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R E S U M E

Full name: **Beni Cukurel**

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Date and place of birth: 15/01/1984; Izmir, Turkey

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EDUCATION

- Ph.D. 2012, von Karman Institute for Fluid Dynamics
  Purdue University, School of Mechanical Engineering

Thesis: "Conjugate Heat Transfer Investigation of a Fixed Rib-Roughened Cooling Passage" *Advisor: Prof. Tony Arts, Major Professor: Prof. Anil Bajaj*

- M.S.M.E 2008, Purdue University, School of Mechanical Engineering

Thesis: "Particle Image Velocimetry Investigation of a High Speed Centrifugal Compressor" *Co-Advisors: Prof. Patrick Lawless, Prof. Sanford Fleeter*

- B.S.M.E 2005, Purdue University, School of Mechanical Engineering

Thesis: "A Study on Highly Potential Forcing Functions Triggering Dynamic Stall" *Advisor: Prof. Patrick Lawless*

ACADEMIC POSITIONS

- 2017 - present Head of the L. Shirley Tark Turbo & Jet Engine Research Laboratories.
- 2015 - present Senior Lecturer, Technion- Israel Institute of Technology, Faculty of Aerospace Engineering.
- 2012 - 2015 Lecturer, Technion- Israel Institute of Technology, Faculty of Aerospace Engineering.

AWARDS AND HONORS

- 04/2018 Uzi & Michal Halevy Award for Innovative Applied Engineering in Technion-IIT
- 03/2017 Henri Gutwirth Prize Promoting Excellence in Israeli Research Fields
- 02/2015 Meir Hanin Prize for Outstanding Junior Faculty Member in Israeli Aerospace Sciences
- 2007-2008 Purdue University Ross Fellowship for Recruitment of Outstanding Ph.D. students
- 01/2007 AIAA Region III Student Conference Winner
- 12/2005 Purdue Mechanical Engineering Honor's Program

LIST OF PUBLICATIONS

Theses

- 2008 Particle Image Velocimetry Investigation of a High Speed Centrifugal Compressor, M.Sc., Purdue University, School of Mechanical Engineering, USA
- 2012 Conjugate Heat Transfer Investigation of a Fixed Rib-Roughened Cooling Passage, Ph.D., Purdue University, School of Mechanical Engineering, USA

Refereed papers in professional journals

Legend: Student [S], Postdoctoral Fellow [P], Research Staff [R], Colleague [C], Student of Colleague [SC], Advisor [A]

Published

J1. Cukurel, B., Lawless, P.B. [A], Fleeter, S. [A], "Particle Image Velocity Investigation of a High Speed Centrifugal Compressor Diffuser: Spanwise and Loading Variations" *ASME Journal of Turbomachinery*, Vol. 132, No.2, 2010.

J2. Cukurel, B., Lawless, P.B. [A], Fleeter, S. [A], "Experimental Transonic Centrifugal Compressor Investigation: Loading Effects on Deterministic Diffuser Velocity Fields", *AIAA Journal of Propulsion and Power*, Vol.27, No.2, 2011.

J3. Cukurel, B., Arts, T. [A], Selcan, C. [S], "Conjugate Heat Transfer Characterization in Cooling Channels", *Journal of Thermal Science*, Vol.21, No.3, 2012.

J4. Cukurel, B., Selcan, C. [S], Arts T. [A], "Color Theory Perception of Steady Wide-band Liquid Crystal Thermometry", *Experimental Thermal and Fluid Science*, Vol. 39, pp. 112-122, 2012.

J5. Cukurel, B., Acarer, S. [S], Arts T. [A], "A Novel Perspective to High Speed Cross-Hotwire Calibration Methodology", *Experiments in Fluids*, Vol. 53, pp. 1073-1085, 2012.

J6. Cukurel, B., Selcan, C. [S], Arts T. [A], "Film Cooling Extraction Effects on the Aero-Thermal Characteristics of Rib Roughened Cooling Channel Flow", *ASME Journal of Turbomachinery*, Vol. 135, No. 2, 2013.

J7. Cukurel, B., Arts T. [A], "Local Heat Transfer Dependency on Thermal Boundary Condition in Ribbed Cooling Channel Geometries", *ASME Journal of Heat Transfer*, Vol. 135, No. 10, 2013.

J8. Cukurel, B., Fenot, M. [C], Arts, T. [C], "Conjugate Jet Impingement Heat Transfer Investigation via Transient Thermography Method", *AIAA Journal of Thermophysics and Heat Transfer*, Vol. 29, No. 4, 2015.

J9. Cukurel, B., Selcan, C. [S], Stratmann, M. [S], "Convective Heat Transfer Investigation of Acoustically Excited Flow over an Isolated Rib Obstacle", *International Journal of Heat and Mass Transfer,* Vol. 91, pp. 848-860, 2015.

J10. Romm, I. [R], Lev, M. [R], Cukurel, B. "Empirical Compensation of Reciprocity Failure and Integration Time Nonlinearity in a Mid-Wave Infrared Camera", *Measurement Science and Technology*, Vol. 27, No. 2, 025005, 2015.

J11. Selcan, C. [S], Cukurel, B., Shashank, J. [R], "Acoustic Resonance Excitation of Turbulent Heat Transfer and Flow Reattachment Downstream of a Fence", *Heat and Mass Transfer*, Vol. 52, No. 10, pp.2223-2235, October, 2016.

J12. Selcan, C. [S], Cukurel, B., Shashank, J. [R], "Experimental Facility Development Toward Sound-Excitation Effects on Forced Convection Heat Transfer", *AIAA Journal of Thermophysics and Heat Transfer*, Vol. 30, No. 2, pp.308-317, 2016.

J13. Selcan, C. [S], Cukurel, B., Shashank, J. [R], "Heat Transfer Implications of Acoustic Resonances in Turbine Blade Internal Cooling Channels", *ASME Journal of Heat Transfer,* Vol. 138, No. 5, 2016.

J14. Kadosh, K. [S], Cukurel, B., "Micro-Turbojet to Turbofan Conversion via Continuously Variable Transmission: Thermodynamic Performance Study", *ASME Journal of Engineering for Gas Turbines and Power*, Vol. 139, No. 2, 2017.

J15. Rist, J.F. [S], Dias, M.F. [S], Palman, M. [S], Zelazo, D. [C], Cukurel, B., "Economic Dispatch of a Single Micro Gas Turbine Under CHP Operation", *Applied Energy,* Vol. 200, pp. 1-18, 2017.

J16. Yakirevich, E. [S], Miezner, R. [R], Leizeronok, B. [R], Cukurel, B., "Continuous Closed-Loop Transonic Linear Cascade for Aero-Thermal Performance Studies in Micro-Turbomachinery", *ASME Journal of Engineering for Gas Turbines and Power*, Vol. 140, No. 1, 2018. *Work also featured in *Engineering Edge* magazine Issue 6, Vol 2.

J17. Julius, S. [S], Leizeronok, B. [R], Cukurel, B., "Non-Homogeneous Dual-Phase-Lag Heat Conduction Problem: Analytical Solution and Select Case Studies", *ASME Journal of Heat Transfer*, Vol. 140, No. 3, 2018.

J18. Romm, I. [S], Cukurel, B., "Quantitative Image Fusion in Infrared Radiometry", *Measurement Science and Technology*, Vol. 29, No. 5, 2018.

J19. Julius, S. [S], Gold, R. [S], Kleiman, A. [R], Leizeronok, B. [R], Cukurel, B., "Modelling and Experimental Demonstration of Heat Flux Driven Active Noise Cancellation on Source Boundary", *Journal of Sound and Vibration*, Vol. 434, pp. 442-455, 2018.

J20. Palman, M. [S], Leizeronok, B. [R], Cukurel, B., "Mission Analysis and Operational Optimization of Adaptive Cycle Micro-Turbofan", *ASME Journal of Engineering for Gas Turbines and Power*, Vol. 141, No. 1, 2019.

J21. Yablochkin, E. [S], Cukurel, B., "Optimal Multi-Hotwire Probe in Constant Temperature Anemometry for Transonic Flows", *Experiments in Fluids*, Vol. 60, No. 2, 2019.

Book Chapters

B1. Agarwal, T. [P], Julius, S. [S], Leizeronok, B. [R], Cukurel, B., "Sound Excitation Effects on Forced Convection Heat Transfer", 2017 Lecture Series on Active Flow Control Techniques and Applications, Von Karman Institute for Fluid Dynamics, Rhode-St-Genese, Belgium, ISBN-13978-2-87516-116-1.

Patents

Submitted patents

P1. Cukurel, B., "Acoustic Resonance Excited Heat Exchange", PCT/IB2015/059642, WO2017103650A1, Priority date 2015-12-15.

P2. Cukurel, B., "Spatially Global Noise Cancellation", PCT/IB2018/ 258943, submitted on 25/04/2018.