



# KRATOU Mouna

Assistant Professor

## Personal Data

Nationality | Tunisia

Date of Birth | 18/10/1979

Department | Mathematics

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Office Phone No. |

## Language Proficiency

Language	Read	Write	Speak
Arabic	✓	✓	✓
English	✓	✓	✓
Others: French	✓	✓	✓

## Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
5\12\2009	PhD	University Al-Manar-Faculty of Science	Tunis
28/5/2006	Master	University Al-Manar-Faculty of Science	Tunis
5/6/2003	Fellowship	University Al-Manar-Faculty of Science	Tunis

## PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

<b>PhD</b>	Wavelets on manifolds and applications
<b>Master</b>	"Ondelettes à support compact sur l'intervalle"

## Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work			Date
Assistant Professor	University of Dammam	Girls College of science	City AlRayan	2013/2016
Assistant Professor	University of Monastir	ISIMA	Mahdia	2011/2013
Assistant	University of Sfax	IHEC	Sfax	2008/2011
Secondary school teacher	The Ministry of Education	Middle school	Beja	2005/2008

## Scientific Achievements

### Published Refereed Scientific Researches

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	M. Kratou, K. Saoudi S .Alsadhan	Multiplicity Results for the $p(x)$ -Laplacian Equation with Singular Nonlinearities and Nonlinear Neumann Boundary Condition	Hindawi Publishing Corporation International Journal of Differential Equations Volume 2016, Article ID 3149482, 14 pages <a href="http://dx.doi.org/10.1155/2016/3149482">http://dx.doi.org/10.1155/2016/3149482</a> 22/6/2016
2	M. Kratou, K. Saoudi	Existence of multiple solutions for a singular and quasilinear equation	Complex Variables and Elliptic Equations . An International Journal 6/12/2014
3	A Jouini. M Kratou . N Ajmi	General Wavelet Bases on the Cube and Applications	Int .Journal of Math .Analysis, Vol. 2, 2008,no.14,647-662 Jan/2008
4	A Jouini. M Kratou . H Bibi	More general constructions of wavelets on the interval.	Journal of Mathematical Analysis and Applications Jan/2008
5	A Jouini. M Kratou	Wavelet bases on a manifold	Journal of Functional Analysis Jul/2007

### Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date
1	M. Kratou, K. Saoudi S .Alsadhan	Multiplicity Results for the $p(x)$ -Laplacian Equation with Singular Nonlinearities and Nonlinear Neumann Boundary Condition	Hindawi Publishing Corporation International Journal of Differential Equations	5/4/2016
2	M. Kratou, K. Saoudi	Existence of multiple solutions for a singular and quasilinear equation	Complex Variables and Elliptic Equations . An International Journal 6/12/2014	M. Kratou, K. Saoudi
3	A Jouini. M Kratou . N Ajmi	General Wavelet Bases on the Cube and Applications	Int .Journal of Math .Analysis, Vol. 2, 2008,no.14,647-662 Jan/2008	A Jouini. M Kratou . N Ajmi



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4	A Jouini. M Kratou . H Bibi	More general constructions of wavelets on the interval.	Journal of Mathematical Analysis and Applications Jan/2008	A Jouini. M Kratou . H Bibi
5	A Jouini. M Kratou	Wavelet bases on a manifold	Journal of Functional Analysis Jul/2007	A Jouini. M Kratou

#### Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date
1	Kamel Saoudi and Mouna Kratou	Existence of multiple solutions for a singular and quasilinear equation	2014
2	Kamel Saoudi and Mouna Kratou	A multiplicity results for a singular problem involving the fractional $p$ -Laplacian operator	2015

#### Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	The 18 th Tunisian Mathematical society symposium, SMT- CSMT	Mahdia (Tunisia) 19-22 march 2012	Presence
2	The 17 th Tunisian Mathematical society symposium, SMT- CSMT	Sousse (Tunisia) 15-19 march 2010	Presence
3	The first Tunisian-Franco Conference of Mathematics	Djerba- Tunisia 19-20 march 2009	Presented my thesis
4	The 16 th Tunisian Mathematical society symposium, SMT- CSMT	Sousse (Tunisia) 17-21 march 2008	Presence
5	University of Paris VII	Training at the University of Paris VII, March 2007 Paris VII, France	Give a talk
6	University of Paris VII	Training at the University of Paris VII, September 2008 Paris VII, France	Presence
7	The 15 th Tunisian Mathematical society symposium, SMT- CSMT	Sousse (Tunisia) 19-23 march 2007	Give a talk

#### Membership of Scientific and Professional Societies and Organizations

- Deanship of University Educational Development (Chairperson of the Committee on Libraries)
- Deanship of E-Learning (course coordinator-Course Development)
- The National Commission for Academic Accreditation & Assessment (NCAAA)( Committee Membership )
- Academic Counseling (Students' Advisory)
- Deanship of University Educational Development(Committee Membership).



## Teaching Activities

### Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Euclidean and non - Euclidean geometry	Math471N	Lectures&Labs
2	Differential forms & Vector analysis	Math 443N	Lectures&Labs
3	Applied Mathematics	Math 413N	Lectures&Labs
4	Ordinary differential equations	Old plan	Lectures&Labs
5	Calculus 1	Math 152N	Lectures&Labs
6	Calculus1	MTH101	Lectures&Labs
7	Linear Algebra	Math 233N	Lectures&Labs
8	Set Theory	Math172N	Lectures&Labs
9	Principles of Statistics		Lectures&Labs

### Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

1	We prepared to cover the basic concepts of Euclidian Geometry. Some of the models put forward ideas in the plane and space and modules of several kinds of Geometry this after several groups offer in the mathematical building of the Euclidian Geometry and their basic concepts. This for review of Euclid's axioms and explain their shortcomings and then non Euclidian Geometry is appearance and so divided the axioms in five groups , Falling, Intra ,Matching, Continuity and Parallel.
2	Multi-variable functions: continuity, differentiability, partial derivatives, Jacobi matrices, chain rule. Inversion theorem and theorem of implicit functions. Vector differential calculus: vector fields, differential operators, orthogonal curvilinear coordinates. Vector analysis and applications: theorems of Green, Gauss and Stokes. Differential forms: degree of differential forms, exact and closed differential forms, exterior differential of differential forms, vector fields and differential forms and integrals of differential forms.
3	Series solutions of ODE's-Fourier series; Euler Fourier formulas, Convergence of Fourier series and Dirichlet conditions, Half-range Fourier series, Parseval's identity, Solution of the wave, heat and Laplace's equations by separation of variables).Fourier integrals and Fourier transforms ( Parseval's identity for Fourier integrals, The convolution theorem for Fourier transforms- integral transformation and their applications in initial boundary value problems- The gamma and beta functions, Bessel's and Legendre's equation- Eigenvalue Problem, Sturm Liouville systems, Green's function,
4	Old plan 2008
5	Limits. Continuity. The intermediate value theorem. Differentiation. The chain rule. Implicit Differentiations. Differentiation of inverse function. Differentiation of trigonometric functions. Applications of derivatives. Differentiation applications. The intermediate value theorem and the theory of L'Hôspital's Rule. Definite Integration. Integrals of trigonometric functions. Indefinite integration. The Fundamental Theorem of Calculus. Integration applications.
6	Limits and continuity of function of a single variable. Differentiation, differentiation rules, derivative of trigonometric functions, the chain rule, implicit differentiation. Differentiation of inverse functions and logarithms. Application of derivative, the Mean Value Theorem, monotonic functions, concavity and curve sketching. Indeterminate forms. Applied optimization, antiderivative.



7	Solve linear system of equations by Gauss elimination method - Find basis and dimension Find the rank of matrix- Find determinant of matrix-Find the inverse of matrix -Apply Gram- Schmidt process on linear independent set- Change of basis -Find the Eigen-values of matrix .
8	the basic concepts of sets.-the notions of Union, Intersection, Difference Complements and Power Sets- definition of subsets of Cartesian product of sets and relations. -Determine the different types of relations. - definition of functions.-Discuss the different types of functions (One-one function ,Onto function , Correspondence).-Understand infinite sets. -Determine countable sets and cardinal number

**Administrative Responsibilities, Committee and Community Service  
(Beginning with the most recent)**

**Administrative Responsibilities**

#	From	To	Position	Organization
	1436	1438	Chairperson of the Committee on Libraries	University of Dammam

**Committee Membership**

#	From	To	Position	Organization
1	2013	2017	Committee Membership in the fourth criterion on the education and learning	The National Commission for Academic Accreditation & Assessment (NCAAA)
2	2016	2017	Committee Membership Course coordinator Course Development	Deanship of E-Learning The Basic E-Courses Development and Delivery Project.
3	2015	2017	Committee Membership (Chairperson of the Committee on Libraries)	Deanship of University Educational Development
4	2013	2017	Committee Membership (Students' Advisory)	Academic Counseling
5	2015	2016	Committee Membership	Deanship of University Educational Development.

**Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)**

1	(X)html, Latex, Beamer	
2	powerpoint, excel, Linux	

**Last Update**

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