

**KAISS, Maxime Ahmed**

*Born :* 16 March 1961 in Casablanca (Morocco)  
*Nationality:* French  
*Residing:* 95 chemin de Morgiou 13009 Marseille.  
*Marital Status:* Married, 3 children

### **Current situation**

*Senior Lecturer*

*SHOC team of the IUSTI/UMR CNRS 7343 Laboratory*

*Ecole Polytechnique Universitaire de Marseille, IUSTI/UMR CNRS 7343*

*Aix-Marseille University , Technopôle de Château Gombert 5 rue Enrico Fermi, 13453  
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### **Diplomas**

- *Ph.D. from the University of Paris-IX Dauphine: Applied Mathematics* 1995
- *DEA in Digital Analysis at Paris VI* 1989
- *DESS in Applied Mathematics at Paris VI* 1987
- *Master's degree in Applied Mathematics at Paris VI* 1986

### **Teachings**

*Teacher at the Ecole Polytechnique de Marseille:*

- *Department of Mechanics and Energy (1995-2014):*
  - *Matlab, Numerical Methods, Specific Algorithms for Solving (Monte Carlo Method, Discrete Y-Ordinates, Finite Volumes) for Heat Transfer Problems (Conduction, Convection and Radiation) and Their flow coupling.*
  - *Radiation, propagation of natural fires and the "small world" approach.*
- *Materials Department (2012-2024):*
  - *Mathematics, programming in Matlab, introduction to databases.*
  - *Numerical Computing (Matlab, Comsol), CAD: Solid Design, Industrial Application Work (TAI).*
  - *Catia: surface design, industrial application work (TAI).*
- *PEIP preparatory cycle, in the form of Courses and tutorials: Linear Algebra.*

### **Professional experience**

*ATER*

*Associate Professor*

*September 1, 1995*

*September 1, 1996*

## *Relations with the industrial world*

- **Projects:**

- 2020-2023: Scientific manager of the FUI PAFF project on Autonomous Protection against Forest Fires (AMU-IUSTI/CEREN/STME/WITT)
- 2017-2020: Scientific manager of the VOC project on Volatile Organic Compounds, as well as the development of software aimed at prioritizing the risk levels of areas likely to emit and store VOCs (IUSTI/CEREN)
- 2016-2017: Scientific manager of the RADICAL 2.0 project: Evaluation of the fire resistance of fuel breaks (IUSTI-AMU/CEREN/DPFM)
- 2013-2014: Scientific member of the ANR ASTRID MARINER project on Fire Risk Management and Firefighting in Large Multi-Local Polydisperse Complexes on Network.
- 2013-2014: Scientific member of the FUI TechForFire project on the development of a Tactical Fighting Tool during a forest fire.
- 2012-2013: Scientific member of the PHC SIAM 2012 project (27571PF Thailand-France): Estimation of gaseous and particulate emissions from vegetation fires in Thailand
- 2009-2010: Scientific manager of the DEAR project labeled by the STAR Carnot Institute.
- 2007-2009: Scientific member of the FIRE project labeled by the SCS global cluster and by the Risk cluster

## *Co-supervision of defended theses and becoming PhDs*

- **HAMAMOUSSE Nadjat:** Characterization of the physical properties of materials involved in the acceleration of forest fires. (**Thesis in cotutelle**)  
Start of thesis: January 2017. **Defense on December 01, 2021**  
Directors (France): A. Chikhaoui (20%), A. Kaiss (80%)  
Directors (Algeria): M. Ghamnia (20%), N. Zekri (80%)
- **GIRAUD Nathalie:** Stochastic modeling of fire propagation in a massively multi-compartmentalized structure. (MENRT Scholarship). October 2012-Defense **on April 1, 2016**. Director: B. PORTERIE (50%). % of managers: **50%** (2012-2014)
- **DRISSI Mohamed,** A model of large-scale propagation of wildland fires. Ph.D. from Aix-Marseille University (MESR Earmarked Scholarship). October 2009 - **Defense on February 8, 2013**, Director: B. PORTERIE (25%), Co-supervision: A. KAISS (75%).  
Current situation of the graduate: R&D engineer at UBS, Canada
- **BILLAUD Yann,** Modelling of forest fire behaviour for the development and implementation of remote detection and analysis sensors. Doctoral thesis from the University of Provence (CIFRE contract). February 2008 - **Defense on May 6, 2011**, Director: B. PORTERIE (50%), Co-supervision: A. KAISS (50%).  
Current situation of the graduate: Lecturer at the University of Poitiers
- **MINDYKOWSKI Pierrick.** Modeling of the spread of forest fires and the phenomenon of jumps, PhD thesis of the University of Provence (MENRT Grant). **Defense on December 10, 2010**. Name and % of co-directors: B. PORTERIE (40%), J-L. CONSALVI (30%), Co-supervisor: A. KAISS (30%).  
Current situation of the graduate: R&D engineer at PHENIX Conseils
- **NMIRA Fatiha,** Control of the development of a fire thanks to its containment by a water mist – Evaluation of the effectiveness of water mists in the attenuation of thermal radiation emitted by a fire, Doctoral thesis of the University of Provence (CIFRE contract). **Defense**

on July 10, 2007. Co-directors: B. PORTERIE (40%) and J.C. LORAUD (10%), Co-supervisor: A. KAISS (50%).

Current situation of the graduate : EdF R&D Engineer

- **SOUA Wadhah**, Numerical and experimental study of the flow and heat and mass transfers of a film flowing around a horizontal tube. Doctoral thesis from the University of Provence (ADEME Scholarship). **Defense on September 14, 2005**. Director: L. TADRIST (20%), Co-supervision: A. KAISS (80%).

Current situation of the graduate : Teacher-Researcher in Tunisia

### **Scientific project:**

*The main axis of my research activities is the modeling and numerical simulation of incompressible, two-phase compressible, and reactive flows.*

#### **FUI PAFF project (2020-2023):**

*This project, labeled by the SAFE cluster, named PAFF (Autonomous Protection against Forest Fires*

#### **FUI TechForFire project (2013-2014)**

*The objective of the TechForFire project, in which the AMU, the SAGEM-SAFRAN group, the SDIS13 and the company NOVELTYS collaborate, is to develop an on-call service for the tactical fight against forest fires.*

#### **FIRE project (2006-2008):**

*This project, labeled by the Secure Communicating Systems global cluster, the competitiveness cluster/PRIDES "Management of Risks and Vulnerabilities of Territories" of the PACA region and the STAR Carnot Institute, was based on an original concept coupling a network modeling system for the spread of forest fires.*

*Publications* : 50

*Publications in Colloquiums with Proceedings* : 33

