

CURRICULUM VITAE

Mohammed Brahim ZAHAF

Department of Mathematics, Faculty of Sciences, University of Abou Bekr Belkaid Tlemcen,
Bp119, 13000 Tlemcen, ALGERIA

PERSONAL INFORMATION

DATE AND PLACE OF BIRTH: March 12, 1974 | Bab el Assa, Tlemcen (Algeria).
MARITAL STATUS: Married (4 children).
ADDRESS: 5, rue Bachir Souier, Bab El Assa 13460, Tlemcen, Algeria.
PHONE: +213 5 41 55 67 94.
EMAIL: m_b_zahaf@yahoo.fr
WORK EMAIL: mohammedbrahim.zahaf@univ-tlemcen.dz

EDUCATION SUMMARY

1991-1995	Institute of Exact Sciences - University of Tlemcen B.Sc. (D.E.S) in Mathematics - Major: Mathematical Analysis.
1995-1998	Institute of Mathematics - University of Tlemcen Magister (M.Phil) in Mathematical Analysis.
1999-2009	Institute of Mathematics - University of Tlemcen Ph.D. in Mathematical Analysis.

ACADEMIC BACKGROUND

JUNE 1991	Baccalaureate in Mathematics, Bab el Assa High School.
1991-1995	B.Sc. (D.E.S) in Mathematics.
1995-1998	Post-Graduate Studies in Mathematics. Magister Thesis Topic: Study of confluence via Lie algebra contractions. Supervisor: Prof. Hacem DIB.
DECEMBER 1998	Magister Degree in Mathematical Analysis: Grade: Honors (Très honorable).
JANUARY 2009	Ph.D. in Mathematics: Grade: Honors (Très honorable). Ph.D. Thesis Topic: Contribution to Lie algebra contractions. Application to group representation theory. Supervisor: Prof. Hacem DIB.

PROFESSIONAL EXPERIENCE

Dec 1999 – Sep 2000	Contractual Assistant Lecturer at the University of Mascara.
Oct 2000 – Apr 2002	Assistant Lecturer (Civilian Military Service) at the University of Mascara.
Apr 2002 – Dec 2003	Assistant Lecturer at the University of Mascara.
Dec 2003 – Sep 2009	Senior Assistant Lecturer (Class A) at the University of Mascara.
Oct 2009 – Sep 2012	Associate Professor (Class B) at the University of Mascara.
Oct 2012 – Jun 2017	Associate Professor (Class B) at the University of Tlemcen.
June 2017 – July 2025	Associate Professor (Class A) at the University of Tlemcen.
Since July 2025	Professor (Fall) at the University of Tlemcen.

ADMINISTRATIVE RESPONSIBILITIES

Feb 2, 2003 – Feb 22, 2003: Acting Head of the common Core Technology Department, University of Mascara.

LANGUAGES

ARABIC: Native
ENGLISH: Good
FRENCH: Very Good

COMPUTER SKILLS

Word, Excel, PowerPoint, LaTeX, Maple.

TEACHING EXPERIENCE

The following table summarizes the modules taught:

Year	Module	Department / Level
2025-2026	Measure and Integration (Lecture & Tutorials)	L3 Mathematics: Univ. Tlemcen
2024-2025	Measure and Integration (Lecture & Tutorials) Analysis 1 (Tutorials) Analysis 2 (Tutorials)	L3 Mathematics: Univ. Tlemcen 1st Year CS Engineering: Univ. Tlemcen 1st Year CS Engineering: Univ. Tlemcen
2023-2024	Measure and Integration (Lecture & Tutorials) Math 1 (Tutorials) Analysis 2 (Tutorials)	L3 Mathematics: Univ. Tlemcen L1 ST: Univ. Tlemcen 1st Year CS Engineering: Univ. Tlemcen
2022-2023	Integration Theory (Lecture & Tutorials) Math 1 (Lecture & Tutorials) Analysis 2 (Tutorials)	M1 Advanced Prob-Stats L1 ST: Univ. Tlemcen L1 MI: Univ. Tlemcen
2021-2022	Integration Theory (Lecture & Tutorials) Analysis 1 (Tutorials) Analysis 2 (Lecture & Tutorials)	M1 Advanced Prob-Stats L1 MI: Univ. Tlemcen L1 MI: Univ. Tlemcen
2020-2021	Analysis 1 (Lecture & Tutorials) Analysis 2 (Lecture & Tutorials)	L1 MI: University of Tlemcen L1 MI: University of Tlemcen
2019-2020	Analysis 1 (Tutorials) Analysis 2 (Tutorials)	L1 MI: University of Tlemcen L1 MI: University of Tlemcen
2017-2019	Mathematics 3 (Coordinator) Math 4 (Complex Analysis) (Coordinator)	L2 Civil Engineering (GC): University of Tlemcen
2014-2017	Mathematics 3 (Coordinator) Math 4 (Complex Analysis) (Coordinator)	L2 Civil Engineering: University of Tlemcen
2013-2014	Math 3 (Mathematical Tools) (Coordinator) Math 4 (Complex Analysis) (Coordinator)	L2 Science and Technology: University of Tlemcen
2012-2013	Mathematical Analysis (Coordinator) Mathematical Tools (Tutorials) Introduction to Maple Software (Practical Labs)	L1 Manufacturing Engineering: University of Tlemcen
2009-2012	Math 3 (Mathematical Tools) (Coordinator) Computing (Numerical Analysis) (Coordinator) Math 4 (Complex Analysis) (Coordinator)	L2 Matter Sciences (SM) University of Mascara
2003-2009	Mathematical Analysis 2 (Coordinator) Numerical Analysis (Coordinator)	2nd Year B.Sc. Physics 3rd Year B.Sc. Physics University of Mascara
2002-2003	Mathematical Analysis (Coordinator) Mathematical Analysis 2 (Coordinator)	1st Year Common Core Curriculum SETI 2nd Year B.Sc. Physics University of Mascara
2000-2002	Mathematical Analysis (Coordinator)	1st Year Common Core SETI University of Mascara
1999-2000	Mathematical Analysis (Coordinator) Statistics and Probabilities (Coordinator)	1st Year Common Core SETI University of Mascara

SCIENTIFIC ACTIVITIES

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| 2004 | Member of CNEPRU Project: "Quantum Groups, Brane Cosmologies and Mathematical Physics Methods", D2901/03/04. |
| 2004 | Member of CMEP Project: "Quantum Groups and Brane Cosmology", 04 MDU 615. |
| June 2002 –
Dec 2014 | Member of the "Theoretical Physics and Mathematical Physics Methods" team within the Quantum Physics of Matter and Mathematical Modeling Laboratory (LPQ3M), University of Mascara. |
| 2004 | Participation: Seventh Constantine High Energy Physics School (Theoretical Physics and Cosmology), Mentouri University, Constantine (Algeria), April 3–7, 2004. |
| 2005 | Participation: CIMPA-UNSA-UNESCO School: "Arithmetic and Geometry around Hypergeometric Functions," Istanbul (Turkey), June 13–25, 2005. |
| 2005 | Participation: Winter School on Geometry and Cosmology, Mascara (Algeria), December 17–22, 2005. |
| 2008 | Member of CNEPRU Project: "Pseudo-Riemannian Manifolds and Deformations of Lie Algebras," B03 7 20070010, approved Jan 1, 2008. |
| 2011 | Member of PNR Project: "Non-Commutative Gravitation and Geometric Structures," Fundamental Sciences, ANDRU/PNR/49/04/2011. |
| Since 2017 | Member of the "Spatio-temporal Dynamics of Biological Populations" team within the Nonlinear Analysis and Applied Mathematics Laboratory (LANLMA). |
| 2017 | Member of the socio-economic impact project: "Study of biological invasions through the application of orthogonal polynomials," approved in 2019. |
| 2018 | Participation: Summer School in Orthogonal Polynomials and Special Functions (OPSF-S8), Sousse University, Tunisia, June 25–29, 2018. |
| 2024 | Participation: Approximation Theory and Special Functions (ATSF 2024) Conference - 8th Series, Ankara - Turkey, September 4–7, 2024. |
| 2025 | Participation: International Conference on Mathematics and Computers with Applications Türkiye - Istanbul, July 16–18, 2025. |
| 2025 | Participation: 9th International Conference of Mathematical Sciences (ICMS 2025), Türkiye - Istanbul, September 3–7, 2025. |

INTERNATIONAL CONFERENCES

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1. H. Dib, M. B. Zahaf, "Confluence of singularities of a differential equation." National Mathematics Congress, Annaba - Algeria, May 1999.
 2. H. Dib, M. B. Zahaf, "Confluence phenomena for differential equations: a Lie algebra approach." Mathematics and the 21st Century, Cairo - Egypt, January 15–20, 2000.
 3. B. Abdesselam, R. Chakrabarti, A. Yanallah and M.B. Zahaf, "Jordanian Quantum (Super) Algebras $U_h(g)$ via Contraction method and its irreducible representations: review," Seventh Constantine High Energy Physics School, April 3–7, 2004. Preprint math.QA/0405477v1 (2004).
 4. M. B. Zahaf, M. Mesk, "On Orthogonal Polynomials with a Generating Function of Rainville Type." Approximation Theory and Special Functions (ATSF 2024) Conference - 8th Series, September 4–7, 2024, Ankara, Türkiye.
 5. M. B. Zahaf, M. Mesk, "Some linear, bilinear and bilateral generating functions for associated Laguerre polynomials," International Conference on Mathematics and Computers with Applications, July 16–18, 2025, Istanbul, Türkiye.
 6. M. B. Zahaf, M. Mesk, "On a Rainville type generating functions for Ultraspherical polynomials," 9th International Conference of Mathematical Sciences (ICMS 2025), September 3–7, 2025, Istanbul, Türkiye.

INTERNATIONAL PUBLICATIONS

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1. B. Abdesselam, R. Chakrabarti, A. Yanallah and M.B. Zahaf, "On Super-Jordanian $U_h(sl(N|1))$ algebra." J. Phys. A: Math. Gen. 39 (2006) 8307-8319.

2. B. Abdesselam, R. Chakrabarti, A. Yanallah and M.B. Zahaf, "Addendum to 'On Super-Jordanian $U_h(sl(N|1))$ algebra'." math.QA/0701379 (2007).
3. A. Yanallah, M. B. Zahaf, "New connection formulae for some q -orthogonal polynomials in q -Askey scheme," J. Phys. A: Math. Theor. 41 085209 (2008).
4. M. B. Zahaf, D. Manchon, "Confluence of singularities of differential equation: A Lie algebras Contraction approach," Int. Journal of Math. Analysis, Vol. 3, 2009, no. 1-4, 23-40.
5. M. Mesk, M. B. Zahaf, "A new characterization of ultraspherical, Hermite, and Chebyshev polynomials of the first kind," J. Math. Anal. Appl. 448 (2017) 1147-1162.
6. M. Mesk, M. B. Zahaf, "On a class of polynomial sets generated by $F(xt - R(t))$," Integral Transforms and Special Functions, 29(3) (2018) 221-234, DOI: 10.1080/10652469.2017.1422499.
7. M. Mesk, M. B. Zahaf, "On a class of d -symmetric polynomial sets generated by $F(xt - R(t))$," Integral Transforms and Special Functions, 29(12) (2018) 979-1000, DOI: 10.1080/10652469.2018.1528580.
8. H. Abbas, A. Azzouz, M. B. Zahaf, M. Belmekki, "Generalized Extended Riemann-Liouville Type Fractional Derivative Operator," Kragujevac Journal of Mathematics, Vol. 47(1) (2023), Pages 57-80.
9. M. B. Zahaf, M. Mesk, "On Rainville-type generating functions for Hermite polynomials," Integral Transforms and Special Functions (2025) pp. 1-20. doi: 10.1080/10652469.2025.2463089.
10. M. Mesk, M. B. Zahaf, "Some results on orthogonal polynomials generated by $A(t)F(xtA(t) - R(t))$," Palestine Journal of Mathematics, Vol. 14(2) (2025), 714-725.
11. M. B. Zahaf, M. Mesk, "On a class of Rainville type generating functions for classical orthogonal polynomials," Mediterranean Journal of Mathematics 22, 87 (2025). <https://doi.org/10.1007/s00009-025-02864-9>.
12. M. B. Zahaf, M. Mesk, "On certain generating functions for associated Hermite polynomials" (submitted).
13. M. B. Zahaf, M. Mesk, "Some linear, bilinear and bilateral generating functions for associated Laguerre polynomials" (submitted).
14. M. B. Zahaf, M. Mesk, "On a Rainville type generating functions for Jacobi polynomials" (in preparation).

PREPRINTS

1. M. B. Zahaf, D. Manchon, "New kinds of deformed Bessel functions and Dunkl operators," arXiv:1206.2522v2 [math.FA] (2012).

COURSE MANUALS (HANDOUTS)

1. M. B. Zahaf, S. Bensid, "Mathematical Tools (Math 3)," Course and Tutorial Manual for 2nd Year Science and Technology, Faculty of Engineering Sciences, 2014.
2. S. Bensid, M. B. Zahaf, "Functions of a Complex Variable (Math 4)," Course and Tutorial Manual for 2nd Year Science and Technology, Faculty of Engineering Sciences, 2014.
3. S. Bensid, A. Chekroun, M. B. Zahaf, "Solved Exercises for Complex Analysis," Faculty of Science, 2022.
Available at: [\[elearn.univ-tlemcen.dz\]\(https://elearn.univ-tlemcen.dz/pluginfile.php/150316/mod_resource/content/1/Livre%20complexe.pdf\)](https://elearn.univ-tlemcen.dz/pluginfile.php/150316/mod_resource/content/1/Livre%20complexe.pdf)

SCIENTIFIC RESEARCH VISITS (SHORT-TERM)

May 2003	Mathematics Laboratory CNRS-UMR 6620, Blaise Pascal University (France).
June 2003	Paul Painlevé Mathematics Laboratory CNRS-UMR 8524, University of Lille 1 (France).
June 2004	Mathematics Laboratory CNRS-UMR 6620, Blaise Pascal University (France).
June 2006	Montpellier Institute for Mathematics and Modeling (I3M), University of Montpellier 2.
June 2007	Annecy-le-Vieux Laboratory of Theoretical Physics (LAPTh), Savoie University (France).
Oct-Nov 2009	LAPTh, UMR 5108 CNRS-INP, Savoie University (France).
Oct-Nov 2010	Mathematics Laboratory CNRS-UMR 6620, Blaise Pascal University (France).
June 2012	Mathematics Laboratory CNRS-UMR 6620, Blaise Pascal University (France).
October 2015	Mathematics Laboratory CNRS-UMR 6620, Blaise Pascal University (France).

Tlemcen, March 13, 2026

Mohammed Brahim Zahaf