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EDUCATION

1978 - 1981 UNIVERSITY OF ARIZONA, Tucson, Arizona

Ph.D., August 1981, majored in Mechanical Engineering and minored in Mathematics. Dissertation Topic: Analysis of Two-Dimensional Viscous Flow Over an Elliptic Body in Unsteady Motion

1976 - 1978 STANFORD UNIVERSITY, Stanford, California

M.S., June 1976, majored in Mechanical Engineering

1968 - 1972 SHARIF UNIVERSITY, Tehran, Iran

B.S.M.E., June 1972

ASME Fellow, AIAA Associate Fellow

International J. Heat Exchangers, Member of Editorial Board

Northeastern University Energy Systems Program, Director

TEACHING EXPERIENCE

1982 - Present NORTHEASTERN UNIVERSITY, Boston, Massachusetts

Professor, Courses taught : Thermodynamics, Fluid Mechanics, Thermal Design, Capstone Design since its inception, Mechanical Engineering Computation and Interpretation, Problem Solving Using C, Numerical Methods in Mechanical Engineering, Computational Fluid Dynamics and Heat Transfer

1981 - 1982 UNIVERSITY OF ARIZONA, Tucson, Arizona

Assistant professor. Courses taught: Heat Transfer, Thermodynamics, Propulsion Systems and Numerical Analysis. Research: Unsteady Fluid

Dynamics with Professor R.B. Kinney for NASA

1979 - 1980 UNIVERSITY OF ARIZONA, Tucson, Arizona

Instructor, courses taught : Thermodynamics and Numerical Analysis

RESEARCH AREAS

Experimental and Computational Fluid Dynamics and Heat Transfer , Cooling Technologies for Gas Turbines, Fluid-surface interactions, nano- and bio-sensors..

INDUSTRIAL EXPERIENCE

Summer of 78 GENERAL ELECTRIC COMPANY, Nuclear Energy Division, San Jose, CA

Marks I and II containment analysis involving computer codes RVFORC and RVRIZ. These codes were used for the design of the safety relief valve and local load calculations.

Summer of 84 GENERAL ELECTRIC COMPANY, Aircraft Engines, Lynn, MA

Thermal design of an air-to-air heat exchanger for turbine blade cooling for GE's F404 Engines and Design of a spray bar for F404 afterburner

Summer of 85 GENERAL ELECTRIC COMPANY, Aircraft Engines, Lynn, MA

Performing stress analysis using ANSYS, finalizing the design and supervising the manufacturing of one of the above mentioned heat exchangers to be tested for heat transfer performance and structural integrity

Summers 86, 87, 88 and 89 GENERAL ELECTRIC COMPANY, Aircraft Engines, Lynn, MA

Design of various experimental setups to measure the friction factor and heat transfer coefficient in a turbulated cooling passage of different aspect ratios, flow, heat transfer and stress analyses of blade cooling passages

Sep. 89-June 90 DIGITAL EQUIPMENT CORPORATION, Shrewsbury, MA

On sabbatical leave, conducted research in the area of experimental and numerical electronic cooling

- Sep. 96-June 97 GENERAL ELECTRIC COMPANY, Aircraft Engines, Lynn, MA
 On sabbatical leave, conducted research in turbine blade Cooling, performed heat transfer analyses of gas turbine hot sections. Commercial software packages for model generation, fluid dynamics, heat transfer and stress analyses such as **UG, ICEM-CFD, IDEA-S, ANSYS, FLUENT, STAR-CD** were extensively used.
- 2000-2005 BELCAN ENGINEERING, Lynn, MA
 Worked as an independent contributor on various GE project from experimental heat transfer and flow visualizations to sand separation at the helicopter inlet and turbine hot sections. Commercial software packages for model generation, fluid dynamics, heat transfer and stress analyses such as **UG, ICEM-CFD, IDEA-S, ANSYS, FLUENT, STAR-CD** were extensively used.

PATENTS

- Rotating Diesel Particulate Trap, US patent # 5,013,340, May 7, 1991, Co-Inventor
 Enhanced Cooling Apparatus for Gas Turbine engine Airfoils, US patent # 5,472,316, December 5, 1995, Co-Inventor.
 Turbine Airfoil and Methods for Airfoil Cooling, US patent # 6,132,169, October 17, 2000, Co-Inventor.
 Crossover Cooled Airfoil Trailing Edge, US patent # 6,607,356, August 19, 2003, Co-Inventor.
 Castellated Turbine Airfoil, US patent # 6,890,153, May 10, 2005, Co-Inventor.
 Non-Rotating Wind Energy Generator, US patent # 9,222,465, 2016, Co-Inventor.
 Device and Method for Chemical Analysis, US patent # 9,664,674 B2, Taslim et al. May 30, 2017.
 Device and Method for Chemical Analysis, EP 3 201 627 B1, Taslim et al., Oct 2nd 2015.
 Device and Method for Chemical Analysis, WO 2016/054550 A1, Taslim et al., April 7th 2016 (Pending).
 Device and Method for Chemical Analysis, US patent # 10,401,352 B2, Taslim et al. Sep 3rd 2015.
 Device and Method for Chemical Analysis, US 2019/0079068 A1, Taslim et al. March 14th 2015 (Pending).
 Device and Method for Chemical Analysis, US 2019/0317081 A1, Taslim et al. Oct 17th 2019.
 Device and Method for Chemical Analysis, WO 2016/054550 A1, Taslim et al. April 7th 2016 (Pending).
 Method of Length-Based Separation of Carbon Nanotubes, Z. Borzooeian and M.E. Taslim, pending
 Orthopedic Device for Use with an Orthopedic Cast, Co-Inventor, Patent Application # US 2014/0330185 A1, Pending

BOOK CHAPTERS

- Heat Transfer in Gas Turbines*, WIT Press, ISBN 1-85312-666-7, 2001, B. Sunden and M. Faghri Editors, Chapter 8 :
 “Experimental Heat Transfer in Stationary Rib-Roughened Rectangular Channels”, pp. 291-405.
- Heat Transfer in Gas Turbines*, WIT Press, ISBN 1-85312-666-7, 2001, B. Sunden and M. Faghri Editors, Chapter 9 :
 “Experimental Heat Transfer in Roughened Leading- and Trailing-Edge and in Spanwise Rotating Channels”, pp. 407-520.

JOURNAL PUBLICATIONS

- Taslim, M.E., Kinney, R.B., and Paolino, M.A., 1984, “Analysis of Two-Dimensional Viscous Flow Over an Elliptic Body in Unsteady Motion,” *AIAA Journal*, Vol. 22, No. 5, pp. 586-594.
- Taslim, M.E. and Narusawa, U., 1986, “Binary Fluid Convection and Double Diffusive Convection in a Porous Medium,” *J. Heat Transfer*, Vol. 108, p. 221.
- Pillatsis, G., Taslim, M.E. and Narusawa, U., 1987, “Thermal Instability of a Fluid-Saturated Porous Medium Bounded by Thin Fluid Layers,” *Journal of Heat Transfer*, Vol. 109, pp. 677-682.
- Nayeb-Hashemi, H. and Taslim, M.E., 1987, “Effects of the Transient Mode II on the Steady State Crack Growth in Mode I”, *J. Engr. Frac. Mech.*, Vol. 26, pp. 789-807.
- Kinney, R.B., Taslim, M.E. and Hung, S.C., 1988, “A Hybrid Computational Approach to Multi-Body Viscous-Flow Problems: Application to Large-Eddy Breakup in a Boundary Layer,” *J. Computational Physics*, Vol. 77, No. 2, pp. 378-404.

- Taslim, M.E. and Narusawa, U., 1989, "Thermal Stability of a Horizontally Superposed Porous and Fluid Layers," *J. Heat Transfer*, Vol. 111, No. 2, pp. 357-362.
- Taslim, M.E., Rahman, A., and Spring, S.D., 1991, "An Experimental Investigation of the Heat Transfer Coefficients in a Spanwise Rotating Channel with Two Opposite Rib-Roughened Walls," *J. Turbomachinery*, Vol. 113, pp. 75-82.
- Taslim, M.E., Bondi, L.A. and Kercher, D.M., 1991, "An Experimental Investigation of Heat Transfer in an Orthogonally Rotating Channel Roughened 45 Degree Criss-Cross Ribs on Two Opposite Walls," *J. Turbomachinery*, Vol. 113, pp. 346-353.
- Taslim, M.E., Spring, S.D., and B.P Mehlman, 1992, "An Experimental Investigation of Film Cooling Effectiveness for Slots of Various Exit Geometries," *J. Thermophysics Heat Transfer*, Vol. 6, No. 2, pp. 302-307.
- Bazydola, S.M. and Taslim, M.E., 1993, "An Experimental Investigation of a Staggered Array of Heatsinks in the Hydrodynamic and Thermal Entrance of a Duct," *J. Electronic Packaging*, Vol. 115, No. 1, pp. 106-111.
- El-Husayni, H., Taslim, M.E., and Kercher, D.M., 1994, "Experimental Heat Transfer Investigation of Stationary and Orthogonally Rotating Asymmetric and Symmetric Heated Smooth and Turbulated Channels," *J. Turbomachinery*, Vol. 116, No. 1, pp. 124-132.
- Taslim, M.E. and Spring, S.D., 1994, "Effects Turbulator Profile and Spacing Have on Heat Transfer and Friction in a Channel," *J. Thermophysics Heat Transfer*, Vol. 8, No. 3, pp. 555-562.
- Taslim, M.E., Li, T. and Spring, S.D., 1995, "Experimental Study of the Effects of Bleed Holes on Heat Transfer and Pressure Drop in Trapezoidal Passages with Tapered Turbulators," *J. Turbomachinery*, Vol. 117, No. 2, pp. 281-289.
- Taslim, M.E., Li, T. and Kercher, D.M., 1996, "Experimental Heat Transfer and Friction in Channels Roughened with Angled, V-Shape and Discrete Ribs on Two Opposite Walls," *J. Turbomachinery*, Vol. 118, pp. 20-28.
- Taslim, M.E. and Wadsworth, C.A., 1997, "An Experimental Investigation of the Rib Surface-Averaged Heat Transfer Coefficient in a Rib-Roughened Square Channel," *J. Turbomachinery*, Vol. 119, pp. 381-389.
- Taslim, M.E., Li, T. and Spring, S.D., 1997, "Measurement of Heat Transfer Coefficients and Friction Factors in Rib-Roughened Channels Simulating Leading-Edge Cavities of a Modern Turbine Blade," *J. Turbomachinery*, Vol. 119, pp. 411-419.
- Korotky, G.J. and Taslim, M.E., "Rib Heat Transfer Coefficient Measurements in a Rib-Roughened Square Passage," *J. Turbomachinery*, Vol. 120, No. 2, pp. 376-385.
- Taslim, M.E., Li, T. and Spring, S.D., Measurement of Heat Transfer Coefficients and Friction Factors in Passages Rib-Roughened on All Walls," *J. Turbomachinery*, Vol. 120, pp. 564-570.
- Taslim, M.E., and A. Lengkong, 1998, "45° Staggered Rib Heat Transfer Coefficient Measurements in a Square Channel," *J. Turbomachinery*, Vol. 120, pp. 571-580.
- Taslim, M.E., and G.J. Korotky, 1998, "Low-Aspect-Ratio Rib Heat Transfer Coefficient Measurements in a Square Channel," *J. Turbomachinery*, Vol. 120, pp. 831-838.
- Taslim, M.E., and A. Lengkong, 1999, "45° Round-Corner Rib Heat Transfer Coefficient Measurements in a Square Channel," *J. Turbomachinery*, Vol. 121, pp. 1-9.
- Taslim, M.E., L. Setayeshgar, and Spring, S.D., 2001, "An Experimental Evaluation of Advanced Leading-Edge Impingement Cooling Concepts," *J. Turbomachinery*, Vol. 123, No. 2, pp. 147-153.

Taslim, M.E., Pan, Y. and Spring, S.D., 2001, "An Experimental Study of Impingement on Roughened Airfoil Leading-Edge Walls with Film Holes" *J. Turbomachinery*, Vol. 123, No. 4, pp. 766-773.

Taslim, M.E., Bakhtari, K., and H. Liu, 2003, "Experimental and Numerical Investigation of Impingement on a Rib-Roughened Leading-Edge Wall," *J. Turbomachinery*, Vol. 125, pp. 682-691.

Taslim, M.E. and Ugarte, S., 2004, "Discharge Coefficient Measurements for Flow Through Compound-Angle Conical Holes with Crossflow," *Int. J. Rotating Machinery*, Vol. 10, No. 2, pp. 145-153.

Taslim, M.E. and Liu, H., 2005, "A Combined Numerical and Experimental Study of Heat Transfer in a Roughened Square Channel with 45° Ribs," *Int. J. Rotating Machinery*, Vol. 2005, No. 1, pp. 60-66.

Taslim, M.E. and Khanicheh, A., 2005, "Film Effectiveness Downstream of a Row of Compound Angle Film Holes", *J. Heat Transfer*, Vol. 127, No. 4, pp. 434-440.

M.E Taslim, 2005, "Rib Fin Effects on the Overall Equivalent Heat Transfer Coefficient in a Rib-Roughened Cooling Channel," *Int. J. Heat Exchangers*, Vol. VI, No. 2, pp. 135-151.

Taslim, M.E. and Khanicheh, A., 2006, "Experimental and Numerical Study of Impingement on an Airfoil Leading-Edge with and Without Showerhead and Gill Film Holes," *J. Turbomachinery*, Vol. 128, No. 2, pp. 310-320.

Cakan, M and Taslim, M.E., 2007, "Experimental and Numerical Study of Mass/Heat Transfer on an Airfoil Trailing-Edge Slot and Lands," *J. Turbomachinery*, Vol. 129, No. 2, pp. 281-293.

Taslim, M.E. and Nezym, V., "A New Statistical-Based Correlation for the Rib Fin Effects on the Overall Heat Transfer Coefficient in a Rib-Roughened Cooling Channel," *Int. J. Rotating Machinery*, Vol. 2007, Article ID 68684.

James V. Green, J.V, Kniazeva, T., Abedi, M., Sokhey, D., Taslim, M.E., and Murthy, S., 2008, "Effect of channel geometry on cell adhesion in micro-fluidic devices" *Lab on a Chip J., Royal Society of Chemistry*, pp. 1-10.

Taslim, M.E. and Bethka, D., 2009, "Experimental and Numerical Impingement Heat Transfer in an Airfoil Leading-Edge Cooling Channel With Cross-flow," *J. Turbomachinery*, Vol. 131, No. 1, pp. 011021-1-011021-7.

Taslim, M.E., Khanicheh, A. and Spring, S.D., 2009 "A Numerical Study of Sand Separation Applicable to Engine Inlet Particle Separator Systems", *J. American Helicopter Society*, Vol. 54, No. 4, pp. 2001-2010.

Taslim, M.E., and Spring, S.D., 2010 "A Numerical Study of Sand Particle Distribution, Density and Sand Shape Effects on the Scavenge Efficiency of Engine Inlet Particle Separator Systems", *J. American Helicopter Society*, Vol. 54, No. 5, pp. 2201-2211.

Taslim, M.E. and Abdelrassoul, A., 2010, "An Experimental and Numerical Investigation of Impingement Heat Transfer in Airfoils Leading-Edge Cooling Channel," *J. of Heat Transfer Research*, issue 8, Vol. 41, pp. 100-108.

Taslim, M.E. and Nongsang, A., 2011, "Experimental and Numerical Cross-Over Jet Impingement in an Airfoil Trailing-Edge Cooling Channel", *J. Turbomachinery*, Vol. 133, No. 4, pp. 041009-1-10.

Adebiyi, A.A., Taslim, M.E. and Crawford, K.D., 2011, "The Use of Computational Fluid Dynamic Models for the Optimization of Cell Seeding Processes", *J. Biomaterials*, doi:10.1016/j.biomaterials.2011.08.028

Elebiary, K. and Taslim, M.E., 2013, "Experimental/Numerical Cross-Over Jet Impingement in an Airfoil Leading-Edge Cooling Channel", *J. Turbomachinery*, Vol. 135, No. 1, pp. 011037-1-12.

Taslim, M.E. and Fong, M.K.H., 2013, "Experimental and Numerical Cross-Over Jet Impingement in a Rib-Roughened Airfoil Trailing-Edge Cooling Channel", *J. Turbomachinery*, Vol. 135, No. 5, pp. 051014-1-10.

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- Taslim, M.E. and Halabi, J.S., 2014, “*Experimental/Numerical Investigation on the Effects of Trailing-Edge Cooling Hole Blockage on Heat Transfer in a Trailing-Edge Cooling Channel*”, *Int. J. Rotating Machinery*, Volume 2014, Article ID 710450, <http://dx.doi.org/10.1155/2014/710450>
- Taslim, M.E. and Xue, F., 2017, “Crossover Jet Impingement in a Rib-Roughened Trailing-Edge Cooling Channel”, *J. Turbomachinery*, Vol. 139, pp. 071007-1-12.
- Borzooeian, Z., Taslim, M.E., Borzooeian, G., Ghasemi, O. and Aminlari, M., 2017, “*Activity and Stability Analysis of Covalent Conjugated Lysozyme-single walled carbon nanotubes: Potential Biomedical and Industrial Applications*,” *Royal Society of Chemistry Advances*, 2017, 7, 48692-48701.
- Borzooeian, Z., Taslim, M.E., Ghasemi, O., Rezvani, S., Borzooeian, G., Nourbakhsh, A., 2018, “*A High Precision Method for Length-Based Separation of Carbon Nanotubes Using Bio-Conjugation, SDS-PAGE and Silver Staining*”, *PLOS one Journal*, June 25, 2018, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0197972>.
- Huang, X., Wan, K.T. and Taslim, M.E., 2018, “*Axisymmetric rim instability of water droplet impact on a super-hydrophobic surface*”, *Physics of Fluids*, 30, 094101.
- Borzooeian, Z., Taslim, M.E., Ghasemi, O., Rezvani, S., Borzooeian, G., 2018, “*A High Precision Length-based Carbon Nanotube Ladder*”, *RSC Adv.*, 8, 36049–36055.
- Xue, F. and Taslim, M.E., 2019, “*Detailed Flow Analyses through Crossover Holes between Two Adjacent Rib-Roughened Cooling Channels and the Resulting Impingement Heat Transfer*”, *J. Turbomachinery*, Vol. 141, No. 5, pp. 051003-1-9.
- Xue, F. and Taslim, M.E., 2019, “*Flow and Heat Transfer in a Rib-Roughened Trailing-Edge Cooling Channel with Crossover Impingement*”, *Int. J. Gas Turbine, Propulsion and Power Systems*, Volume 10, Number 1, pp. 1-11.
- Balaji, S., Yang, F. and Taslim, M.E., 2020, “*A comparative experimental study between the film effectiveness of trench and diffusion film holes*,” *Int. J. Heat & Mass Transfer*, <https://doi.org/10.1016/j.ijthermalsci.2020.106713>.
- Yang, F. and Taslim, M.E., 2021, “*Experimental Film Cooling Effectiveness of Three-Hole Branch Circular Holes*”, *Int. J. of Rotating Machinery*, (under review).
- Fang, Z., Huang, X., Taslim, M.E., and Wan, K.T. and, 2021, “*Flexural Bending Resonance of Acoustically Levitated Liquid Drop*”, *Physics of Fluids* (accepted for publication).