

Wissem JEDIDI
Dept of Statistics & OR, King Saud University
Email: wjedidi@ksu.edu.sa
Researchgate: https://www.researchgate.net/profile/Wissem_Jedidi/research



Education

- March 2022: Qualified for the position of professor in the 2022 round by the National Council of the French Universities. https://www.galaxie.enseignementsup-recherche.gouv.fr/ensup/qualification/Resultats_2022/qualifies_PR_2022.pdf
- June 2014: Accreditation to Supervise Research (Habilitation à Diriger des Recherches), University Tunis el Manar.
- Nov 2000-Sep 2001: Postdoctoral fellowship, University of Johannes Gutenberg, Mainz-Germany. <https://web.math.ku.dk/~michael/dynstoch/positions.html>
- Jul 2000: Qualified for the position of assistant-professor in the 2000 round by the National Council of the French Universities. <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT00000583305>
- Jan 2000: PhD in Mathematics (Probability and Statistics)
- Laboratory: LPMA (Laboratoire de Probabilités et Modèles Aléatoires), Paris 6.
 - Advisor: Jean JACOD
 - Title: *Regularity and Asymptotic Properties of Statistical Models Associated to Some Stochastic Processes.*
 - Print: <http://www.theses.fr/2000PA066233>
- Jun 1995: Master's degree of Mathematics (Probability and Applications), University of Paris 6.
- Jun 1993: Bachelor's degree in Fundamental Mathematics, Faculty of Sciences of Tunis.

Positions

- Since Jan. 2023: Professor at King Saud University.
- Sep. 2014-Dec.2022: Associate-professor, King Saud University and Faculty of Sciences of Tunis.
- Sep. 2012-Oct 2014: Assistant-professor, King Saud University, Riyadh.
- Sep. 2004-Aug 2012: Assistant-professor, Faculty of Sciences of Tunis.
- Jul 2003-Jun 2004: Senior researcher at the GRETI group (Internet Data Traffic Analysis and Tools Development, University of Moncton-Canada). http://www8.umoncton.ca/umcm-greti/GRETI_english/greti_team.htm
- Jan 2003-Jun 2003: Assistant-professor, Faculty of Sciences of Tunis.
- Sep 2001-Dec 2002: Assistant-professor, Faculty of Sciences of Sfax.
- Nov 2000-Sep 2001: Postdoctoral fellowship, University Johannes Gutenberg, Mainz-Germany, invited by Prof. Reinhard HÖPFNER. <https://web.math.ku.dk/~michael/dynstoch/positions.html>
- Sep 1998-Aug 2000: Lecturer (nontenure track), University Pierre et Marie Curie, Paris 6.
- Sep 1995-Aug 1998: Adjunct Assistant Professor, University Pierre et Marie Curie, Paris 6.

Working Groups

- July 2020-Today: Coordinator of the Saudi-Tunisian Applied Mathematics Webinar <https://sites.google.com/view/webinar-iau/partners>
- Sep 2004-Today: *Probability and Pot. Theo.* group of the Fac. of Sc. of Tunis, directed par M. HMISSI.
- Sep 2001-Dec 2002: *Statistics and Probability* group, Fac. of Sc. of Sfax, directed par A. HASSAÏRI.
- Dec 2000-Sep 2001: *Probability and Statistics* group, univ. of Mainz, directed par R. HOËPFNER.
- Sep 1995 - Nov 2000: *Statistics of processes* group, LPMA, Paris 6, directed par J. JACOD.

Visiting Professorships

- Institute of Mathematical Stochastics at TU Dresden (LAREMA): invited by Pr. Anita Behnme, Technische Universität Dresden, February 2023.
- Laboratory Angevin for Research in Mathematics (LAREMA): invited by Pr. Loïc Chaumont, University of Angers, April 2022.
- TU Dresden: invited by Pr. Wojciech Cygan, Institute of Mathematical Stochastics of TU Dresden, May 2020 (delayed due to Covid19 pandemic).
- Institute of Math. of Wroclaw: invited by Pr. Zbigniew Jurek, University of Wroclaw, June 2019.
- Institute of Math. of Wroclaw: invited by Pr. Zbigniew Jurek, University of Wroclaw, June 2015.
- Institute of Math. of Wroclaw: invited by Pr. Ewa Damek, University of Wroclaw, May 2012.
- Laboratory Paul Painlevé (LPP): invited by Pr. Thomas Simon, University of Lille 1, June 2011.
- Laboratory of Mathematics and Theoretical Physics (LMPT): invited by Pr. Marc Peigné, University of Tours, April 2011.
- Laboratory of Mathematics Raphael Salem (LMRS): invited by Pr. Pierre Lescot, in University of Rouen, May 2011.
- Laboratory Angevin for Research in Mathematics (LAREMA): invited by Pr. Loïc Chaumont, University of Angers, March 2011.
- Laboratory of Mathematics on INSA (LMI): invited by Pr. Sonia Fourati, INSA-Rouen, March 2010. A lecture on infinite divisibility was given.

Scientific Projects and Organizations Memberships

- Sep 2019 -: Principal investigator of the Researchers Supporting Project RSP162, King Saud University.
- Sep 2017 -2023: member of the Research Group MATH RG-1437-02 Deanship of Scientific Research at King Saud University.
- Sep 2015 - 2016: member of the distinguished scientific fellowship program MATH 01 funded by King Saud University.
- Sep 2015 -: member of the NPST program 14-MAT623-02 funded by King Abdulazid City for Sciences and Technology University.
- Oct-Nov 2013: co-organizer, with Sonia Fourati, of the *School and Conference on Lévy Processes and Autosimilarity*, Tunis. Supported by the International Center for Pure and Applied Mathematics and the French National Research Agency. <https://www.cimpa.info/fr/node/2154>.
- Mar-Apr 2012: local organizer of the 2nd *School of the Euro-Mediterranean Center of Mathematics and their Applications*, Tunis. <http://www.math.univ-toulouse.fr/CREMMA/CREMMAffiche.pdf>

Since March 2012: member of the direction committee of the Tunisian Mathematical society. http://www.tms.rnu.tn/index.php?afficher_page=anciensbureaux.php#pre

Since September 2011: member of the council of the Department of Mathematics of the Faculty of Sciences of Tunis.

Mar 2010-: member of the french National Research Agency *Selfsimilar Processes and Applications*. <http://anr-autosim.math.univ-angers.fr/spip.php?article9>

Since 2003-: member of the GRETI team (Internet Data Traffic Analysis and Tools Development, University of Moncton-Canada). http://www8.umoncton.ca/umcm-greti/GRETI_french/equipe_greti.htm

Sep 1996-Sep 2002: member of the European Dynstoch Research Network (Statistical Methods for Dynamical Stochastic Models). <http://www.math.ku.dk/~michael/dynstoch/positions.html>

Editorial activities and Reviewing

Associate Editor: Arab Journal of Mathematical Sciences (ex-Elsevier, transferred to Emerald Publishing).

Academic Reviews: several mathématique journals and academic promotions.

Local thesis Reviewer: PhD and Master's thesis at King Saoud University.

International thesis Reviewer:

- SOUMAYA DRISS : *Limit laws and applications of stochastic algorithms to generalized urn models*, Université de Monastir, October 2021.
- AMEL ROULA : *Exponential and related probability distributions on symmetric matrices*, Université de Sfax, September 2021.
- LAMINE SALEM : *Processus de Markov multi-auto-similaires à valeurs dans \mathbb{R}^d* , University of Angers, December 2019.
- ANIS AMRI: *Autour de quelques statistiques sur les arbres binaires de recherche et sur les automates déterministes*, University of Lorraine, December 2018.

Research

Published papers

1. F. BOUZEFFOUR, W. JEDIDI: *On the Big Hartley transform*. Integral Transforms and Special Functions, (Q2 Scopus, Q2 JCR), 25(3), 230–239 (2024), <https://doi.org/10.1080/10652469.2023.2278143>
2. F. BOUZEFFOUR, W. JEDIDI: *Fractional Riesz–Feller type derivative for the one dimensional Dunkl operator and Lipschitz condition*. Integral Transforms and Special Functions (Q2 Scopus, Q2 JCR), 35(1), 49–60 (2024). <https://doi.org/10.1080/10652469.2023.2272026>
3. F. BOUZEFFOUR, W. JEDIDI: *On the Fractional Dunkl–Laplacian*. Fractional Calculus and Applied Analysis, (Q1 Scopus, Q1 JCR), Early access 1-26 (2023). <https://doi.org/10.1007/s13540-023-00225-5>
4. N. ALTAYMANI, W. JEDIDI: *New Monotonicity and Infinite Divisibility Properties for the Mittag-Leffler Function and for Stable Distributions*. Mathematics (Q1 Scopus, Q1 JCR), 11, 4141, 1–26 (2023). <https://doi.org/10.3390/math11194141>
5. R. AGUECH, W. JEDIDI, O. SELMI: *Unbalanced multi-drawing urn with random addition matrix II*. International journal of Computer Mathematics, Computer Systems Theory, 8(4), 206-221 (2023). <https://doi.org/10.1080/23799927.2023.2262433>
6. S. BRIDAA, W. JEDIDI, H. SENDOV: *Generalized unimodality and subordinators, with applications to stable laws and to the Mittag-Leffler function*. Journal of Theoretical Probability, Early access, 1-42 (2023). <https://doi.org/10.1007/s10959-023-01242-z>

7. W. JEDIDI: *Regularity of some models associated to jump Markov processes*. Open Mathematics, 20(1), 911–930 (2022). <https://doi.org/10.1515/math-2022-0482>
8. F. BOUZEFFOUR, W. JEDIDI: *Jacobi-type functions defined by fractional Bessel derivatives*. Integral Transforms and Special Functions 1–16 (2022). <https://doi.org/10.1080/10652469.2022.2108419>
9. R. AGUECH, W. JEDIDI, S. ILJI: *Moments of a non-homogenous bivariate fragmentation process using integral equations tools*. Mathematical Methods in Applied Sciences, 45(11), 7162–7185 (2022). <https://doi.org/10.1002/mma.8230>
10. W. JEDIDI: *Local Asymptotic Normality complexity arising in a parametric statistical Lévy Model*. Complexity, 1–18 (2021). <https://doi.org/10.1155/2021/3143324>
11. F. BOUZEFFOUR, W. JEDIDI: *C_λ - Extended oscillator algebra and d -orthogonal polynomials*. International Journal of Theoretical Physics, 60, 756–770 (2021). <https://doi.org/10.1007/s10773-020-04667-y>
12. S. BRIDAA, S. FOURATI, W. JEDIDI: *Some new classes and techniques in the theory of Bernstein functions*. Chapter book in “A Lifetime of Excursions Through Random Walks and Lévy Processes, A Volume in Honour of Ron Doney’s 80th Birthday”, Progress in Probability, Springer Series 78, 139–155 (2021). https://doi.org/10.1007/978-3-030-83309-1_8
13. W. JEDIDI, K. BASALIM, S. BRIDAA: *Three classes of decomposable distributions*. Open Mathematics, 18, 1855–1878 (2021). <https://doi.org/10.1515/math-2020-0124>
14. K. BASALIM, S. BRIDAA, W. JEDIDI: *Internal Bernstein functions and Lévy-Laplace exponents*. Mathematical Methods in Applied Sciences, Special Issue on Integral Equations and their Applications, 1–11 (2020). <https://doi.org/10.1002/mma.6710>
15. F. BOUZEFFOUR, W. JEDIDI: *Fractional Supersymmetric Hermite Polynomials*. Difference and Differential Equations, Mathematics, 8, 193, 1–13 (2020). <https://doi.org/10.3390/math8020193>
16. F. BOUZEFFOUR, W. JEDIDI, M. GARAYEV: *Extended arithmetic functions*. The Ramanujan Journal, 51, 593–609 (2020). <https://doi.org/10.1007/s11139-018-0122-8>
17. W. JEDIDI, F. BOUZEFFOUR, N. HARTHI: *Contribution to an open problem of Harkness and Shantaram*. Mathematical Methods in Applied Sciences, Special Issue on Integral Equations and their Applications, 1–20 (2020). <https://doi.org/10.1002/mma.6851>
18. R. AGUECH, W. JEDIDI: *New characterizations of completely monotone functions and Bernstein functions, a converse to Hausdorff’s moment characterization theorem*. Arab Journal of Mathematical Sciences, 25 (1), 57–82 (2019). <https://doi.org/10.1016/j.ajmsc.2018.03.001>
19. W. JEDIDI, S. VAKEROUDIS: *Windings of planar processes, Exponential Functionals and Asian options*. Advances of Applied Probability, 50, 726–742 (2018). <https://doi.org/10.1017/apr.2018.33>
20. W. JEDIDI, T. SIMON, M. WANG: *Density solutions to a class of integro-differential equations*. Journal of Mathematical Analysis and Applications, 458, 134–152 (2018). <https://doi.org/10.1016/j.jmaa.2017.08.043>
21. A. IKSANOV, W. JEDIDI, F. BOUZEFFOUR: *Functional limit theorems for the number of busy servers in a $G/G/\infty$ queue*. Journal of Applied Probability, 55, 1529 (2018). <https://doi.org/10.1017/jpr.2018.2>
22. A. IKSANOV, W. JEDIDI, F. BOUZEFFOUR: *A law of the iterated logarithm for the number of occupied boxes in the Bernoulli sieve*. Statistics & Probability Letters 126, 244–252 (2017). <https://doi.org/10.1016/j.spl.2017.03.017>
23. F. BOUZEFFOUR, W. JEDIDI, N. CHORFI: *Jackson’s (-1) -Bessel Functions with the Askey-Wilson algebra setting*. Advances in Difference Equations, 268, 1–13, (2015). <https://doi.org/10.1186/s13662-015-0612-6>
24. W. JEDIDI, T. SIMON: *Diffusion hitting times and bell-shape*. Statistics and Probability Letters 102, 38–41, (2015). <https://doi.org/10.1016/j.spl.2015.03.008>
25. L. ALILI, W. JEDIDI, V. RIVERO : *On exponential functionals, harmonic potential measures and undershoots of subordinators*. ALEA, Lat. Am. J. Probab. Math. Stat. 11 (2), 711–735 (2014). Stat. 11 (2), 711–735 (2014). <https://alea.impa.br/articles/v11/11-33.pdf>
26. W. JEDIDI : *Poisson shot noise traffic model and approximation of significant functionals*. Abstract and Applied Mathematics, Special Issue, 1–9, (2014). <https://doi.org/10.1155/2014/261568>

27. W. JEDIDI, T. SIMON : *Further Examples of GGC and HCM densities*. Bernoulli 19(5A), 1818–1838, (2013). <https://doi.org/10.3150/12-BEJ431>
28. W. JEDIDI, R. MCGORMAN, J. ALMHANA, V. CHOULAKIAN : *General shot noise processes and functional convergence to stable processes*, Chapter 3. Springer Proceedings in Mathematics, Zili, M.; Filatova, D. V. (Eds.), pp. 151–178, vol. 7, Springer-Verlag: Berlin, (2011). https://doi.org/10.1007/978-3-642-22368-6_3
29. W. JEDIDI : *Stable Processes, Mixing, and Distributional Properties, II*. Theory of Probability and its Applications 53 (1), 81–105 (2009). <https://doi.org/10.1137/S0040585X9798341>
30. W. JEDIDI : *Stable Processes, Mixing, and Distributional Properties, I*. Theory of Probability and its Applications 52 (4), 580–593 (2008). <https://doi.org/10.4213/tvp1531>
31. R. MCGORMAN, J. ALMHANA, V. CHOULAKIAN, Z. LIU, W. JEDIDI : *Similarities between Voice and High Speed Internet Traffic Provisioning*. Proceedings of the Second Annual Conference on Communication Networks and Services Research, IEEE Computer Society, pp. 83–90, (2004). <https://doi.org/10.1109/DNSR.2004.1344715>

Technical reports

1. W. JEDIDI : *Modelling Internet Traffic with Selfsimilar Processes, a Tutorial Approach with Wavelets as an Alternative to Karhunen-Loève*. Greti group, technical report, (2003).
2. W. JEDIDI : *Régularité de quelques modèles associés à un processus markovien de sauts pur*. Pre. n° 448, Laboratoire de Probabilités, Université Paris 6, (1998). <http://www.proba.jussieu.fr/mathdoc/preprints/index.html>

PhD students

- Noha Taimani (King Saud University): *Significant Classes of Functions in the Topic of Infinite Divisible Distributions and Lévy Processes*. Thesis defended in January 2024.
- Safa Brida (Faculty of Sciences of Tunis): *Contribution à l'infiniment divisible, comportement des fonctions de Bernstein et incidence sur les lois fini-dimensionnelles des subordinateurs*. Thesis defended in June 2021.

Master's students and graduation projects (at King Saud University)

- Hind AlFaridi: *On transforms of Bernstein functions*. Master's dissertation defended in February 2024.
- Maram Alshamary: *Extended Lévy-exponent functions and infinite divisible distributions*. Master's dissertation defended in June 2022.
- Jumanah Alromian: *On Multiple Self Decomposable Distributions*. Master's dissertation defended in December 2020.
- Kholoud Basalim: *Some New Classes of Infinitely Divisible Distributions*. Master's dissertation defended in May 2017.
- Nouf Al Harthi: *Some Contributions to Infinite Divisibility through Mellin Transforms and Cumulant Functions of Random Variable*. Master's dissertation defended in May 2016.
- Ebtehal Al Wazzan: *Extending the Probabilistic Concept of Infinite Divisibility to Measures with Non-Finite Mass*. Master's dissertation defended in May 2015.
- Supervision of various graduation projects since 2012.

Conferences and Seminars

Talks at Conferences

- *Probability and Analysis*, Bedlewo, April 2024.

- *Workshop of Mathematics and Applications*, Dammam, May 2023.
- Invited paper *at the workshop on the Lévy processes and random walks, in celebration of Ron Doney's 80th birthday*, Manchester, July 2020 (Delayed due to Covid19 pandemic).
- *Probabilistic Aspects of Harmonic Analysis*, Bedlewo, May, 2020.
- *International Conference on Lévy Processes*, Samos, July, 2019.
- *Probability and Analysis*, Bedlewo, May, 2019.
- *Probabilistic Aspects of Harmonic Analysis*, Bedlewo, May, 2018.
- *Probability and Analysis*, Bedlewo, May, 2017.
- 8th International Conference on Lévy Processes, Angers, July 2016.
- *Probability and Analysis*, Bedlewo, May, 2015.
- *Probabilistic Aspects of Harmonic Analysis*, Bedlewo, April-May, 2014.
- Organizer of the Int. Conf. on *Lévy Processes and Selfsimilarity*, Hammamet, October-November 2013.
- *Analysis and Probability*, Angers, September 2012.
- *Probabilistic Aspect of Harmonic Analysis*, Bedlewo, April 2012.
- 18th international conference of the *Mathematical Society of Tunisia*, Tunis, March 2012.
- 2nd ANR Intern. Conf. on *Self-similarity and Stochastic Processes*, Le Touquet, June 2011.
- *Stochastic Analysis and Applied Probability*, Hammamet, October 2010.
- 1st French-Tunisian Conference of Mathematics, Djerba, March 2009.
- 31st Conference on *Stochastic Processes and Applications*, Paris, July 2006.
- 2nd Workshop on *Statistical Methods for Dynamical Stochastic Models*, Paris, June 2001.
- 1st Workshop on *Statistical Methods for Dynamical Stochastic Models*, Padua, May, 2000.
- *Conference des Jeunes Probabilistes et Jeunes Statisticiens*, Aussois, April 2000.
- 6th Workshop on *Statistical Inference for Stochastic Processes*, Paderborn, April 1998.

Talks at Seminars and Conferences attendance

- Workshop *Branching and interacting particle systems*, Mainz, February–March 2023.
- Talk at AG Analysis & Stochastik, TU Dresden, February 2023.
- Talk at the seminar of LAREMA, May 2022.
- Talk at the Institute of Math., University of Wrocław, June 2015.
- Talk at the int. Conf. on *Probabilistic Aspects of Harmonic Analysis*, Bedlewo, April-May, 2014.
- Talk at the Institute of Math. and Comp. Science, Wrocław Univ. of Technology, May 2012.
- Talk at the seminar of the Institute of Math., University of Wrocław, May 2012.
- Talk at the *Probability and App. Day*, Euro-Med. Center of Math. & their App. Tunis, March 2012.
- Talk at the 3rd Day of Mathematics, Federation of Normandie, Le Havre, June 2011.
- Talk at the seminar of the laboratory LMPT, University of Tours, April 2011.
- Talk at the seminar of the laboratory LAREMA, University of Angers, March 2011.
- Poster and participation at the 6th International Conference on Lévy Processes, Dresden, July 2010.
- Participation at the Intern. Conference on the Isoperimetric Problem, Carthage, May 2010.
- Talk at the *Probability day*, Monastir, May 2010.

- Talk at the seminar of the laboratory LPMA, University of Paris 6, March 2010.
- Talk at the seminar of the laboratory LAREMA, University of Angers, March 2010.
- Talk at the colloquium of LMRS, University of Rouen, March 2010.
- Talk at the seminar of the laboratory LMI, INSA Rouen, March 2010.
- Participation at the *Intern. Conf. on Stochastic Analysis and Applications*, Hammamet, October 2009.
- Poster at the *1st ANR Intern. Conference on Self-similarity and their application*, Angers, July 2009.
- Talk at the *Probability day*, Monastir, May 2009.
- Talk at the *Probability day*, Monastir, May 2008.
- Talk at the *Probability day*, Monastir, May 2007.
- Talk at the *Probability day*, Monastir, June 2006
- Talk at the Seminar of LAMSI, ENIT school of Tunis, October 2004.
- Participation at the *3rd Workshop on Stat. Methods for Dynam. Stochastic Models*, La Manga, May 2002.
- Participation at the *10th Conference of the Tunisian Mathematical Society*, Mahdia, March 2002.
- Participation at the *Stochastic Models From Dynamical Statistical Physics*, Blaubeuren, April 2001.
- Participation at the *7th Workshop on Statistical Inference for Stochastic Processes*, Freiburg, May 1999.
- Talk at the *Tunisian Mathematic Days*, July 1999.
- Participation at the *5th Workshop on Statistical Inference for Stochastic Processes*, Rennes, April 1997.

Teaching

1. King Saud University, Kingdom of Saudi Arabia (2012-2023)
 - Supervision of 1 PhD thesis.
 - Supervision of 6 Master's Dissertations.
 - Supervision of several graduation projects.
 - Lectures in advanced Probability theory at the Master's and PhD Level.
 - Various lectures at the Bachelor level: Probability theory, Queuing theory, Markov Chains, Statistics.
 - Specialized lecture for the preparation of the Exam P of the Society of Actuaries Probability.
2. Faculty of Sciences of Tunis (2002-2012)
 - Supervision of 1 PhD thesis.
 - Various lectures at the Bachelor level: algebra analysis, measure theory, tempered distributions, probability and statistics.
3. National Engineering School of Tunis and ENSTA ParisTech (2011-2012): Lectures in Markov Chains and Martingales.
4. Faculty of Sciences of Sfax, Tunisia (2001-2002)
 - Lecture and tutorials at the Bachelor level: analysis, algebra, probability and statistics.
5. National Institute for Applied Sciences of Rouen, INSA-Rouen, France (March 2010).
 - Master's Mini-lecture on *Infinite Divisibility of Measures*.
6. Engineering School of Statistics and Information Analysis of Tunis (2002-2003 and 2007-2008), Tunisia.

- Lecture in Markov chains and martingales, Lecture in probability theory.
7. Faculty of Sciences of Sfax, Tunisia (2001-2003).
 - Lectures and tutorials in algebra, probability and statistics.
 8. University Paris 6, France (1995-2000).
 - Tutorials in algebra, analysis, numerical analysis, differential calculus and probability at the bachelor level. Correction of examination papers for the *national french teachers contest of mathematics* (CAPES).