CV – Christian d'Elbée

Website: choum.net/ chris/page_perso/
Email: C.M.B.J.dElbee@leeds.ac.uk
Adress: Office 10.17f, School of
Mathematics, University of Leeds

EMPLOYMENT

School of Mathematics, University of Leeds — Leeds (UK)
MSCA Postdoctoral Fellowship funded by the UKRI Guarantee fund.
Advisor: H. Dugald Macpherson — October 2023 –September 2025

Mathematisches Institut der Universität Bonn — Bonn (Germany)
Post-doctoral position (Wissenschaftlicher Mitarbeiter), Advisor: Philipp Hieronymi — July 2022–September 2023

Fields Institute for Research in Mathematical Sciences — Toronto (Canada)
Fields Post-Doctoral Fellowship during two thematic research programs. — July 2021–June 2022

Hebrew University of Jerusalem, Einstein Institut of Mathematics — Jerusalem
Post-doctoral position with an additional Schonbrunn Fellowship (2019 - 2020)
and a Golda Meir Fellowship (2020 - 2021). Advisor: Itay Kaplan — October 2019–June 2021

EDUCATION

University Lyon 1, Institut Camille Jordan — Lyon (France)
PhD, in Lyon (ICJ) part-time hosted in Paris (ENS);
Advisors: Thomas Blossier (ICJ), Zoé Chatzidakis (ENS) — October 2015–20th June 2019

- Thesis: "Expansions and neostability in model theory". This thesis is concerned with the expansions of some algebraic structures and their place in Shelah's classification landscape. Keywords : Generic expansions; fields with generic subgroups; $NSOP_1$ theories; forking; Kim forking; p-adic valuations on integers; finite dp-rank.

University Paris Diderot — Paris (France)
Master's degree in Mathematical Logic and Foundation of Computer Science — 2014–2015

- Thesis: "Model-theory of fields: the independence property" (Advisor: Zoé Chatzidakis)

Agrégation externe de Mathématiques — 2014
A French national degree in mathematics and teaching

University of Bordeaux — Bordeaux (France)
Master's degree in General Mathematics — 2013–2014

- Thesis: "The field of quaternions" (Advisor: Jean-François Jaulent)

Manchester University — Manchester (UK)
Master's degree Mathematics and Logic — 2012–2013

- Thesis: "On the complete ordered field" (Advisor: Alex Wilkie)

University of Bordeaux — Bordeaux (France)
Bachelor in Mathematics — 2009–2012

- Thesis: "Ruler and Compass Constructions" (Advisor: Pierre Parent)

PUBLICATIONS

(a) E. Alouf and C. d'Elbée, "A new dp-minimal expansion of the integers", *The Journal of Symbolic Logic*, vol. 84, no. 2, pp. 632–663, 2019

(b) C. d'Elbée, "Generic expansions by a reduct", *Journal of Mathematical Logic*, vol. 21, no. 03, p. 2 150 016, 2021

(c) C. d'Elbée, "Forking, imaginaries and other features of ACFG", *The Journal of Symbolic Logic*, pp. 1–34, 2021

(d) C. d'Elbée, "Generic expansion of an abelian variety by a subgroup", *Mathematical Logic Quarterly*, vol. 67, no. 4, pp. 402–408, 2021

(e) C. d'Elbée and Y. Halevi, "Dp-minimal integral domains", *Israel Journal of Mathematics*, vol. 246, no. 1, pp. 487–510, 2021

(f) C. d'Elbée, *Cyclic and non-cyclic division algebras of finite dp-rank*, 2021. arXiv: 2106.09767 `[math.RA]`

(g) C. d'Elbée, I. Kaplan, and L. Neuhauser, *On algebraically closed fields with a distinguished subfield*, 2021. arXiv: 2108.04160 `[math.LO]`
To appear in *Israel Journal of Mathematics*.

(h) C. d'Elbée, I. Kaplan, and L. Neuhauser, *Existentially closed models of fields with a distinguished submodule*, 2021. arXiv: 2110.02361 `[math.LO]`
To appear in *Journal of Symbolic Logic*.

(i) G. Conant, C. d'Elbée, Y. Halevi, L. Jimenez, and S. Rideau-Kikuchi, *Enriching a predicate and tame expansions of the integers*, 2022. arXiv: 2203.07226 `[math.LO]`
To appear in *Journal of Mathematical Logic*.

(j) A. Berenstein, C. d'Elbée, and E. Vassiliev, *Vector spaces with a dense-codense generic submodule*, 2022. arXiv: 2204.10758 `[math.LO]`
Submitted to *Annals of Pure and Applied Logic*.

(k) C. d'Elbée, *Generic multiplicative endomorphism of a field*, 2022. arXiv: 2212.02115 `[math.LO]`
Submitted to *Annals of Pure and Applied Logic*.

(l) C. d'Elbée, I. Müller, N. Ramsey, and D. Siniora, *Model-theoretic properties of nilpotent groups and lie algebras*, 2023. arXiv: 2310.17595 `[math.LO]`
Submitted to *Journal of Algebra*.

GRANTS

Algeria Research Hub fellowship   June 2024
with I. Müller, N. Ramsey and D. Siniora.
A one-week research stay at the National Higher School of Mathematics in Algeria, funded by the U.S. State department for a partnership between the Pulte Institute (University of Notre Dame, Notre Dame, IN, US) and Algeria's Ministry of Higher Education (MOHE).

Research in Paris (IHP) Program   July 2023
with I. Müller, N. Ramsey and D. Siniora.
A two-weeks research stay at the Institute Henry Poincaré,
for a Research in Paris grant for the proposal "Generic Nilpotent Groups".

Marie Skłodowska Curie Actions Postdoctoral Fellowship   February 2023
MSCA European Postdoctoral Fellowship, Funded by the UKRI Guarantee Fund
Project 101107014 — WILDMOD "Model Theory of wild mathematical structure, new perspectives via geometries and positive logic", with a score of 95,8%. Duration: 2 years. Amount: 220,908.48€.

Fields Postdoctoral Fellowship (FPDF)   2021
Postdoctoral Fellowship from the Fields Institute for Research in Mathematics Sciences, Toronto.
Duration: One year. Amount: 60000CAD.

Schonbrunn Postdoctoral fellowship   2019 - 2020
Fellowship supporting my postdoc at the Hebrew University

Golda Meir Postdoctoral fellowship   2020 - 2021
Fellowship supporting my postdoc at the Hebrew University

ECOS-Nord Funding Program   April 2019
Funding for a one month research stay at the Universidad de los Andes, Bogota.

VISITS

Universidad Complutense de Madrid.   Spain.
Invited by Profs. D. Palacin and E. Baro.   February 19th, 2024 – February 23th, 2024

University of the Basque Country (UPV/EHU), Bilbao.   Spain.
Invited by Profs. M. Casals and I. Kazachov   February 12th, 2024 – February 16th, 2024

Ohio State University, Columbus.   U.S.
Invited by Prof. G. Conant.   January 28th, 2024 – February 3rd, 2024

University of Notre Dame, South Bend, Indiana.   U.S.
Invited by Prof. N. Ramsey   January 16th, 2024 – January 26th, 2024

Ohio State University, Columbus.   U.S.
Invited by Prof. G. Conant and Prof C. Terry.   May 15th, 2022 – May 21st, 2022

Universidad de los Andes, Bogotá.   Colombia
Visit supported by the French public international collaboration fellowship:
ECOS Nord program 048-2019.   April 21st, 2019 – May 19th, 2019

TALKS

- **Peking University Model Theory Seminar**   29/04/2024
  (Online Talk) Model Theory of nilpotent Lie algebras (Invited Seminar talk).
- **Lancashire Yorkshire Model Theory Seminar (LYMoTS)**   15/04/2024
  On Wilson conjecture for Lie algebras (Invited Seminar talk).
- **Logic Seminar, Oxford University**   29/02/2024
  Omega-categorical groups and Lie algebras (Invited seminar talk).
- **London Logic Seminar, Imperial College of London**   28/02/2024
  Omega-categorical groups and Lie algebras (Invited seminar talk).
- **Algebra, Geometry and Topology Seminar, University Complutense of Madrid** 21/02/2024
  Omega-categorical groups and Lie algebras (Invited seminar talk).
- **Algebra Seminar, University of the Basque Country, UPV/EHU, Bilbao (Spain)** 14/02/2024
  Omega-categorical groups and Lie algebras (Invited seminar talk).
- **Logic Seminar, Ohio State University, Columbus (US)**   30/01/2024
  Omega-categorical groups and Lie algebras (Invited seminar talk).
- **Logic Seminar, University of Notre Dame, South Bend (US)**   23/01/2024
  Omega-categorical groups and Lie algebras (Invited seminar talk).
- **Leeds Logic Seminar**   13/12/2023
  Omega-categorical groups and Lie algebras (Local seminar talk).
- **Mini-Course in Leeds**   04/12/2023-05/12/2023
  Mini-course on amalgamation of Lie algebras (Local lecture).
- **Manchester Logic Seminar**   29/11/2023
  Model theory of nilpotent groups and Lie algebras (Invited seminar talk).
- **Geomod Final Conference**   16/11/2023
  Model theory of nilpotent groups and Lie algebras (Invited conference talk).
- **Model and Sets Seminar**   25/10/2023
  Model theory of nilpotent groups and Lie algebras (Local seminar talk).
- **BCAM-Severo Ochoa Courses: Model Theory in Bilbao**   18/09/2023 – 22/09/2023
  Lecture on the Ax-Kochen-Ershov theorem (Invited Lecturer).
- **Chinese Academie of Science seminar**   28/05/2023
  (Online Talk) Generic multiplicative endomorphism of a field (Invited seminar talk).
- **Helsinki Logic Seminar**   01/02/2023
  (Online Talk) Generic multiplicative endomorphism of a field (Invited seminar talk).

- **Oberwolfach Workshop ID 2302**   January 2023
  Generic multiplicative endomorphism of a field (Oberwolfach Workshop talk). A video is available via this link or on my website.
- **Séminaire de Logique, Institut Camille Jordan, Lyon**   December 2022
  Generic multiplicative endomorphism of a field (Invited seminar talk).
- **Logic seminar, Hebrew University of Jerusalem**   November 2022
  Generic multiplicative endomorphism of a field (Invited seminar talk).
- **Logic Oberseminar, Mathematical Institut, Bonn**   October 2022
  Generic multiplicative endomorphism of a field (Invited seminar talk).
- **Logic Seminar, Ohio State University**   May 2022
  Generic multiplicative endomorphism of a field (Invited seminar talk).
- **Fields Postdoc Colloquium, Fields Institute**   November 2021
  Dp-minimal expansions of the group of integers: a survey (Invited seminar talk).
- **Workshop on Trends in Pure and Applied Model Theory, Fields Institute**   July 2021
  (Online Talk) Dp-minimal integral domains (Invited conference talk).
- **Logic seminar, Imperial College London**   May 2021
  (Online Talk) Dp-minimal integral domains (Invited seminar talk).
- **Logic seminar, Università degli Studi della Campania**   May 2021
  (Online Talk) Dp-minimal integral domains (Invited seminar talk).
- **Topological and Differential Expansions of O-minimal Structures, Universidad de los Andes/Universität Konstanz/Università di Pisa**   December 2020
  (Online Talk) Generic expansion by a reduct (Invited conference talk).
- **Séminaire Théorie des Modèles Paris-Lyon, Université Paris Diderot/Université de Lyon**   December 2020
  (Online Talk) Dp-minimal integral domains (Invited seminar talk).
- **Logic seminar, Hebrew University of Jerusalem**   November 2020
  (Online Talk) Dp-minimal integral domains (Invited seminar talk).
- **Notre Dame Logic Seminar, South Bend, Indiana**   October 2020
  (Online Talk) Dp-minimal integral domains (Invited seminar talk).
- **British Postgraduate Model Theory Conference, Leeds**   January 2020
  Neostability and independence relations (Invited conference talk).
- **Logic seminar** Hebrew University of Jerusalem   October 2019
  Generic Abelian Varieties (Invited seminar talk).
- **Seminarios de Lógica, Universidad de los Andes, Bogotá**   April 2019
  Expansions of the group of integers (Invited seminar talk).
- **Séminaire des doctorants et doctorantes, Institut Camille Jordan, Université Lyon 1**   March 2019
  Model theory and independence relations (Invited seminar talk).
- **Séminaire Théorie des Modèles et Groupes** Institut Mathématique de Jussieu, Université Paris-Diderot   December 2018
  Generic additive subgroup of an algebraically closed field of positive characteristic (Invited seminar talk).
- **Neostability theory, BIRS 18w5193, Casa matematica, Oaxaca (Mexico)**   October 2018
  Generic additive subgroup of an algebraically closed field of positive characteristic. Generic expansion by a reduct (Invited conference talk).
- **Séminaire des Doctorants et Doctorantes, Institut Camille Jordan, Université Lyon 1**   November 2017
  Hilbert 17th problem: a model theoretic proof (Invited seminar talk).
- **Séminaire de Théorie des Modèles Institut Camille Jordan, Université Lyon 1**   October 2017
  Generic additive subgroup of an algebraically closed field of positive characteristic (Invited seminar talk).
- **Séminaire Théorie des Modèles et Groupes, Institut Mathematique de Jussieu, Université Paris-Diderot**
  February 2017
  Minimal expansions of the group of integers (Invited seminar talk).
- **Séminaire Théorie des Modèles, Institut Camille Jordan, Université Lyon 1**   February 2017
  Minimal expansions of the group of integers (Invited seminar talk).
- **British PostGraduate Model Theory Conference, Leeds**   January 2017
  Minimal expansions of the group of integers (Invited conference talk).

- **Colloquium Inter'Action, Université Lyon 1**   May 2016
  Ax's proof of a theorem of Grothendieck (Invited conference talk)

- **Journée des doctorants et doctorantes, Université Lyon 1**   April 2016
  Algebra and model theory (Invited seminar talk).

Conferences Attended

- Geomod Network Final Conference (ANR-DFG)
  Freiburg-em-Brisgau, Germany, 13/11/23–17/11/2023

- Model theory and groups
  Münster, Germany, 25/09/23–29/09/2023

- Oberwolfach Workshop ID 2302
  Oberwolfach, Germany, 08/01/23–14/01/2023

- Model Theory and applications 2022
  Cetraro, Italy, 06/20/22–06/25/2022

- Interactions Between O-minimal, Complex Analytic
  and Nonarchimedean Methods
  Fields Institute, Toronto, 06/06/2022–06/10/2022

- From Geometric Stability Theory to Tame Geometry,
  In honor of Ehud Hrushovski's 60th birthday
  Fields Institute, Toronto, 12/13/2021–12/17/2021

- Workshop on Trends in Pure and Applied MT
  Fields Institute, Toronto, 07/26/21–07/30/2021

- British Postgraduate Model Theory Conference
  Leeds, 01/08/2020–01/10/2020

- From permutation groups to model theory
  ICMS, Edinburgh, 09/17/2018–09/21/2018

- Workshop Model Theory of Valued Fields
  IHP Paris, 03/05/2018 –03/09/2018

- Model Theory, Combinatorics and Valued Fields
  CIRM Marseille, 01/08/2018 –01/12/2018

- Model Theory in Wroclaw
  Wroclaw (Poland), 06/30/2017 –07/02/2017

- British Postgraduate Model Theory Conference
  Leeds (UK), 01/25/2017 –01/27/2017

- BN - pair
  Istanbul (Turkey), 10/19/2016 –10/23/2016

- Model theory Month,
  Muenster, 04/18/2016 –05/20/2016

- Combinatorial Problems in
  Model Theory and Computer Science
  Leeds, UK, 6/11/23–8/11/2023

- Model Theory in Bilbao, BCAM
  Bilbao, Spain, 11/09/23–22/09/2023

- Neostability, BIRS 23w5145
  Banff International Research Station (Canada),
  19/02/2023 –24/02/2023.

- Model Theory Conference, Newelski 60th Birthday
  Bedlewo, Poland, 16/12/22–22/12/2022

- Practical and Structural Model Theory
  Leeds, 07/25/22–07/30/2022

- Introductory Workshop on Tame Geometry,
  Transseries and Applications to Analysis and Geometry
  Fields Institute, Toronto, 01/10/2022–01/14/2022

- Workshop on Model Theory and Combinatorics
  Fields Institute, Toronto, 11/29/2021–12/3/2021

- Problems Allied to MT and Universal Algebra (Online)
  Erlagol (Russia), 05/23/21–29/05/2021

- Neostability, BIRS 18w5193
  Casa matematica Oaxaca (Mexico), 10/14/2018 –10/19/2018.

- Model Theory and Applications
  IHP Paris, 03/26/2018 –03/30/2018

- Workshop Model Theory and Combinatorics
  IHP Paris, 01/29/2018 –02/02/2018

- Model Theory
  Bedlewo (Poland), 07/03/2017 –07/07/2017

- Automorphism Groups, Differential Galois Theory
  Barcelone, 06/26/2017 –06/27/2017

- Conférence Théorie des Modèles et Applications
  Mons (Belgium), 01/16/2017 –01/19/2017

- Colloque en l'honneur de Françoise Delon
  IMJ, Paris, 06/02/2016 –06/03/2016

Research Activities and Outreach

GeSAMT: Bonn-Münster-Düsseldorf bi-yearly seminar   January 28th, 2023
Mathematisches Institut, Bonn
Co-organiser with Prof. Hieronymi.

Oberseminar   July 2022 – Now
Mathematisches Institut, Bonn
Co-organiser with Prof. Hieronymi
Weekly seminar.

Fields Model Theory Seminar   July 2021 – June 2022
Fields Institute, Toronto
Co-organiser with Esther Elbaz and Alexi Block-Gorman
Weekly seminar during the Thematic Program
on Trends in Pure and Applied Model Theory,
and the Thematic Program on
Tame Geometry, Transseries and Applications
to Analysis and Geometry

Journée des Jeunes Chercheur-e-s   Nov. 28th, 2016
ICJ Lyon
Co-organiser, with Ariane Carrance.
A one-day conference for young researchers in Lyon.

MathαLyon   Oct. 11th, 2018 – Oct. 12th, 2018
ICJ Lyon
Outreach activities for "Fête de la science", with school students.

Peer Reviewing
I am referee for the *Annals of Pure and Applied Logic* and *Journal of Symbolic Logic*.

Student Supervision

Mathematisches Institut   University of Bonn
Post-doctoral position   October 2022–Now

- PhD thesis co-advisor
  With Philipp Hieronymi, supervision of the PhD thesis of Leon Chini. Keywords of the thesis: Model theory of expansions of a real-closed field by generic multiplicative map. Distal expansions of the natural numbers with a successor function.

Hebrew University   Jerusalem
Post-doctoral position   October 2019–October 2021

- Master's thesis advisor
  With Itay Kaplan, supervision of the master's thesis of Leor Neuhauser. Keywords of the thesis: Positive logic and generic expansions of fields with subgroups. NSOP$_1$ in the positive logic sense. NSOP$_1$ expansions of theories of fields.

Teaching

Mathematisches Institut   University of Bonn
Teaching Assistant   October 2022–Now

- (Winter term) Adv Math Logic II: Tame Geometry
  Exercise Sessions for an MSc course.
- (Summer term) Adv. Topics in Math. Logic - Neostability and Independence relations
  Lecturer for an MSc course.

University Lyon 1   Lyon (France)
Teaching Assistant (ATER), 98hrs. Bachelor level.   October 2018–June 2019

University Lyon 1   Lyon (France)
Ph.D. 180hrs. Bachelor level.   October 2015–June 2018

Computer Science Abilities

- **Mathematical Calculus :** sage-math, matlab, scilab, maple.

- **General :** python, C, html.

- **Computer music :** LogicPro.

Languages

- **French :** Native speaker.
- **English :** Fluent.
- **Spanish :** Fluent.
- **Basque :** Written and spoken.
- **Arabic :** Beginner.