

# Curriculum Vitae

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## Research Interests

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- Optimal stochastic control
- Backward and Forward stochastic differential equations
- Stochastic Finance and Probability Theory
- Stochastic Analysis and Its Applications
- Numerical Probability Analysis and Statistics

## Education and Qualification

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- 2016-2021, PhD thesis in Applied Mathematics « General Study for Stochastic Impulse Control Problems with Random Coefficients ». under the supervision of Prof. Ibtissam Hdhiri (Faculty of Sciences of Gabès, Tunisia) with co-direction of Prof. Said Hamadène, Le Mans University, Le Mans, France.

**F.S.G (Faculty of Sciences of Gabès -Tunisia)**

- 2012-2015: Master's Degree Research in Mathematics « Discretization of stochastic differential equations », under the supervision of Prof. Hdhiri Ibtissam

**F.S.G (Faculty of Sciences of Gabès -Tunisia)**

- 2008-2011: Bachelor in Fundamental-Mathematics

**F.S.G (Faculty of Sciences of Gabès -Tunisia)**

- 2007: High School Diploma (Specialty: Mathematics)

**High School of Ghannouch-Gabès-Tunisia**

## Internships

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- September-December 2017 : Internship in Laboratory Manceau of Mathematics (LMM), Under the supervision of Prof. Said Hamadène, Le Mans university, Le Mans, FRANCE.

<http://lmm.univ-lemans.fr/>

- September-December 2016 : Internship in Laboratory Manceau of Mathematics (LMM), under the supervision of Prof. Said Hamadène and Prof. Samir Ben Hariz, Le Mans University, Le Mans, FRANCE.

<http://lmm.univ-lemans.fr/>

## Conferences and schools

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- November 2019: Cogna-CONNECT Conference 2019, Applied Technology High School(ATHS), Mohamed Bin Zayed city, Abu Dhabi, United Arab Emirates.

- March 2018 : Research School CIMPA-IMH-VAST, Recent developments in stochastic dynamics and stochastic analysis, Hanoi-VIETNAM.

<http://math.ac.vn/conference/CIMPA2018/index.php?lang=en>.

- July 2017 : Summer days for Tunisian mathematicians abroad, Mediterranean Institute for the Mathematical Sciences (MIMS), Tunis, TUNISIA.

<https://www.mims-institut.org/>

- April 2017 : Spring School CREMMA 7 « **Stochastic Modeling and Applications** » , The Laboratory of Mathematical Modelling and Numeric in Engineering Sciences "LAMSIN", at the National School of Engineers of Tunis (ENIT)-TUNISIA.  
<http://www.cremma.enit-lr.tn/Seventh%20school.html>
- Avril 2016 : Spring School CREMMA 6 « **Stochastic Modeling and Applications** » at the National School of Engineers of Tunis (ENIT)-TUNISIA.  
<http://www.cremma.enit-lr.tn/Sixth%20school.html>
- April 2016 : Research School in « **The Process theory and its Applications** » , The Laboratory of Mathematical Modelling and Numeric in Engineering Sciences "LAMSIN", at the National School of Engineers of Tunis (ENIT)-TUNISIA.
- December 2015 : Research School CIMPA-Senegal, Probabilistic Models in Epidemiology, University Assane Seck, Ziguinchor- SENEGAL.
- April 2015 :
  - Spring School CREMMA 5 « **Recent Advances in Financial and Insurance Mathematics** » at the National School of Engineers of Tunis (ENIT)-TUNISIA.  
<http://www.cremma.enit-lr.tn/Fifth%20school.html>
  - «**The Third probabilities day** » at the Faculty of Sciences of Gabes-TUNISIA.
  - Workshop « **Numerical Probability and application to Finance** » at the National School of Engineers of Tunis (ENIT)-TUNISIA.
- March 2015 : Spring School "**The probability and statistics that apply**" at the Pasteur Institute of Tunis, Tunis-TUNISIA.

## Teaching Experience

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- *August 2021-present: Teaching Assistant*  
Department of Mathematics, Statistics and Physics, College of Arts and Sciences, Qatar University, Doha, Qatar.

- September 2018-July 2021, Mathematics instructor, Kuwait Academy Bilingual School, Kuwait.  
*Courses Taught at High School level: Algebra II, Pre-calculus, AP Calculus.*
- 2017-2018: Teaching Assistant Position, Department of Mathematics, at Faculty of Science of Gabès (FSG), Tunisia.  
*Courses Taught at Undergraduate level: Probability and statistics, Calculus I and II.*
- 2016-2017: Substitute teacher in Private School, Tunisia.  
*Courses Taught: Pre-calculus, Calculus I*

## Publications

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- Infinite Horizon Stochastic Impulse Control with Delay and Random Coefficients, Authors: Boualem Djehiche, Said Hamadène, Ibtissem Hdhiri and Helmi Zaatra, 2021 Mathematics of Operations Research, **arXiv:1904.11924**.
- Risk-Sensitive Impulse Control Problems with Jumps and Execution Delays, Authors : Ibtissem Hdhiri and Helmi Zaatra ( submitted).
- Risk-Sensitive Impulse Control Problems with Signed Intervention Costs and Random Execution Delays, Author: Helmi Zaatra (To be submitted).
- Exact simulations for the solution of SDEs: a new approach, Authors: Helmi Zaatra and Samir Ben Hariz (In progress)

## Organizational Activity

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- Organizer of the seminar in mathematics research students, May 11th 2017.  
[http://www.tms.rnu.tn/index.php?afficher\\_page=autrescolloque.php](http://www.tms.rnu.tn/index.php?afficher_page=autrescolloque.php)  
And  
<http://www.tms.rnu.tn/cv/affiche2017.ppt>
- Member of the scientific committee of the seminar in mathematics research students.
- Adhering to Associations of Young Researchers (AJC).

- Organizer of the fourth day of probability at the faculty of Sciences of Gabès.

<http://www.fsg.rnu.tn/files/dep-maths/Affiche-4eme-journee-proba.pdf>

## Computer skills

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- Programming language: Maple, Matlab, Scilab, Octave, R, SPSS, Mathematica.

## References

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- ❖ Prof. Said Hamadène  
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- ❖ Prof. Ibtissam Hdhiri  
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