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Education

- 📖 **Doctor of Philosophy in Mathematics** (February 2021)
Option: *Discrete Mathematics and Operations Research*
University of science and technology Houari Boumediene, Algiers, Algeria
Thesis title: *An arithmetic and combinatorial study of the geometric polynomials*
Thesis language: *English*
- 📖 **Master of Science in Mathematics** (June 2015)
Option: *Operations Research-Methods and Models for Engineering and Research*
University of science and technology Houari Boumediene, Algiers, Algeria
Thesis title: *"Rotating Disk", A symmetric cryptosystem based on the factorisation problem*
Thesis language: *French*
- 📖 **Bachelor in Mathematics** (July 2013)
Option: *Operations Research*
University of science and technology Houari Boumediene, Algiers, Algeria
Language of study: *French*

Teaching Experience

- 📖 **Teaching Assistant**, (February 2022~)
"Python programming",
The national higher school of mathematics, Algiers, Algeria.
- 📖 **Teaching Assistant**, (February 2022~)
"Discrete mathematics 2",
The national higher school of mathematics, Algiers, Algeria.
- 📖 **Teaching Assistant**, (Octobre 2021-February 2022)
"Algebra 1",
The national higher school of mathematics, Algiers, Algeria.
- 📖 **Temporary Teaching Assistant**, (November 2021- February 2022)
"Mathematics, statistics and Informatics", Faculty of Nature and Life Sciences
University of Algiers 1, Algeria.
- 📖 **Teaching Assistant**, (May 2021- Octobre 2021)
"History of Mathematics", for the 1st students of "Mathematics & Informatics"
"Numerical Analysis", Faculty civil engineering
University of science and technology Houari Boumediene, Algiers, Algeria.
- 📖 **Temporary Teaching Assistant**, (September 2017- February 2018)
"Mathematics, statistics and Informatics", Faculty of Nature and Life Sciences
University of Algiers 1, Algeria.
- 📖 **Temporary Teaching Assistant**, (September 2016-February 2017)
"Mathematics, statistics and Informatics", Faculty of Nature and Life Sciences
University of Algiers 1, Algeria.

Scientific researchs

Published papers

- Belbachir, H. & Djemmada, Y. (2021). "On central Fubini-like numbers and polynomials". *Miskolc Mathematical Notes*, 22(1), 77-90.
- Belbachir, H. & Djemmada, Y. (2020). "Generalized geometric polynomials via Steffensen's generalized factorials and Tanny's operators". *Indian Journal of Pure and Applied Mathematics*, 51(4), 1713-1727.
- Belbachir, H. & Djemmada, Y. (2019). "Congruence for geometric polynomials". *Les Annales RECITS*, Vol 06, 37-44.
- Belbachir, H., Djemmada, Y. & Hadj-Brahim, S. (2022). "Unified Bernoulli-Euler polynomials of Apostol type". *Indian Journal of Pure and Applied Mathematics*, 1-8.

Accepted papers

- Belbachir, H. & Djemmada, Y. (2022). "The (l, r) -Stirling numbers: a combinatorial approach". *Filomat*.
- Belbachir, H., Djemmada, Y. & Németh, L. (2022). "The deranged Bell numbers". *Mathematica Slovaca*.

Submitted papers

Conferences

- Djemmada, Y., Belbachir, H. & Németh, L. "On the total number of deranged partitions". Presented at the **10th International Eurasian Conference on Mathematical Sciences and Applications** (August 2021), Sakarya University, Sakarya, Turkey.
- Djemmada, Y. & Belbachir, H. "A combinatorial extension of the Stirling numbers". Presented at the **National Conference on Applied Mathematics and Didactics** (June 2021), Ecole Normale Supérieure El Katiba Assia Djebbar, Constantine, Algeria.
- Djemmada, Y. & Belbachir, H. "The deranged Bell numbers". Presented at the **1st International Conference on Pure and Applied Mathematics** (May 2021), University of Kasdi Merbah, Ouargla, Algeria.
- Djemmada, Y. & Belbachir, H. "On central Fubini polynomials". Presented at the international conference **TAMTAM** (February 2019), University Abu Bekr Belkaid, Telemcen, Algeria.
- Attended the first PhD students' day **Advanced technologies for electronic systems, sustainable energies, telecommunications, and signal/image processing** (December 2018), The national school of electronics and telecommunications, Sfax, Tunisia.
- Organizer at **Trees Structure in Theoretical Informatics and Enumerative Combinatorics Days** (September 2018), University of science and technology Houari Boumediene, Algeria.
- Djemmada, Y. & Belbachir, H. "On a new Fubini-type polynomials". Presented at the **Scientific Days of Laboratory** (April 2018), University of science and technology Houari Boumediene, Algeria.
- Djemmada, Y. & Belbachir, H. "Une classe de polynômes de type Fubini". Presented at the **Seminar of Laboratory** (February 2018), University of science and technology Houari Boumediene, Algeria.
- Djemmada, Y. & Belbachir, H. "Quelques propriétés arithmétiques des polynômes de Fubini". Presented at the **Seminar of Laboratory** (May 2017), University of science and technology Houari Boumediene, Algeria.
- Organizer at **SageMath Days** (April 2017), University of science and technology Houari Boumediene, Algeria.

Conferences (continued)

- *Djemmada, Y. & Belbachir, H.* "Congruence for geometric polynomials". Presented at the **Scientific Days of Laboratory** (April 2017), University of science and technology Houari Boumediene, Algeria.

Grants and awards

- **PNE grant**, (December 2019–February 2021~)
Awarded through the **Exceptional National Program (2019–2020)** to visit Sopron University, Hungary, for 10 months.

Scientific visits

- Dec 2019–Feb 2021 ■ A research visit to Sopron University, Hungary, for 14 months.
- Jun–Jul 2019 ■ A research visit to Sfax University, Tunisia, for one month.
- Nov–Dec 2018 ■ A research visit to Sfax University, Tunisia, for one month.

Research Interests

- **Enumerative Combinatorics**
Set Partitions, Special Sequences, Patterns Enumeration, Permutations, ...
- **Analytic Combinatorics**
Symbolic methods, Generating functions, Recurrences, Asymptotics, ...
- **Graph Theory**
Algorithms, Graph Coloring problems, Graph Sequences, ...

Skills

- Languages ■ Arabic: mother tongue.
English: very good.
French: very good.
German: basics.
- Coding ■ Python, C & C++, MATLAB, Mathematica, SageMath, L^AT_EX.
- Web Dev ■ HTML, CSS, JavaScript.