



Experiences

- From 2004 **Assistant Professor**
Engineering School: INSA Hauts-de-France
Institute: Université Polytechnique Hauts-de-France
Laboratory: LAMIH UMR CNRS 8201
- 2002–2003 **Attaché Temporaire d'Enseignement et de Recherche**
Institute: Université de Nantes
Laboratory: GEPEA UMR CNRS 6144
- 1997–1998 **Attaché d'Enseignement et de Recherche**
Institute: École Navale de Brest
Laboratory: LHEN

University Degrees

- 1999–2002 **PhD Degree** in Fluid Mechanics from Nantes University, France.
Title: Large Eddy Simulation of a plane impinging jet.
Laboratory: École des Mines de Nantes (DSEE), GEPEA UMR–CNRS 6144
- 1995–1996 **Master Degree in Mechanics** from P. et M. CURIE University (UPMC – Paris VI), France.
Option: Fluid Mechanics and Scientific Computing

Professional and computer skills

Heat and Flow control: internal swirling flows, jet/boundary layer interaction, cooling of rotating electrical machines, heat transfer of cables in the tunnel.

Numerical methods and turbulent flow simulation: Finite Difference and Hermitian Methods, Finite Volume Method, RANS, LES, DES

Programming: Fortran, C/C++, Python, Matlab, Shell, MPI, OpenMP

Post-processing: Paraview, Tecplot, Gnuplot, Matplotlib, Pandas

CFD solvers: OpenFOAM, Fluent, Star-CCM+, in-house codes

Preprocessing: blockMesh, snappyHexMesh, CfMesh, Gmsh, Salome, Gambit, FreeCAD

Scientific production

See also [Google Scholar](#):

For PhD work, the name of the student I have supervised is underlined.

Publications in international peer-reviewed journals

- [1] A. Helgadottir, S. Lalot, **F. Beaubert** and H. Palsson, "Mesh Twisting Technique for Swirl Induced Laminar Flow Used to Determine a Desired Blade Shape", *Applied Sciences*, vol 8, no. 10, p. 1865, 2018.
- [2] N. Lancial, F. Torriano, **F. Beaubert**, S. Harmand and G. Rolland, "Taylor-Couette-Poiseuille flow and heat transfer in an annular channel with a slotted rotor", *International Journal of Thermal Sciences*, vol. 112, pp. 92-103, 2017.
- [3] F. Boukrouche, C. Moreau, J. Pelle, **F. Beaubert**, S. Harmand and O. Moreau, "Mock-up Study of the Effect of Wall distance on the Thermal Rating of Power Cables in Ventilated Tunnels", *IEEE Transactions on Power Delivery*, 2017.

- [4] F. Boukrouche, C. Moreau, S. Harmand, **F. Beaubert**, J. Pellé and O. Moreau, "A thermal study of power cables cooling in tunnels", *Journal of Physics: Conference Series*, vol. 745, no. 3, p. 32032, 2016.
- [5] **F. Beaubert**, H. Pálsson, S. Lalot, I. Choquet and H. Bauduin, "Fundamental mode of freely decaying laminar swirling flows", *Applied Mathematical Modelling*, vol. 40, no. 13-14, pp. 6218-6233, 2016.
- [6] **F. Beaubert**, H. Pálsson, S. Lalot, I. Choquet and H. Bauduin, "Design of a device to induce swirling flow in pipes: A rational approach", *Comptes Rendus Mécanique*, vol. 343, no. 1, pp. 1–12, 2015.
- [7] F. Torriano, N. Lancial, M. Lévesque, C. Hudon, **F. Beaubert**, J.-F. Morissette, S. Harmand and G. Rolland, "Heat transfer coefficient distribution on the pole face of a hydrogenerator scale model," *Applied Thermal Engineering*, vol. 70, no. 1, pp. 153–162, 2014.
- [8] H. Pálsson, **F. Beaubert** and S. Lalot, "Inducing Swirling Flow in Heat Exchanger Pipes for Reduced Fouling Rate," *Heat Transfer Engineering*, vol. 34, no. 8–9, pp. 761–768, 2013.
- [9] N. Lancial, **F. Beaubert**, S. Harmand and G. Rolland, "Effects of a turbulent wall jet on heat transfer over a non-confined backward-facing step," *International Journal of Heat and Fluid Flow*, vol. 44, pp. 336–347, 2013.
- [10] L. Labraga, G. Kahissim, L. Keirsbulck and **F. Beaubert**, "An Experimental Investigation into the Separation Points on a Circular Rotating Cylinder in Cross Flow", *Journal of Fluids Engineering*, pp. 1203–1211, 2007.
- [11] **F. Beaubert** and S. Viazzo, "Large Eddy Simulations of plane turbulent impinging jets at moderate Reynolds numbers", *International Journal of Heat and Fluid Flow*, vol. 24, no. 4, pp. 512–519, 2003.
- [12] **F. Beaubert** and S. Viazzo, "Large Eddy Simulation of a plane impinging jet", *Compte Rendu de l'Académie des Sciences – Mécanique*, vol. 330, no. 12, pp. 803–810, 2002.

International communications with proceedings and reading committee

- [13] J.B. Offroy, N. Bourabaa, **F. Beaubert**, E. Delacourt, C. Morin and E. Therssen, "Combustion characterization in a biomass boiler with PAHs oxidation", in *Belgian Section of the Combustion Institute, UMONS, BELGUIM*, 2018.
- [14] F. Boukrouche, C. Moreau, W. Frelin, S. Harmand, J. Pelle, **F. Beaubert** and O. Moreau, "Effect of Proximity on the Thermal Rating of a Single Power Cable in Ventilated Tunnels", in *2016 COMSOL Conference, Boston, USA*, 2016.
- [15] N. Lancial, F. Torriano, **F. Beaubert**, S. Harmand and G. Rolland, "Study of a Taylor-Couette-Poiseuille flow in an annular channel with a slotted rotor," in *2014 International Conference on Electrical Machines (ICEM)*, 2014, pp. 1422–1429.
- [16] N. Lancial, **F. Beaubert**, S. Harmand, T. D. Nguyen and G. Rolland, "Effects of a turbulent wall jet over a non-confined backward-facing step," in *Eighth International Symposium on Turbulence and Shear Flow Phenomena (TSFP-8)*, Poitiers, FRANCE, 2013.
- [17] H. Pálsson, **F. Beaubert** and S. Lalot, "Increased shear stress in annular swirling flow for reduced fouling rate", in *9th International conference on Heat Exchanger Fouling and Cleaning, Fodele, GREECE*, 2011.
- [18] L. Keirsbulck, G. Kahissim, L. Labraga and **F. Beaubert**, "*An Experimental Investigation of the Separation Points on a Circular Rotating Cylinder in Cross Flow*", in *Concluding Symposium Electrochemical Flow Measurements and Microfluidics (COST F2)*, Poitiers, FRANCE, 2004.
- [19] **F. Beaubert**, S. Viazzo, "*Large Eddy Simulation of flow and mass transfer in a plane turbulent impinging jet*", in *12th Conference on Fluid Flow Technologies (CMFF'03)*, Budapest, HUNGARY, 2003.
- [20] **F. Beaubert**, S. Viazzo, "Large Eddy Simulations of plane turbulent impinging jets at moderate Reynolds numbers", in *5th International Symposium on Engineering Turbulence Modelling and Measurements*, Mallorca, SPAIN, 2002.
- [21] **F. Beaubert**, S. Viazzo, "Large Eddy Simulation of a plane turbulent impinging jet", *14th Australasian Fluid Mechanics Conference*, Adelaide, AUSTRALIA, 2001.

- [22] **F. Beaubert**, S. Maurel, S. Viazzo and C. Sollic, "Numerical and experimental visualizations of a plane turbulent jet impinging on a flat and smooth plate", in 9th International symposium on flow visualization, Edinburgh, SCOTLAND, 2000.

Communications with proceedings and reading committee

- [23] J. Pelle, **F. Beaubert** and N. Bourabaa, "Pascal, Bernoulli et Torricelli sont sur un bateau ...", in 24ème Congrès Français de Mécanique, Brest, 2019.
- [24] B. Indurain, S. Lalot, **F. Beaubert** and D. Uysteyrst, "CFD study of the convective heat transfer in a swirling flow for several flow regimes", in Congrès de la Société Française de Thermique (SFT 2018), 2018.
- [25] J.B. Offroy, N. Bourabaa, **F. Beaubert**, E. Delacourt, C. Morin and E. Therssen, "Étude aérothermochimique d'une chaudière biomasse", in Journées Biomasse, Villeneuve d'Ascq, 2017.
- [26] J.B. Offroy, N. Bourabaa, **F. Beaubert**, E. Delacourt, C. Morin and E. Therssen, "Étude aérothermochimique numérique et expérimentale d'une chaudière biomasse", in Colloque du Groupe Français de Cinétique et Photochimie (GFCP), Mines-Télécom Lille, Douai, 2017.
- [27] N. Lancial, G. Rolland, **F. Beaubert** and S. Harmand, "Effets d'un jet relâché sur les transferts thermiques en aval d'une marche descendante non-confinée", in Congrès de la Société Française de Thermique (SFT 2013), 2013.
- [28] **F. Beaubert**, T. Fourmeau and S. Harmand, "Etude numérique de la structure de l'écoulement dans un alternateur discoïde d'une éolienne", Congrès de la Société Française de Thermique (SFT 2010), Le Touquet, 2010.
- [29] M. Haddad, L. Labraga, L. Keirsbulck and **F. Beaubert**, "Effet du soufflage a travers une paroi poreuse dans un canal bidimensionnel", in 17^e Congrès Français de Mécanique, Troyes, 2005.
- [30] **F. Beaubert** and S. Viazzo, "Étude d'un jet plan turbulent impactant par simulation des grandes échelles", in 15^e Congrès Français de Mécanique, Nancy, 2001.
- [31] **F. Beaubert**, S. Viazzo and C. Sollic, "Étude d'un jet plan turbulent en impact proche par simulation des grandes échelles", in Journée de la Société Française de Thermique – Transferts de chaleur et de masse dans les jets, Paris, 2001.
- [32] **F. Beaubert**, S. Maurel, S. Viazzo and C. Sollic, "Modélisations expérimentale et numérique des jets utilisés pour le confinement et la protection rapprochée", in Congrès ACIA-SFGP – Aéraulique et Industries Alimentaires, Paris – INAPG, 2001.
- [33] **F. Beaubert** and S. Viazzo, "Une simulation directe d'ordre élevé d'un écoulement de cavité 3D entraînée", in 14^e Congrès Français de Mécanique, Toulouse, 1999.