

بنام خدا

Dr. Fathollah Ommi

1- Professor of Mechanical Engineering,
Member of Aerospace group of Tarbiat Modares University,
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2- Personal Information

Name: Fathollah Ommi

Date of Birth: 1952 (1331 SH)

Place of Birth: Tehran

Group: Professor of Mechanical Engineering, Department of Aerospace, Tarbiat Modares University

3- Educational Information

PhD in Mechanical Engineering, Moscow Technological University, Russia, 1996.

Master of Science in Mechanical Engineering, Tarbiat Modarres University, Iran, 1989.

Bachelor of Mechanical Engineering, Mechanics in Heat and Fluids, University of Science and Technology, Iran, 1983.

4- Executive Positions

- 2016-Present, Head of the Aerospace Research Institute (ARI) of the Ministry of Science, Research, and Technology,
- 2016-2018, Head of Science and Technology Park at Tarbiat Modares University,
- 2014-2016, Advisor to the Minister of Science, Research, and Technology,
- 2012-2014, Advisor to the Head of the Aerospace Research Institute of the Ministry of Science, Research, and Technology (MSRT),
- 2008-2012, Advisor to the Head of the Iranian Space Agency,
- 2006-2012, Research Advisor to the Head of the Department of Environment, Islamic Republic of Iran,
- 2006-2012, Director of Tehran Air Pollution Reduction Plan, Department of Environment, Islamic Republic of Iran,
- 2005-2007, Head of Mechanical Engineering Department at Tarbiat Modares University,
- 2005-2006, Head of Aerospace Group at Tarbiat Modares University,
- 2004-2009, Head of Science and Technology Park at Tarbiat Modares University,
- 1999-2003, Scientific Representative of Iran in Russia and the Commonwealth

Countries.

5- Educational Experiences

Energy conversion and aerospace courses include:

- Advanced Gas Dynamics,
- Advanced Thermodynamics,
- Thermal Power Plant,
- Advanced Heat Transfer,
- The Performance Theory of the Propulsion Engines,
- Advanced Turbomachinery,
- The Mechanics and Thermodynamics of Space Propulsion systems,
- Aerothermodynamics of Space Engines,
- Selected Topics in the Engine and Propulsion.

6- Fields of research

- Increasing the Efficiency of Internal Combustion Engines through Changes in Type and Consumption of Fuel,
 - Reduction of Pollutants of Internal Combustion Engines of All Types of Vehicles,
 - Conversion of Carburetor Engines to Injectors,
 - Design of the Single-base and Two-base Injector,
 - Designing Different Types of Nozzles,
 - Investigating the Issue of Fluid Propagation in an Aerosol in One Phase and Two Phase,
 - All Research Fields Related to Propulsion Engines,
 - Design and Performance Enhancement of Hybrid Engines,
 - Design of Fuel Cell Motors,
 - Supervision of More than 80 Master and PhD Students,
- Author of more than 100 Journal Papers, and more than 300 Conference Papers Such as:
1. Zahedzadeh, M., and Ommi, F., "Numerical Study of Step Geometry Effects on Gaseous Sonic Transverse Injection in Supersonic Crossflow", *Modares Mechanical Engineering* 19 (5), 1075-1084, 2019.
 2. Fattahi, A., Hosseinalipour SM., Karimi, N., Saboohi, Z., and Ommi, F., "on the Response of a Lean-Premixed Hydrogen Combustor to Acoustic and Dissipative-Dispersive Entropy Waves", *Energy*, 2019.
 3. Mansouri, H., and Ommi, F., "Performance Prediction of Aircraft Gasoline Turbocharged Engine at High-Altitudes", *Applied Thermal Engineering*, 2019.
 4. Pourabedin, G., and Ommi, F., "Modeling and Performance Evaluation of Standalone Solid Oxide Fuel Cell for Aircraft APU-II: Dynamic Performance", *International Journal of Smart Grid-ijSmartGrid* 3 (1), 34-41, 2019.
 5. Ommi, F., "Investigation of The Effects of Steam Addition on the Conceptual Design and Pollutants Emission of the Gas Turbine Combustor", *Modares Mechanical Engineering* 18 (6), 85-96, 2018.
 6. Saboohi, Z., Ommi, F., and Akbari, M.J., "Multi-Objective Optimization Approach toward Conceptual Design of Gas Turbine Combustor", *Applied Thermal Engineering* 148, 1210-1223, 2019.
 7. Khodayari, H., Ommi, F., and Saboohi, Z., "Investigation of the Primary Breakup Length and Instability of Non-Newtonian Viscoelastic Liquid Jets", *International Journal of Multiphysics* 12 (4), 2018.
 8. Zamankhan, F., Pirouzfard, V., Ommi, F., and Valihsari, M., "Investigating the Effect of MgO and CeO₂ Metal Nanoparticle on the Gasoline Fuel Properties: Empirical Modeling and Process Optimization by Surface Methodology", *Environmental Science and Pollution Research* 25 (23), 22889-22902, 2018.
 9. Naseh, H., Meibody, M.N.P., Hosseini Anari, H., and Ommi, F., "Numerical-Parametrical Analysis on the Hydrogen Peroxide Catalyst Bed for Space Monopropellant Thruster Applications", *Journal of Applied Research of Chemical-Polymer Engineering* 1 (2), 15-24, 2018.
 10. Ommi, F., and Nourazar, S., "Experimental Study of Effective Factors on Liquid Jet

- Trajectory and Breakup in Gaseous Crossflow", *Modares Mechanical Engineering* 17 (12), 354-360, 2018.
11. Ommi, F., "Accuracy Evaluation of Semi-empirical and Numerical Methods in Estimation of Aerodynamic Coefficients for air-launch-to-orbit delta wing", *Modares Mechanical Engineering* 17 (9), 237-244, 2017.
 12. Saboohi, Z., and Ommi, F., "Emission Prediction In Conceptual Design of the Aircraft Engines Using Augmented CRN", *The Aeronautical Journal* 121 (1241), 1005-1028, 2017.
 13. Ommi, F., and Azimi, M., " Low-Frequency Interior Noise in Prop-Driven Aircrafts: Sources and Control Methodologies", *Noise & Vibration Worldwide* 48 (7-8), 94-98, 2017.
 14. Ommi, F., Vaziri Naeen Nejad, J., and Moosavy, SH., "Investigation of Optimized Body Tilt Angle and Acoustic Excitation Affecting Performance of Hydro Cyclone Particles Separator Based on Genetic Algorithm", *Modares Mechanical Engineering* 17 (3), 37-46, 2017.
 15. Rostami, E., Ommi, F., Mirmohammadi, and Khodayari, A. H., "Effect of Gas-To-Liquid Density Ratios at Different Liquid Viscosity on the Atomization of the Air-Blast Atomizer", *Australian Journal of Mechanical Engineering* 15 (2), 125-136, 2017.
 16. Akhavein, Ar., Ommi, F., and Movahednejad, E., " An Experimental Study of Liquid Jet into a Cross Flow, Based On Schlieren Technique", *Fluid Mechanics And Aerodynamics Journal* 5 (10038), 17-27, 2017.
 17. Saboohi, Z., and Ommi, F., "Conceptual Design of Conventional Gas Turbine Combustors Aiming at Pollutants Emission Prediction", *Modares Mechanical Engineering* 16 (100070), 429-440, 2017.
 18. Saboohi, Z., Ommi, F, and Fakhrtabatabaei, A., "Development of an Augmented Conceptual Design Tool for Aircraft Gas Turbine Combustors", *the International Journal of Multiphysics* 10 (1), 2016.
 19. Zahedzadeh, M., and Ommi, F., "Numerical Study of Step Geometry Effects on Gaseous Sonic Transverse Injection in Supersonic Crossflow", *Modares Mechanical Engineering* 19 (5), 1075-1084, 2019
 20. Jamali, M., and Ommi, F., "One-Dimensional Electrolyzer Modeling and System Sizing for Solar Hydrogen Production: an Economic Approach", *Journal of Renewable Energy and Environment* 3 (3), 31, 2016
 21. Mehrabi, A., Ommi, F., Valizadeh, S., and Movahednejad, E., "Design, Manufacturing, Cold and Hot-Fire Test of a Liquid Subscale Engine with Single Swirl Double Base Injector", *Journal of Mechanical Engineering Amirkabir (Amirkabir)* 48 (1), 25-28, 2016.
 22. Jamali Ghahderijani, M., and Ommi, F., "Investigation of Vessels Pressure Effect on PEM Electrolyzer Performance by Using a New Onedimensional Dynamic Model", *Iranian Journal of Hydrogen & Fuel Cell* 2 (4), 271-281, 2015.
 23. Pourabedin, G., Ommi, F., and Kazempour, P., "Modeling and Performance Evaluation of Standalone Solid Oxide Fuel Cell for Aircraft APU-I: Model-Based Steady-State Performance (Reforming efficacy)", *International Journal of Engineering & Technology Sciences* 3 (06), 393-407, 2015.
 24. Mirmohammadi, A., and Ommi, F., "Internal Combustion Engines In Cylinder Flow Simulation Improvement Using Nonlinear K-E Turbulence Models", *Journal of Computational And Applied Research In Mechanical Engineering*, 2015.
 25. Hosseinalipour, S. M., Karimaei, H., and Ommi, F., "Experimental characterization of a swirl

injector with tangential inlets", Modares Mechanical Engineering 14 (10), 2015.

26. Ommi, F., and Azimi, M., "Main fan noise mitigation technologies in turbofan engines", Aviation 18 (3), 141-146, 2014.

27. S Javan, SS Alaviyoun, SV Hosseini, F Ommi, Experimental study of fine center electrode spark plug in Bi-fuel engines, Journal of Mechanical Science and Technology 28 (3), 1089-1097, 2014.

More than 80 research and industrial projects, such as:

[1] Feasibility study of designing, constructing, and testing of the living being capsule (animal and humans in order to increase reliability).

[2] Feasibility study, design and simulation of M.H.D generator, 2012.

[3] Performing the required injector tests, 2011.

[4] Study on the two-step operating mode of engine blow-out, 2011.

[5] Preparation of a road map for the prediction technology of natural disasters, 2010.

[6] Establishing a laboratory for impulse test, 2010.

[7] Design and fabrication of LDV instrument based on phase and layser doppler method, 2010.