

CURRICULUM VITAE

Name: Moussa Benoumhani.

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Affiliation

Deparmtent of Mathematics and Statistics. Imam Mohammad Ibn saud Islamic University. Riyadh. KSA

Education

September 1993:

PhD in Mathematics, under the supervision of Prof. Jean-Louis Nicolas, Professor at Claude Bernard University. Lyon. France.

Title of the thesis:

Polynomials with negative real zeros and combinatorial applications.

(Polynômes à racines réelles négatives et applications combinatoires.)

June 1988: Msc. in Mathematics, Claude Bernard University. Lyon. France.

Juin 1986: Bsc. Mathematics. Ferhat Abbas University. Setif, Algeria.

Languages: Arabic, English, French.

Teaching experience

2022- Now: Professor, Imam Mohammad Ibn Saud Islamic University. Riyadh. KSA

2021- 2022: Professor, Faculté de Mathématiques et informatique, M'Sila University. M'Sila. Algeria

2013-2021: Associate professor, Faculté de Mathématiques et informatique. M'Sila University. M'Sila. Algeria .

2015- 2017: Visiting professor. Sharjah University. U.A.E.

2009- 2012 Associate professor, Imam Mohammad Ibn Saud Islamic University. Riyadh. KSA.

2004-2009: Assistant professor, Faculty of sciences, King Khalid University . ABHA, KSA.

2000-2004: Associate Professor, Faculty of sciences, departement of Mathematics, Sana'a. University YEMEN.

1995-2000: Assistant professor, Faculty of sciences, Sana'a University. YEMEN.

1992-1994: Post-doctoral position, department of Mathematics, Claude Bernard University, Lyon, FRANCE.

Teaching and research

Courses taught:

I have taught almost all of the undergraduate courses which go from the most elementary to the more advanced one : Precalculus, Calculus, Advanced Calculus, Real Analysis, Discrete Mathematics, Graph Theory, Number Theory, Topology, Functional Analysis, etc.

Student Supervision

I supervised the following Msc. students:

1) **Samira Hassan Fadaeel** (22/06/2004) Sana'a University. Yemen.

Title of the dissertation : On Some Classical Results on Polynomials.

2) **Huda Jaber El Thour** (25/12/2006). Sana'a University. Yemen.

Title of the dissertation : On the Fundamental Properties of Stirling Numbers.

3- **Ikram Boumalia**, 26/06/ 2018

Title of the dissertation : On the Principals of Combinatorics.

4-**Chahrazad Haji**, 26/06/ 2018

Title of the dissertation : Some Properties of the Number π .

5- **Nacera Touiri**, 30/06/ 2019

Title of the dissertation : On Ceva and Minealus Theorems

6-**Fatima Said & Zehor Deghiche**, 30/06/ 2019

Title of the dissertation : The AM-GM and Cauchy Shwartz inequalities.

7- **Rabehi Mohamed Rabehi & Adel Benaceur** (1/7 /2020)

Title of the dissertation : Genearting Functions .

8- **Allia Allal** (2/7/2020)

Title of the dissertation : The Law of Quadratic Reciprocity.

9- **Kenza Zerig** (3/7/ 2020)

Title of the dissertation : Méthode de Laplace pour le calcul asymptotique des intégrales.

PhD Students

- **Salima Djaija**,

Title: On Some Combinatorial Polynomials and Sequences.

- **Yahya Zwareg**,

Title: Sequences Arising from Finite Structures.

- **Sarah Djail**,

Title: On Some Polynomials of Mathematical Chemistry .

Expert in Ph.D and Habilitation

I was a an expert in the following Ph.D thesis:

Moussa Ahmia, (15/06/2015, USTHB, Algiers)

Tarek Garici, (22/02/2018. USTHB, Algiers)

Omar Berkat, (12/ 11/2018, M'Sila University)

Sara Boudaoud, (3/3/ 2021, M'Sila University.)

Bouderbala Mihoub, (9/3/2021, USTHB, Algiers)

Rania Djihad Boulanouar, (4/4/ 2021, USTHB. Algiers)

Jamous Abdelilah, (7/4/ 2021, USTHB, Algiers).

Expert in the following Habilitations :

Ahmed Cherchem, (20/4/ 2016, USTHB, Algiers)

Zekiri Abdelmoumen, (12/6/ 2019, USTHB, Algiers)

Milles Souhaib, (30/6/2020, M'Sila University)

Tarek Garici, (21/10/ 2020, USTHB, Algiers)

Kerras Meslem, (3/3/2021, M'Sila University).

Referee for the following journals

- 1) Journal of combinatorial theory series A.
- 2) Ars combinatoria.
- 3) Discrete mathematics.
- 4) International journal of combinatorics.
- 5) Electronic journal of integer sequences.
- 6) Journal of algebraic systems.

Conferences and workshops

- The Conference of Mathematics and its Applications, Al-Imam University, Riyadh, KSA (March 23-24, 2011).

- The Second "Journées on Applied Algebra (ICAA)", M'Sila University 2011. Paper presented : On the modes of the independence polynomial of the centipede. This paper has been published in J.I.S Vol. 15 (2012).
- Fifth Saudi Science Conference, Umm Al Qura University, Makkah, KSA (16-18 April 2012).
- RAMA 8 (8ème Rencontre d'Analyse Mathématique et ses Applications) USTHB, Algiers, Algeria (26 – 29 Novembre, 2012)
- RAMA 9, University Amar Telidji, Laghouat, Algerie (5- 7 May 2014).
- Math day, Sorbonne University of Abu Dhabi, U. A. E (14 march 2015).
- Dimacos (Discrete mathematics colloquium), Université Djilali lyabes, Sidi Belabes, Algérie (15-19 November) 2015.
- Math day, New York, University Abu Dhabi, U. A. E (March 2016).
- International conference on algebra and its applications, FST Errachadia; , April 26-28, 2017, a join paper with A. Jaballah: Fuzzy finite topologies.

References

- 1-Prof. Bernhard Heim** , Mathematics Institute.
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- 2- Prof. Karl Dilcher**,
Department of Mathematics and Statistics.
Dalhousie University, Halifax, Nova Scotia B3H 3J5, CANADA.
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- 3- Prof. Ali Jaballah** (Reference for teaching)
Department of Mathematics, College of Sciences,
The University of Sharjah,
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- 4- Prof. Omar Kihel**, Department of Mathematics and Statistics,
Brock University.
1812 Sir Isaac Brock Way, St. Catharines, Ontario, L2S 3A1, Canada.
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- 5- Prof. Jean-Louis Nicolas (Adviser)**,
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- 6- Prof. Maurice Pouzet**,
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Bâtiment recherche [B], 50, avenue Tony-Garnier. Domaine de Gerland
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Publications

- [1] M. Benoumhani, Restricted Partitions and Convex Topologies, *AIMS Mathematics*, 10(4): 10187–10203. DOI: 10.3934/math.2025464, 2025.
- [2] M. Benoumhani, B. Chaourar, Finite Fuzzy Topologies on Boolean Algebras, *Mathematics*, vol. 13, issue 21, 1-8, 2025.
- [3] M. Benoumhani, B. Chaourar, On Polynomials Associated with Finite Topologies, *Axioms*, 14(2), 103. 2025.
- [4] M. Benoumhani and M., Jaballah, A. Finite D-Fuzzy Topologies. *Int. J. Fuzzy Syst.* (2025). <https://doi.org/10.1007/s40815-025-01992-4>.
- [5] M. Benoumhani, The Distribution of the Number of Fixed Points in k -Permutations, *it Integers*. 2024.
- [6] M. Benoumhani, B. Heim and M. Neuhauser, Asymptotic Normality of the Coefficients of the Morgan-Voyce Polynomials. *J. Math. Sci*, 280, 426–435 (2024).
- [7] M. Benoumhani, Y. Zouareg, A Conjecture of Heim and Neuhauser on Some Polynomials Arising from Modular Forms and Related to Fibonacci Polynomials, *Ramanujan. J* **58**, 183-201 (2022).
- [8] M. Benoumhani, An Elementary Unified Approach to Prove Some Identities involving Fibonacci and Lucas Numbers, *Notes on Discrete Mathematics and Number Theory*, Volume 27, 4, 2021.
- [9] M. Benoumhani, A. Jaballah, Chains in Lattice of Mappings and Finite Fuzzy Topological Spaces, *Journal of Combinatorial Theory, Serie A*. 161 (2019) 99-111.
- [10] M. Benoumhani, A. Jaballah, Finite Fuzzy Topological Spaces, *Fuzzy Sets and Systems*, **321**, (2017) 101-114.
- [11] M. Benoumhani, On the Mode of the Independence Polynomial of the

Centipede, *Journal of integer sequences*, Vol. 9 (2013) article 06.2.6.

[12] M. Benoumhani, M. Kolli, Finite Topologies and Partitions, *Journal of integer sequences*, Vol. 13 (2010) article 10.3.5.

[13] M. Benoumhani, The Number of Topologies on a Finite Set, *Journal of integer sequences*, Vol. 9 (2006) article 06.2.6.

[14] M. Benoumhani, A Sequence of Binomial Coefficients Related to Fibonacci and Lucas Numbers, *Journal of integer sequences*, Vol. 6 (2003), Article 03.2.1.

[15] M. Benoumhani, Log-concavity of Whitney Numbers of Dowling Lattices, *Advances in App. Math.*, 22, 1999, 186-189.

[16] M. Benoumhani, On Some Numbers Related to Whitney Numbers of Dowling Lattices, *Advances in App. Math.* **19**, 1997, 106-110.

[17] M. Benoumhani, On Whitney Numbers of Dowling Lattices, *Discrete Mathematics*, 159, 1996, 13- 33.

[18] M. Benoumhani, Sur une Propriété des Polynômes à Racines Réelles Négatives, *Journal de Math. Pures et appliquées*, 75, 1996, 85-105.

[19] M. Benoumhani, S. Djaija, On Some Combinatorial Sequences Linked to Fibonacci and Lucas Polynomials, *To appear in Transactions on Combinatorics*.

[20] M. Benoumhani, Y. Zouareg; On the Sequence of k-Fixed Points Permutations, in preparation.