Mathieu BUARD

Birth : 13 march 1980 in Alençon (France)
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CALCULATION INGINEER

WORK EXPERIENCES

Forges de Courcelles, Nogent (France): Calculation engineer **January 2008 – …**

Supplier of forgings for automotive, specialized in safety parts and crankshafts

Using FORGE (a material forming simulation software) to study tool-filling, forging-loads, strain distribution, die stresses... I'm validating the conception and optimization of the process tools (hot forging with hammers or mechanical presses). I also use the FEM softwares MSC PATRAN/NASTRAN/FATIGUE to help the development/optimization of new parts with static and fatigue calculations.

Hutchinson, Montargis (France): Calculation engineer **August 2005 – July 2006**

Sealing systems for automotive

I used PATRAN and MARC.MENTAT to predict stress, strains, deformations, thermal dilatation etc. of various car sealing parts (2D and 3D FEM calculations with nonlinear behavior, contacts and large strains). A calculation/reality comparison mission was accomplished to improve the results precision.

E.N.S.T.A. , Paris (France): Programmer **April 2004 – December 2004**

Applied Mathematics Laboratory of a National School

In order to compare 4 methods described in a thesis about the "treatment of geometrical singularities for Maxwell equations", I coded (in MATLAB environment) a FEM program to solve quasi-electrostatic fields in non-convex 2D domains, and to visualize results. LaTeX report.

Université du Maine, Le Mans (72): Trainee-ship **July 2002**

Condensed Matter Physics Laboratory

Study of grain bonds with a molecular dynamics simulation based on Lenhard-Jones potential.
(Fortran 90 programming, using MPI as parallel computation library).

DIPLOMAS

2004	**Post Graduate in Numerical Modelization in Physics and Mechanics, Grade A pass** Université du Maine – Le Mans
2003	**BSc level 3, 1st class honours** University of Sheffield – Faculty of Pure Science (via Socrates-Erasmus)
2002	**Physics Degree, Grade B pass** Université du Maine – Le Mans
2001	**Year 2 university diploma in Mathematics & Computing Applied to Sciences, Grade B+ pass** Université du Maine – Le Mans
1998	**Bachelor's degree. Scientific section, grade B- pass** Lycée St François de Sales – Alençon

SKILLS

Master level - General Physics & Numerical Solving Methods
emphasis in mechanics and Finite Elements Method

Simulation software (Finite Element Method) and calculation software;
Good practice: FORGE, PATRAN, NASTRAN, MARC.MENTAT, MATLAB
Basics: CATIA V5, MAPLE

Programming : Fortran (77 et 90), C/C++

Languages : French (mother tongue), English (good level) ; Spanish (basic)

HOBBIES

Chess, Sports (practice: Tennis, Climbing, Aïkido, Baseball)