

# Curriculum Vitae



## *Personnel Details*

**First name:** Makkia      **Name:** Dammak

**Sex:** female

**Date and place of Birth:** July 21, 1965 Sfax (Tunisia)

**Academic Rank:** Mathematics Professor

**Institution:** Higher Institute of Medical Technologies of Tunis.

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**Areas of research interest:** Non linear Analysis, Partial Differential Equations, Algebraic Topology and Geometry.

## *Academic Qualifications*

### Diplomas :

- **HDR Diploma (Habilitation)**, in 2009 from University Tunis El Manar with honours  
    **Speciality** Non linear Analysis and Geometry
- **Ph.D.** : in 1994 from University Tunis El Manar with honours  
    **Speciality** Algebraic Topology
- **Master:** in 1991 from University Tunis El Manar with mention Good.  
    **Speciality** Geometry and Algebraic Topology
- **Certificate professorship:** in 1989 from Faculty of Sciences of Tunis, University of Tunis El Manar with mention Good.  
    **Speciality** Mathematics
- **Baccalaureate:** in 1985, certificate of secondary education with mention Good.

## Teaching Experience

- **Since February 2015**, Professor Dr. At Higher Institute of Medical Technologies of Tunis.  
Course lessons provided:
  - # Biostatistics, for BTM1
  - # Analysis, for GBM1 and Audioprothese section
- **2012-2015**: Associate Professor at Higher Institute of Medical Technologies of Tunis.  
Course lessons provided:
  - # Algebra, for GBM1
  - # Analysis, for GBM1 and BTM1
- **2009-2012**: Associate Professor at The Preparatory institute for engineering studies of Bizerte  
Course lessons provided:
  - # Linear Algebra and Analysis for future Engineering
- **1995-2009**: Assistant Professor at Faculty of Sciences of Tunis  
Course lesson provided:
  - # Algebra, for MM3
  - # Analysis, for SVT1Tutorials:
  - # Differential Calculus, for MM3
  - # Differential Equations, for MP1
  - # Topology, for MM3
  - # Geometry, for MM4
  - # Algebra, for MM3
  - # Analysis, for MP1 and MP2
- **1991-1994**: Assistant (lecturer) at Faculty of Sciences of Tunis  
Tutorials:
  - # General Algebra, for MP1 and MP2
  - # Linear Algebra, for MP1 and MP2
  - # Analysis, for MP1 and MP2
- **1998-1991**: Secondary school teacher at high school at Tunis

## *Educational Documents*

- **A memory graduation:**

Evaluation et contrôle continu

- **Manuscript used as Textbooks:**

Exercices et Problèmes corrigés d'Analyse de deuxième année Math-Physique

## *List of Publications*

1. **Sur les catégories K-U**, Thèse de Doctorat de Spécialité en Mathématiques, Fac. des Sciences de Tunis, 1994.
2. **M. Dammak**, F. Grazzini et S. Zarati, Actions libres d'un 2-groupe abélien élémentaire sur un produit fini de sphères, Preprint CRM de Barcelona n° 467 (2001).
3. **M. Dammak**, S. Hammouda and S. Zarati, Depth and group actions, Trends in African Diaspora Mathematics Research, 103-109, Nova Sci. Publ., Huntington, NY, 2007.
4. S. Baraket and **M. Dammak**, Estimation of the best constant involving the  $L^2$  norm of the higher order Wentz problem, Abstract and Applied Analysis, vol. 6, 2005, 599-606.
5. S. Baraket, **M. Dammak**, M. Jleli and Dong Ye, Integrability of  $\det \nabla u$  and evolutionary Wentz's problem associated to heat operator, Chin. Ann. Math. 28B(5), 2007, 527-532.
6. S. Baraket, **M. Dammak**, T. Ouni and F. Pacard, Singular limits for 4-dimensional semi linear elliptic problem with exponential nonlinearity, Ann. I. H. Poincaré – AN 24 (2007), 875-895.
7. **M. Dammak** and T. Ouni, Singular limits for 4-dimensional semi linear elliptic problem with exponential nonlinearity adding a singular source term given by Dirac masses, Differential and Integral Equations, Vol. 21, Numbers 11-12 (2008), 1019-1036.
8. I. Ben Omrane and **M. Dammak**, A generalized four dimensional Emden-Fowler equation with exponential nonlinearity, Communications in Applied Analysis 13 (2009), no. 3, 431-446.
9. S. Baraket, **M. Dammak** and S. Kharrati : Singular limits for 2-dimensional elliptic problem with exponentially dominated nonlinearity with a very general quadratic gradient term, Annals of the Alexander leon Cuza University Mathematics, Vol. 60 (2014), 157-178.
10. S. Chamekh, **M. Dammak** and B. Dridi, On the existence and nonexistence of global sign changing solutions, Nonlinear Functional Analysis and Applications Vol. 20, No. 2 (2015), pp. 289-300.

11. I. Abid, **M. Dammak** and I. Douchich, Stable solutions and bifurcation problem for asymptotically linear Helmholtz equations, *Nonlinear Functional Analysis and Applications* Vol. 21, No. 1 (2016), pp. 15-31.
12. **M. Dammak** and M. El Ghord, Bifurcation problem for biharmonic asymptotically linear elliptic equations, to appear in *Theory of approximation and applications*.
13. M. Dammak, R. Jaidane and C. Jerbi, Positive solutions for an asymptotically linear biharmonic problem, to appear in *Nonlinear Functional Analysis and Applications*.

### *List of submitted papers*

1. **M. Dammak** , M. El Ghord, Biharmonic equation with asymptotically linear nonlinearities and Steklov boundary conditions.
2. **M. Dammak** and R. Jaidane, Regularity of extremal solutions of  $\Delta p$ - Laplacien problems under Robin boundary conditions.

### *Supervision*

**Number of Master's theses supervised: 4**

1. **Ahmed ould Chbih**, Construction de limites singulières pour des problèmes elliptiques semi linéaires en dimension deux  
**Defended at June 2012**
2. **Mongi Saidi**, Construction de limites singulières pour des problèmes elliptiques semi-linéaires avec des masses de Dirac  
**Defended at June 2012**
3. **Ikbel Nasraoui**, Existence de solutions minimales et non minimales de quelques problèmes semi- linéaires  
**Defended at November 2012**
4. **Najwa Guider**, Problèmes de Helmholtz avec second membres quasi-linéaires  
**Defended at January 2015**

## Number of PhD supervised: 6

1. **Sabeur Kharrati**, Etude de quelques problèmes non linéaires provenant de la Géométrie et de la Physique.  
**Defended at September 2013**
2. **Majdi Ghord**, Solutions extrémales pour des problèmes de Helmholtz avec une sur-linéarité au second membre
3. **Chahira Jerbi**, Etude de la régularité des solutions extrémales pour quelques problèmes d'Emden-Fowler non linéaires
4. **Ikmar Douchich**, Existence et non existence de solutions pour des équations semi-linéaires elliptiques et régularité des solutions extrémales
5. **Rached Jaidane**, Etude de quelques problèmes semi-linéaires elliptiques faisant intervenir le  $p$ -Laplacien
6. **Abir Amor Ben Ali**, Etude de quelques problèmes non linéaires

## *Invited talks*

1. «Points multiples de Blow-up pour une équation de Poisson avec sin hyperbolique»  
Nonlinear Analysis and Geometry's seminar, Faculty of Sciences of Tunis, April 2014.
2. «Asymptotic behavior of solutions of a semi linear parabolic equation on the interval»  
Workshop of the 13th International Internet Seminar Gradient Systems, Czech Republic, 14-18 June 2010.
3. “Construction of singular limits for four-dimensional elliptic problems with exponential non linearity» Deuxièmes Journées Méditerranéennes de Mathématiques Appliquées,  
Monastir, Mars 2007.
4. « Estimation de la meilleure constante associée à la norme  $L^2$  de la solution du problème de Wentz associé à l'opérateur de la chaleur »  
Nonlinear Analysis and Geometry's seminar, Faculty of Sciences of Tunis, October 2007.
5. « Estimation de la meilleure constante associée à la norme  $L^2$  de la dérivée d'ordre  $p$  de la solution du problème de Wentz sur  $\mathbb{R}^{2p}$  » Congrès de la SMT, Mahdia Tunisia, March 2004 .