

Curriculum Vitae

PERSONAL DATA

Full Name: Ines Mahmoud BEN OMRANE

Nationality: Tunisian

Date / Place of Birth: 23/05/1979, Tunis, Tunisia

Marital Status : married, three children

Current Academic Rank: Assistant Professor

Present Address:

Department of Mathematics and Statistics, College of Science, Imam Mohammad Ibn Saud Islamic University, P.O. Box 90950, Riyadh 11623, Saudi Arabia

Email: imbenomrane@imamu.edu.sa , benomraneines@gmail.com

Research interest:

PDEs, Singularities, Geometry and Nonlinear Analysis.

Academic Degrees:

- **February 2010:** Ph.D. Mathematics: PDEs and nonlinear analysis, University of Tunis, Tunisia.

Title of Ph.D. Dissertation: "Study of some Nonlinear PDEs issued from Geometry and Physics".

- **November 2005:** Master degree in Engineering Mathematics. Ecole Polytechnique de Tunisie .

Title of Master Thesis : "A posteriori analysis of the spectral element discretization of the one dimensional heat equation".

- **June 2002:** Bachelor of Sciences in Mathematics, University of Tunis, Tunisia.

Publications:

1. **I. Ben Omrane:** A double-logarithmically improved regularity criterion of weak solutions for the 3D MHD equations, Zeitschrift für angewandte Mathematik und Physik, vol 72, No: 114 (2021) (co-authors: S. Gala and M. A Ragusa) (**ISI**)
2. **I. Ben Omrane:** MULTIVARIATE WAVELET LEADERS RENYI DIMENSION AND MULTIFRACTAL FORMALISM IN MIXED BESOV SPACES (with M. Ben Abid, M.

Ben Slimane and M. Turkawi), International Journal of Wavelets, Multiresolution and Information Processing Accepted (ISI)

3. **I. Ben Omrane:** Dimension prints for continuous functions on the unit square (with M. Ben Abid, M. Ben Slimane and M. Turkawi), Acta Mathematica Hungarica (2021). <https://doi.org/10.1007/s10474-021-01172-4> Published: September (2021) (ISI)
4. **I. Ben Omrane:** Multivariate multifractal formalism for simultaneous pointwise $(T^{p_i}_{u_i})_i$ regularities (with M. Ben Abid, M. Ben Slimane and B. Halouani), Applicable Analysis, Article <https://doi.org/10.1080/00036811.2021.1909721> Published: August (2021) (ISI)
5. **I. Ben Omrane:** Pointwise Rectangular Lipschitz Regularities for Fractional Brownian Sheets and Some Sierpinski Selfsimilar Functions (with M. Ben Abid, M. Ben Slimane and M. Turkawi), Mathematics , Article 8, 1179 Published: 17 July (2020) (ISI)
6. **I. Ben Omrane:** Directional Thermodynamic Formalism, Symmetry-Basel, Vol.11(2019)6 2019 (co-authors: M. Ben Slimane , M. Ben Abid and B. Halouani) (ISI)
7. **I. Ben Omrane:** A regularity criterion to the 3D Boussinesq equations, Siberian Electronic Mathematical Reports, Vol 16(2019) 1795-1804 (co-authors A.M. Alghamdi, S. Gala, M.A.Ragusa) (ISI)
8. **I. Ben Omrane:** Directional Multifractal Analysis in the L^p Setting, Journal of Function Spaces (2019) (co-authors: M. Ben Slimane , M. Ben Abid, B. Halouani and F. Alshormani) (ISI)
9. **I. Ben Omrane:** On Baire Generic Validity on the t - Multifractal Formalism in Besov and Sobolev Spaces, Journal of Function Spaces Article 4358261 Published: August (2019) (co-authors: M. Ben Slimane , M. Ben Abid and B. Halouani) (ISI)
10. **I. Ben Omrane:** Logarithmically Improved Blow-up Criterion for Smooth Solutions to the Leray- α -Magnetohydrodynamic Equations, Archivum Mathematicum, Vol. 55(2019), No. 1, 55-68, (co-authors: S. Gala, J-M. Kim and M. A Ragusa) (ISI)
11. **I. Ben Omrane:** On Wavelet and Leader Wavelet Based Large Deviation Multifractal Formalisms for Non-uniform Holder, Journal of Fourier Analysis and Applications, Volume: 25 Issue: 2 Pages: 506-522 Published: APR (2019) (co-authors: M. Ben Slimane , M. Ben Abid and B. Halouani) (ISI)
12. **I. Ben Omrane:** Criteria of pointwise and uniform directional Lipschitz regularities on tensor products of Schauder functions, J. Math. Anal. Appl. 460 (2018) 496-515, (co-authors: M. Ben Slimane ,M. Ben Abid and B. Halouani) (ISI)

13. **I. Ben Omrane:** Mixed Wavelet Leaders Multifractal Formalism in a Product of Critical Besov , Mediterranean Journal of Mathematics, Volume 14 (2017), (co-authors: M. Ben Abid, M. Ben Slimane and B. Halouani) (**ISI**)
14. **I. Ben Omrane:** Mixed wavelet leaders multifractal formalism for Baire generic functions in a product of intersections of Holder spaces with non continuous Besov spaces, Mediterranean Journal of Mathematics, Volume 13 (2016), 5093–5118 (co-authors: M. Ben Abid and M. Ben Slimane) (**ISI**)
15. **I. Ben Omrane:** A posteriori analysis of the spectral element discretization of heat equation. An. St. Univ. Ovidius Constanta Vol. 22(3), 2014, 13-35 (co-authors: M. Abdelwahed and N. Chorfi) (**ISI**)
16. **I. Ben Omrane:** Singular limits for 2-dimensional elliptic problem with exponentially dominated nonlinearity and singular data, Communications in Contemporary Mathematics, Volume: 13 Issue: 4 (2011), 697-725 (co-authors: S. Baraket, T. Ouni, and N. Trabelsi) (**ISI**)
17. **I. Ben Omrane:** Singular limits for 2-dimensional elliptic problems involving exponential nonlinearity with nonlinear gradient term, Nonlinear Differential Equations and Applications, Volume: 18 Issue: 1 (2011), 59-78 (co-authors: S. Baraket and T. Ouni) (**ISI**)
18. **I. Ben Omrane:** The Wentz problem associated to the modified Helmholtz operator on weighted Sobolev spaces, Adv. Nonlinear Studies, Volume: 10 Issue: 4 (2010), 771-788 (co-authors: M. Jleli, and B. Samet) (**ISI**)
19. **I. Ben Omrane:** Etude de quelques équations aux dérivées partielles non linéaires issues de la géométrie et de la physique, Reports of Faculty of Sciences of Tunis (2010).
20. **I. Ben Omrane :** A generalized four dimensional Emden-Fowler equation with exponential nonlinearity, Communications in Applied Analysis, Volume: 13 (2009), 431-446. (co-author:M. Dammak)

Manuscript (In French):

I. Ben Omrane, Textbook of tutorials in Analysis, University of Tunis, 2010.

Employment History (in Descending Order—Last Given First):

- A.Y: 12/09/2011 – Present: Assistant Professor at Imam University, College of Science, Department of Mathematics, Riyadh, KSA.
- A.Y: 2010-2011: Assistant Professor Carthage University, Tunisia.
- A.Y: 2006-2010: Contractual assistant Tunis University, Tunisia.

Participations in Conferences:

1. International Conference Geometry and Global Analysis, Santiago de Compostela, Spain, Dec. 13-17, 2010.
2. International Conference 'The isoperimetric problem of Queen Dido and its mathematical ramifications'. May 2010, Gammarth (Tunisia).
3. International Franco-Tunisian Conference in Mathematics. March 2009, Djerba (Tunisia).
4. International Conference 'PDE and Applications', March 2008, Hammamet (Tunisia).
5. Annual Conference of the Tunisian Mathematical Society. March 2007 and 2008, Sousse (Tunisia).
6. Annual Conference of the Association of Mathematics and Applications. December 2006 Hammamet and March 2007 Monastir (Tunisia).

Teaching Activities:

- Courses at Imam University: Calculus I, Calculus II, Calculus III, Statistics and Probability, Linear Algebra, Real Analysis, Elements of Sets and Structures, Differential Equations, Complex Analysis, Financial Mathematics, Topology.
- Courses at IPEIN (University of Carthage) and IPEIT (University of Tunis): Integral Calculus, Differential Equations and Linear Algebra for Engineering studies in Mathematics.
- Courses at ISTMT (University Tunis El-Manar): Analysis and Probability for Medical Technology studies in Mathematics.

Administrative Responsibilities :

- A.Y: 2013-2014 (second semester) : Member of organizing committee of student workshops .
- A.Y: 2014-2015 : Member of the committee of Higher Studies in College of Science.
- A.Y: 2015-2016 : Member of the committee of Higher Studies in College of Science.
- A.Y: 2016-2017(first semester) : Member of the committee of Higher Studies in College of Science.
- A.Y: 2017-2018: Member of the Department Quality and Accreditation Committee.
- A.Y: 2018-2019(First semester) : Member of the Department Quality and Accreditation Committee.
- A.Y: 2019-2019(First semester) : Member of the Department Quality and Accreditation Committee.

Research, Publications and Professional Activities:

- Published articles in ISI refereed journals (18)
- Publications in refereed non ISI journals (2)
- Published articles in other journals (1)

- Completed articles (3)
- Papers under preparation (3)
- Books under preparation (1)
- Participation in conferences and seminars (8)
- Supervision of Bachelor Projects (15)