Seyed Sadegh Motallebi Hasankola
Position: Faculty member and Head of Department (HoD)
Institution: Department of mechanical engineering, Shomal University, Amol, Iran.

Personal status

- Gender : Male・ Date of birth : 24.Dec.1983
- Country :Iran・ Marital status: Married
- Position : Assistant Professor・ Email: S.motallebi@shomal.ac.ir sadeghmtllb@gmail.com
- Cell phone: +98-9112200079・ Citizenship :Iranian

Education

- **Babol Noshirvani University of technology, Babol, Iran**

Degree: PhD, Mechanical Engineering
Period: 2014- 2020
Thesis Title: Experimental study to determine suitable injection time of pilot fuel in order to control of combustion phasing in reactivity controlled compression ignition (RCCI) engine
Supervisors: Dr R. shafaghat, Dr O. Jahanian

- **Shiraz University, Shiraz, IRAN**

Degree: Master of Science, Mechanical Engineering
Period: 2006-2009
Thesis Title: Analysis of Flow Field and Dust Accumulation Around a 3-D Building Model experimentally and numerically
Supervisors: Dr O. Abouali, Dr E. Goshtasbi Rad

- **Urmia University, Urmia, IRAN**

Degree: Bachelor of Science, Mechanical engineering
Period: 2002-2006
Final Project Title: Simulation of Flow Field around the Fins of computer using Fluent software
Supervisor: Dr A. Donyavi

Work Experience

- **Faculty member** and **head** of mechanical engineering department, Shomal University (http://www.shomal.ac.ir/), Amol, Iran, 2011 up to now
- **Managing** of all engineering labs at Shomal University, 2019 up to now
- **Equipping labs** in mechanical engineering department of Shomal University including, Thermodynamic, Fluid mechanics, Strength of material and vibration.

Computer Skills

- **Technical software:** AVL Fire, Ansys , CHEMKIN, AUTOCAD (2D and 3D)
- **Programming Languages:** FORTRAN, MATLAB

Honours & Awards

- **Distinguished lecturer** among all part time and full time lecturers of faculties at Shomal University, March 2013
- Fellowship in **Iranian Organization for Engineering Order of Building**, since 2011
- Outstanding award for the **second best thesis in PhD degree** in the 11th international conference on internal combustion engines & oil, February 2020
- **Infrastructure Software-Hardware award** in 2nd national proceeding on internal combustion engines (NCICE-2019), February 2019.

Research experiences:

- Constructing of **test cell** at Babol Noshiravani University of Technology
- Changing the Diesel engine to **HCCI** Type
- Installing of **pressure transducer** and **hydraulic dynamometer** on the internal combustion engine
- Installing of **gas analyser** for emissions measuring
- Designing and installing of **common- rail** system for fuel delivery
- Installing of **Hall effect sensor** and **shaft encoder** for determining crankshaft position and distinguish compression stroke and exhaust stroke, respectively
- Installing of **high and low pressure injectors** at the cylinder head and inlet manifold, respectively
- Contributing in designing of **electronic board** for determining of injection timing of HRF fuel (direct injection) and LRF fuel (inlet manifold injection)
- Contribution in designing of **electronic board** for controlling of the common-rail pressure
- Running **RCCI engine** and investigating of the role of injection timing on the performance and emissions
- Simulating of the **RCCI engine** using **AVL Fire** software
- Installing, setup and operation of **hot wire anemometer**, inverter frequency and other parts of low speed wind tunnel of Shiraz University
- Measuring and analysis of **velocity and turbulence intensity** around the low rise surface mounted and supported buildings using hot wire

- Simulating of **flow field** around the low rise surface mounted and supported buildings using **RANS and LES** approaches
- Simulating and analysing of flow field around a high rise building and comparison **various turbulence model**
- Investigating a **new solution** for decreasing aerosol around rural building
- Simulating and analysing of deposition aerosol around the low rise surface mounted and supported building
- Developing a computer code for motion of **aerosol** around bluff body
- **Supervision** of more than 50 B.Sc. students at Shomal University
- **Counsellor** of 4 M.Sc. student at Babol Noshiravani University of Technology

Research interests

- Developing of the test cell and instruments relevant to internal combustion engine and emissions measuring
- Analysing of Internal Combustion Engine performance at different conditions both experimentally and numerically
- Kinematic of combustion
- Analysing the role of new fuels on the efficiency and emissions of combustion
- Computational Fluid Dynamic
- Environment, pollution and emissions

Teaching Experiences:

- Shomal University (2010 up to now): Statics, Dynamic, Fluid Mechanic, Fuel and combustion, advanced combustion engine, advanced mathematics, CFD, conventional power plant
- Azad University (2009-2011): Turbo machinery, Heat Transfer I and II Fluid mechanic, power plant

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Publication:

- **سید صادق مطلبی حسن کلا**، امیر حسین بخشیان، بررسی عددی نقش موقعیت قرار گیری حفره در متلاطم کننده جریان مخروطی، سی و سومین همایش سالانه بین المللی انجمن مهندسان مکانیک ایران، ۱۴۰۴.
- **سید صادق مطلبی حسن کلا**، روزبه شفقت، امید جهانیان، مقایسه تجربی عملکرد موتور احتراق تراکمی با واکنش پذیری کنترل شده (RCCI) و موتور دیزل سی و سومین همایش سالانه بین المللی انجمن مهندسان مکانیک ایران، ۱۴۰۴.

- **سید صادق مطلبی حسن کلا**، امیر حسین بخشیان، بررسی عددی تفاوت حفره دایروی و بیضـوی واقـع بر مخروط مستقر در لوله بر انتقال حرارت، بیست و یکمین کنفرانس دینامیک شاره ها، ۱۴۰۳.
- عارف مهدی تبار، **سیدصادق مطلبی حسن کلا**، مدل سازی چند مقیاسی رفتار مکانیکی کربن یارن با در نظر گرفتن خواص ارتوتروپیک در سراسر سلسله مراتب ساختاری، اولین کنفرانس بین المللـی رویکردهـای نوین در مهندسی و علوم پایه، ۱۴۰۳.

Mehditabar, A., Esfandian, H., & Hasankola, S. S. M. (2025). Multiscale Modeling of Mechanical Response of Carbon Nanotube Yarn with Orthotropic Properties Across Hierarchies. Computation, 13(5), 119. https://doi.org/10.3390/computation13050119.

· **Seyed Sadegh Motallebi Hasankola**, Rouzbeh Shafaghat, Omid Jahanian. Effects of Gasoline Reactivity and Ethanol Content on the performance and emissions of a RCCI engine, Applied Energy (submitted).

· **MOTALLEBI HASANKOLA, S. S.**, SHAFAGHAT, R., JAHANIAN, O. & NIKZADFAR, K. 2019. An experimental investigation of the injection timing effect on the combustion phasing and emissions in reactivity-controlled compression ignition (RCCI) engine. Journal of Thermal Analysis and Calorimetry.

· **MOTALLEBI HASANKOLA, S. S.**, SHAFAGHAT, R., JAHANIAN, O., TALESHAMIRI, S. & SHOOGHI, M. 2019. Numerical investigation of the effects of inlet valve closing temperature and exhaust gas recirculation on the performance and emissions of an RCCI engine. Journal of Thermal Analysis and Calorimetry.

· GHAEDI, A., SHAFAGHAT, R., JAHANIAN, O. & **MOTALLEBI HASANKOLA, S. S.** 2019. Comparing the performance of a CI engine after replacing the mechanical injector witha common rail solenoid injector. Journal of Thermal Analysis and Calorimetry.

· FAKHARI, A. H., SHAFAGHAT, R., JAHANIAN, O., EZOJI, H. & **MOTALLEBI HASANKOLA, S. S.** 2019. Numerical simulation of natural gas/diesel dual fuel engine for investigation of performance and emission. Journal of Thermal Analysis and Calorimetry

· **Seyed Sadegh Motallebi Hasankola**, Rouzbeh Shafaghat, Omid Jahanian, Kamyar Nikzadfar. Investigation of the injection timing of the Diesel fuel on the combustion phasing of the RCCI engine experimentally. 2nd National Conference on Internal Combustion Engine(NCICE-2019), at Babol Noshiravani University of Technology , Babol, Iran, (In persian)

· Ashkan Ghaedi, Rouzbeh Shafaghat, Omid Jahanian, **Seyed Sadegh Motallebi Hasankola**. Comparison of the mechanical and solenoid injectors on the performance and emissions of compression ignition engine. 2nd National Conference on Internal Combustion Engine(NCICE-2019), at Babol Noshiravani University of Technology , Babol, Iran, (In persian)

- Ashkan Ghaedi, Rouzbeh Shafaghat, Omid Jahanian, **Seyed Sadegh Motallebi Hasankola**. An Experimetal investigation of the heat release rate and ignition delay in a diesel engine. 10th International Conference on Internal Combustion Engines. Tehran, Iran. (In persian)
- **Motallebi Hasankola, S. S.**, Shafaghat, R., Jahanian, O., Talesh Amiri, S. & Shooghi, M. Investigation of the Inlet temprature, Spray angle and Exhaust gas temperature on the performance of the RCCI engine.2nd National Conference on Internal Combustion Engine(NCICE-2019), at Babol Noshiravani University of Technology , Babol, Iran, (In persian)
- **Seyed Sadegh Motallebi Hasankola**, Rouzbeh Shafaghat, Omid Jahanian, Saleh Talesh Amiri. Numerical Investigation of the Exhaust Gas Recirculation Role in a Reactivity Controlled Compression Ignition (RCCI) Engine, by Using Natural Gas/Diesel and also Natural Gas/B7. 2nd National Conference on Internal Combustion Engine(NCICE-2019), at Babol Noshiravani University of Technology , Babol, Iran, (In persian)
- Amirhosein Fakhari, Rouzbeh Shafaghat, Omid Jahanian, Hosein Ezoji, **Seyed Sadegh Motallebi Hasankola**. Numerical investigation of the injection parameters on the performace and emissions on the CNG/ Diesel dual fuel engin. 2nd National Conference on Internal Combustion Engine(NCICE-2019), at Babol Noshiravani University of Technology , Babol, Iran. (In persian)
- H. Ezoji, R. Shafaghat, O. Jahanian, **S.S. Motallebi Hasankola** " Numerical Simulation on Dimethyl Ether/Methanol Dual-Fuel Homogeneous Charge Compression Ignition (HCCI) high duty Engine"2th marine industrial Conference, Nowshahr university, September 2016 (in Persian)
- **S.S. Motallebi Hasankola**, E. Goshtasbi Rad and O. Abouali , Experimental
Investigation of the Airflow around Supported and Surface Mounted Low Rise Rural Buildings, Iranian Journal of Science and Technology-Engineering, 2012, Vol. 36, No. 2, pp 143-153
- **Motallebi Hasankola. S.S**, Abouali. O., "Numerical Investigation of the Flow Field around a Low Rise Building Using LES Technique", ASME 2010, 3rd Joint US- European Fluids Engineering Summer Meeting, Montreal, Canada
- **S.S. Motallebi Hasankola**, E. Goshtasbi, O .Abouali, "Investigation flow field around building in wind tunnel", 12th Fluid Dynamics Conference, May 2009, Noshirvani University of Technology University
- **Motallebi Hasankola. S.S**, Abouali. O. Goshtasbi E., "Investigation of flow field around a building with inrush flow" (in Persian), ISME 2009- Tehran University