

PUBLICATIONS

- Jain, N., Le Moine, A., Chaussonnet, G., Flatau, A., Bravo, L., Ghoshal, A., Walock, M., Murugan, M., and Khare, P. (2021). "A critical review of physical models in high temperature multiphase fluid dynamics: Turbulent transport and particle-wall interactions." *Applied Mechanics Reviews* 73, no. 4.
- Jain, N., Bravo, L., Kim, D., Murugan, M., Ghoshal, A., Ham, F., and Flatau, A. (2020). "Massively Parallel Large Eddy Simulation of Rotating Turbomachinery for Variable Speed Gas Turbine Engine Operation." *Energies*, MDPI.
- Bravo, L. G., Jain, N., Khare, P., Murugan, M., Ghoshal, A., and Flatau, A. (2020). "Physical aspects of CMAS particle dynamics and deposition in turboshaft engines." *Journal of Materials Research*, Cambridge University Press.
- Bravo, L., Murugan, M., Ghoshal, A., Su, S., Koneru, R., Jain, N., Khare, P., and Flatau, A. (2021). "Uncertainty Quantification in Large Eddy Simulations of CMAS Attack and Deposition in Gas Turbine Engines." *AIAA SciTech Forum and Exposition*.
- Murugan, M., Ghoshal, A., Walock, M., Bravo, L., Koneru, R., Jain, N., Mock, C., Pepi, M., Nieto, A., Flatau, A. Sampath, S., and Dorfman, M. (2021). "In Search of Durable Sandphobic Thermal/Environmental Barrier Coatings for Rotorcraft Gas Turbine Engines." *AIAA SciTech Forum and Exposition*.
- Jain, N., Bravo, L., Bose, S., Kim, D., Murugan, M., N, A., and Flatau, D. (2018). "Turbulent multiphase flow and particle deposition of sand ingestion for high-temperature turbine blades." *Studying Turbulence Using Numerical Simulation Databases XVII*, Proceedings of the 2018 Center for Turbulence Research Summer Program, Stanford, California.
- Jain, N., Bravo, L., Kim, D., Murugan, M., Ghoshal, A., Ham, F., and Flatau, A. (2019). "Towards Large Eddy Simulation of Rotating Turbomachinery for Variable Speed Gas Turbine Engine Operation." *ASME Turbo Expo 2019: Turbomachinery Technical Conference and Exposition*.
- Ghoshal, A., Walock, M. J., Murugan, M., Mock, C., Bravo, L., Pepi, M., Nieto, A., Wright, A., Luo, J., Jain, N., Flatau, A., and Fehrenbacher, L. (2019). "Governing Parameters Influencing CMAS Adhesion and Infiltration Into Environmental/Thermal Barrier Coatings in Gas Turbine Engines." *ASME Turbo Expo 2019: Turbomachinery Technical Conference and Exposition*.
- Murugan, M., Ghoshal, A., Nieto, A., Walock, M., Bravo, L., Jain, N., Pepi, M., Swab, J., Zhu, D., Pegg, R. T., Rowe, C., Flatau, A., Kerner, K. (2018). "Prevention of Molten Sand Attack on Thermal Barrier Coatings for Rotorcraft Gas Turbine Blades A Round Robin Test Evaluation." *AHS International Forum* 74.
- Jain, N., Bravo, L. G., Murugan, M., Ghoshal, A., Kumar, G., Flatau, A., and Kerner, K. A. (2018). "Numerical Investigation of Aerodynamic Transitional Flow around a Pitching Airfoil: Assessment of Hybrid and SGS models for Turbomachinery Applications." *2018 AIAA Joint Propulsion Conference*, Cincinnati, Ohio.
- Jain, N., and Baeder, J. D. (2017). "Assessment of shielding parameters in conventional DDES method under the presence of alternative turbulence length scales." *23rd AIAA Computational Fluid Dynamics Conference*, Denver, Colorado.
- Jain, N., and Baeder, J. D. (2016). "Assessment of Turbulence Model Length Scales based on Hybrid RANS-LES Modeling of Unsteady Flow Over Airfoil." *AHS International Forum* 72, West Palm Beach, Florida.
- Jain, N., and Baeder, J. D. (2015). "Aerodynamic Characteristics of SC1095 Airfoil using Hybrid RANS-LES Methods Implemented into a GPU Accelerated Navier-Stokes Solver." *22nd AIAA Computational Fluid Dynamics Conference*, Dallas, TX.
- Jain, N., and Baeder, J. D. (2015). "Investigation of hybrid RANS-LES methods to understand their predictive capabilities in flows with separation." *53rd AIAA Aerospace Sciences Meeting*, Kissimmee, Florida.
- Jain, N. and Baeder, J. D. (2015). "Comprehensive Aerodynamic Characteristics of SC1095 Airfoil using Hybrid RANS-LES Methods." *ICMIDS Conference*, State College, Pennsylvania.
- Jain, N., Jambunathan, R., and Bodony, D. (2012). "Computational Assessment of Flow Through a High-Flow Nacelle Bypass." *50th AIAA Aerospace Sciences Meeting including the New Horizons Forum and Aerospace Exposition*, Nashville, Tennessee.

WORK EXPERIENCE AND AWARDS

Technical Associate

Irunway, Bangalore, India

June 2008 – June 2009

- Executed multiple projects involving technology research, due diligence and source code analysis in dynamic team environment.
- Successful deliverables in intellectual property services such as patent portfolio management and patent drafting.

Engineering Intern

Honeywell Technology Solutions Lab, Bangalore, India

May 2007 – July 2007

- Developed an efficient module to conduct preliminary design analysis of industrial compressors.
- Conducted a comprehensive stress and fluid flow analysis of an industrial compressor.

Awards

- Winner (team) in the graduate category of American Helicopter Society International Student Design Competition (2013).
- Winner of Institute Silver Medal for securing first rank in the department at the completion of Bachelor's degree (2008).
- Winner of J.C. Ghosh Memorial Award by IIT Kharagpur for securing highest GPA in the department (2008).