

Curriculum Vitae: Alessandro Bottaro

ACADEMIC AND RESEARCH RECORD

Education

Laurea in Mechanical Engineering, University of Genova, 1983, 110/110 and honours

Fulbright Fellowship to attend Rutgers University, New Brunswick, NJ, USA:

- Master of Science, Mechanical and Aerospace Engineering, 1986
- Ph.D., Mechanical and Aerospace Engineering, 1988

Employment record

Junior Engineer, ANSALDO NIRA S.p.A., Genova, Italy, Sept. 1982-May 1983

Consultant, AT&T Bell Labs, Murray Hill, NJ, USA, summer 1985

Scientist, *Ecole Polytechnique Fédérale de Lausanne* (EPFL), Switzerland, Nov. 1988-Nov. 1992

First Assistant and Lecturer, EPFL, Switzerland, Nov. 1992-Sept. 1997

Professor, *Université Paul Sabatier*, Toulouse, France, Sept. 1997-March 2004

Chair Professor "Clear Renown", *Università di Genova*, Italy, March 2004 - present

"Attractivity" Chair, *Institut National Polytechnique de Toulouse*, France, 2014-2019

Most significant prizes and awards

Fulbright Fellowship to attend graduate school in the USA, 1984-1988

Excellence Chair ("*Cattedra per Chiara Fama*") of the Italian Ministry of University and Research, 2004-present

Edoardo Kramer 2013 prize (10,000 €) from the *Istituto Lombardo, Accademia di Scienze e Lettere*, attributed to the "Italian engineer with significant contributions in fluid dynamics and turbulence"

<https://diazilla.com/doc/459946/adunanza-solenne-2014---istituto-lombardo-accademia-di-sc...>

Attractivity Chair ("*Chaire d'Attractivité*") from the *Institut National Polytechnique de Toulouse*, France, from December 2014 to December 2019, on fundings from an IDEX ("*Initiative d'Excellence*") project

Doctor Honoris Causa, *Université Paul Sabatier*, Toulouse, 2020 (award ceremony postponed to June 2022 because of Covid)

Corresponding Member, *Accademia Ligure di Scienze e Lettere*, Genova, from December 2021

Fluid Mechanics Fellow of the European Mechanics Society, attributed "for his original contributions to the theory of Görtler instabilities and many other applications of adjoint equations to fluid dynamics, and leading role in forming a new generation of researchers". The prize is to be awarded in September 2022.

<https://euromech.org/fellows/euromech-fellows-fluids>

Recent activities of general interest

President of the Scientific Council of the Foundation *RTRA Science and Technology for Aeronautics and Space*, Toulouse, France, from 2007 to 2011.

Member of the Scientific and Technical Committee of the *Ligurian District on Marine Technologies*, La Spezia, Italy, since 2009.

Associate Editor of *Meccanica*, Springer, from November 2011 – November 2019.

Associate Editor of *European Journal of Mechanics, B/Fluids*, since September 2019

President of the Scientific and Technical Committee of the French LABEX ("*Laboratoire d'Excellence*") "*Mécanique et Complexité*" in *Aix-Marseille Université*, F, 2014-2019.

Director of DICCA (Department of Civil, Chemical and Environmental Engineering) at the University of Genova, since November 1st, 2021.

Recent scientific activity

Fluid dynamics; flow receptivity, stability and control; transition to turbulence; coherent structures in turbulent flows; biomimetics; ciliary propulsion and beating wings; compliant walls and poroelasticity; homogenization theory; superhydrophobicity and liquid-infused surfaces.

"FUNDING ID"

MAIN RESEARCH GRANTS AFTER 2010

- *European Commission, FP7, Marie Curie Intra European Fellowship*, PIEF-GA-2010-272335
189 000 € 2011 - 2013
"REDWING – Reducing Drag over Wings" (PI)
- *European Commission, FP7, Marie Curie Re-Integration Grant*, PERG-GA-2010-268265
45 000 € 2010-2013
"COT – Control of Turbulence" (PI)
- *European Commission, FP7, Transport (Including Aeronautics)*, AAT-2010-RTD1
149 952 € 2011-2014
"RECEPT – Receptivity and Amplitude-Based Transition Predictions" (PI)
- *Selex Galileo MUAS S.p.A.* 120 000 € 2011-2013
"SKYBIRD – Development of the prototype of a small-size unmanned ornithopter" (PI)
- *European Commission, FP7, Transport (Including Aeronautics)*, AAT-2012-RTD-LO
92 400 € 2012-2014
"PEL-SKIN: A novel kind of surface coating in aeronautics" (PI)
- *Fincantieri Innovation Challenge Grant* 200 000 € 2014-2017
"Superhydrophobic and liquid-infused-surfaces for drag reduction" (PI)
- *Chaire d'Attractivité, from the Institut Nationale Polytechnique de Toulouse, France*
598 000 € 2014-2019
"BIO-SKINS" (PI)
- *H2020 Marie Skłodowska-Curie project POLKA* 261 500 € 2019-2024
"Pollution Know-how and abatement" (PI at UNIGE)
- *PRIN 2017, Italian National Funding Agency* 435 500 € 2019-2022 (PI)
"LUBRI-SMOOTH: Innovative Materials and techniques for the reduction of ship resistance"

RECENT PUBLICATIONS

1. Luchini P. & Bottaro A. , "Adjoint equations in stability analysis", *Annual Review of Fluid Mechanics*, vol. 46, 2014, 493-517
2. Pralits J.O., Alinovi E. & Bottaro A. , "Stability of the flow in a plane microchannel with one or two superhydrophobic walls", *Phys. Rev. Fluids*, Vol. 2, 2017, 013901
3. Alinovi E. & Bottaro A. , "Apparent slip and drag reduction for the flow over superhydrophobic and lubricant-impregnated surfaces", *Phys. Rev. Fluids*, Vol. 3, 2018, 124002
4. Bottaro A. , "Flow over natural or engineered surfaces: an adjoint homogenization perspective", *J. Fluid Mech.*, Vol. 877, 2019, pp. P1-P91.
5. Naqvi, S.B. & Bottaro, A. , "Interfacial conditions between a free-fluid region and a porous medium", *Int. J. Multiphase Flow*, Vol. 141, 2021, 103585.