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September 11th, 1973, Italian

Full, clean, European driving licence for cars and motorbikes

Marco Venturini-Autieri is a Mechanical Engineer, with Aerospace background, at ease in multi-disciplinary projects, keen on solving problems, also starting from scratch, by evaluating the knowledge scenario and designing the solutions necessary to answer the questions, with the help of testing and Research methods based on sound physical theory. He holds a Ph.D., is member of the Institute of Physics of London, has worked for a new product-development project and has conducted industrial research at the University of Durham.

<b>Education level</b>	PH.D. (ENGINEERING SCIENCES)
<b>Work Experience</b>	HEALTH MONITORING SYSTEMS, ACCELERATED-LIFE TESTS, FMECA, DAMAGES IN COMPOSITES, ACOUSTIC EMISSION NDT, PRODUCT DEVELOPMENT, TECHNICAL ASSET MANAGEMENT, EXPERIMENTAL MECHANICS
<b>Skills</b>	R&D, ENGINEERING RELIABILITY, SOLIDWORKS & SOLID EDGE, MULTIDISCIPLINARY OVERVIEW, MACHINE DESIGN, MATLAB, FLUID MECHANICS, PHYSICAL MODELING, PARAMETRIC ANALYSIS, KNOWLEDGE TRANSFER, THERMODYNAMICS, PHOTOSHOP, WORDPRESS, COMPUTER LITERACY, TECHNICAL WRITING & PRESENTING, LATEX
<b>Languages</b>	ITALIAN (MOTHERTONGUE), ENGLISH (FLUENT), FRENCH (BASIC)
<b>Interests</b>	INDUSTRIAL DESIGN, MECHANICAL DESIGN, VISUAL ARTS

## FULL - TIME EMPLOYMENT

2006–now COMMERCIAL PHOTOGRAPHER, SELF-EMPLOYED<sup>1</sup> — Visual concepts and stock photography

Dec.'09–Nov.'11 RESEARCH ASSOCIATE, UNIVERSITY OF DURHAM

DU is one of the UK's elite universities for Research and Teaching. National Grid is an international electricity and gas company and one of the largest investor-owned energy companies in the world.

**Objectives:** • Support for N.G.'s management of their ageing asset of electromechanical protective relays • Assessment of the devices' ageing characteristics and relevant failure modes

**Approach:** • Analysis • Experiments • Simulations

**Tasks managed:** • **Design** and manufacture of environmental gas chamber (**SolidWorks**, etc.) • Development and execution of investigative experimental **tests**<sup>2</sup> • Coordination of testing and manufacturing teams within D.U. • FMECA / FMEA to link failures and failure modes of the electromechanical relays

**Results:** • Optimal replacement/maintenance **strategy** for the technical asset • Identification and characterisation of the critical failure modes • A confidential **280-pages technical report** may be consulted upon request

July'07–May'09 R&D ENGINEER, PAYE STONERWORK LTD. AND LONDON SOUTH BANK UNIVERSITY

PAYE is a premier company dedicated to repair, clean and conserve historic buildings. LSBU is a technical university especially well rooted in London's social fabric.

**Objective:** • Consultancy for the development of an ice-blasting machine for the eco-friendly cleaning of historic masonry

**Tasks managed:** • Design (**Solid Edge**, etc.) • Purchasing • Prototyping • Tests

**Disciplines involved:** • Gasdynamics (transport system and nozzle) • Machine design (ice crushing & overall structure) • Refrigeration & thermodynamics (ice making) • I.P. (designing around competitor's patents)

<sup>1</sup>VAT account: IT02102030505

<sup>2</sup>Accelerated Life Tests

Nov.'03–Oct.'06 RESEARCH STUDENT, SCHOOL OF ENGINEERING SCIENCES, UNIVERSITY OF SOUTHAMPTON  
BAE Systems sponsored my research upon **in-flight continuous health-monitoring and damage-detection systems**. I focused on Acoustic Emission and carbon-fibre composites.

**Objective:** • Assessment of the suitability of A.E. for damage detection in CFRP

**Tasks managed:** • Manufacture of composite specimens • Design and execution of mechanical tests  
• Design and development of test rigs (**Pro Engineer**, etc.) • Acquisition and analysis of A.E. data (Matlab, Physical Acoustics)

## EDUCATION

July 2007 **Ph.D.**, SCHOOL OF ENGINEERING SCIENCES, UNIVERSITY OF SOUTHAMPTON (SUPERVISOR: PROF JANICE BARTON) My thesis (“*Acoustic emission characterisation of damage in CFRP composites: Use of a commercially available A.E. kit to discern damage signatures*”) was published by VDM Verlag (ISBN 978-3639194258)

June 2003 **B.Sc. & M.Sc.**,<sup>3</sup> AEROSPACE ENGINEERING (GRADE: 108/110), UNIVERSITÀ DI PISA, ITALY

**Final-year project:** *Role of cavitation on rotordynamic whirl forces in axial inducers and centrifugal impellers*. The parametric mathematical model was compared with available experimental data from NASA and indicated a correct evaluation of the rotordynamic forces and their destabilizing effects on the whirl motion.

**Main skills acquired:** • Aero- and Gas-dynamics • Applied Thermodynamics • Structures • Machine design • Pumps and turbines • Aircraft engines • Aircraft design • Space propulsion • Numerical methods • Quality systems • Flight mechanics • “*There is nothing more practical than a good theory,*” Kurt Lewin

July 1992 DIPLOMA DI **Maturità Scientifica** (GRADE: 60/60 — FULL MARK), “ISTITUTO SALESIANO SAN GIOVANNI BOSCO” (SCIENCE HIGH-SCHOOL<sup>4</sup>), TARANTO, ITALY

## ESTEEM INDICATORS

*MInstP* I am a *Member of the Institute of Physics*, London

July 2003 I passed the exam necessary to become Chartered Engineer in Italy

## FURTHER EXPERIENCE

2002–2003 Thesis work — I developed my Master’s thesis working in collaboration with Centrospazio, Pisa, Italy, an Italian aerospace research company

1997–1999 I was chosen as a representative of the fellow students at the aerospace engineering board of the university

1992–1999 System Operator of a public amateur Bulletin Board System linked to the Fidonet geographical telematic network. I organised events and meetings with like-minded people

## PAPERS

(with *J. M. Dulieu-Barton*) INITIAL STUDIES FOR AE CHARACTERISATION OF DAMAGE IN COMPOSITE MATERIALS, *Advanced Materials Research*, Vols. 13–14 (2006) pp. 273–278.

(with *L. d’Agostino*) ROTORDYNAMIC FLUID FORCES ON WHIRLING AND CAVITATING RADIAL IMPELLERS, in *Proc. Fifth International Symposium on Cavitation (cav2003)*, Osaka, Japan, Nov 2003.

(with *L. d’Agostino*) THREE-DIMENSIONAL ANALYSIS OF ROTORDYNAMIC FLUID FORCES ON WHIRLING AND CAVITATING FINITE-LENGTH INDUCERS, in *Proc. The 9th of International Symposium on Transport Phenomena and Dynamics of Rotating Machinery*, Honolulu, Hawaii, Feb 2002

## OTHER SKILLS

*Soft Skills* • Good physical intuition • Effective in presenting complex concepts in an understandable way • Proficient in generating ideas • Logical thinker, attentive to detail • Systematic, structured and targeted to gather facts, analyse a situation in a reasoned way, clearly define the problem, and proceed accordingly with a purpose in mind • Business oriented • Confident in working independently

*Management* Knowledge Transfer Partnership: project management (London South Bank University, 2007–2008)

<sup>3</sup>An Italian “Laurea” consists of three years of foundation courses (similar to a B.Sc.) plus two years of specialization (equivalent to an M.Sc.), includes a final dissertation, and gives the “Dott. Ing.” title. UNESCO classification ISCED 5.

<sup>4</sup>UNESCO classification ISCED 3