



Patrick SALAGNAC

4 November 1968 - Saint-Affrique (12) - French
Full professor, Science and Technology Department - La Rochelle University

Professional address

La Rochelle Université, Laboratoire des Sciences de l'Ingénieur pour l'Environnement (LaSIE)
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Areas of expertise

Energetics, Building, Envelopes, Energy systems, Modelling and simulation, Numerical methods, Heat transfer

Work experience

2008 → Full professor, La Rochelle Université - France
1997-2008 Associate professor / Lecturer, Université de Bretagne-Sud - France
1995-1997 Temporary Assistant Professor, Université de Bretagne-Sud - France

Degrees and diplomas

1995 PhD Thesis, Université de Poitiers – France, in Aerodynamics, Fluid Mechanics, Combustion, Thermal.
Title of the thesis: "Application of a finite element method based on the concept of control volumes to the solution of fluid mechanics and thermal problems with border singularities".

TEACHING ACTIVITIES

Bachelor's and Master's degrees - Heat transfer, Mechanics, Modeling, Building equipment, Dynamic thermal simulation, Computer science

RESEARCH ACTIVITIES

P. Salagnac is a full professor at the University of La Rochelle. He has a formation in Physics from the University of Limoges (1986 to 1990), and a Master of thermal sciences from the University of Poitiers (1991). He obtained his PhD Thesis in fluid dynamic and thermal science at the University of Poitiers (1995), and he joined the LETI research staff laboratory and energy department of South Brittany University (UBS) as associate professor. From 1995 to 2008, he worked in UBS on the dimensioning and the optimization of thermal processes. The aim is to propose solutions for processes that consume much energy by holding account of the industrial and building contexts (cost of productivity, constraints on the product...). His activities are articulated around the field of the modeling and the simulation of the physical mechanisms of transfers (heat and mass transfers) with applications in Energy Efficiency. In September 2008, he joined the LaSIE research staff laboratory of La Rochelle University as professor. Currently, he is working on the problems of heat transfer through the building envelope (ventilated windows, cool roof, hemp insulation materials), the energy performance of commercial buildings and the energy production for buildings (Combined Heat and Power). He is in charge of the "Building and Sustainable Cities" research team (40 researchers) of LaSIE. He has been involved in international and national projects. He is the author or co-author of more than 130 papers in journals or conferences (national and international).

Elements of scientific production

- Lapisa R., Bozonnet E., Salagnac P., Abadie M. O., Optimized design of low-rise commercial buildings under various climates - Energy performance and passive cooling strategies, *Building and Environment*, Vol. 132, pp. 83-95, 2018
- Kabore M., Bozonnet E., Salagnac P., Abadie M., Indexes for passive building design in urban context – indoor and outdoor cooling potentials, *Energy and Buildings*, Vol. 173, pp. 315-325, 2018
- Michaux G., Greffet R., Salagnac P., Ridoret J.B., Modeling of an airflow window and numerical investigation of its thermal performances by comparison to conventional double and triple-glazed windows, *Applied Energy*, Vol. 242, pp. 27-45, 2019
- Martinez S., Michaux G., Bouvier J.-L., Salagnac P., Numerical investigation of the energy performance of a solar micro-CHP unit. *Energy Conversion & Management*, Vol. 243, 114425, 2021