David Lassounon

Curriculum Vitae

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Personal information

Full name	**LASSOUNON Enagnon David**
Birth	**January 7, 1994 in Ko-Koumolou (Benin)**
Nationality	**Beninese**
Personal Website	`https://dlassounon.phd.sh/`

Current position

October 2024-August 2025	**Temporary Teaching and Research Associate**, *ATER-Section 26 at INSA-Rennes full-time (192 teaching hours).*

Training and Diplomas

2021-2024 (Ph.D defense planned for October 2025)	**Ph.D in Mathematics and Interactions:** ***Analysis and optimal control, with constraints on the state, of a treatment model of tumor invasion by chemotherapy***, *supervesed by Aziz BELMILOUDI and Mounir HADDOU, IRMAR-INSA Rennes (Numerical Analysis and Modeling Team), France.*
2020-2021	**Master (M2) Analysis Modeling and Simulation (AMS)**, *at the University of Paris-Saclay, recipient of the Excellence Scholarship from the Fond. Maths. J. Hadamard M2, France.*
2019-2020	**Master 2 in Fundamental Mathematics and Applications**, *at the Institute of Mathematics and Physical Sciences (IMSP)/University of Abomey-Calavi (UAC), Benin.*
2018-2019	**Master 1 in Fundamental Mathematics and Applications**, *at the Institute of Mathematics and Physical Sciences (IMSP)/University of Abomey-Calavi (UAC), Benin.*
2016-2017	**Bachelor's degree in Mathematics**, *at the University of Abomey-Calavi (UAC), Benin.*

Research work

- Research Topics

  PDE, Mathematical Modeling, Optimal Control Theory, Numerical Simulations, Continuous Optimization, Bio-mathematics, Numerical Analysis.

- Publications & Proccedings (with Referee) & Preprints

* **David Lassounon**, Aziz Belmiloudi, and Mounir Haddou.: ***Optimal control problem with mixed control and state constraints for cancer chemotherapy and treatment optimization,* 2025.** (Preprint online soon).

* **David Lassounon**, Aziz Belmiloudi, and Mounir Haddou.: ***Optimal control problem in treatment strategies for breast tumors.*** In proccedings Lecture Notes in Computer Science, vol 15218. Springer, Cham. `https://link.springer.com/chapter/10.1007/978-3-031-79119-2_21`

* **David Lassounon**, Aziz Belmiloudi, and Mounir Haddou.: ***A penalization approach in breast cancer chemotherapy: preliminary numerical simulations.*** In proccedings 10th International Conference on Optimization and Applications (ICOA), Almeria, Spain, 2024, pp. 1-6, `https://ieeexplore.ieee.org/document/10754206`.

* **David Lassounon**, Patrick Ciarlet Jr, and Mahran Rihani.: ***An optimal control-based numerical method for scalar transmission problems with sign-changing coefficients.* SIAM J. Numer. Anal., 61(3):1316–1339, 2023.** `https://epubs.siam.org/doi/abs/10.1137/22M1495998`

- Research Reports

* **David Lassounon**, Mirella Aoun, Clément Berger, Jean Cazalis, Thierry Gonon.: ***Characterization of the fluctuations of an ultrasonic wave passing through a complex environment in order to simplify the modeling.*** [Research Report] IP- Paris. 2022. `https://hal.science/hal-03607816v2`

Conferences and seminars

- X International Congress on Optimization and Applications (ICOA-2024), Oct 17-18, Almeria, Spain.
- XV International Conference Optimization and Applications (OPTIMA-2024), Sep 16-20, Tivat-Montenegro.
- IRMAR-INSA Rennes back-to-school meeting on October 10, 2024.
- IMSP General Seminar on December 14, 2024 (online talk).

Teaching and supervision

- **Tutorials and Courses at INSA-Rennes, 2024-2025 (192 Teaching hours)**

S1- Algebra 3, 2nd year *(matrix reduction, differential systems and quadratic forms)*, Tutorials.

S1-Analysis 3, 2nd year *(generalized integrals, numerical series, functions of several variables)*, Tutorials.

S2-Partial Differential Equations, 3rd year Mechanical Engineering and Automation GMA-engineering cycle *(Transport equation, Wave equation, Heat equation and some applications)*, Course.

S2-Partial Differential Equations, 3rd year GMA, group B, Tutorials.

S2-Geometry, 2nd year *(parametric curves and surfaces, multiple, curvilinear and surface integrals)*, Tutorials.

Student group supervisor for ORANO-INSA Rennes projects, *subjet: Optimization of an industrial laboratory measurement plan.*

Student group supervisor for the MathsC2+ course, from June 17 to 21, 2024, *subject: Population dynamics.*

2017-2019   High school mathematics teacher ($1^{ere}C$, $T^{tle}C$) in Benin.

Referents

Senior Associate Professor	Aziz Belmiloudi: IRMAR-INSA Rennes, *(aziz.belmiloudi@insa-rennes.fr)*
Full Professor	Mounir Haddou: IRMAR-INSA Rennes, *(mounir.haddou@insa-rennes.fr)*
Full Professor	Patrick Ciarlet: UMA-ENSTA Paris, *patrick.ciarlet@ensta-paris.fr)*
Research Engineer, Ph.D	Mahran Rihani: SNCF réseaux, Paris *(rihani.ensta@gmail.com)*

Honors

2025	Selected for Intensive English Course at the University of Cambridge, from June 16 to 20 (INSA Rennes-Erasmus+ program, \$1585).
2021-2024	Recipient of the doctoral thesis scholarship from the Ministry of Research and Innovation, France.
2020-2021	Recipient of the M2 Master for a Sophie Germain scholarship, FMJH Paris Saclay, France.
2018-2020	Recipient of the M1-M2 Master's scholarship from CEA-SMIA IMSP, Benin.

Responsibilities

I have represented doctoral students in Numerical Analysis and Modeling on the scientific council of IRMAR-INSA Rennes since 2023.

Labeled Handimanagement, I am interested in the professional integration of individuals with disabilities.

I have been a member of Secours Populaire F-35 since 2022, working as a math instructor for children from disadvantaged backgrounds or those who have dropped out of school (4 hours per week).

Computer skills

- FreeFem++ (Excellent Level) • Matlab (Average Level) • Python (Average Level)

Language

French (Native),   English (Good).