

BERTRAND TEGUIA TABUGUIA

Reading, United Kingdom – York Road, Reading RG1 8DX

☎ +44(0)7341321897 • 📞 +49 15212117745 (WhatsApp)
✉ email@bertrandteguia.com • 🌐 www.bertrandteguia.com • 🇨🇲 Cameroonian

Latest update: January 2026
CV note: blue texts are clickable

DATA

First name, Last name: Bertrand, Tegui Tabugui

Date of Birth: March 11, 1993

Family Status: Married, one child

Country and Place of Birth: Cameroon, Yaounde

EDUCATION

University of Kassel, Germany

Kassel

Ph.D. in Mathematics, Computer Algebra

August 2018 – May 2020

Title: [Power Series Representations of Hypergeometric Type and Non-Holonomic Functions in Computer Algebra](#)

Advisor: [Wolfram Koepf](#). Grade: distinction (Summa Cum Laude).

AIMS-Cameroon

Limbe

Msc in Mathematical Sciences

August 2017 – July 2018

Pure and applied mathematics at AIMS (African Institute for Mathematical Sciences), Cameroon center.

Research essay: [Automatic Computation of Laurent-Puiseux Series of Hypergeometric-Type](#).

Advisor: [Wolfram Koepf](#). Grade: distinction.

AIMS Taught Master, final grade: distinction

ENSP Yaounde-Cameroon

Yaounde

Mathematics and Computer Science

September 2011 – July 2016

Ecole Nationale Supérieure Polytechnique (ENSP).

Master's Thesis: [Classification Non Supervisée et Suivi des Processus de Dynamique Forestière](#).

Advisor: [Vivien Rossi](#) and [Thomas Bouetou](#). Grade: distinction (excellent).

Msc in Computer Engineering (French system), final grade: Good.

POSITIONS AND EXPERIENCE

University of Oxford, UK

Oxford

Department of Computer Science, Postdoctoral Research Associate November 2023 – November 2025

I worked under [James Worrell](#) mentorship on problems related to the algorithmic theory of linear and nonlinear dynamical systems.

MPI SWS, Germany

Saarbrücken

Decision problems, Postdoctoral Researcher

June 2023 – October 2023

Work mentored by [Joël Ouaknine](#) on problems related to holonomic sequences.

Max Planck Institute for Mathematics in the Sciences (MPI MiS)

Leipzig

Nonlinear Algebra, Postdoctoral Researcher

March 2022 – May 2023

Differential Algebra, Symbolic Computation, Algebraic Geometry, Mathematical Software.

Work mentored by [Bernd Sturmfels](#).

University of Kassel, Germany **Kassel**
Computer Algebra, Research Assistant *June 2020 – February 2022*
 Work supervised by [Wolfram Koepf](#). Research and publications with programming in Maple and Maxima.

Maplesoft **(Remotely) Waterloo, Canada**
Mathematical software developer, Maple external developer *June – August 2021*
 Integration of my Maple software into the Maplesoft system. Work supervised by [Jürgen Gerhard](#).

H2Altitude **Yaounde**
Developer in Computer Engineering *December 2016 – August 2017*
 Data flow management using Talend, MySQL, a little NoSQL, and Apache Kafka on AWS.
 Programming with Java Javascript, HTML 5, CSS 3, and the framework Symfony 2.
 Work under *considerable* pressure.

CIRAD **Yaounde**
Engineer Internship And Collaboration *February 2016 – October 2016*
 Understanding, modeling and implementing the dynamics of forest processes (birth, growth and mortality).
 Implementation (in R) available on GitHub at <https://github.com/T3gula/Essays/tree/master>.
 Probability and statistics: General clustering and Expectation-Maximization (EM) algorithm. Differential calculus and optimization.

ENSP-Cameroon **Yaounde**
Pre-engineer internship *July 2015 – September 2015*
 Symbolic computation with the Computer Algebra System (CAS) Singular.
 Algorithmic and programming, field theory, Galois theory.

TEACHING

University of Oxford **Oxford**
Scientific Computing, Class Tutor *Academic year 2024/2025*
 With [Jonathan Whiteley](#). A mixture of optimization, linear algebra, and programming.

AIMS-Cameroon **Limbe**
Teaching Assistant, Tutor *March 2019 – May 2019*
 Tutoring students in learning pure and applied mathematics.

Intelligentsia Corporation **Yaounde**
Mathematics teacher *June 2015 – July 2015*
 Algebra, real analysis, and basic topology in classes of 30–45 students to prepare entrance at university schools.

SCHOLARSHIPS

DAAD Erasmus+ program **Kassel**
Researcher, University of Kassel, Germany *June 2020 – December 2020*
 A stay in Germany used for a partnership between AIMS-Cameroon and the University of Kassel. This funding allowed me to extend my stay in Germany to the end of 2020 for some research works resulting from my Ph.D. thesis.

DAAD Erasmus+ program **Kassel**
Ph.D. student, University of Kassel, Germany *November 2019 – April 2020*
 A stay in Germany used for a partnership between AIMS-Cameroon and the University of Kassel. This funding allowed me to extend my stay in Germany to April 2020 for the completion of my Ph.D. thesis.

DAAD STIBET **Kassel**
Ph.D. student, University of Kassel, Germany *November 2018 – January 2019*
 First stay in Germany for my Ph.D. work.

PUBLICATIONS

In collaboration.....

- **On Rational Recursion for Holonomic Sequences.**
With Worrell, James.
In Boulier, F., Mou, C., Sadykov, T.M., Vorozhtsov, E.V. (eds). Proceedings of **CASC'24**. LNCS, vol 14938. Springer, Cham. **April 2024**. [Supplementary files](#).
- **Concatenations of Terms of an Arithmetic Progression.**
With Luca, Florian. **Accepted** on December 8, 2025 for publication in the *Journal of Difference Equations and Applications*. **April 2024**.
[Supplementary files](#). A short version of this paper appeared in ACM Communications in Computer Algebra.
- **D-Algebraic Functions.**
With Ait El Manssour, Rida and Sattelberger, Anna-Laura.
Journal of Symbolic Computation. **January 2023**. Published in **August 2024**.
DOI: <https://doi.org/10.1016/j.jsc.2024.102377> . [Supplementary files](#).
- **Symbolic Conversion of Holonomic Functions to Hypergeometric-Type Power Series.**
Tegua Tabugua, Bertrand and Koepf, Wolfram.
Computer Algebra issue of the Journal of Programming and Computer Software. **April 2022**. Volume 48. Pages 125-146. [Preprint version](#).
- **FPS in Action: An Easy Way to Find Explicit Formulas for Interlaced Hypergeometric Sequences.**
Tegua Tabugua, Bertrand and Koepf, Wolfram.
ACM Communication in Computer Algebra. **July 2022**. [Poster](#).
- **On the Representation of Non-Holonomic Univariate Power Series.**
Tegua Tabugua, Bertrand and Koepf, Wolfram.
Maple Trans. 2, 1, Article 14315, 18 pages. **August 2022**.
- **Power Series Representations of Hypergeometric-Type Functions.**
Tegua Tabugua, Bertrand and Koepf, Wolfram.
In Corless R., Gerhard J., Kotsireas I. (eds): Maple in Mathematics Education and Research. MC 2020.
Communications in Computer and Information Science, Springer. **July 2021**.
- **Hypergeometric-Type Power Series.**
Tegua Tabugua, Bertrand and Koepf, Wolfram.
4th International Conference "Computer Algebra", Moscow. Pages 105-108. **June 2021**.

Single-authored.....

- **Closed forms of D-algebraic series with hypergeometric terms**
Tegua Tabugua, Bertrand. (available upon request)
February 2026. Submitted.
- **D-algebraic Guessing**
Tegua Tabugua, Bertrand.
October 2025. Submitted.
- **Closed forms of power series with hypergeometric-type terms.**
Tegua Tabugua, Bertrand.
May 2025. To appear in ACM Communication in Computer Algebra.
- **Computing with D-algebraic sequences.**
Tegua Tabugua, Bertrand.
December 2024. Submitted.

- **Hypergeometric-Type Sequences.**
Teguia Tabuguia, Bertrand.
Journal of Symbolic Computation. December 2023. Published in **May 2024**.
DOI: <https://doi.org/10.1016/j.jsc.2024.102328>. [Accompanying Software](#).
- **Arithmetic of D-Algebraic Functions.**
Teguia Tabuguia, Bertrand.
Journal of Symbolic Computation. May 2023. Published in **June 2024**. DOI: <https://doi.org/10.1016/j.jsc.2024.102348>. [Supplementary files](#).
- **Operations for D-Algebraic Functions.**
Teguia Tabuguia, Bertrand.
ACM Communications in Computer Algebra, Volume 57, Issue 2. Pages 51–56. **June 2023**. Software presentation at ISSAC'23. [Supplementary files](#).
- **Guessing with Quadratic Differential Equations.**
Teguia Tabuguia, Bertrand.
Software presentation at ISSAC'22. *ACM Communication in Computer Algebra*. **July 2022**.
[Supplementary files](#).
- **A Variant of van Hoeff's Algorithm to Compute Hypergeometric Term Solutions of Holonomic Recurrence Equations.**
Teguia Tabuguia, Bertrand.
J. Algorithm Comput.. **December 2020**.
- **Computing with Hypergeometric-Type Terms.**
Teguia Tabuguia, Bertrand.
April 2024. *ACM Communication in Computer Algebra*. Volume 58, Issue 2, Pages 23–26. June 2024.
DOI (URL): <https://doi.org/10.1145/3712023.3712025>.
Software presentation at [ISSAC'24](#). [Accompanying Software](#).
- **An Algorithmic Random-Integer Generator based on the Distribution of Prime Numbers.**
Teguia Tabuguia, Bertrand.
Research Journal of Mathematics and Computer Science
2019; **3**:16. DOI: [10.28933/rjmcs-2019-06-1705](https://doi.org/10.28933/rjmcs-2019-06-1705).

TALKS & CONFERENCES

Maple Conference 2025 (online)

Section invited speaker

I briefly highlighted some features of my Maple **DalgSeq** package, dedicated to operations for D-algebraic sequences.

Waterloo, Canada

November 5 – 7, 2025

Dynaverse Workshop

Unregistered participant

Workshop on [Algebraic methods in dynamics and particle physics](#). Joël Ouaknine graciously allowed me to attend the workshop as an additional participant.

Saarbrücken, Germany

October 15 – 17, 2025

Annual 2025 ÖMG-DMV Meeting

Section invited speaker

Section (Computer Algebra) invited speaker: I discussed rational recursions for holonomic sequences. One of the session chairs (Computer Algebra). [link to the website of the conference](#).

Linz, Austria

September 1 – 5, 2025

ACA 2025

Session invited speaker

Gave a talk on D-algebraic sequences, and another on hypergeometric-type terms. The [30th Conference on Application of Computer Algebra](#) in Heraklion.

Crete, Greece

July 14 – 18, 2025

SIAM AG meeting

Session Invited Speaker

I will speak about the arithmetic of multivariate D-algebraic functions. [link to the website of the conference](#).

Madison, Wisconsin, U.S.

July 7 – 11, 2025

Kolchin Seminar*Invited Speaker*

Title: D-algebraic sequences.

Online (New York), USA*April 4, 2025***Workshop, CIRM***Invited Speaker*I accepted the invitation to give a talk at the workshop on [Singularities, Differential Equations, and Transcendence](#).**Marseille, France***February 24 – 28, 2025***FB10 AADM, Oberseminar***Speaker*

I gave a talk about Hypergeometric-Type Sequences.

Universität Kassel, Germany*October 14, 2024***CASC'24***Conference Talk*Title: "On rational recursion for holonomic sequences" at [the 26th international workshop of CASC'24](#).**Rennes, France***September 2 – 6, 2024***ISSAC'24***Software and Poster Presenter*I will present the mathematical software [HyperTypeSeq](#) and showcase my joint work with Florian Luca on a poster.**NC State University, USA***July 24 – 27, 2023***Kolchin Seminar***Invited Speaker*

Title: Differential elimination for the closure properties of D-algebraic functions.

Online, USA*October 6, 2023***SIAM AG meeting***Session Invited Speaker*

Invited speaker for the Minisymposia on "Symbolic Combinatorics".

Eindhoven University, Netherlands*July 10 – 14, 2023***Maple Conference 2022***Algorithm and Software presenter, Virtual*

I am one of the presenters for the theme Algorithm and Software. I talked about symbolic powers of functions defined by second-order linear ODEs.

Waterloo, Canada*November 02 – 03, 2022***The sixth annual meeting of the TRR 195***Speaker*

I gave another version of my talk at ACA 2022 with connection to my programming for OSCAR (Open Source Computer Algebra Research System).

Blaubeuren, Germany*September 19 – 22***ACA 2022***Session invited speaker*

I am one of the invited speakers for the theme: D-finite Functions and Beyond: Algorithms, Combinatorics, and Arithmetic.

Istanbul, Turkey*August 15 – 19, 2022***ISSAC'22***Poster and Software presenter*

I presented a poster and software. The poster was about using FPS to find closed-form representations of interlaced hypergeometric sequences. My software was about an extension of holonomic guessing to quadratic guessing.

Lille*July 04 – 07, 2022***Workshop on Differential Algebra***Session chair***Leipzig, Germany***June 06 – 08, 2022***Tagung der Fachgruppe Computeralgebra***Speaker*I gave a presentation entitled: Power series formulas with m -fold hypergeometric term coefficients.**Munich, Germany***March 09 – 11, 2022***Maple Conference 2021***Algorithm and Software presenter*I was one of the presenters for the theme Algorithm and Software. *The talk was about non-holonomic power series.***Waterloo, Canada***November 02 – 05, 2021***ISSAC 2021***Attendant*

Attended to keep good track on cutting-edge research in Computer Algebra.

Saint Petersburg, Russia*July 19 – 23, 2021*

4th International Conference “Computer Algebra”

Contributed talk

Moscow, Russia

June 28 – 29, 2021

I gave a talk on hypergeometric type power series. The corresponding extended abstract appear in the conference Proceedings.

Maple Conference 2020

Algorithm and Software presenter

Waterloo, Canada

November 02 – 06, 2020

I was one of the presenters for the theme Algorithm and Software. In this presentation, I made the first public demonstration of the most important result of my Ph.D. thesis: *Power series representations of hypergeometric type functions*. The corresponding paper was published in the conference Proceedings.

ICMS 2020

Software Demo presenter

Braunschweig, Germany

July 13 – 16, 2020

I was one of the software demo presenters. My algorithm, a variant of van Hoeij’s algorithm, was accepted upon peer review. This was recorded in the conference Proceedings.

Workshop on Applied Algebra

Poster presenter

Braunschweig, Germany

June 07 – 08, 2019

I was accepted to present a poster from my paper on randomness and the distribution of primes.

Mathematical Software

- **HyperTypeSeq**. Software for computations in the ring of hypergeometric-type sequences.
- **NLDE** (NonLinear algebra for Differential and Difference Equations): package for computations with D-algebraic functions. Subpackage **DalgSeq** is dedicated to the difference (discrete) case.
- **The New FPS**: state-of-the-art implementations for the Computer Algebra Systems (CASs) Maple and Maxima for computing formal power series, solving linear recurrence equations, and computing linear and quadratic differential equations. *Recently updated for some multivariate computations. . .*
- Github account: **T3gu1a**.

COMPUTER SKILLS

Very good computer and programming skills.

- **Maxima**: Computer Algebra System (CAS), used since 2018.
- **Maple**: favorite CAS, used since 2020.
- **Sagemath**: main CAS used at AIMS-Cameroon (2017-2018).
- **Singular**: CAS used in pre-engineer internship at ENSP (3 months) (2015).
- **R**: main language used during my engineering internship (9 months).
- **Julia, OSCAR**: Since March 2022.
- **Python**: used since 2016 for general programming: scientific computing, software development.
- **Most used web languages: HTML 5, CSS 3, Javascript, Php**: to develop web applications.
- **Java**: main programming language used for the three last years at ENSP Yaounde.
- **MySQL**: main system used for managing data bases at ENSP Yaounde (2013-2016).
- **Latex**: Permanently used to produce pdf documents since 2014.
- **Other languages used in the past**: C, Prolog, Singular, UML (for design).
- **Operating Systems**: Windows (including Microsoft packages), Linux, macOS.
- **Keyboard blind typing**: very good speed.
- **Programming tasks**: Author of the Maple and Maxima worksheets of the book at <http://www.computer-algebra.org>.

During my free time in 2019, I thought and developed the game P&C Game, available on Google Playstore and at <https://bertrand-t3gu1.itch.io/pc-game>. A first version was done in Python, and a second using Javascript, CSS 3 and HTML 5. The latter was used to generate an apk-release for Google Playstore.

LANGUAGES

- **French:** Fluent *Native language*
- **English:** Good level *Main work language used since August 2017.*
- **German:** Basic *Level A2, Goethe Institute of Yaounde and MPI Leipzig.*

INTERESTS & HOBBIES

- **Mathematics and their applications:** Symbolic Computation, Differential and Difference Algebra, Applied Algebraic Geometry, Dynamical Systems, Algorithmic Number Theory.
- **Computer programming:** Doing programming exercises in python from websites like Kattis, CodeChef.
- **Movies, series:** Genius (Einstein); Numb3rs; The Oxford Murders; A Beautiful Mind; Good Will Hunting; Irrational man; One Tree Hill; Hannah Arendt; Jobs; X+Y; The Man who Knew Infinity; Stranger Things.
- **Drawing:** Anything beautiful.
- **Singing:** Pop, R&B, like The Fray, Gavin Degraw and James Arthur.
- **Dancing:** I have been a choreographer, I like harmonized dance.
- **Sport:** Football, favorite players in order: Ronaldinho, Cristiano Ronaldo, Ronaldo and Samuel Eto'o.

PROFESSIONAL SERVICE

- I am an **Associate Editor** for the [Maple Transactions](#) journal since 2026.
- Program committee member for Software presentation at the 50th International Symposium on Symbolic and Algebraic Computation ([ISSAC 2025](#)), [Center for Research in Mathematics \(CIMAT\) in Mexico](#).
- Program committee member of the 25th International Workshop on Computer Algebra and Scientific Computing ([CASC 2023](#)), [University of Havana](#), Havana, Cuba, August 28 – September 1, 2023.
- Review and/or Editorial activities: Maple Transaction journal, Springer (monographs in mathematics), Journal of Symbolic Computation.

REFERENCES

[Professor James Worrell](#)

Professor of Computer Science, University of Oxford, UK.

My current mentor

Tel: +44 1865 273 843

Email: james.worrell@cs.ox.ac.uk

[Prof. Dr. Bernd Sturmfels](#)

Director of the Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany.

Professor of Mathematics. My mentor at MPI MiS.

Tel: +49 341 9959 750.

Email: bernd@mis.mpg.de

[Prof. Dr. Wolfram Koepf](#)

Professor of Computer Algebra, University of Kassel, Germany.

Ph.D. supervisor.

Tel: +49 561 804 4245.

Email: koepf@mathematik.uni-kassel.de