

Wissem JEDIDI

Dépt. de Mathématiques, Univ. Tunis el Manar.

Dept of Statistics & OR, King Saud University

Email: [wissem.jedidi@fst.utm.tn](mailto:wissem.jedidi@fst.utm.tn)

Web: <http://www.utm.rnu.tn/utm/fr/annuaire-ens-8105-wissem-jedidi>

Researchgate: [https://www.researchgate.net/profile/Wissem\\_Jedidi/research](https://www.researchgate.net/profile/Wissem_Jedidi/research)



## Education

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.

Jul 2000: Qualified for the position of assistant-professor in 2000 by the National Council of the French Universities.

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

Sep. 2014-Today: 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](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. <http://www2.mathematik.uni-mainz.de/~hoepfner/eu-gruppe.html>

Sep 1998-Jul 2000: Lecturer (nontenure track), University Pierre et Marie Curie, Paris 6.

Sep 1995-Jul 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

- 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 2017 -: 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. <http://www.cimpa-icpam.org/spip.php?article494>.
- Mar-Apr 2012: local organizer of the 2<sup>nd</sup> *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](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](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>

## Reviewer Activities

**Associate Editor:** Arab Journal of Mathematical Sciences.

**Reviewing activities:** Reviewer for several probability journals and academic promotions.

**PhD Thesis reviewer:**

- ANIS AMRI: *Autour de quelques statistiques sur les arbres binaires de recherche et sur les automates déterministes* University of Lorraine, December 2018.
- LAMINE SALEM: *Processus de Markov multi-auto-similaires à valeurs dans  $\mathbb{R}^d$* , University of Angers, December 2019.
- Several PhD thesis at King Saoud University.

## Research

Published papers

- F. BOUZEFFOUR, W. JEDIDI:  *$C_\lambda$ - Extended oscillator algebra and  $d$ -orthogonal polynomials*. To appear in International Journal of Theoretical Physics (2021).
- W. JEDIDI, K. BASALIM, S. BRIDAA: *Three classes of decomposable distributions*. Open Mathematics Volume: 18(1) 1855-1878.
- K. BASALIM, S. BRIDAA, W. JEDIDI: *Internal Bernstein functions and Lévy-Laplace exponents*. Mathematical Methods in Applied Sciences, 1–11 (2020).
- W. JEDIDI, F. BOUZEFFOUR, N. HARTHI: *Contribution to an open problem of Harkness and Shantaram*. Mathematical Methods in Applied Sciences, 1–20 (2020).
- S. BRIDAA, S. FOURATI, W. JEDIDI: *Some new classes and techniques in the theory of Bernstein functions*. Accepted for publication in Progress in Probability, Springer Series (2020).
- F. BOUZEFFOUR, W. JEDIDI: *Fractional Supersymmetric Hermite Polynomials*. Difference and Differential Equations, Mathematics, 8, 193, 1–13 (2020).
- F. BOUZEFFOUR, W. JEDIDI, M. GARAYEV: *Extended arithmetic functions*. The Ramanujan Journal, 51, 593–609 (2020).
- 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).
- W. JEDIDI, S. VAKEROUZIS: *Windings of planar processes, exponential functionals and asian options*. Advances in Applied Probability, 50(3), 726–742 (2018).
- W. JEDIDI, T. SIMON, M. WANG: *Density solutions to a class of integro-differential equations*. Journal of Mathematical Analysis and Applications, 458, 134152 (2018)
- 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 (1), 1529 (2018).
- 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).
- 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).

- W. JEDIDI, T. SIMON: *Diffusion hitting times and bell-shape*. Statistics and Probability Letters 102, 38-41, (2015).
- 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).
- W. JEDIDI : *Poisson shot noise traffic model and approximation of significant functionals*. Abstract and Applied Analysis, Special Issue, 1–9, (2014).
- W. JEDIDI, T. SIMON: *Further Examples of GGC and HCM densities*. Bernoulli 19(5A), 1818–1838, (2013).
- 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.), vol. 7, pp. 151–178, (2011).
- W. JEDIDI: *Stable Processes, mixing, and distributional properties, II*. Theory of Probability and its Applications, vol. 53 (1), pp. 81–105, (2009).
- W. JEDIDI: *Stable Processes, mixing, and distributional properties, I*. Theory of Probability and its Applications, vol. 52 (4), pp. 580–593, (2008).
- 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).

#### Submitted papers

- W. JEDIDI: *Local asymptotic normality property for some discretely observed Lévy processes*.

#### Technical reports

- W. JEDIDI: *Modelling Internet Traffic with Selfsimilar Processes, A tutorial approach with wavelets as an alternative to Karhunen-Loève*, 2003. Greti group, technical report.

#### PhD thesis

- W. JEDIDI: *Regularity and Asymptotic Properties of Statistical Models Associated to Some Stochastic Processes*. PhD thesis, University Paris 6, (2000).

## Students

- Safa Brida (PhD, Faculty of Sciences of Tunis): *Contribution à l'infiniment divisible, comportement des fonctions de Bernstein et incidence sur les lois fini-dimensionnelles des sous-ordonnés*. PhD defense planned in March 2021.
- Noha Taimani (PhD, King Saud University): *January 2020 -*.
- Jumanah Alromian (Master, King Saud University): *On Some Self-Decomposability Properties*. Master's dissertation (December 2020).
- Hind AlFaridi (Master, King Saud University): *January 2020 -*.
- Maram Alshamary (Master, King Saud University): *Extended Lévy Exponents. January 2020 -*
- Kholoud Basalim (Master, King Saud University): *Some New Classes of Infinitely Divisible Distributions*. Master's dissertation (May 2017).
- Nouf Al Harthi (Master, King Saud University): *Some Contributions to Infinite Divisibility through Mellin Transforms and Cumulant Functions of Random Variable*. Master's dissertation (May 2016).
- Ebtehal Al Wazzan (Master, King Saud University): *Extending the Probabilistic Concept of Infinite Divisibility to Measures with Non-Finite Mass*. Master's dissertation (2016).
- Supervision of various graduation projects since 2001.

## Conferences and Seminars

### Invited Speaker at international conferences

- 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.
- 8<sup>th</sup> 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.
- 18<sup>th</sup> international conference of the *Mathematical Society of Tunisia*, Tunis, March 2012.
- 2<sup>nd</sup> ANR Intern. Conf. on *Self-similarity and Stochastic Processes*, Le Touquet, June 2011.
- *Stochastic Analysis and Applied Probability*, Hammamet, October 2010.
- 1<sup>st</sup> French-Tunisian Conference of Mathematics, Djerba, March 2009.
- 31<sup>st</sup> Conference on *Stochastic Processes and Applications*, Paris, July 2006.
- 2<sup>nd</sup> Workshop on *Statistical Methods for Dynamical Stochastic Models*, Paris, June 2001.
- 1<sup>st</sup> Workshop on *Statistical Methods for Dynamical Stochastic Models*, Padua, May, 2000.
- *Conference des Jeunes Probabilistes et Jeunes Statisticiens*, Aussois, April 2000.
- 6<sup>th</sup> Workshop on *Statistical Inference for Stochastic Processes*, Paderborn, April 1998.

### Talk at Seminars and Conferences attendance

- *Probabilistic Aspects of Harmonic Analysis*, Bedlewo, May, 2018.
- Talk at the Institute of Math., University of Wroclaw, 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, Wroclaw Univ. of Technology, May 2012.
- Talk at the seminar of the Institute of Math., University of Wroclaw, May 2012.
- Talk at the *Probability and App. Day*, Euro-Med. Center of Math. & their App. Tunis, March 2012.
- Talk at the 3<sup>rd</sup> 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 6<sup>th</sup> 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 *1<sup>st</sup> 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 *3<sup>rd</sup> Workshop on Stat. Methods for Dynam. Stochastic Models*, La Manga, May 2002.
- Participation at the *10<sup>th</sup> Conference of the Tunisian Mathematical Society*, Mahdia, March 2002.
- Participation at the *Stochastic Models From Dynamical Statistical Physics*, Blaubeuren, April 2001.
- Participation at the *7<sup>th</sup> Workshop on Statistical Inference for Stochastic Processes*, Freiburg, May 1999.
- Talk at the *Tunisian Mathematic Days*, July 1999.
- Participation at the *5<sup>th</sup> Workshop on Statistical Inference for Stochastic Processes*, Rennes, April 1997.

## Teaching

1. Faculty of Sciences of Tunis (2002-2012)
  2. Supervision of 1 PhD thesis.
  3. Supervision of 1 Master's Dissertation.
  4. Lectures of advanced Probability theory.
  5. Various lectures at the Bachelor level: algebra analysis, measure theory, tempered distributions, probability and statistics.
6. King Saud University, Kingdom of Saudi Arabia (2012-2021)
  - Supervision of several graduation projects.
  - Lectures of 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.
7. National Engineering School of Tunis and ENSTA ParisTech (2011-2012): Lectures in Markov Chains and Martingales.
8. Faculty of Sciences of Sfax, Tunisia (2001-2002)
  - Lecture and tutorials at the Bachelor level: analysis, algebra, probability and statistics.
9. National Institute for Applied Sciences of Rouen, INSA-Rouen, France (March 2010): Master's Mini-lecture on *Infinite Divisibility of Measures*.
10. 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.
11. Faculty of Sciences of Sfax, Tunisia (2001-2003): Lectures and tutorials in algebra, probability and statistics.
12. University Paris 6, France (1995-2000): Various 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).