Pierre JAUNIAUX
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Date of birth: 20th August 1983
Nationality: Belgian / French
Driving licence B

Mechanical Engineer / Aeronautical Engineer

Professional background

2007 – now Design Architect in the Mechanical Design Department at **Alstom Belgium Transport**:
- Design of auxiliary converters and traction systems
- Finite Element Analysis Expert – Mechanical validation of equipment according to shock & vibrations standards (IEC 61373, EN 12663, GOST …)
- Finite Element Analysis Skill Leader for all Transport Component Electrical sites (Sesto – Italy; Tarbes – France; Charleroi – Belgium) since 2010 – Continuous improvement of Alstom's finite element methodology

Educational background

2005 - 2007 **Dual Diplomas** with the T.I.M.E. (Top Industrial Manager for Europe) convention between the *Ecole Nationale Supérieure de l'Aéronautique et de l'Espace* (Supaero, Toulouse, France) and the *Université Libre de Bruxelles* (U.L.B. Brussels, Belgium)
2006-2007: 3rd year of Engineering at SUPAERO
Major: ***Systems Energetic – Propulsion, Aerodynamics***

2001 – 2005 **Faculté Polytechnique de l'Université Libre de Bruxelles**
General training in electricity, electronics, programming, automation and a specialization in mechanics (structures, finite elements, aerodynamics, dynamics of articulated systems, atmospheric engines, turbomachines)
2003-2005: First two years of the **Civil Engineering degree**:
Major: ***Mechanical Engineering***

2006 – 2007 **Long Project:** Study of the GE-90 Aircraft Engine

2005 – 2006
- **Dissertation Topic :** « *Amélioration de la restitution des efforts aérodynamiques sur maquette en mouvement sur une suspension par câbles* » (« *Improvement of the restitution of aerodynamics forces on a moving model suspended with cables* ») – Realized in the *Office National d'Etudes et Recherches Aérospatiales* (O.N.E.R.A.)
- French semi-finals of the *Euromanager* contest. Team sponsored by Safran.

2004.2005
- **Long Project:** Creation of a finite element software (Matlab)
- Participation in the *Euromanager* contest. Team sponsored by Altran.

Languages

French Mother Tongue
English Fluent – 2 years stay in Houston, USA – TOEFL: 623 / Bulats Test : Advanced (C1)
Dutch Basic knowledge **Spanish** Basic knowledge

Computer Skills

Programming Java, C/C++, Python, PHP, MySQL, HTML, Django Framework
Engineering ANSYS (Expert), Hypermesh (Expert), Hyperview (Expert), Optistruct, CATIA V5, Matlab, Simulink. Notions de Fluent, ICEM, Samcef, PSpice

Other activities

Music Clarinet (9 years), piano (8 years), musical theory (5 years)
Sport Jogging (Semi-Marathon), mountain trekking, canyoning, snowboarding, windsurfing
Other Nature, photography, R/C models

Professional Experience

2011
- **MPM10 project:** Mechanical design/ architecture of the Montreal's subway traction system
- **Chennai project**: Mechanical validation / structural design of Chennai's subway auxiliary converter. Thickness and discrete material optimisation on the mechanical design.
- **Kazakhstan auxiliary converter** and **Russian auxiliary converter** for TMH Locomotives: Development and validation of an ANSYS methodology according to GOST shock & vibration standards; Mechanical validation of the auxiliary converters and low voltage cabinets.
- **Regiolis project**: Mechanical design, optimisation and validation of tubular frame electrical cabinet for SNCF next-generation of regional trains.
- **Regiolis project:** Thermal simulation of the diesel engine control electronic box

2010
- **Optonix product**: mechanical validation of the range of product (traction system and auxiliary converters) designed for low cost countries.
- **EP20 auxiliary converter** for TMH Locomotives : numerical simulation of the two main transformers mounted on damping systems in the cubicle
- **MI09 project**:
    - Mechanical design / architecture / validation of the auxiliary converter for the next-generation of RATP's RER A line in Paris.
    - Design of a naturally opened gas-spring system for bended external covers
    - Mechanical validation (rivets behaviour / pressure waves / shock & vibrations) of the external bended covers

2009
- **RGV2N2 project**: Mechanical validation of the TGV Duplex auxiliary converter for SNCF

2007 – 2008
- Mechanical validation of auxiliary converters for **Metropolis platform**, Alstom product range for subways. Supervision of shock and vibration tests in Sopemea Laboratory (Paris – France). Investigations on problems occurring with resonant frequencies of poorly designed internal dampers leading to ruins of the mechanical structure.