Alireza SARMADIAN

DATE OF BIRTH: 7^{th} OF MAY, 1991

Department of Engineering and Design, University of Sussex, Brighton BN1 9QT, UK
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EDUCATION

SEP. 2018- PRESENT — **PhD Research Scholar** in ENGINEERING AND DESIGN
School of Engineering and Informatics, **University of Sussex**, Brighton, UK
Industry funded thesis: "Thermal management of an evaprative spray cooling system for ICEs and automotive electrical and electronic powertrain components"
| Supervisor: Prof Julian DUNNE

AUG. 2016 — **M.Sc.** in AEROSPACE ENGINEERING
Faculty of New Sciences and Technologies, **University of Tehran**, Tehran, Iran
Thesis: "Condensation Heat Transfer, Pressure Drop, and Flow visualization Characteristics of R-600a in Horizontal Smooth and Helically Dimpled Tubes"
| Supervisor: Dr Maziyar SHAFAEE, GPA: 3.72/4

AUG. 2014 — **B.Sc.** in MECHANICAL ENGINEERING
School of Mechanical Engineering, **Shahid Bahonar University of Kerman**, Iran
Thesis: "Design and Optimization of Desalination Systems" (Grade: 19/20)
| Supervisor: Prof Mehran AMERI

WORK EXPERIENCE

JAN. 2019- PRESENT — Doctoral Tutor
DEPARTMENT OF ENGINEERING AND DESIGN, UNIVERSITY OF SUSSEX

NOV. 2016- MAR. 2018 — Research Mentor at TPFL (TWO-PHASE FLOW LABORATORY), Tehran
FACULTY OF NEW SCIENCES AND TECHNOLOGIES, UNIVERSITY OF TEHRAN

- Designed research projects involving heat and mass transfer for three graduates' dissertations; **modelling**, **simulation** and **experiments**.
- Developed research schedules and provided guidance throughout projects.
- Supported mentees through presentations, group and individual tutorials including **CAD CAM**, **ANSYS FLUENT** and **Test rig** demonstrations.

APR. 2016- OCT. 2016 — Researcher at PISHRAN NOVIN ASEMAN, Tehran
HYDRAULIC VALVE DESIGN AND MANUFACTURING

- Conceptual design of industrial solenoid valves and became familiar with valve selection based on standards such as ECS, API, and ASTM, logistic design method of industrial valves, and test procedures.

SUMMER 2014 — Summer Internship at NATIONAL IRANIAN GAS COMPANY, Fars, Shiraz
SUMMER 2013 — Summer Internship at IRAN KHODRO DIESEL COMPANY, Fars, Shiraz

Journal Publications

Feb. 2020 "Flow pattern maps, pressure drop and performance assessment of horizontal tubes with coiled wire inserts during condensation of R-600a."
HA Moghaddam, **A Sarmadian**, M Shafaee, Hamid Enayatollahi
International Journal of Heat and Mass Transfer, 148: 119062

Nov. 2019 "Pressure loss and performance assessment of horizontal spiral coil inserted pipes during forced convective evaporation of R-600a."
Farzam Alimardani, HA Moghaddam, **A Sarmadian**, M Shafaee
International Journal of Refrigeration, 107: 20-30

Aug. 2019 "An experimental study on condensation heat transfer characteristics of R-600a in tubes with coiled wire inserts."
HA Moghaddam, **A Sarmadian**, M Shafaee
Applied Thermal Engineering, 159: 113889

Sep. 2017 "Condensation Heat Transfer and Pressure Drop Characteristics of R600a in Horizontal Smooth and Helically Dimpled Tubes."
A Sarmadian, M Shafaee, H Mashouf, SG Mohseni
Experimental Thermal and Fluid Science, 86: 54-62.

Sep. 2017 "Visual study of flow patterns during evaporation and condensation of R-600a inside horizontal smooth and helically dimpled tubes."
H Mashouf, M Shafaee, **A Sarmadian**, SG Mohseni
Applied Thermal Engineering, 124: 1392-1400

Jul. 2017 "Discovering an empirically new relation and obtaining the flow pattern map for dimpled tubes in two-phase flow for refrigerant R600-a."
A Vahabi, M. Shafaee, **A Sarmadian**, H Mashouf
Modares Mechanical Engineering, 17: 39-48. (in Farsi)

Aug. 2016 "Evaporation heat transfer and pressure drop characteristics of R-600a in horizontal smooth and helically dimpled tubes."
M Shafaee, H Mashouf, **A Sarmadian**, SG Mohseni
Applied Thermal Engineering, 107: 28-36.

Teaching Experience

Semester-2 2019/20 **Associate Tutor**,
Systems Analysis and Control, **Workshop**, Dr Bao Kha Nguyen
Computer Aided Design and Modelling, **Labs**, Dr Kun Liang (CAD), and Dr Yevgen Petrov (FEA)
Engineering Thermodynamics, **Workshop and lab**, Dr Esra Sorguven
Thermal power cycles, **Jet Engine Lab**, Mr Harri Koivisto

Semester-1 2019/20 **Associate Tutor**, Engineering Maths, **Workshop**, Dr Carole Becker
Control Engineering, **Lab and practicals**, Dr Alaa Hussein
Engine Technology, **Lab**, Dr Arash Dizqah, Prof Peter Fussey
Programming for Engineers (Graduates), **Workshop**, Dr Ronald Grau
Programming for Engineers (Undergrads), **Lab**, Dr Kun Liang

Semester-2 2018/19 Engineering Thermodynamics, **Lab**, Dr William Wang
School of Engineering and Informatics, University of Sussex

Spring 2015 **Teaching Assistant**, Advanced Maths, **Workshop**, Dr Roham Rafiee
Faculty of New Sciences and Technologies, University of Tehran

Awards and Patents

Chancellor's International Research Scholarship (CIRS) 2018; Doctoral School, University of Sussex, Falmer House, Brighton BN1 9QF, United Kingdom

Sarmadian, Alireza; Mashouf, Hooman; Shafaee, Maziyar. 2017. Helically Dimpled Enhanced Heat Transfer Tube. Iran Intellectual Property Office, Patent 91320, filed June 5, 2016, and issued February 18, 2017.

Membership and Service

Nov. 2019- Present	Reviewer International Journal of Heat and Mass Transfer, Elsevier

Skills

Courses:	Starting to Teach | Associate Fellow of the Higher Education Academy (**AFHEA**) Piping (PDMS) and Welding (MIG, TIG, and STICK) CFD (Finite Difference and Finite Volume) Working Safely | Institution of Occupational Safety and Health (Crawley College) Emergency First Aid At Work (RFQ) | QA Level 3 (Posturite Ltd) - Including Management of Catastrophic Bleeding Risk Assessment Training | Univerisy of Sussex LabVIEW Core 1 | NI customer Education
Software:	LabVIEW, EES (Engineering Equation Solver), REFPROP | NIST, Ansys (APDL, Fluent and ICEM), COMSOL, SimScale and STAR-CCM+
Programming:	Expert in MATLAB, **LabVIEW (FPGA)**, familiar with Fortran, C and C++

Languages

English:	Advanced
Farsi:	Native

Academic Interests

Thermal Management and control, Heat transfer augmentation, Two-phase flow, Flow visualization Micro-channels, Heat sinks, Heat pipes Microfluidics, Lab-on-a-chip devices, and MEMS

Activities

Physical Fitness, Basketball, Swimming, Travelling

References

Prof Julian Dunne (J.F.Dunne@sussex.ac.uk)
Department of Engineering and Design, School of Engineering and Informatics University of Sussex, Brighton, **UK**, Tel:+44-1273-872570
Dr Christopher Long (C.A.Long@sussex.ac.uk)
Department of Engineering and Design, School of Engineering and Informatics University of Sussex, Brighton, **UK**, Tel:+44-1273-678967
Dr Ro. Rafiee (roham.rafiee@ut.ac.ir)
Faculty of New Sciences and Technologies, University of Tehran, Tehran
Tel: +98-21-8609-3046, Fax: +98-21-8977-41-88
Dr M. Shafaee (mshafaee@ut.ac.ir)
Faculty of New Sciences and Technologies, University of Tehran, Tehran
Tel: +98-919-0110200, Fax: +98-21-88497324
Dr S.G. Mohseni (smohseni@alumni.ut.ac.ir)
School of Mechanical Engineering, College of Engineering, University of Tehran, Tehran
Prof M. Ameri (ameri_mm@uk.ac.ir)
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