



# Kamel Mukhtar Saoudi

Assistant professor

## Personal Data

Nationality | French

Date of Birth | 02/09/1980

Department | Mathematics

Official IAU Email | kmsaoudi@uod.edu.sa

## Language Proficiency

Language	Read	Write	Speak
Arabic	x	x	x
English	x	x	x
Others(French)	x	x	x

## Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
2009	PhD	University Of Toulouse	French
2005	Master	University Of Toulouse	French
2004	Fellowship	University Of Perpignan	French
2000	Bachelor	School of Cebella	Tunisia

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

PhD	Study of some elliptic quasilinear and singular Problems
Master	Multiplicity of positive solutions for quasilinear problem with p-laplacian operator
Fellowship	The function of Moreau Yosida

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

Job Rank	Place and Address of Work	Date
Assistant professor	University of Dammam	2013/2017
Assistant professor	University of Sousse	2012/2013
Assistant	University of Gabes	2010/2012
Assistant	University of Toulouse	2008/2010
Lecturer	University of Toulouse	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	Kamel Saoudi and Jacques Giacomoni	Multiplicity of positive solutions for a singular and critical problem	Nonlinear Analysis : Theory, Methods and Applications, 71 (9), pp. 4060- 4077. (2009)
2	Kamel Saoudi and Jacques Giacomoni	$W_{0,p}$ versus $C^1$ local minimizers for a singular and critical functional	J. <u>Math. Anal. Appl.</u> , 363, (2010), no. 2, 697-710.
3	Kamel Saoudi and Jacques Giacomoni	Multiplicity results for elliptic equations with singular nonlinearity of super exponential growth in $R^2$	Advances in Differential Equations (March/April) 2012 Volume 17 Numbers 3-4
4	Kamel Saoudi	Existence and non-existence of positive solutions for quasilinear elliptic problems	Journal of Abstract and Applied Analysis "(Volume 2012 (2012)
5	Kamel Saoudi	$W_{0,p(x)}$ versus $C^1$ local minimizers for a functional with critical growth	JOURNAL OF PARTIAL DIFFERENTIAL EQUATIONS Vol. 27, No. 2, pp. 1-10
6	Kamel Saoudi and Mouna Kratou	Existence of multiple solutions for a singular and quasilinear equation	Complex <u>Var. Elliptic Equ.</u> 60 (2015), no.7, 893--925.
7	Kamel Saoudi and Abdeljabbar Ghanmi	The <u>Nehari</u> manifold for a singular elliptic equation involving the fractional Laplace operator	Fractional Differential Calculus, 6, Number 2 (2016), 201--217.
8	Kamel Saoudi and Abdeljabbar Ghanmi	A multiplicity results for a singular problem involving the fractional $p$ - <u>Laplacian</u> operator	Complex variables and elliptic equations, 61, 9 (2016) 1199--1216.
9	Kamel Saoudi	Existence and non-existence of solution for a singular <u>nonlinear Dirichlet</u> problem involving the $p(x)$ - <u>Laplace</u> operator	J. <u>Adv. Math. Stud.</u> Vol. 9, (2016), No. 2, 292-303.
10	Kamel Saoudi and Mouna Kratou and Sarah Al-Sadhan	Multiplicity results for the $p(x)$ - <u>Laplacian</u> equation with singular <u>nonlinearities</u> and <u>nonlinear</u> Neumann boundary condition	accepted for publication in International Journal of Differential Equations
11	Kamel Saoudi	Multiplicity results for a quasilinear problem involving the $p(x)$ - <u>Laplacian</u>	accepted for publication in Complex <u>Var. Elliptic Equ.</u> .



#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
12	Kamel Saoudi and Abdeljabbar Ghanmi	A multiplicity results for a singular equation involving the $\Delta_p(x)$ -Laplace operator	accepted for publication in Complex Var. Elliptic Equ..

#### Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date
1	Kamel Saoudi and Jacques Giacomoni	Multiplicity of positive solutions for a singular and critical problem	Nonlinear Analysis : Theory, Methods and Applications, 71 (9), pp. 4060- 4077. (2009)	2009
2	Kamel Saoudi and Jacques Giacomoni	$W_{1,p,0}$ versus $C^1$ local minimizers for a singular and critical functional	J. Math. Anal. Appl., 363, (2010), no. 2, 697-710.	2010
3	Kamel Saoudi and Jacques Giacomoni	Multiplicity results for elliptic equations with singular nonlinearity of super exponential growth in $R^2$	Advances in Differential Equations (March/April) 2012 Volume 17 Numbers 3-4	2012
4	Kamel Saoudi	Existence and non-existence of positive solutions for quasilinear elliptic problems	Journal of Abstract and Applied Analysis "(Volume 2012 (2012)	2012
5	Kamel Saoudi	$W_{0,1,p(x)}$ versus $C^1$ local minimizers for a functional with critical growth	JOURNAL OF PARTIAL DIFFERENTIAL EQUATIONS Vol. 27, No. 2, pp. 1-10	2014
6	Kamel Saoudi and Mouna Kratou	Existence of multiple solutions for a singular and quasilinear equation	Complex Var. Elliptic Equ. 60 (2015), no.7, 893--925.	2015
7	Kamel Saoudi and Abdeljabbar Ghanmi	The Nehari manifold for a singular elliptic equation involving the fractional Laplace operator	Fractional Differential Calculus, 6, Number 2 (2016), 201--217.	2016
8	Kamel Saoudi and Abdeljabbar Ghanmi	A multiplicity results for a singular problem involving the fractional $\Delta_p$ -Laplacian operator	Complex variables and elliptic equations, 61, 9 (2016) 1199--1216.	2016
9	Kamel Saoudi	Existence and non-existence of solution for a singular nonlinear Dirichlet problem involving the $\Delta_p(x)$ -Laplace operator	J. Adv. Math. Stud. Vol. 9, (2016), No. 2, 292-303.	2016
10	Kamel Saoudi and Mouna Kratou and Sarah Al-Sadhan	Multiplicity results for the $\Delta_p(x)$ -Laplacian equation	accepted for publication in International Journal of Differential Equations	2016



#	Name of Investigator(s)	Research Title	Journal	Acceptance Date
		with singular <u>nonlinearities</u> and <u>nonlinear</u> Neumann boundary condition		
11	Kamel Saoudi	Multiplicity results for a quasilinear problem involving the $\rho(x)$ - <u>Laplacian</u>	accepted for publication in Complex Var. Elliptic Equ..	2016
12	Kamel Saoudi and Abdeljabbar Ghanmi	A multiplicity results for a singular equation involving the $\rho(x)$ -Laplace operator	accepted for publication in Complex Var. Elliptic Equ..	2016

#### 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 $p$ - <u>Laplacian</u> 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	Give a Talk
4	10 th conferences of applied mathematics and statistics	Jaca (Spain ) 15-17 september 2008	Presence
5	The 16 th Tunisian Mathematical society symposium, SMT- CSMT	Sousse (Tunisia) 17-21 march 2008	Give a talk
6	The nonlinear physics school	Peyresq (Nice-France) 5-11 september 2007	Presented my thesis
7	The First Franco-Spainol conferences of mathematics	Saragosse (Spain) 9-13 july 2007	Presence



8	The 15 th Tunisian Mathematical society symposium, SMT- CSMT	Sousse (Tunisia) 19-23 march 2007	Presented my thesis
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## Teaching Activities

### Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Linear Algebra	233N	
2	Set Theory	172N	
3	Calculus 2	211N	
4	Calculus 3	212N	
5	Calculus 1	152N	
6	Partial Differential Equations	412N	
7	Principle Analysis	242N	
8	Math Physics 1	210N	
9	Math Physics 2	309N	

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

1	<p>On successful completion of this course students will be able to:</p> <ol style="list-style-type: none"> <li>1. Solve linear system of equations by Gauss elimination method</li> <li>2. Find basis and dimension</li> <li>3. Find the rank of matrix</li> <li>4. Find determinant of matrix</li> <li>5. Find the inverse of matrix</li> <li>6. Apply Gram- Schmidt process on linear independent set</li> <li>7. Change of basis</li> <li>8. Find the eigen-values of matrix</li> </ol>
2	<p>Upon successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> <li>• Know the basic concepts of sets.</li> <li>• Know the notions of Union, Intersection, Difference Complements and Power Sets.</li> <li>• Know the definition of subsets of Cartesian product of sets and relations.</li> <li>• Determine the different types of relations.</li> <li>• Know the definition of functions.</li> <li>• Discuss the different types of functions (One-one function ,Onto function , Correspondence).</li> <li>• Understand infinite sets.</li> <li>• Determine countable sets and cardinal number.</li> </ul>



3	<p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> <li>• Use the integral by parts to solve the integration</li> <li>• Solve the trigonometric integration</li> <li>• Use the trigonometric substitutions to solve kind of integration</li> <li>• Use partial fractions to evaluate integration of rational functions</li> <li>• Use the Integral tables algebra systems to solve the integration</li> <li>• Evaluate the Improper integrals</li> <li>• Determine infinite sequences and series</li> <li>• Test the converge and diverge of series</li> <li>• Use Integral test</li> <li>• Use Comparison test</li> <li>• Use The Ratio and Root test</li> <li>• Use Alternating series, and Absolute test and know Conditional convergence</li> <li>• Find Power series and its convergence</li> <li>• Find Taylor and Maclaurin series its convergence</li> <li>• Use Binomial series and applications of Taylor series</li> <li>• Find Parametric equations and Polar coordinates</li> </ul> <p>Use Calculus with parametric curves</p>
4	<p>Study of main concepts of Calculus 3 as follows:</p> <ol style="list-style-type: none"> <li>1. How to draw the curve of the function in the 3-D Coordinate System</li> <li>1. Studying the Partial Derivatives and Higher Order Partial Derivatives</li> <li>2. properties of functions and how to draw the curve of the function</li> <li>4. Finding the tangent of the curve and the maximum and minimum values of the function.</li> <li>5. Studying the Double Integrals and triple integrals.</li> </ol>
5	<p>Study of main concepts of Calculus as follows:</p> <ol style="list-style-type: none"> <li>1. Finding limit of the function and studying its Continuous.</li> <li>2. Studying the properties of functions and how to draw the curve of the function</li> <li>3. Studying the relationship between Differentiation and Continuity.</li> <li>4. Finding the tangent of the curve and the maximum and minimum values of the function.</li> <li>5. Have the knowledge of how the function increased and decreased.</li> </ol>
6	<p>Introduction of partial differential equation. First order partial differential equation and its solution. Lagrange method. Characteristics method. partial differential equation of constant coefficient Cauchy problem. Classification of linear second order PDEs: Elliptic equation – Hyperbolic equation- Parabolic equation . It's solution by Characteristics method – d'Alembert's formula. Separation of variables in Cartesian coordinates</p>
7	<p>successful completion of this course students will be able to:</p>



	<ul style="list-style-type: none"> <li>Understand the properties of real numbers, especially the completeness and ordering property.</li> <li>Learn the concept of the open group partial set of real numbers and their properties.</li> <li>Testing convergence sequences and series.</li> <li>Understand the limit of the real functions.</li> <li>Learn how to read mathematical text and understand the logical steps</li> </ul>
8	<p>successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> <li>Classify ordinary differential equations.</li> <li>Solve ordinary differential equations of first and second order.</li> <li>Deduce solutions of partial differential equations using separable of variables.</li> <li>Solve Wave equation in two and three variables.</li> </ul>
9	<ol style="list-style-type: none"> <li>Fourier transform (Properties of Fourier Transform, Parseval's identity, convolution theorem),</li> <li>Laplace transform (The Definition – Laplace Transforms – Inverse Laplace Transforms</li> <li>Special Functions (gamma function, beta function)</li> <li>Complex analysis (Complex Numbers, Complex Functions, Elementary Functions)</li> <li>Partial Differential Equations (Laplace equation, Heat equation. Wave equation)</li> </ol>

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

##### Committee Membership

#	From	To	Position	Organization
1	1/1/2016	31/05/2016	member	Deanship of University Educational Development
2	1/10/2016	30/10/2016	member	committee for preparation the questions for Demonstrator

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

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

##### Last Update

...06...../...12.../2016