

Olivier DESMAISON

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Single, 23 years old.

Open PhD Position
COMPUTATIONAL MECHANICS
From October 2010

EDUCATION

- 2009 **MINES ParisTech, CEMEF: Post-Master Degree Computational Mechanics**
2010 **Metal Forming Centre, Sophia Antipolis (06 – Fr)**
Study of numerical tools & methods for computational modeling of mechanics phenomena.
- Forge 2&3: Industrial project (cf. Work Experiences)
 - Abaqus v.6-9: Advanced laboratories, project on “The capabilities of the XFEM modulus”.
 - Fluent: advanced laboratories.
 - Fortran & Matlab: programming of routines in order to compute simple Finite Differences and Finite Elements analysis.
 - Main lectures: Continuum Mechanic and Thermo-mechanics, Computational Fluid Dynamic, Advanced Numerical Analysis, Damage, Optimisation...
- 2004 **ICAM: Mechanical Engineer**
2009 **Engineering High School, Toulouse (31 – Fr)**
- **Diploma thesis in Icam Mechanical laboratory** (3 months): Numerical optimization of finite elements model applied on mechanical tests
 - Bibliographical report about optimization methods (determinist and metaheuristic ones).
 - Development of an evolutionary algorithm on Matlab.
 - Coupling between Matlab & Nastran in order to optimize constitutive law parameters in finite elements analysis
 - **ICAI Madrid** (Spain – 9 months): Mechanical specialization.
- 2008 **UPS: Master Degree Engineering Research & Development**
2009 **Paul Sabatier University, Toulouse (31 – Fr)**
- Main lectures: Non linear mechanics, Vibrations and dynamics in airplane structures, Shock mechanics, Viscous-plastic constitutive laws, Composites, Fracture and damage.

WORK EXPERIENCES

- 2010 **EDF R&D, Industrial Risk Management department – Chatou (78 – Fr)**
1 year **World’s largest utility company**
Post-Master intership: **High speed milling modeling – Residual stresses evaluation in a 304L machined workpiece.**
- Bibliographical report
 - Numerical modelling of 2D orthogonal high speed cutting in order to catch the adiabatic shear phenomenon in the chip: programming of constitutive laws in Forge code. Sensitivity study of material parameters and cutting sets-up on residual stresses
 - Numerical modelling of 3D high speed milling with Forge.
- 2009 **RENAULT, Thermo-mechanical simulation department – Rueil-Malmaison (92 – Fr)**
6 months **French’s largest automaker producing cars**
Intership: **Study and modeling of damage and crack growth coupling in a cylinder head.**
- Programming UMAT subroutine to model the kinematic and isotropic creep.
 - Study of fatigue and damage modulus on Abaqus. Use of the kill-element function.
 - Automation of simulated tensile tests coupling Abaqus & Matlab to find a crack propagation velocity law.

2008 **MIMRAM Architect-Engineer** – Paris (75 – Fr)
 1 month Plans verification of the main Rabat bridge construction. Drawing and modification of plans. Structural calculations with Robot Millenium.

Before 2008 Summer jobs in France: Corn castration, worker and Mathematics teacher for college students.
 2008 Summer jobs in England: Warehouse keeper, washing up.

LANGUAGES	IT	SPARE TIME
<p>Anglais : Good level <i>First Certificate of Cambridge</i></p> <p>Espagnol : Fluent <i>15 months in Spanish speaker countries</i></p>	<p>CAD : Catia, SolidWorks, Autocad 2D, Ideas.</p> <p>Numerical analysis: Matlab, Scilab, Maple.</p> <p>FEA, CFD: Abaqus, Forge, Fluent, Rem3D, Nastran, Metapost, Ansa.</p> <p>Computer languages: Fortran, Delphi.</p>	<p>Devotion: President of ICAM sport office in 2007.</p> <p>Travel : Icam Experiment in Bolivia : 2 months as volunteer (Ranger forest assistant & Voluntary fireman), 1 month of mountaineering, 1 month of tourism.</p> <p>Sports : Climbing, Mountain Bike, Mountaineering ski. Social of the French Alpine Club.</p>