

CURRICULUM VITAE

VALENTINO PEDIRODA

Personal Data

name: Valentino Pediroda
Place/date of birth: Palmanova (Ud) 23/6/1972

Resident: via Udine 79,
34135 Trieste, Italy
Tel. 040 558 3231

Actual Position

Starting from 2001 Assistant Professor, I04B Macchine a Fluido (Fluid Machines).

In December 2013 dott. Valentino Pediroda received the qualification for being Associate Professor in Fluid Machines.

Affiliation:

Department of Engineering and Architecture
Università di Trieste
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34127 Trieste
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Board of member of modeFinance SRL

Education

Laurea in Mechanical Engineering marks: 107/110, Università di Trieste, October 1997

Stage 6 months at "Laboratory of Multidisciplinary Inverse Design and Optimization" in PennState University (PA) USA

Stage 1 month at Sendai University (Giappone) in EDGE (Evolutionary Design Group in Engineering) of Prof. Obayashi.

Stage 3 months at "Cd-Adapco Japan" in Yokohama (Jp).

Phd in Energetics from University of Udine, 1997-2000.

Thesis title: "Soft computing techniques for turbomachinery design optimisation".

Courses : **1997** " Inverse design and optimisation methods ", von Karman Institute, Bruxell.

" Genetic Algorithms and Evolution Strategies in Engineering and Computer Science", Trieste.

1998 " Neural Networks in mechanics of Structures and Materials " CISM, Udine.

2000 "Emerging Methods for Treating Multidisciplinary Optimization Problems" CISM, Udine.

2003 Invited Lecture on "*modeFRONTIER – usage and Application*" at the 39th Summer School "*OPTIMISTIC optimization in Marine Design*", Berlin 19-23 May 2003

2006 Invited Lecture on "*Introduction to Optimization and Multidisciplinary Design*", Lectures Series 2006-03, von Karman Institute for Fluid Dynamics, Bruxelles

2007 Invited Lecture on "Introductory Course to Design Optimization", ERCOFTAC Special Interest Group on Design Optimization, Trieste, April 18-20, 2007

2008 Invited Lecture on "Introduction to Optimization Methods and Tools for Multidisciplinary Design in Aeronautics and Turbomachinery", VKI Lecture Series 2008-09, June 2-6, 2008, von Karman Institute for Fluid Dynamics, Bruxelles

2008 Organizer of mini symposium "Optimization and Inverse Engineering for Industrial Applications" durante il 5th. European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008) Venezia 30 June - 4 July 2008

2010 Invited Lecture on "INTRODUCTION TO OPTIMIZATION & MULTIDISCIPLINARY DESIGN IN AR AND TU", VKI Lecture Series 2010, May 31-June 4, 2010 ISBN 978-287516-009-6, von Karman Institute for Fluid Dynamics, Bruxelles

At the University of Trieste, he teaches one course for Mechanical Engineering Master Degrees: Fluid Dynamic

Research Activity

Development of numerical model for credit rating evaluation

Development of optimisation algorithms for the design process

Development of robust design optimization algorithms

Development and applications of CFD tools

Use and integration of simulation codes for multidisciplinary design

Collaboration with ESTECO (<http://www.esteco.it>) for the numerical development (optimization algorithm, statistical analysis and response surfaces methodologies) of the software modeFrontier

He is the author of more than 90 scientific papers from 1997, the most of them are part of international conferences and chapters of scientific books. His research is mainly about the development of innovative design methodologies, based on multi objective optimization algorithms, integrated with the newest techniques of response surface, statistical analysis, multi criteria decision making. These methodologies have been successfully applied to design in Turbomachinery and Aeronautics. Since some years Dott. Pediroda has been studying Robust Design methodologies with the aim of taking into account of uncertainties during design phase. To face these problems an integrated methodology of optimization and response surface has been developed, with the intent to improve the final performance of the optimal design. During the last year this methodology has been further refined, developing a Fluid Dynamic solver based on spectral elements and Lagrange multipliers, by means of which we can study directly both the uncertainties on fluid properties and on geometry. The research on Robust Design has led to publications on international journals and invitations for participating to international conferences. Valentino Pediroda has taken part to several research projects funded by MIUR, by European Community, private companies and public institutions, even with the role of scientific coordinator of research unit.

Dott. Valentino Pediroda is even involved in research activities of developing numerical methods for rating and probability of default evaluation.

Working activities:

Since 2000 dott. Valentino Pediroda is involved in developing numerical model for credit rating assessment of international companies. From February 2003 to December 2007 he was consultant (numerical models and IT systems) for an Italian Rating Agency. He founded modeFinance SRL in 2009.

