

NAME	KHELFA Anissa
BIRTH DATE	May 29, 1978
NATIONALITY	Algerian
ADDRESS	ENSCR – Laboratory "Sciences Chimiques de Rennes" – Team "Chimie et Ingénierie des Procédés", Avenue du Général Leclerc, CS 50837, 35708 Rennes Cedex 7 (France) Tel : 33.(0)2.23.23.80.89 - Fax: 33.(0)2.23.23.81.20
PRESENT JOB	Teaching assistant (Section 62 : Energetic-Chemical Engineering)

#### ◆ EDUCATION AND RESEARCH ACTIVITIES

2009	<b>Chemistry Ph. Doctorate</b> ( <i>Laboratoire de Chimie de Méthodologies pour l'Environnement, ex LCA – Université Paul Verlaine- Metz</i> )
2004	<b>DEA Chemical Engineering Degree required for PhD</b> ( <i>UTC Compiègne (France)</i> )
2002	<b>Engineer in Chemical Engineering</b> ( <i>ENP-Algiers (Algeria)</i> )

#### ◆ PROFESSIONAL EXPERIENCE

2008-Present	Teaching assistant in ENSCR (Energetic - Chemical Engineering)
2005-2009	PhD student, thesis supported by <b>Crédit Mutuel-Enseignants</b> – "Etude des étapes primaires de la dégradation thermique de la biomasse lignocellulosique"- participation to the LCI-Biomasters.
2003-2004 (12 months)	Advanced training period for DEA ( <b>Laboratoire de Génie chimique-UTC de Compiègne</b> ) – Production and characterization of activated carbon powder prepared from chemical activation of wood and its main components: cellulose, lignin and hemicellulose
2002 (5 months)	Training period ( <b>Ecole Polytechnique d'Alger</b> ) - Valorisation study by percolation of worn oil engines (multigrade oils 20W50) through a diatomite bed
2001 (1 month)	Training period ( <b>NAFTEC Spa, Raffinerie d'Alger-Algérie</b> ) -Active participation, within the framework of the engineer training, to the analysis and study of various oil manufacturing processes

## ◆ TEACHING (within ENSCR)

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### **Magisterial Courses:**

#### *- Chemical correction of water*

Water treatment processes includes chemical correction of water. This course is divided in four main parts: Thermodynamics and equilibrium of natural water, Calcocarbonic equilibrium, ideal solutions equilibrium in the presence of  $\text{CaCO}_3$  (Tillmans work, Langelier and Hallopeau Dubin theory, Legrand-Poirier diagram), and water softening.

#### *- Chemical kinetics*

Kinetic reactions in homogeneous phases (liquid or gas) – Partial orders, kinetic constants, reaction mechanisms

### **Practical courses:**

- Chemical engineering and Environmental engineering (fluid mechanics in empty tubes or porous media, unit operations, thermal and mass transfer, thermodynamics, Residence Time Distribution, ultrafiltration...)
- Automatic : Process control, Laplace transform and logic automatic + Control engineering

### **Projects:**

- Inter-team project : “Study of a new support containing glass for the degradation of gaseous pollutants using UV/TiO<sub>2</sub> photocatalysis”

## ◆ RESEARCH TOPICS (within the team "CIP", theme Physico-chemical and biological treatment processes, ENSCR)

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### **Thermal treatment of biomass**

- Biomass and main components pyrolysis (TGA analysis)
- Vapour and gas analysis by pyrolysis-gas chromatography/mass spectrometry (Py-GC/MS) and Py-MS
- Statistical method of analysis : PCA (Principal Component Analysis)

### **Production and characterization of activated carbon**

- chemical activation by phosphoric acid of wood and its main components (cellulose, lignin and hemicellulose)
- TGA/TDA analysis (Kinetic study)
- BET analysis