



Hamidreza Shahbazian

Assistant Professor

College: Faculty of Mechanical Engineering

Department: Mechanical Engineering - Heat and Fluid

Education			
Degree	Graduated in	Major	University
BSc	2004	Mechanical Engineering	Shahid Beheshti University, Faculty of Engineering (SBU)
MSc	2007	Thermal/Fluid Mechanics	Isfahan University of Technology (IUT)
Ph.D	2018	Thermal/Fluid Mechanics	Iran University of Science and Technology (IUST), Visiting Researcher at LTH University of Sweden
Post Doctoral	2020	Thermal Science	Iran University of Science and Technology (IUST)

Work Experience

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Subjects Taught

Advanced Mathematical Programming and Optimization

Advanced Mathematic (I) for M.Sc. Students

Process Engineering Design

Heat Exchangers Design

CHP & Thermal Power Plant Technology

Heat Transfer (Cond., Conv., Rad.)

Computational Fluid Dynamic (CFD)

Design of experiments (DOE) and Adv. Measurements

Sizing & Hydraulic Calculation for Water Transportation System

Renewable & Sustainable Energy

Conferences

1. T. Moradi; **H.R. Shahbazian**; S.M. HosseinaliPoor; B. Sunden, "Effects of wavy ribs on vortex generation and thermal-hydraulic performance in a rotating rectangular channel", *Applied Thermal Engineering*, 2023, Vol. 222, (DOI: 10.1016/j.applthermaleng.2022.119952).
2. **H.R. Shahbazian**; S.M. HosseinaliPoor; Z. Jamshidi, "Thermo-Fluid Investigation on the Effect of Rotation on Film Cooling Performance at Pressure & Suction Side of the Leading-Edge of a Gas Turbine Blade", *Journal of Solid and Fluid mechanics*, 2022, Vol. 11, Iss. 5, PP. 133-148 (DOI:10.22044/jsfm.2021.9787.3204).
3. M. HosseinaliPoor; **H.R. Shahbazian**; B. Sunden, "Coriolis and Buoyancy Effects on Heat Transfer in Viewpoint of Field Synergy Principle and Secondary Flow Intensity for Maximization of Internal Cooling", *Journal of Heat and Mass Transfer*, 2021, (DOI:10.1007/s00231-020-02949-z).
4. S.M. HosseinaliPoor; P. Afkari; **H.R. Shahbazian**; B. Sunden, "A Numerical Framework for Heat Transfer and Pressure Loss Estimation of Matrix Cooling Geometry in Stationary and Rotational States", *Journal of Numerical Heat Transfer. Part A: Applications*, Taylor & Francis, 2019, VOL. 76, NO. 5, 348–368 (DOI:10.1080/10407782.2019.1630236).
5. S.M. HosseinaliPoor; **H.R. Shahbazian**; B. Sunden, "Experimental Investigations and Correlation Development of Convective Heat Transfer in a Rotating Smooth Channel", *Experimental Thermal and Fluid Science*, 94, 2018, PP. 316–328. (DOI: 10.1016/j.expthermflusci.2018.02.020).
6. S.M. HosseinaliPoor; **H.R. Shahbazian**; B. Sunden, "Influences of Secondary Flow Induced by Coriolis Forces and Angled Ribs on Heat Transfer in A Rotating Channel", *International Journal of Numerical Methods for Heat and Fluid Flow*, 2018, Vol. 29 Iss. 1, PP.388-417. (DOI: 10.1108/HFF-02-2018-0081).
7. S.M. HosseinaliPoor; **H.R. Shahbazian**; M. Ghobadi; S. Norouzi, "Aero-Thermal Analysis of Rotation and Rotational Buoyancy Effect on Internal Cooling of Gas Turbine Blade- An Experimental Study", *Journal of Solid and Fluid mechanics*, 2017, Vol. 8, Iss. 3, PP. 277-288. (DOI: 10.22044/JSFM.2018.7234.2664).
8. S.M. HosseinaliPoor; P. Afkari; **H.R. Shahbazian**, "Comparison of Various Arrangement Effects of V-Shape Rib Technologies on Turbulence and Heat Transfer Enhancement in Gas Turbine Blade Cooling", *Modares Mechanical Eng. Journal*, 2016, Vol. 16, No 5, PP 316-326. (DOR: 20.1001.1.10275940.1396.17.5.24.2)
9. M. D.Emami; **H.R. Shahbazian**; B. Sunden, "Effect of Operational Parameters on Combustion and Emissions in an Industrial Gas Turbine Combustor", *ASME Journal of Energy Resources Technology*, 2019, Vol. 141/012202-1. (DOI: 10.1115/1.4040532).
10. M. Ameri; **H.R. Shahbazian**; M. Nabizaded, "Comparison of Evaporative Inlet Air Cooling Systems to Enhance the Gas Turbine Generated Power" *Int. Journal of Energy Research*, 2007, Vol. 31, PP. 1483-1503. (DOI: 10.1002/er.1315).
11. 11. M. Ameri; **H.R. Shahbazian**; H. Hosseinzadeh; M. Nabizaded, "Power Augmentation: A Fars Better Option", *Middle East Energy Journal*, MEE June 2006, PP 12-13, 2006.
12. **Confrance Papars**
13. **H.R Shahbazian**, "Correlation Development of The Internal Heat Transfer Nusselt Number under the Influence of Angular Ribs in Rotational Conditions for A Gas Turbine Blades", *32nd Annual (International) Conference on Mechanical Engineering-ISME2024*, 2024, Arak University, Arak,

Iran (in Farsi).

14. A.H. Izadi; M. Nazififard; **H.R. Shahbazian**, "Experimental and numerical study of the energy performance for CCHP of Kashan University, *31st Annual (International) Conference on Mechanical Engineering-ISME2023*, 2023, Shahid Beheshti University, Tehran, Iran (in Farsi).
15. **H.R. Shahbazian**; S.M. HosseinaliPoor, "Synergy analysis of the effect of 45, 60, 75 & 90 deg. ribs in increasing the heat transfer of gas turbine blades", *21st International Conference of Iranian Aerospace*, 2023, Iran University of Science & Technology, Iran (in Farsi)
16. T. Moradi; **H.R. Shahbazian**; M. Ghobadi; S.M. HosseinaliPoor, "Experimental study of the effects of various channel orientations on the heat transfer of a smooth rectangular rotating channel", *7th National Gas Turbine Conference*, 2022, Iran University of Science & Technology, Iran (in Farsi).
17. Z Jamshidi; S.M. HosseinaliPoor; **H.R. Shahbazian**, "Influence of Reynolds number on the cooling efficiency of the film on the gas turbine blade film Cooling in rotation mode", *7th National Gas Turbine Conference*, 2022, Iran University of Science & Technology, Tehran, Iran (in Farsi).
18. R. Khoshkhoo; **H.R. Shahbazian**; H. behroozi, "Feasibility study of using a compressor to prevent methane emissions in the Tie-in process and repairs (in point of view of economic & sustainable development)", *Proceeding of PSC 2018, 33^d International Power System Conference*, 2018, Tehran, Iran (in Farsi)
19. S. M. HosseinaliPoor; **H.R. Shahbazian**; P. Afkari, "Conceptual and Computational Analysis of Rotating Effect on Fluid Mechanics in Gas Turbine Blade Internal Cooling", *7th Conference on Rotating Equipment in Oil & Power Industries*, 2016, Tehran, Iran (in Farsi).
20. S.M. HosseinaliPoor; P. Afkari; **H.R. Shahbazian**, "Thermal Performance Comparison of Pin-Fin, Extended Fin & Rib Technologies with the Equivalent Surface on Internal Cooling", *5th National Gas Turbine Conference*, 2016, Iran University of Science & Technology, Tehran, Iran (in Farsi).
21. S.M. HosseinaliPoor; **H.R. Shahbazian**; E. Saadati, "Thermodynamic Simulation and Energy/Exergy Analysis of Repowering of Besat Thermal Power Plant", *Proceeding of 1st conference of sustainable development in energy, Water and Environment*, 2015, Iran University of science & Technology, Thern, Iran (in Farsi).
22. M.R. Hosseini; **H.R. Shahbazian**; M. Najmi, "Design of a Test rig for a 25 MW Gas Turbine in order to mechanical & performance test, submission of Experimental Results and Uncertainty Analysis", *Proceeding of IPG5, 5th conference of Thermal Power Plant (Mapna)*, June 2014, Shahid Beheshti University, Tehran, Iran (in Farsi).
23. S. Amini; R. Khoshkhoo; **H.R. Shahbazian**, "Technical-Economical study on emitted methane collection during pipeline repairs on Boshehr province", *Proceeding of IPG5, 5th conference of Thermal Power Plant (Mapna)*, June 2014, Shahid Beheshti University, Tehran, Iran (in Farsi).
24. M. D.Emami; **H.R. Shahbazian**, "Numerical Simulation of Combustion and NOx Formation/Emission in a 3D Combustor of Industrial Gas Turbine" ,*Proceedings of The U.S.-Iran Symposium On Air Pollution In Megacities*, The Beckman Center of the National Academy of Sciences and Engineering Irvine, California, September 3-5, 2013, California, USA.
25. **H.R. Shahbazian**; H. PahlavanZadeh; H.R. Razavi, "Energy and Exergy analysis of a Combined Cold, Heat & power system for a typical residential complex", proceeding of CCHP2013, Iranian conference on power generation and hybrid system, Energy Research Institute, University of Kashan, August 2013, Kashan, Iran (in Farsi).
26. **H.R. Shahbazian**, "Comparison of air flow swirly angle effect on an engine combustion product" *Proceeding of EPGC4 2012, 4th Electric Power Generation Conference*, January 2012, Tehran, Iran (in Farsi).
27. M. D.Emami; **H.R. Shahbazian**, "Comparison Between the Performance of Different Thermal-Nox Mechanisms in a turbulent jet", *Proceeding of ICC2008, 2nd Combustion Conference of Iran*, 2008, Mashhad, Iran (in Farsi) .

28. M. D.Emami; **H.R. Shahbazian**, "Numerical Simulation of NO_x Formation and Emission in A Turbulent Non-Premixed CH₄/N₂/H₂ Diffusion Flame", *5th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, HEFAT2007*, Sun City, South Africa.
29. M. D.Emami; **H.R. Shahbazian**; N. Farahmand, "Prediction of Thermochemical Quantities in Laminar Flamelet Models", *Proceeding of ISME 2007, 15th Annual (International) Conference on Mechanical Engineering-ISME2007*, May 2007, Amirkabir University of Technology, Tehran, Iran (in Farsi).
30. M. D.Emami; **H.R. Shahbazian**, "Investigation on Excess Air effect in NO_x Generation inside a Gas Turbine Combustor" *Proceeding of PSC 2007, 22nd International Power System Conference*, 2007, Tehran, Iran (in Farsi).
31. M. D.Emami; **H.R. Shahbazian**; H. Afshin, "Nitrogen Dioxide Simulation in a simple combustion chamber", *Proceeding of ICHECLL11 2006*, 11th Congress of Iranian Chemical Engineering, 2006, Tarbiat Modares University, Iran, Tehran, Iran (in Farsi).
32. A. Sedaghat; **H.R. Shahbazian**, "CFD Simulation of baffle effect on instability combustion", *Proceeding of FD2006, 10th Fluid dynamic Conference*, 2006, Yazd university, Iran, (in Farsi).
33. M. Ameri; **H.R. Shahbazian**; H. HoseinZadeh, "The Study of Media Evaporating Coolers for Fars Combined Cycle Power Plant and Presentation of Performance Test Results", *Proceedings of the International Conference on Recent Advances in Mechanical & Materials Engineering*, May 2005, Kuala Lumpur, Malaysia.
34. M. Ameri; H. Nabati; A. Keshtgar; M. Nabizadeh, **H.R. Shahbazian**, "The Installation & Testing of The Fog Inlet Air Cooling System for the Shahid Rajaei Combined Cycle Power Plant", *Proceedings of Thermo2005*, 2005, Hungary.
35. M. Ameri; **H.R. Shahbazian**; H. HoseinZadeh; M. Nabizaded, "Thermodynamic simulation, Technical and Economic Analysis of Evaporating Coolers for Fars CCGT" *Proceeding of PSC 2004, 19th International Power System Conference*, 2004, Tehran, Iran (in Farsi).
36. M. Ameri; **H.R. Shahbazian**; H. HoseinZadeh, "The Study of Effect of Gas Turbine Inlet Air Cooling on the Heat Recovery Boiler Performance" *Proceedings of ESDA04, 7th Biennial Conference on Engineering Systems Design and Analysis*, July 2004, Manchester, UK.
37. M. Ameri; **H.R. Shahbazian**; M. Nabizaded; H. HoseinZadeh, "Application of the Advanced Tubes for Steam Power Heaters & Condensers", *Proceedings of IMEC2004, International Mechanical Engineering Conference*, December 2004, Kuwait.
38. M. Ameri; M.R. Taghipour; Y. Yusefi; **H.R. Shahbazian**; S.R. Shamshegari, "The Study of Effective Factors on the Critical States in Steam Power Plant Boilers", *Proceedings of International Mechanical Engineering Conference (imece2004)*, Dec. 2004, Kuwait

Papers in Conferences

1. حمیدرضا شهبازیان، توسعه یک رابطه برای عدد ناسلت برای انتقال حرارت داخلی پره‌های توربین‌گاز تحت تاثیر ریبهای زاویه دار در شرایط دوران، سی و دومین همایش سالانه بین المللی انجمن مهندسان مکانیک ایران، ۱۰ - اراک، ۲۰۲۴، ۵۷ - ۰۷
2. حمیدرضا شهبازیان، توسعه یک رابطه برای عدد ناسلت برای انتقال حرارت داخلی پره‌های توربین‌گاز تحت تاثیر ریبهای زاویه دار در شرایط دوران، سی و دومین همایش سالانه بین المللی انجمن مهندسان مکانیک ایران، ۱۰ - اراک، ۲۰۲۴، ۵۷ - ۰۷

Papers in Journals

1. اشکان رفیعی، حمیدرضا شهبازیان، قنبر علی شیخ زاده، تحلیل عددی استفاده از تکنولوژی نوین ساختار شبکه‌ای. ISC، ماتریسی در افزایش انتقال حرارت داخلی پره های توربین گاز، فصل نامه علمی تحقیقات موتور، ۱۱/۱۰/۱۳۴۸