

Alireza Esmaeili Sany



Personal and Contact Information

Date of Birth: July 04 1981
Phone: +98 - 912 523 7332
Address: Esmaeili, No.3, West 7th Shahinvila, Karaj, Tehran, Iran
Email: aresmaeili@alum.sharif.edu
Web page: <http://alum.sharif.edu/~aresmaeili>
Marital Status: Married
Citizenship: Iranian

Purpose:

Applying for Ph.D. in Mechanical Engineering

Research Interests

- Numerical, Theoretical and Experimental Investigation of Heat Transfer and Fluid Mechanics
- Combustion and ICE Modeling
- Fuel Cell and Hybrid Vehicles Subjects
- Turbulent Flow, Two Phase Flow and Porous Media Modeling
- Turbomachinery
- Micro and Nano Scale Heat Transfer

Education

- 2003-2005** **M.Sc.**, Mechanical Engineering- Energy Conversion, Sharif University of Technology, Tehran, Iran (GPA = 17.27/20)
Thesis: "*Investigation of Temperature and Velocity Profiles at Engine Compartment Considering the Effect of Air Grille, Fan, Condenser, and Radiator*". Under the supervision of Prof. M.H. Saidi and Prof. A.A. Mozafari
- 1999-2003** **B.Sc.**, Mechanical Engineering-Heat and Fluids, Urmia University, Urmia, Iran (GPA = 16.17/20)
Thesis: "*Numerical Simulation of Heat Transfer and Fluid Flow around a CPU Cooled with Heat Pipe and Studying Different Position of CPU to Reach Optimum Performance*". Under the supervision of Prof. I. Mirzaee and Prof. P. Sharifi
- 1995-1999** **Diploma**, Mathematics & Physics, Chamran High School, Urmia, Iran (GPA = 18.23/20)

Honors

- Ranked **1st** in the **M.Sc.** program of Mechanical Engineering Energy Conversion - Automotive Engineering, 2005.
- **M.Sc. Scholarship** from AIRIC (SAIPA Automotive Industries Research and Innovation Center) to Research and Study about Automotive Power Train Systems, 2003 - 2005.
- Ranked **93rd** in nation-wide entrance exam for M.S. Program in Mechanical Engineering among **15000** participants, 2004.
- Ranked **2nd** among **30 B.Sc.** Graduates of Mechanical Engineering, Heat and Fluids, 2003.
- Ranked **2nd**, **3rd** and **3rd** in the first, second and third grades of high school, respectively, in the field of Physics and Mathematics, 1995-1999

Publications

- **A.R. Esmaeili Sany**, M.H. Saidi, A.A. Mozafari, "*Experimental Prediction of Nusselt Number and Coolant Heat Transfer Coefficient in Compact Heat Exchanger Performed with ε -NTU Method*", Accepted to be published in The Journal of Engine Research, Tehran, Iran, Paper Number: 87121. [in English]
- A. Ghasemi, **A.R. Esmaeili Sany**, M.H. Saidi, A.A. Mozafari, "*A New Design for Inlet Diffuser of Automotive Catalytic Converter*", Accepted to be published in the Journal of Engine Research, Tehran, Iran, Paper Number: 87120. [in English]
- J. Neyestani, **A.R. Esmaeili Sany**, A.A. Mozafari, M.H. Saidi, "*Thermal Distribution in 4 Stroke Engine Compartment and the Effects of Vehicle Speed in this Distribution*", 5th Student Conference of Mechanical Engineering, Birjand University, Iran, ISME2008. (In Farsi)
- M. Kalantari, D. Kamandlooie, **A.R. Esmaeili Sany**, "*Three-Dimensional Numerical Simulation and Optimization of Gas Mixer for a Bi-Fuel Internal Combustion Engine*", 5th Conference on Internal Combustion Engine, Tehran, Iran, 2007. (In Farsi)
- **A.R. Esmaeili Sany**, J. Neyestani, M.H. Saidi, A.A. Mozafari, "*Experimental Study of Thermal Performance and Pressure Drop in Compact Heat Exchanger Installed in Automotive*", ASME Internal Combustion Engine Division - Technical Conference Aachen, Germany, ICES2006. [in English]
- **A.R. Esmaeili Sany**, J. Neyestani, M.H. Saidi, A.A. Mozafari, "*Experimental Investigation of Optimum Performance Evaluation an Automotive Cooling System with Considering ATB Parameter And Radiator Effectiveness Efficiency*", 10th International Conference of Mechanical Engineering, Isfahan University of Technology, Iran, ISME2006. (In Farsi)
- J. Neyestani, **A.R. Esmaeili Sany**, A.A. Mozafari, M.H. Saidi, "*Experimental Modeling of Air Temperature and Velocity Distribution in an Engine Compartment*", ASME Joint U.S. - European Fluids Engineering Summer Meeting, Miami, FL, USA, FEDSM2006. [in English]
- **A.R. Esmaeili Sany**, I. Mirzaee, P. Sharifi, "*Numerical Simulation of Heat Transfer and Fluid Flow around a CPU Cooled with Heat Pipe*", 8th International Conference of Mechanical Engineering, Tarbiat Modarres University, Iran, ISME2004. (In Farsi)

Some Accomplished Academic Projects

- Designing a Computer Code to Analyze Water Supply Networks with C Programming Language; fall 2002
- Calculating the Heating and Cooling Load of a Typical School Building and Designing an HVAC System; fall 2002
- Simulating the Thermodynamic Cycle in 4 Stroke Internal Combustion Engine, Considering 7 exhaust Gas composition; fall 2005
- Analytical and Numerical Investigation of New FEM Cylindrical and Spherical Elements with Various Nodes for heat conduction; fall 2005
- Numerical simulation and study of fluid flow using Fluent® software as course projects; spring 2001:
 - ▶ Heat transfer phenomena through heat pipes and optimization of installation method in PC
 - ▶ Temperature profile of brick at the time of production

- ▶ Air flow distribution around especial vehicle with various speeds
- Experimental Investigation of Air Temperature and Velocity Distribution in an Engine Compartment and Calculating of Heat Losses; fall 2005

Related Graduate Coursework

CFD, Finite Element, Advanced Fluid Mechanics and Heat Transfer, Numerical Calculating, Advanced Mathematics, Advanced Control and Digital Control, Design of Internal Combustion Engines, Advanced Internal Combustion Engines, Power Transfer Systems Design, Simulation of Internal Combustion Engines.

Computer Skills

Programming languages: C, C++, and MATLAB

Simulation softwares: GAMBIT, FLUENT, ANSYS, and CATIA

Microsoft Office: Excel, Word, Power Point, Access, and Front Page

Drawing: Mechanical Desktop, CATIA

Job Experiences

- 2002 Industrial Instruments Repairs and Maintenance expert;** Urmia Petrochemical Industrial CO., Urmia, Iran; 2002 (06/2002 – 09/2002)
- 2003 Research and Design Engineer;** House Installation and Air Condition Systems Azar Abtin CO., Urmia, Iran; 2003 (1 year)
- 2004 Technical Manager;** and Designing a Fluid Laboratory as a part of my job; Pump Production Industry (SPICO), Tehran, Iran; 2004 (01/2005 – 04/2005)
- 2004-2005 Research Assistant;** Automotive Industries Research and Innovation Center, Tehran, Iran; 2004-2005 (2 years)
- 2004 Research Assistant;** “Research about Radiator and Fan in order to Optimize Automotive Cooling System”, Saipa Automotive Production Co., Tehran, Iran; 2006 (06/2005 – 08/2005)
- 2005 Research Assistant;** “Optimizing Air Condition System in vehicles (Condenser, Expansion Valve, Compressor and Fan”, Saipa Automotive Production Co., Tehran, Iran; 2006 (06/2005 – 08/2005)
- March, 2006 up to now Fuel, Cooling and CNG Systems Quality Expert;** Automotive Production Company (SAIPA), Tehran, Iran; (since June, 2005 up to now)
(Consulting about automotive parts design and production such as Fuel Tank, Fuel Pump, Cooling Fan, Radiator, Fuel Filter, Fuel Hose, Canister, Condenser, Fuel Gauge, Evaporator and ...)
- May, 2008 up to now Research and Design Engineer;** "Design fuel and cooling parts for new automotive which is named "Miniator" and will be produced by Automotive Production Company (SAIPA)", Tehran, Iran; (since May 2008 up to now)

References

Prof. Mohammad Hassan Saidi,

Professor and Chairman of Mechanical Engineering School, Sharif University of Technology, Tehran, Iran.

saman@sharif.edu

Tel: (+98-21) 66165522 *Fax:* (+98-21) 6000021

P.O.BOX: 11155-9567, Tehran, Iran

Prof. Aliasghar Mozafari,

Professor, Department of Mechanical Engineering, Sharif University of Technology, Tehran, Iran.

mozafari@sharif.edu

Tel: (+98-21) 66165540 *Fax:* (+98-21) 6000021

P.O.BOX: 11155-9567, Tehran, Iran

Prof. Iraj Mirzaee,

Associate Professor, Department of Mechanical Engineering, Chancellor, Urmia University of Technology, Urmia, Iran.

i.mirzaee@mee.uut.ac.ir

Tel: (+98-914) 3450038 *Fax:* (+98-441) 3554184

P.O.BOX: 57166-93187, Urmia, Iran

Prof. Ghader Rezazadeh,

Associate Professor, Department of Mechanical Engineering, Urmia University, Urmia, Iran.

g.rezazadeh@urmia.ac.ir

Tel: (+98-914) 1451407 *Fax:* (+98-441) 2777022

P.O.BOX: 57561-15311, Urmia, Iran

Prof. Shahram Khalilarya,

Assistant Professor, Mechanical Engineering Department, Engineering School Chairman, Urmia University, Urmia, Iran.

Sh.khalilarya@urmia.ac.ir

Tel: (+98-914) 3457053 *Fax:* (+98-441) 2773591

P.O.BOX: 57561-15311, Urmia, Iran

Prof. Seyed Mehdi Pesteei,

Assistant Professor, Department of Mechanical Engineering, Urmia University, Urmia, Iran.

Sm.pesteei@urmia.ac.ir

Tel: (+98-914) 3414910 *Fax:* (+98-441) 2777022

P.O.BOX: 57561-15311, Urmia, Iran

Alireza Roshan Milani,

Trim and Hardware Design Department Manager, Saipa Automotive Industries Research and Innovation Center, Tehran, Iran.

milani@airic-ir.com

Tel: (+98-912) 3541126 *Fax:* (+98-21) 44196796

P.O.BOX: 13445-967, Tehran, Iran