Thomas Kinsey

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Dynamic and creative researcher, expert in Computational Fluid Dynamics (CFD).
Effective communicator and leader who facilitates teamwork and high-level results presentation adapted to the end-user.

Work Experience

December 2011 | Founded Lambda2 - Engineering Simulations consulting company

Since Sept. 2010 | Research Professional at Laval University's CFD lab (Laboratoire de Mécanique des Fluides Numérique)
Planned resources and budget for experimental campaign. Filed patent applications. Optimized the performance of an oscillating-foils hydrokinetic turbine with CFD simulations.

Summer 2011 | Consultant for STC Footwear (through contract with Laval University)
Developed a thermodynamic model. Programed and simulated its behavior in Matlab.

Winter 2011 | Consultant for Éolo inc.
Optimized the performance of a hydrokinetic turbine with CFD simulations. Provided the client with a simplified solver based on classical flutter theory.

2008 | Consultant for Turbines Éoliennes VERTICA
Developed CFD modeling approaches for the simulation of 2D and 3D vertical-axis turbines. Analyzed simulation results for two blade geometries. Built user-friendly Excel interface for simplified data post-treatment.

Winter 2007 | Consultant for Numerica Technologies inc.
Developed a numerical strategy with moving mesh for the simulation of 2D and 3D flapping foils in FLUENT.

2004-2007 | Graduate teaching assistant at Laval University
Courses: Introduction to Aerodynamics ; Applied Fluid Dynamics.

Education

2006-2011 Ph.D. in Mechanical Engineering (Fluid Mech.), Laval University, Québec, Canada
Thesis: "Analysis, Optimization and Demonstration of a New Concept of Hydrokinetic Turbine Based on Oscillating Hydrofoils" — Advisor: Prof. Guy Dumas

2004-2006 M.Sc. in Mechanical Engineering (Fluid Mech.), Laval University, Québec, Canada

2000-2004 B.Sc. in Engineering Physics, Laval University, Québec, Canada

Computer Skills

Engineering	ANSYS Fluent, Gambit, OpenFOAM, Maple, Engrid
Programing	C, Matlab, LabView
Web	HTML & CSS, Typo3, Microsoft Publisher
Graphics	Tecplot 360, ParaView, Adobe Illustrator, Inkscape
Text	Microsoft Office Suite, LaTeX

Scholarships and awards

Nov 2011	Honor Roll distinction from the Faculty of Graduate and Postdoctoral Studies of Laval University for excellence in the doctoral thesis
June 2012	Best Poster Award, 1st North American Symposium, International Network on Offshore Renewable Energy (INORE), Massachusetts, USA
May 2011	Best Presentation Award 5th International Network on Offshore Renewable Energy (INORE), Alcoutim, Portugal
May 2010	Best Presentation Award 4th International Network on Offshore Renewable Energy (INORE), Devon, UK
May 2007	NSERC - Postgraduate Scholarships Program (21 000$)
May 2007	FQRNT - Postgraduate Research Scholarships B2 (20 000$)
Dec 2006	Hydro-Quebec - Ph.D. Scholarship (15 000$)
July 2005	Hydro-Quebec - M.Sc. Scholarship (3 000$)

Publications

Journal

T. Kinsey and G. Dumas. "Three-Dimensional Effects on an Oscillating-Foil Hydrokinetic Turbine". In: *J Fluids Eng - Trans ASME* 134.7 (2012), p. 071105

T. Kinsey and G. Dumas. "Optimal Tandem Configuration for Oscillating-Foils Hydrokinetic Turbine". In: *J Fluids Eng - Trans ASME* 134.3 (2012), p. 031103

T. Kinsey and G. Dumas. "Computational Fluid Dynamics Analysis of a Hydrokinetic Turbine Based on Oscillating Hydrofoils". In: *J Fluids Eng - Trans ASME* 134.2 (Feb. 2012), p. 021104

T. Kinsey, G. Dumas, G. Lalande, J. Ruel, A. Mehut, P. Viarouge, J. Lemay, and Y. Jean. "Prototype Testing of a Hydrokinetic Turbine Based on Oscillating Hydrofoils". In: *Renewable Energy* 36.6 (2011), pp. 1710–1718

T. Kinsey and G. Dumas. "Parametric Study of an Oscillating Airfoil in a Power-Extraction Regime". In: *AIAA Journal* 46.6 (2008), pp. 1318–1330

G. Dumas and T. Kinsey. "Eulerian Simulations of Oscillating Airfoils in Power Extraction Regime". In: *Proceedings in Advances in Fluid Mechanics VI*. ed. by Rahman and Brebbia. WIT Press, 2006, pp. 245–254

Conference

T. Kinsey and G. Dumas. "Testing and Analysis of an Oscillating Hydrofoils Turbine Concept". In: *Proceedings of the 3rd Joint US-European Fluids Engineering Summer Meeting*. Paper FEDSM-ICNMM2010-30869. Montreal, Canada, 2010

T. Kinsey, G. Dumas, and M. Olivier. "Heaving Amplitude Effects on Oscillating Wing Turbines". In: *Proceedings of the 15th Annual Conference of the CFD Society of Canada*. Paper CFD-2007-1068. Toronto, Canada, 2007

Patent

G. Dumas, T. Kinsey, G. Lalande, J. Lemay, Y. Jean, and M.-A. Plourde-Campagna. "Oscillating Hydrofoil, Turbine, Propulsive System and Method for Transmitting Energy". Patent application, CA, CA2011/001107. 2011

Languages

French: First language English: Excellent Spanish: Basic