

Alexandre Martin, PhD, PE

Assistant Professor

I. PROFESSIONAL PREPARATION

Université de Montréal, Montréal, QC, Physics, B.Sc., 1998.
École Polytechnique, Montréal, QC, Mechanical Engineering, M.Sc.A., 2001.
École Polytechnique, Montréal, QC, Mechanical Engineering, Ph.D., 2005.
École Polytechnique, Montréal, QC, Mechanical Engineering, Postdoc, 2005-2006.
University of Michigan, Ann Arbor, MI, Aerospace Engineering, Postdoc, 2007-2010.

II. ACADEMIC/PROFESSIONAL APPOINTMENTS

Jan. 2011 – current **Assistant professor of Mechanical Engineering, University of Kentucky, Lexington, KY.**
Sep. 2012 – current **Associate Faculty, Center for Computational Science, U. of Kentucky, Lexington, KY.**
Mar 2009 – May 2009 **Invited Scientist, NASA Ames Research Center, Moffet Fields, CA.**

III. SELECTED PUBLICATIONS

Publications Most Closely Related to Proposal

- [1] Martin, A. and Boyd, I. D., "Strongly coupled computation of material response and nonequilibrium flow for hypersonic ablation," *Journal of Spacecraft and Rockets*, 2014.
- [2] Weng, H., Bailey, S. C. C., and Martin, A., "Numerical study of geometrical effects on charring ablative arc-jet samples," *International Journal of Heat and Mass Transfer*, Vol. 80, January 2015, pp. 439–465.
- [3] Weng, H. and Martin, A., "Multidimensional modeling of pyrolysis gas transport inside charring ablative materials," *Journal of Thermophysics and Heat Transfer*, Vol. 28, No. 4, 2014, pp. 583–597.
- [4] Martin, A. and Boyd, I. D., "Non-Darcian behavior of pyrolysis gas in a thermal protection system," *Journal of Thermophysics and Heat Transfer*, Vol. 24, No. 1, 2010, pp. 60–68.
- [5] Alkandry, H., Boyd, I. D., and Martin, A., "Comparison of Models for Mixture Transport Properties for Flow Field Simulations of Ablative Heat-Shields," *Journal of Thermophysics and Heat Transfer*, Vol. 28, No. 4, 2014, pp. 569–582.

Other Significant Publications

- [1] Panerai, F., Martin, A., Mansour, N. N., Sepka, S. A., and Lachaud, J., "Flow-tube Oxidation Experiments on the Carbon Preform of PICA," *Journal of Thermophysics and Heat Transfer*, Vol. 27, No. 2, 2014, pp. 181–190.
- [2] Martin, A., Boyd, I. D., Cozmuta, I., and Wright, M. J., "Kinetic rates for gas phase chemistry of phenolic based carbon ablator decomposition in atmospheric air," *Journal of Thermophysics and Heat Transfer*, Vol. 80, 2014, In Press (Manuscript 2013-05-T4184.R2).
- [3] Miller, M. A., Martin, A., and Bailey, S. C. C., "Investigation of the scaling of roughness and blowing effects on turbulent channel flow." *Experiments in Fluids*, Vol. 55, No. 2, 2014, pp. 1–11, Article: 1675.

