the testing of a sample gas turbine combustor for optimization
- * Developed a numerical code for heat transfer analysis of gas turbine combustors

[\[more info on my website\]](#)

Publications

Peer-Reviewed Journal Papers:

- Amir Mardani, Amirhossein Azimi, "Design and Construction of MILD-Spray Test Facility and Experimental Investigation on Kerosene Spray Flame in MILD Combustion Regime", *Fuel and Combustion*, 2020. [In Preparation; for details, please view my [website](#)]
- Amir Mardani, Amirhossein Azimi, "An Experimental Study on Spray Combustion under Hot-Diluted Conditions", *Combustion and Flame*, 2020. [Under Review; for details, please view my [website](#)]
- Amirhossein Azimi, Sadegh Tabejamaat, "Designing a Gas Turbine Combustor Test Rig and Testing a Sample Combustor at Atmospheric Conditions", *Fuel and Combustion*, Volume 10, Issue 1, Page 87-104, 2017. (In Persian) [[Journal Website](#)]

Conferences and Presentations:

- Amir Mardani, Amirhossein Azimi, "On the Chemiluminescence of Multiple Species in Combustion of Spray under Conventional and Hot-Diluted Conditions", The 8th Fuel and Combustion Conference of Iran, March 2020. [In Preparation; for details, please view my [website](#)]
- Amirhossein Azimi, Amir Mardani, "Effects of Preheating and Dilution on Kerosene Spray Flame Structure", First International Combustion School of Iran Poster Presentation, ICS2019, Tehran, Iran, August 2019. [[Event Website](#)]
- A. Azimi, S. Tabejamaat, "Design and Construction of an Atmospheric Gas Turbine Combustor Test Section", The 6th Fuel and Combustion Conference of Iran, Ferdowsi University of Mashhad, Mashhad, Iran, February 2016, Paper No. 92. (In Persian) [[Conf. Website](#) | [Proceedings](#)]

Expertise

- ✦ Experimental Research on Combustion of Liquid and Gaseous Fuels
- ✦ Design and Construction of Experimental Facilities (Test Rigs)
- ✦ Project Management, Teamwork, and Technical Report Writing
- ✦ Measurement Techniques in Combustion Zone and Data Analysis
- ✦ Numerical Simulation of Reactive Multiphase (Spray) Flows
- ✦ Heat Transfer Analysis of Combustion Systems and Cooling Techniques
- ✦ HVAC and Refrigeration Systems Design

| | | | |
|----------|---------------------|------------------------------------|-------------------------|
| Software | CAD/CAM | CAE | Programing |
| | SolidWorks, AutoCAD | ANSYS (Fluent, Gambit), Tecplot360 | FORTRAN 95, MATLAB, EES |

Research Interests

- Experimental Investigation on Reactive and Non-Reactive Multiphase Flows
- Numerical Simulation of Reactive and Non-Reactive Multiphase Flows
- Turbulent Combustion of Liquid and Gaseous Fuels
- Preliminary Design of Combustion Systems (in particular, Low Emission Gas Turbine Combustors)
- Heat Transfer and Combustion Instability Analysis of Combustors
- Thermo-Acoustic Coupling
- Cooling and Heating Load Calculations and Design of HVAC Systems

Honors and Awards

- ❖ Select M.Sc. thesis of the year in Aerospace Department of Sharif University of Technology (2018)
- ❖ 19th [Khwarizmi Youth Award](#) for Design and Construction of Gas Turbine Combustor Test Rig (2017)
- ❖ Awarded Sharif University of Technology fellowship for M.Sc. Studies (2016)
- ❖ Selected for graduate studies without the National University Entrance Exam ([Konkour](#)) at Sharif University of Technology (2016)
- ❖ Ranked 3rd out of 67 students of Aerospace Engineering Department and 7th out of 85 students of Mechanical Engineering Department, Amirkabir University of Technology, class of 2011-2015
- ❖ Distinguished Double Major student at Amirkabir University of Technology (2013)
- ❖ Awarded Amirkabir University of Technology fellowship for B.Sc. Studies (2011)
- ❖ Ranked as top 0.2% in the National University Entrance Examination for undergraduate studies ([Konkour](#)) among more than 300,000 participants (2011)

Selected Coursework and Grades

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|----------|--|---------------|-------------------------------------|
| Graduate | Advanced Fuel and Combustion (A) | Undergraduate | Internal Combustion Engines (A+) |
| | Combustion Instability (A+) | | Air Conditioning Systems (A+) |
| | Advanced Turbomachinery (A+) | | Water and Sewage Piping Systems (A) |
| | Advanced Gas Dynamics (A+) | | Gas Distribution Network (A+) |
| | Advanced Computational Fluid Dynamics (A+) | | Refrigeration Systems (A) |

English Proficiency

| TOEFL iBT | Total Score | Reading | Listening | Speaking | Writing |
|-----------|-------------|---------|-----------|----------|---------|
| | 109/120 | 28/30 | 30/30 | 25/30 | 26/30 |

Extracurricular Activities

- ◆ Traveling, Hiking, Mountain Climbing
- ◆ Watching Movies, Watching Documentaries, Listening and Playing Music

References

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|---|---|
| Dr. Amir Mardani (M.Sc. Thesis Advisor) (M.Sc. Educational Advisor) | Assistant Professor, Department of Aerospace Engineering, Sharif University of Technology Homepage: http://ae.sharif.edu/~web/homepage.php?username=amardani Email: amardani@sharif.edu |
| Prof. Sadegh Tebejamaat (B.Sc. Thesis Advisor) | Professor, Department of Aerospace Engineering, Amirkabir University of Technology Homepage: [Link] Email: sadegh@aut.ac.ir |
| Dr. Mehran Tadjfar (B.Sc. Educational Advisor) | Associate Professor, Department of Aerospace Engineering, Amirkabir University of Technology Homepage: [Link] Email: mtadjfar@aut.ac.ir |