

# Mohamed KCHAOU RESEARCH CV

**Dr. Mohamed KCHAOU**

*Eng, Ph.D*

**Assistant Professor**

*Department of Mechanical Engineering,  
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## A. General information

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## B. Education and academic qualification

Degree		University Awarded	Year
PhD	Joint supervision	National School of Engineers of Sfax (Tunisia) and Central School of Lille (French)	2010
PhD Thesis Titled: Influence of the friction coupling-oxidation on the wear of a tool steel for hot work; development of a specific tribometer			
Master		National School of Engineers of Sfax (Tunisia)	2007
Master Thesis Titled: Study of Sperformance and damage of a copper alloy loaded in torsion fatigue			
Engineering		National School of Engineers of Sfax (Tunisia)	2006

## C. Administrative duties and other relevant appointment

No.	Position	Department/Faculty/Other Institution	Year	Duration
1	Head of teaching mechanics	Department of Gear Mechanical Higher Institute of Applied Science and Technology of Gafsa, Tunisia	2007 to 2009	2 years
2	Head of material research working reception	Department of Gear Mechanical Higher Institute of Applied Science and Technology of Gafsa, Tunisia	2007 to 2009	2 years
3	Responsible for the module "Mechanical Systems"	Department of Mechanic Higher Institute of Industrial Systems of Gabes, Tunisia	2010	1 year
4	Member of the Industrial Relations Environment	Department of Mechanical Higher Institute of Industrial Systems of Gabes, Tunisia	2009 to 2010	2 years
5	Industrial training coordinator	Department of Mechanical Engineering, Higher Institute of Applied Science and Technology of Sousse, Tunisia	2020 to date	1 year

**D. Research Grants and Scientific international projects**

No.	Cooperation project	Title	Date
1	Scientific Living High Level at the Laboratory of Mechanics of Lille (EC Lille)	"Characterization of friction materials"	11 to 25 May 2012
2	Senior Scientist within the framework of French-Tunisian cooperation CMCU / PHC Utica No. 11G112 (IPEI Sfax/EC Lille)	"Performance optimizing of a brake lining material"	14 to 19 November 2011
3	Junior Researcher part of the Project DGRST 09 / R 11-01, CNRS 22,666 (ENI Sfax/EC Lille).	"Optimization of forging brass section, the effect of tool wear"	November 2009
4	- Course of study under the Indo-French project (EC Lille).	"Study of the durability of friction materials under severe stress"	May and June 2007

**E. Teaching activities**

No.	Name of Courses	Credit Hour	Number of Students	Semester/Academic Year	Level
1	Static Solid, Laboratory	3	150	Sem 1, 2007/08	License
2	Static Solid, Lecture	1.5	150	Sem 2, 2007/08	License
3	Non Destructive Testing, Lecture	1.5	80	Sem 1, 2008/09	License
4	Computer Aided Drafting, Laboratory	3	120	Sem 1, 2009/10	License
5	Knowledge and Technology of Materials, Lecture	2	80	Sem 2, 2009/10	License
6	Strength of Materials, Lecture	1.5	80	Sem 1, 2010/11	License
7	Manufacturing Processes, Lecture	3	50	Sem 1, 2010/11	Master 2
8	Technology Design Approach, Lecture	1.5	70	Sem 2, 2010/11	Master 1

**F. Supervision of students**

Number	Prog. Level	Name of Students and Title of Thesis/Project	Role	Status	Year Graduated
1	PhD	Nesrine Hentati, <i>The influence of manufacturing parameters of friction materials with organic matrix on braking performance.</i>	Co-supervisor	Ongoing	Expected 2014
2	PhD	Faycal Njeh, <i>Thermo-Mechanical fatigue and wear of hot forging materials</i>	Co-supervisor	Ongoing	Expected 2013
3	PhD	Nabil Bouzayéni, <i>Study of the tribological behavior of brass from different process manufacturing under severe conditions of stress</i>	Co-supervisor	Ongoing	Expected 2012
6	PhD	Amira Sallémi, <i>Study of the components of friction materials for brake application: mechanical and tribological characterization</i>	Co-supervisor	Ongoing	Expected 2014
7	Master	Amel Alimi, <i>Study of the tribological behavior of tool steel X40CrMoV5-1 in coupling friction-oxidation</i>	Co-Supervisor	Ongoing	2012

## G. Publications

### - Journals published

[A1] **M. Kchaou**, R. Elleuch, X. Boidin, Y. Desplanques  
*Designing, perfecting and evaluating of a newly developed tribometer for the study of the wear behaviour of forging dies.* Journal of Engineering Tribology, Proceedings of the Institution of Mechanical Engineers Part J., Vol. 226, Issue 2, p 111-122, 2012. Impact Factor: 0.8 (Thomson ISI)

[A2] F. Njeh, **M. Kchaou**, R. Elleuch, F. El Halouani  
*Analysis of Degradation and Failure Mechanisms that Develop in Hot Forging Die.* J Fail. Anal. And Preven. DOI: 10.1007/s11668-012-9556-2. (Scopus)

[A3] **M. Kchaou**, R. Elleuch, Y. Desplanques, X. Boidin, G. Degallaix  
*Failure mechanisms of H13 die on relation to the forging process - A case study of brass gas valves.* Engineering Failure Analysis, Vol. 17, Issue 2, p 403-415, 2010. Impact Factor: 0.7 (Thomson ISI)

[A4] **M. Kchaou**, R. Elleuch, Y. Desplanques, X. Boidin, G. Degallaix  
*Etude du comportement en frottement-usure de l'acier X40CrMoV5-1 pré-oxydé sous faible vitesse de glissement.* Annales de chimie-Science des matériaux, Vol. 35, n°1, 2010. Impact Factor: 0.4 (Thomson ISI)

[A5] R. Mnif, **M. Kchaou**, R. Elleuch, F. Halouani  
*Cyclic behaviour and damage analysis of brass alloy under cyclic loading.* J Fail. Anal. And Preven. Vol.7, p 450-455, 2007. (Scopus)

### - Conference/Exhibition (Poster/Product/Exhibition/Showcase)

[C1] A. Sellami, **M. Kchaou**, R. Elleuch, Y. Desplanques  
*Caractérisation tribologique et mécanique d'un matériau de friction.* Journées Internationales Francophones de Tribologie 2012, Aix en Provence (France), 9-11 mai 2012.

[C2] N. Hentati, D. Najjar, **M. Kchaou**, A-L. Cristol, R. Elleuch, Y. Desplanques

*Experimental study of brake lining molding parameters.* Europe's Braking Conference & Exhibition, Eurobrake 2012, Dresden (Germany), 16-18 April 2012.

[C3] N. Hentati, **M. Kchaou**, R. Elleuch, Y. Desplanques

*Méthodologie de passage de l'échelle industrielle à l'échelle réduite de l'étape de mélangeage pour la fabrication des matériaux de friction : élaboration et validation.* Premier Congrès International Matériaux, Environnement et Durabilité MED 2011, HAMMAMET (Tunisie), 22 - 24 Mars 2012.

[C4] A. Sellami, **M. Kchaou**, R. Elleuch

*Effet du laiton sur le comportement en frottement d'une garniture de frein.* Premier Congrès International Matériaux, Environnement et Durabilité MED 2011, HAMMAMET (Tunisie), 22 - 24 Mars 2012.

[C5] N. Bouzayéni, **M. Kchaou**, R. Elleuch

Expertise d'une bague de synchronisation usée : identification et analyses des défaillances. 2<sup>ème</sup> Congrès Tunisien de Mécanique (COTUME'2012), Sousse (Tunisie), 19-21 Mars 2012.

[C6] **M. Kchaou**, R. Elleuch, X. Boidin, Y. Desplanques

*Impact de l'oxydation sur l'usure par frottement d'un outil de matriçage.* The Forth International Conference on Conception and Modelisation of Mechanical Systems (CMSM 2011), Sousse (Tunisia), 30 Mai- 1 Juin 2011.

[C7] **M. Kchaou**, R. Elleuch, X. Boidin, Y. Desplanques

*Réalisation d'un tribomètre pour l'étude des mécanismes d'usure par frottement des matrices de mise en forme à chaud.* Journées Internationales Francophones de Tribologie 2010, Albi (France), 27-28 mai 2010.

[C8] **M. Kchaou**, R. Elleuch, Y. Desplanques, X. Boidin, G. Degallaix,

*Développement d'un tribomètre pour l'étude de l'effet du cyclage en forgeage à chaud sur l'usure par frottement des matrices.* Journées Internationales Francophones de Tribologie 2009, Compiègne (France), 6-7 mai 2009.

[C9] **M. Kchaou**, R. Elleuch, Y. Desplanques, X. Boidin, G. Degallaix

*Damage identification of die used to forge gas cylinder valves.* 4th International Conference on Advances in Mechanical Engineering and Mechanics (ICAMEM 2008), Sousse (Tunisia), 16-18 December 2008.

[C10] **M. Kchaou**, R. Elleuch, Y. Desplanques, X. Boidin, G. Degallaix  
*Optimisation du matricage d'articles en laiton ; effet de l'usure des outils*. Premiers Journées des doctorants de l'Ecole Doctorale Sciences et Technologie de l'ENIS, Décembre 2008.

[C11] **M. Kchaou**, R. Elleuch, Y. Desplanques, G. Degallaix  
*Expert diagnosis of failure affecting hot forging die*. Premier Congrès Tunisien de Mécanique (COTUME 2008), Hammamet (Tunisia), 17-19 Mars 2008.

[C12] R. Mnif, **M. Kchaou**, R. Elleuch  
*Influence du pré-écrouissage sur le comportement cyclique en torsion d'un alliage cuivreux*. 1<sup>er</sup> Congrès Tunisien de Mécanique (COTUME 2008), Hammamet (Tunisie), 17-19 Mars 2008.

[C13] **M. Kchaou**, R. Mnif, R. Elleuch  
*Failure diagnostic of brass alloy under cyclic loading*. The Second International Conference on Conception and Modelisation of Mechanical Systems (CMSM 2007), Monastir (Tunisia), 19-21 Mars 2007.

[C14] R. Mnif, **M. Kchaou**, R. Elleuch  
*Fatigue life analysis and damage behaviour of brass alloy: effects of cyclic torsional overstrain and prestraining*. Fatigue design 2007, Senlis (France), 21-22 November 2007.

#### H. Scientific Industrial Project

No.	Title	Role (Senior/Junior)	Sponsor	Period (year)	Status (Completed/Ongoing)
1	Optimization of the performance of brake lining materials	Senior	Stuga Frein Society, Tunisia	2010-2014	On going
2	Optimization of forging process parameters	Junior	SOPAL Society, Tunisia	2006-2010	Completed

#### I. Involvement in professional association/organization/body

No.	Name of Association/Organization/Body	Role (President/Secretary/Committee Member/Ordinary Member)
1	Member of The Tunisian Mechanic Association	Member
2	Member of The Ex ENIS Students Association	Member
3	Member of The Assembled Regional Educational	Member and actor