

Sean C. C. Bailey

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(a) Professional Preparation

University of Western Ontario	Canada	Mech. Engineering	B.E.Sc., 1998
University of Western Ontario	Canada	Mech. Engineering	M.E.Sc., 2001
University of Ottawa	Canada	Mech. Engineering	Ph.D., 2006
Princeton University	New Jersey	Mech. and Aero. Engineering	2007–2008

(b) Appointments

July 2015–pres	Associate Professor, Dept. of Mech. Engin., University of Kentucky
Jan. 2010–June 2015	Assistant Professor, Dept. of Mech. Engin., University of Kentucky
Jan. 2009–Dec. 2010	Associate Research Scientist, Dept. of Mech. & Aero. Engineering, Princeton University

(c) Significant Products

1. Bailey, S.C.C. and Witte, B.M. (2016). On the universality of local dissipation scales in turbulent channel flow, *Journal of Fluid Mechanics*, **786** 234-252.
2. Ferguson, J.C., Panerai, F., Lachaud, J., Martin, A., Bailey, S.C.C. and Mansour, N.N. (2016) “Modeling the oxidation of low-density carbon fiber material based on micro-tomography,” *CARBON* v96, 57-65.
3. Weng, H., Bailey, S.C.C. and Martin, A. (2015) “Numerical Study of Iso-Q Sample Geometric Effects on Charring Ablative Materials,” *International Journal of Heat and Mass Transfer*, v. 80, 439-465.
4. Bailey, S.C.C., Vallikivi, M., Hultmark, M. and Smits, A.J. (2014) Estimating the value of von Karman’s constant in turbulent pipe flow, *Journal of Fluid Mechanics*, **749**, 79-98.
5. Rosenberg, B.J., Hultmark, M., Vallikivi, M., Bailey, S.C.C. and Smits, A.J. (2013) Turbulence spectra in smooth- and rough-wall pipe flow at extreme Reynolds numbers, *Journal of Fluid Mechanics*, **731**, 46-63.
6. Bailey, S. C. C., and 14 others (2013) Obtaining accurate mean velocity measurements in high Reynolds number boundary layers using Pitot probes, *Journal of Fluid Mechanics*, **715**, 642-670.
7. Hultmark, M. Vallikivi, M. Bailey, S. C. C. and Smits, A. J. (2012) Turbulent pipe flow at extreme Reynolds numbers, *Physical Review Letters*, **108**, 094501.
8. Bailey, S. C. C. and Smits, A. J. (2010) Experimental investigation of the structure of large- and very-large-scale motions in turbulent pipe flow, *Journal of Fluid Mechanics*, **651**, 339-356.

9. Yakhot, V., Bailey, S. C. C. and Smits, A. J. (2010) Scaling of global properties of turbulence and skin friction in pipe and channel flows, *Journal of Fluid Mechanics*, **652**, 65–73.
10. Bailey, S. C. C., Hultmark, M., Schumacher, J., Yakhot, V. and Smits, A. J. (2009) Measurement of Local Dissipation Scales in Turbulent Pipe Flow, *Physical Review Letters*, **103**, 14502.
11. Hultmark, M., Bailey, S. C. C. and Smits, A. J. (2010) Scaling of near-wall turbulence in pipe flow, *Journal of Fluid Mechanics*, **649**, 103–113.
12. Bailey, S. C. C. and Tavoularis, S. (2008) Measurements of the velocity field of a wing-tip vortex, wandering in grid turbulence, *Journal of Fluid Mechanics*, **601**, 281–315.

(d) Synergistic Activities

- Member of ICET (International Collaboration on Experimental Turbulence), which targeted unresolved issues with experimental methods for the measurement of wall-bounded flows. This project involves performing and comparing measurements taken with a range of instrumentation and methodologies in three high Reynolds number boundary layer facilities located in Stockholm, Melbourne and Chicago.
- Co-organizer of the Kentucky Institute of Aerospace Education Annual Wing Design competition, in which teams from high schools across the state of Kentucky design, build and fly a prototype wing using information provided in custom-designed learning modules on aerodynamics and flight stability.
- Advisory committee member for International Symposium on Turbulence and Shear Flow Phenomena. The series of biennial TSFP Symposia is the principal venue for reporting and disseminating recent and ongoing research on turbulence and shear flow phenomena.
- Member of the local organizing committee for the 5th AFOSR/NASA/Sandia Ablation Workshop, a three day meeting point for scientists working on topics related to aerothermodynamic ablation.
- Peer reviewer and panel review member for *Journal of Fluid Mechanics*, *Physical Review Letters*, *Physical Review E*, *Physics of Fluids*, *AIAA Journal*, *Experiments in Fluids*, *Experimental Thermal and Fluid Sciences*, *ASME Journal of Fluids Engineering*, *Aerospace Science and Technology*, *PLOS-ONE*, *Springer Plus*, *Meccanica*, *Progress in Turbulence*, *Sensors and Actuators*, *International Journal of Energy Technology and Policy*, *European Journal of Mechanics B.*, *Oxford University Press*, *National Science and Engineering Research Council of Canada*, *FRNT Quebec*, *NASA EPSCoR*, *Oak Ridge Associated Universities*, and *National Science Foundation*