



Saeed Salehi

*Division of Fluid Dynamics
Department of Mechanics and Maritime Sciences
Chalmers University of Technology
Gothenburg, Sweden*

PERSONAL INFORMATION

Birth: 20/07/1987, Iran
Marital Status: Married
Nationality: Iranian

CONTACT INFORMATION

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[Google Scholar](#)
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EDUCATION

Postdoc 2019 - 2021	Chalmers University of technology Mechanical Engineering Project: Fluid Dynamics of Hydropower Transients Supervisor: Prof. Håkan Nilsson
PhD. 2012 - 2018	University of Tehran Mechanical Engineering Major: Hydraulic Machinery Thesis: Uncertainty Quantification of Turbulent Flows in Hydraulic Machinery (Jointly supervised by Luleå University of Technology and University of Tehran) Thesis grade: 20/20 Supervisors: Prof. M. Raisee, Prof. M. Cervantes, Prof. A. Nourbakhsh
MSc. 2010 - 2012	University of Tehran Mechanical Engineering Major: Energy Conversion Thesis: Computation of Steady and Pulsating Turbulent Flow through a Straight Asymmetric Diffuser with Moderate Adverse Pressure Gradient Thesis grade: 20/20 Supervisors: Prof. M. Raisee, Prof. M. Cervantes
BSc. 2005 - 2009	University of Tehran Mechanical Engineering Major: Thermo-Fluid Thesis: Large Eddy Simulation of Stall Development Around Airfoils Thesis grade: 20/20 Supervisors: Prof. A. Nejat

RESEARCH INTERESTS

- Uncertainty Quantification
- Computational Fluid Dynamics (CFD)
- Turbomachinery
- Turbulent Flows
- Micro and Bio-fluidics
- Heat Transfer
- Numerical Analysis and Programming

PEER-REVIEWED JOURNAL PAPERS

- [9] Mohamad Sadeq Karimi, **Saeed Salehi**, Mehrdad Raisee, Patrick Hendrick, and Ahmad Nourbakhsh. “[Probabilistic CFD computations of gas turbine vane under uncertain operational conditions](#)”. *Applied Thermal Engineering* 148 (2019), pp. 754–767. ISSN: 1359-4311.
- [1] **Saeed Salehi**, Mehrdad Raisee, Michel J. Cervantes, and Ahmad Nourbakhsh. “[On the flow field and performance of a centrifugal pump under operational and geometrical uncertainties](#)”. *Applied Mathematical Modelling* 61 (2018), pp. 540–560.
- [2] **Saeed Salehi**, Mehrdad Raisee, Michel J. Cervantes, and Ahmad Nourbakhsh. “[An efficient multifidelity \$\ell_1\$ -minimization method for sparse polynomial chaos](#)”. *Computer Methods in Applied Mechanics and Engineering* 334 (2018), pp. 183–207.
- [3] Ali Salehpour, **Saeed Salehi**, Samaneh Salehpour, and Mehdi Ashjaee. “[Thermal and hydrodynamic performances of MHD ferrofluid flow inside a porous channel](#)”. *Experimental Thermal and Fluid Science* 90 (2018), pp. 1–13.
- [4] **Saeed Salehi**, Mehrdad Raisee, Michel J. Cervantes, and Ahmad Nourbakhsh. “[Efficient uncertainty quantification of stochastic CFD problems using sparse polynomial chaos and compressed sensing](#)”. *Computers & Fluids* 154 (2017), pp. 296–321.
- [5] **Saeed Salehi**, Mehrdad Raisee, Michel J. Cervantes, and Ahmad Nourbakhsh. “[The Effects of Inflow Uncertainties on the Characteristics of Developing Turbulent Flow in Rectangular Pipe and Asymmetric Diffuser](#)”. *Journal of Fluids Engineering* 139.4 (2017), p. 041402.
- [6] **Saeed Salehi**, Mehrdad Raisee, and Michel J. Cervantes. “[Computation of Developing Turbulent Flow Through a Straight Asymmetric Diffuser With Moderate Adverse Pressure Gradient](#)”. *Journal of Applied Fluid Mechanics* 10.4 (2017), pp. 1029–1043.
- [7] **Saeed Salehi** and Mehrdad Raisee. “[Application of Gram-Schmidt orthogonalization method in uncertainty quantification of computational fluid dynamics problems with arbitrary probability distribution functions \(In Persian\)](#)”. *Modares Mechanical Engineering* 15.12 (2015), pp. 1–8.

- [8] Behrouz Takabi and **Saeed Salehi**. “Augmentation of the Heat Transfer Performance of a Sinusoidal Corrugated Enclosure by Employing Hybrid Nanofluid”. *Advances in Mechanical Engineering* 6 (2014), p. 147059.

BOOK CHAPTERS

- [1] **Saeed Salehi**, Mehrdad Raisee, Michel Cervantes, and Ahmad Nourbakhsh. “Development of an Efficient Multifidelity Non-Intrusive Uncertainty Quantification Method”. *Evolutionary and Deterministic Methods for Design Optimization and Control With Applications to Industrial and Societal Problems*. Ed. by Esther Andrés-Pérez, Leo M. González, Jacques Periaux, Nicolas Gauger, Domenico Quagliarella, and Kyriakos Giannakoglou. Springer International Publishing, 2019.

CONFERENCE PAPERS

- [1] Mohamad Sadeq Karimi, **Saeed Salehi**, Mehrdad Raisee, and Ahmad Nourbakhsh. “Conjugate Heat Transfer Simulation of a Cooled Turbine Vane under Uncertain Operational Condition”. *International Conference on Evolutionary and Deterministic Methods for Design Optimization and Control with Applications to Industrial and Societal Problems, Madrid, Spain*. 2017.
- [2] **Saeed Salehi**, Mehrdad Raisee, Michel Cervantes, and Ahmad Nourbakhsh. “Development of an Efficient Multifidelity Non-Intrusive Uncertainty Quantification Method”. *International Conference on Evolutionary and Deterministic Methods for Design Optimization and Control with Applications to Industrial and Societal Problems, Madrid, Spain*. 2017.
- [3] **Saeed Salehi**, Mehrdad Raisee, and Ahmad Nourbakhsh. “Effects of Geometrical and Operational Uncertainties on the Performance of Hydraulic Machinery”. *The 14th Asian International Conference on Fluid Machinery, Zhenjiang, China*. 2017.
- [4] Vahid Etemadeasl, **Saeed Salehi**, Mehrdad Raisee, and Ahmad Nourbakhsh. “Numerical Investigation of Turbulent Flow in Francis-99 Turbine Using Various Turbulence Models”. *The 14th Asian International Conference on Fluid Machinery, Zhenjiang, China*. 2017.
- [5] Ehsan Akbari, **Saeed Salehi**, and M. Karami. “Numerical and Experimental Investigation of the Effect of Heat Exchanger Shape on Performance of an Industrial Heater (In Persian)”. *21st Annual International Conference on Mechanical Engineering (ISME), Tehran, Iran*. 2013.
- [6] Behrouz Takabi, **Saeed Salehi**, and Mohammad Hassan Rahimyan. “Studying the effects of employing hybrid nanofluid on heat transfer performance of a wavy cavity”. *21st Annual International Conference on Mechanical Engineering (ISME), Tehran, Iran*. 2013.

REVIEWER

- [Computers and Fluids](#) (*Elsevier*)
- [Applied Mathematical Modeling](#) (*Elsevier*)

- [Journal of Fluids Engineering](#) (*ASME*)
- [Applied Fluid Mechanics](#) (*IUT*)

EXPERIENCES

- | | |
|----------------|--|
| 2014 - Present | <p>Head of Research Team
 Efficient uncertainty quantification and robust optimization of complex fluid flows
 Uncertainty quantification lab, University of Tehran
 Under supervision of Prof. M. Raisee
 Funded by University of Tehran</p> |
| 2015 - 2018 | <p>Head of Research Team
 Shape optimization of internal cooling passages of the MGT70 gas turbine blade
 MAPFAN Research Institute, University of Tehran
 Under supervision of Prof. M. Raisee
 Funded by MAPNA Co.</p> |
| 2013 - 2014 | <p>Head of Research Team
 CFD simulation of free convection of hybrid nanofluid inside a sinusoidal corrugated cavity
 MechanicalEngineering Department, University of Tehran
 Under supervision of Prof. M. H. Rahimian
 Funded by Delta Co.</p> |
| 2011 - 2012 | <p>Head of Research Team
 Lattice Boltzmann Simulation of non-Newtonian flow and heat transfer over a square obstacle in a straight channel
 MechanicalEngineering Department, University of Tehran
 Under supervision of Prof. M. H. Rahimian
 Funded by University of Tehran</p> |
| 2010 - 2011 | <p>Research Assistant of Project
 Simulation, design and fabrication of artificial lung
 Research Center for New Technologies in Life Science Engineering, University of Tehran
 Funded by University of Tehran</p> |
| 2010 - 2010 | <p>Research Assistant of Project</p> |

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| | <p>Experimental study on the effects of cavitation in Francis turbine on the structural vibrations
 Mechanical Engineering Department, University of Tehran
 Under supervision of Prof. M. J. Mahjoob
 Funded by University of Tehran</p> |
| 2009 - 2010 | <p>Head of Research Team
 Experimental investigation of Francis turbine operation and extraction of Hill chart
 University of Tehran
 Under supervision of Prof. S. Derakhshan
 Funded by University of Tehran</p> |
| 2009 - 2009 | <p>Head of Research Team
 CFD programming of supersonic flow over a flat plate
 University of Tehran
 Under supervision of Prof. A. Nejat
 Funded by University of Tehran</p> |

HONORS

- | | |
|------|---|
| 2017 | Awarded the membership and grant of the Iran's National Elites Foundation |
| 2010 | Top 1% of students among 10,000 participants of national high education university entrance exam (rank: 121), which led to a full scholarship to study my Master of Science at the University of Tehran |
| 2005 | Top 0.1% of students among 400,000 participants of national university entrance exam (rank: 212), which led to a full scholarship to study my Bachelor of Science at the University of Tehran |

TEACHING

- **Turbomachinery Lab.**, Adjunct Professor, Mechanical Engineering Department, University of Tehran, 2015 - 2018.
- **Computational Fluid Dynamics (CFD) in Turbomachinery**, Professor, [Rased Sanat Toseae Co.](#), 2017 - 2018.
- **Computational Fluid Dynamics (CFD)**, Teaching Assistant, Mechanical Engineering Department, University of Tehran, 2017 - 2018.

- **Turbulent Flows**, Teaching Assistant, Mechanical Engineering Department, University of Tehran, 2015 - 2017.
- **Heat Transfer**, Teaching Assistant, Mechanical Engineering Department, University of Tehran, 2014 - 2015.
- **Fluid Mechanics I and II**, Teaching Assistant, Mechanical Engineering Department, University of Tehran, 2013 - 2015.
- **CFD with Fluent (Introductory and Advanced)**, Professor, Over 1000 hours of teaching in several universities and institutes, 2010 - present.
- **CFD with OpenFOAM (Introductory and Advanced)**, Professor, Over 500 hours of teaching in several universities and institutes, 2012 - present.
- **CFD with CFX (Introductory and Advanced)**, Professor, Over 500 hours of teaching in several universities and institutes, 2014 - present.
- **Turbomachinery design with CFTurbo**, Professor, Over 200 hours of teaching in several universities and institutes, 2011 - present.
- **Meshing Softwares**, Professor, Over 500 hours of teaching **Gambit**, **ICEM**, **Ansys Meshing** and **TurboGrid** in several universities and institutes, 2011 - present.

COMPUTER SKILLS

CFD	OpenFOAM	● ● ● ● ●	Fluent	● ● ● ● ●
	CFX	● ● ● ● ●	ThermalDesktop	● ● ● ● ●
	SINDA	● ● ● ● ●	Numeca	● ● ● ● ●
	COMSOL	● ● ● ● ●		
Programming	MATLAB	● ● ● ● ●	Simulink	● ● ● ● ●
	C++	● ● ● ● ●	Fortran	● ● ● ● ●
	Maple	● ● ● ● ●	Python	● ● ● ● ●
	LabView	● ● ● ● ●		
UQ	OpenTURNS	● ● ● ● ●	UQLab	● ● ● ● ●
	R	● ● ● ● ●		
Meshing	Gambit	● ● ● ● ●	TurboGrid	● ● ● ● ●
	ICEM-CFD	● ● ● ● ●	Ansys Mesh.	● ● ● ● ●
	AutoGrid	● ● ● ● ●	PointWise	● ● ● ● ●
PostProcess.	Tecplot	● ● ● ● ●	CFD-Post	● ● ● ● ●

	ParaVIEW	● ● ● ● ●		
CAD	SolidWorks	● ● ● ● ●	AutoCAD	● ● ● ● ●
	SpaceClaim	● ● ● ● ●	Workbench	● ● ● ● ●
	NX	● ● ● ● ●		
Turbomachin.	CFTurbo	● ● ● ● ●	TURBANPRO	● ● ● ● ●
	BladeGen	● ● ● ● ●	Vista TF	● ● ● ● ●
	AutoBlade	● ● ● ● ●		
General	L ^A T _E X	● ● ● ● ●	MS Office	● ● ● ● ●
	Linux	● ● ● ● ●		

LANGUAGES

- English (Fluent)
- Persian (Mother tongue)
- Arabic (Basic)

INTERESTS AND EXTRA-CURRICULAR ACTIVITIES

- I love technology and I am a computer geek. Learning new softwares and programming are my passions.
- I like music and I am a Tar (Persian musical instrument) player.
- I run, play football and swim on a regular basis.
- I love family time and I spend most of my weekends and holidays with my wife and daughter.

REFERENCES

1. **Dr. Håkan Nilsson**

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Division of Fluid Dynamics
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Chalmers University of Technology, Sweden
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2. **Dr. Mehrdad Raisee**

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Mechanical Engineering Department,
University of Tehran, Iran
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3. **Dr. Michel J. Cervantes**

Professor of Fluid Mechanics,
Fluid and Experimental Mechanics Division,
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4. **Dr. Ahmad Nourbakhsh**

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