

Ricardo Martinez-Botas

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Professional experience

Ricardo has an MEng (Hons) Degree in Aeronautical Engineering from Imperial College London. He obtained a DPhil in the Rolls Royce University Technology Center at the University of Oxford University in 1993 with a thesis entitled Annular Cascade Aerodynamics and Heat Transfer.

He has developed the area of unsteady flow aerodynamics of small turbines, with particular application to the turbocharger industry. The contributions to this area centre on the application of unsteady fluid mechanics, instrumentation development and computational methods. The work has attracted support not only from Government agencies but also from industry. His group has become a recognised centre of turbocharger turbine aerodynamics, and more particularly in the application experimental methods and one dimensional calculation procedures.

In 2010 and 2009 he was awarded the best paper award by the Turbomachinery Committee of ASME and in 2011 has been given the Dugald Clerk Prize by the Institution of Mechanical Engineers (UK) for contributions to internal combustion engines. He is a Visiting Professor in the University Teknologi of Malaysia. He has published extensively in journals and peer reviewed conferences. He is Associate Editor of the Journal of Turbomachinery (ASME) and the Journal of Mechanical Engineering Science (IMEchE).

He is currently the Theme Leader for Hybrid and Electric Vehicles of the Energy Futures Lab at Imperial College.

Qualification:

Experienced in modeling and design of energy systems, which is similar to the topic of the main contents of this thesis, modeling and design of thermoelectric generator

Publication list (most cited and relevant)[1-10]:

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- [3] K. Kanokjaruvijit and R. F. Martinez-Botas, "Parametric effects on heat transfer of impingement on dimpled surface," in *ASME Turbo Expo 2004: Power for Land, Sea, and Air*, 2004, pp. 77-88.

- [4] A. W. Costall, R. M. McDavid, R. F. Martinez-Botas, and N. C. Baines, "Pulse performance modeling of a twin entry turbocharger turbine under full and unequal admission," *Journal of turbomachinery*, vol. 133, p. 021005, 2011.
- [5] A. Costall, S. Szymko, R. F. Martinez-Botas, D. Filsinger, and D. Ninkovic, "Assessment of unsteady behavior in turbocharger turbines," *ASME Paper No. GT2006-90348*, 2006.
- [6] C. D. Copeland, R. Martinez-Botas, and M. Seiler, "Comparison between steady and unsteady double-entry turbine performance using the quasi-steady assumption," *Journal of Turbomachinery*, vol. 133, p. 031001, 2011.
- [7] D. P. Xenos, M. Ciccioiti, G. M. Kopanos, A. E. Bouaswaig, O. Kahrs, R. Martinez-Botas, *et al.*, "Optimization of a network of compressors in parallel: Real Time Optimization (RTO) of compressors in chemical plants—An industrial case study," *Applied Energy*, vol. 144, pp. 51-63, 2015.
- [8] N. Terdich and R. Martinez-Botas, "Experimental efficiency characterization of an electrically assisted turbocharger," SAE Technical Paper 0148-7191, 2013.
- [9] A. M. Mamat, A. Romagnoli, and R. F. Martinez-Botas, "Design and development of a low pressure turbine for turbocompounding applications," *International Journal of Gas Turbine, Propulsion and Power Systems*, vol. 4, pp. 1-8, 2012.
- [10] J. Hey, T. J. Teo, V. P. Bui, G. Yang, and R. Martinez-Botas, "Electromagnetic actuator design analysis using a two-stage optimization method with coarse–fine model output space mapping," *IEEE Transactions on Industrial Electronics*, vol. 61, pp. 5453-5464, 2014.