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Employment

- 2022– **Researcher**, CNRS, DMA, École normale supérieure, Paris.
2018–2022 **Researcher**, CNRS, IMJ-PRG, Université Paris Diderot, France.
2015–2017 **Postdoctoral position**, Morrey Visiting Assistant Professor, Mathematics department, UC Berkeley, USA.
2012–2015 **Teaching Assistant**, DMA, École normale supérieure, Paris, France.

Education

- 2011–2014 **Ph.D. in Mathematics**, Université Paris-Sud, Orsay, France.
supervisors: Élisabeth Bouscaren (Université Paris-Sud, Orsay, France),
Tom Scanlon (UC Berkeley, USA),
thesis: *Eliminations in valued fields*.
2010–2011 **Master 2**, Université Paris Diderot, France.
Master de Logique Mathématique et Fondements de l'Informatique (LMFI),
supervisor: Élisabeth Bouscaren,
thesis: *Imaginaires dans les corps p -adiques*.
Spring 2010 **Research internship**, Cambridge University, UK
encadrant: Glynn Winskel,
topic: Sémantique des jeux concurrents.
Summer 2009 **Research internship**, INRIA, Rocquencourt, France.
supervisor: Xavier Leroy,
topic: Compilation certifiée.
2008–2012 **Student at the École normale supérieure**, Paris, France.
2009–2010 Master 1 de Mathématiques.
2008–2009 Licence 3 in Mathématiques.

Grants and awards

- 2020– Member of the ANR-DFG program Geomod
<https://home.mathematik.uni-freiburg.de/palacin/GeoMod/>
2018–2019 PEPS JJCJ.
2018–2021 Prime d'encadrement doctoral et de recherche (PEDR).
2016–2018 AMS-Simons Travel Grant.
2015 Thiessé de Rosemont/Demassieux prize from the Chancellerie des universités de Paris.
Awarded each year to one thesis in mathematics defended in the Paris area.
2014 Best talk by a Ph.D. student, BPGMT14.

Publications and preprints

- submitted
1. *Pseudo T -closed fields*, with S. Montenegro. arXiv:2304.10433.
 2. *Enriching a predicate and tame expansions of the integers*, with G. Conant, C. d'Elbée, Y. Halevi and L. Jimenez. arXiv:2203.07226.
 3. *Un principe d'Ax-Kochen-Ershov imaginaire*, with M. Hils. arXiv:2109.12189.
 4. *Hensel minimality II: Hensel minimality II: Mixed characteristic and a diophantine application*, with R. Cluckers, I. Halupczok and F. Vermeulen. arXiv:2104.09475.
- 2022
5. *Hensel minimality I*, with R. Cluckers and I. Halupczok. Forum of Mathematics, Pi, 10, Paper No. e11. 2022.
- 2021
6. *A short note on groups in separably closed valued fields*. Annals of Pure and Applied Logic, 172(4), Paper No. 102943. 2021.

7. *Imaginaries in pseudo- p -adically closed fields*, with S. Montenegro. Transactions of the American Mathematical Society, 374(2), pp 803–828. 2021.
- 2019 8. *Metastable groups, Valued fields*, with E. Hrushovski. Selecta Mathematica (New Series), 25(3), 2019.
9. *Imaginaries and invariant types in existentially closed valued differential fields*. Journal für die reine und angewandte Mathematik (Crelle’s Journal), 750, pp 157–196, 2019.
- 2018 10. *Definable equivalence relations and zeta functions of groups*, with E. Hrushovski and B. Martin, with an appendix by R. Cluckers. Journal of the European Mathematical Society (JEMS), 20, pp 2467–2537, 2018.
11. *Imaginaries in separably closed valued fields*, with M. Hils and M. Kamensky. Proceedings of the London Mathematical Society, 116, pp 1457–1488, 2018.
- 2017 12. *Games and Strategies as Event Structures*, with S. Castellan, P. Clairambault and G. Winskel. Logical Methods in Computer Science, 13(3), 2017.
13. *Definable and invariant types in enrichments of NIP theories*, joint with P. Simon. Journal of Symbolic Logic, 82(1), pp 317–324, 2017.
14. *Some properties of analytic difference valued fields*. Journal of the Institute of Mathematics of Jussieu 16(3), pp 447–499, 2017.
- 2011 15. *Concurrent Strategies*, with G. Winskel. In Logic in Computer Science (LICS 2011), pp 409–418, 2011.
- 2010 16. *Validating Register Allocation and Spilling*, with X. Leroy. In Compiler Construction (CC 2010), volume 6011 of Lecture Notes in Computer Science, pp 224–243, Springer, 2010.

Teaching

École normale supérieure, Paris:

Fall 2022 Logique, enseignant.

Université Paris Diderot, France:

Winter 2022 Théorie des modèles des corps valués (M2 LMFI), enseignant.

Winter 2021 Model theory of valued fields (M2 LMFI), instructor.

Winter 2020 Model theory of pseudo-finite fields (M2 LMFI), instructor.

Winter 2019 Model theory of pseudo-finite fields (M2 LMFI), instructor.

UC Berkeley, USA:

Fall 2017 Math 113 — Abstract algebra, instructor.

Math 225 — Metamathematics (graduate course), instructor.

Spring 2017 Math 113 — Abstract algebra, instructor.

Fall 2016 Math 113 — Abstract algebra, instructor.

Math 225 — Metamathematics (graduate course), instructor.

Spring 2016 Math 113 — Abstract algebra, instructor.

Fall 2015 Math 125 — Mathematical logic, instructor.

École normale supérieure, Paris, France:

Fall 2014 Logic, teaching assistant.

Fall 2013 Logic, teaching assistant.

Fall 2012 Logic, teaching assistant.

Fall 2011 Debating (British Parliamentary style), instructor.

2010–2012 Exercice session for first year MPSI “classes préparatoires”, Lycée Chaptal, Paris, France.

2008–2011 Mathematics and physics tutoring for high school students, as part of Talens.

Supervision

- 2022– P. Wang, thèse de doctorat
topic: Métastabilité et corps valués différentiels
- Spring-Summer 2021 Paul Wang, Master’s thesis

2020 –	topic: The group configuration and generic stability. Akash Hossain, PhD thesis co-advisor : Elisabeth Bouscaren.
Spring-Summer 2020	topic: Forking in pseudo local fields. Akash Hossain, Master’s thesis
Spring 2019	topic: Model theory of pseudo local fields. Undergrad internship,
Fall 2017	topic: Introduction to model theory. Reading course.
Spring 2017	topic: <i>Introduction to Stability Theory</i> , Anand Pillay. Undergrad reading course.
Spring 2013	topic: <i>Introduction to Model Theory</i> , Dave Marker. Graduate reading course.
2012–2015	topic: Continuous logic. First year thesis, topic: <i>Elimination of quantifier in p-adic fields and p-adic integration</i> . Tutoring for students of the École normale supérieure.

Organization of scientific events

May 2023	“Model theory of valued fields” conference, CIRM, Marseille. co-organizers: F. Jahnke et Z. Chatzidakis.
January 2023	“Model Theory: Combinatorics, Groups, Valued Fields and Neostability” conference, MFO, Oberwolfach, Allemagne. co-organizers: I. Kaplan, K. Tent et F. Wagner.
2022–23	“Géométrie et théorie des modèles” seminar, École normale supérieure, Paris. co-organizers: R. Cluckers et Z. Chatzidakis.
Decembre 2021	“Model Theory: from geometric stability to tame geometry” conference, for Ehud Hrushovski’s 60th birthday, Fields Institute Toronto, Canada. co-organisateurs: É. Bouscaren, A. Ducros, A. Hasson, D. Macpherson, T. Scanlon et F. Wagner.
Mars 2021	“Corps valués” workshop, ANR GéoMod, webinar.
Fall 2020	Model theory seminar, “Decidability, definability and computability in number theory” semester, MSRI, Berkeley, USA
2020–2021	Lyon-Paris Logic seminar, Université de Paris – Université Claude Bernard Lyon I, webinar. co-organizers: O. Finkel, T. Ibarlucia, T. Tsankov, A. Vignati.
Spring 2020	Reading group, Université de Paris topic: E. Hrushovski, <i>Definability patterns and their symmetries</i> .
2018–2020	“Séminaire général de logique”, Université Paris Diderot. co-organisateurs: O. Finkel, T. Ibarlucia, A. Khelif, C. Sureson, A. Vignati.
Winter 2018	Biweekly seminar of the “Model Theory, Combinatorics and Valued Fields” trimester, IHP, Paris, France. coorganizer: A. Onshuus
2015–2017	Model theory seminar at UC Berkeley, USA. coorganizer: P. Simon
2014–2015	Ph.D student seminar, the “Séminaire de l’Abbé Mole”, École normale supérieure, Paris, France coorganizers: J. Bureaux, B. Mallein, V. Pecaistaing

Other activities

2022–	Editor, “Journal de l’institut de mathématiques de Jussieu”.
2022–	Guest editor, “Model theory”, special volume for E. Hrushovski’s 60th birthday.
2020 – 2022	Deputy head of the Mathematical Logic team of the IMJ-PRG.
2018– 2022	Member of the scientific council of the UFR de Mathématiques of the Université Paris Diderot.

Semesters and scientific stays

- Fall 2021 “Trends in Pure and Applied Model Theory” semester, Fields Institute, Toronto, Canada.
Winter 2018 “Model Theory, Combinatorics and Valued Fields” trimester, IHP, Paris, France.
Spring 2014 “Model Theory, Arithmetic Geometry and Number Theory” semester, MSRI, Berkeley, USA.

Invited lectures

- 2022 Jui. XIX Simposio Latino Americano de Lógica Matemática (SLALM), San José, Costa Rica.
Expansions of the integers and stably dominated sets.
Mai. Münster-Düsseldorf GeSAMT, Münster, Allemagne.
Expansions of the integers and stably dominated sets.
- 2019 Jul. **Workshop on Recent Applications of Model Theory**, Fields Institute, Toronto, Canada.
Asymptotic imaginaries in $\mathbb{F}_p((t))^{\text{alg}}$ with the Frobenius.
Jun. **Model theory of Valued fields and Applications**, Münster, Germany
An Imaginary Ax-Kochen-Ershov principle.
- 2018 Oct. **Workshop on the model theory of valued fields**, IPM, Tehran, Iran.
Model theory of algebraically closed valued fields, mini-cours de 4,5 h.
Jun. **Second congrès de la SMF**, “Arithmétique, Logique” session, Lille, France.
Imaginaires dans les corps Henséliens de caractéristique zéro.
Mar. **Model theory of valued fields workshop**, Institut Henri Poincaré, Paris, France.
Toward an imaginary Ax-Kochen-Ershov principle.
- 2017 Dec. **Seemod Workshop 5**, Imperial College, London, UK:
Groups and fields definable in algebraically closed valued fields.
Nov. **AMS Western Sectional meeting**, Model theory session, UC Riverside, USA:
Groups and fields definable in algebraically closed valued fields.
Sep. **DART VIII**, Linz, Austria:
Prolongations in valued fields.
Jul. **Berkovich spaces, tropical geometry and model theory**, Bogotá, Columbia:
Groups with stably dominated generics.
Model Theory and dynamics, Villa de Leyva, Columbia:
Eliminating imaginaries: invariant extensions and amalgamation.
Model Theory, Bedlewo, Poland:
Imaginaries in pseudo-p-adically closed fields.
- 2016 Jul. **Interactions between Model Theory and Arithmetic Dynamics**, Fields Institute, Toronto, Canada:
Groups with definable generics, group chunks and separably closed valued fields.
May. **ASL Annual Meeting**, Model theory session, University of Connecticut, Storrs, USA:
Imaginaries in valued fields with operators.
Antalya Algebra Days XVIII, Nesin Mathematics Village, Şirince, Turkey:
The model theory of valued differential fields.
- 2015 Aug. **LC’15 ASL**, Model theory special session, Helsinki, Finland:
Imaginaries and definable types in valued differential fields.
May. **Arithmetic and algebraic differentiation**, in honor of Alexandru Buium, UC Berkeley, USA:
The model theory of analytic difference valued fields.
- 2014 May. **Model Theory in Geometry and Arithmetic**, MSRI, Berkeley, USA:
Transferring imaginaries: from ACVF to \mathbb{Q}_p .

Seminars and conferences

- 2022 July. Satellite Meeting to SLALM XIX on Model Theory, San José, Costa Rica.
Pseudo-T-closed fields, approximations and NTP2.
May. Logic seminar, Hebrew University, Jerusalem. Israel.
Pseudo-T-closed fields, approximations and NTP2.
Apr. Séminaire de théorie des nombres, EPFL, Lausanne, Suisse.

- H-minimality.*
- Mar. Lyon-Korea Webinar in Number Theory.
- H-minimality.*
- 2021 Oct. Structures algébriques et ordonnées, Université de Paris.
Groupes définissables, génériques et loi birationnelle.
Topics in Applied Model Theory, Fields Institute, Toronto, Canada.
Model theory of valued fields.
- Sep. Model theory seminar, Fields Institute, Toronto, Canada.
Pseudo-T-closed fields, approximations and NTP2.
- June Séminaire de géométrie, Université Savoie Mont-Blanc. Chambéry
H-minimalité.
- May Géométrie et théorie des modèles, École normale supérieure, Paris
Pseudo-T-closed fields, approximations and NTP2.
Logic Seminar, University of Manchester, United Kingdom.
Pseudo-T-closed fields, approximations and NTP2.
- 2021 Feb. **Raconte-moi**, DMA, Ens, Paris, France
La théorie géométrique des modèles, ou comment lier structure et combinatoire.
- 2020 Oct. **Valuation theory seminar**, DDC semester, MSRI, Berkeley, USA
Pseudo-T-closed fields, approximations and NTP2.
- Jun. **Seminario de Investigación**, Universidad de Costa Rica
Asymptotic imaginaries in $\mathbb{F}_p((t))^{\text{alg}}$ with the Frobenius.
- Apr. **Séminaire de Logique Lyon-Paris**, Université de Paris – Université Lyon I, webinaire.
A model theoretic account of the tilting equivalence.
- Feb. **Théorie des modèles et groupes**, Université de Paris.
Autour d'un théorème d'approximation d'Artin.
- Jan. **Séminaire de théorie des nombres**, Université de Caen.
H-minimalité.
Model Theory: Groups, Geometries and Combinatorics, MFO, Oberwolfach, Allemagne.
An imaginary Ax-Kochen-Ersbov principle.
- 2019 Nov. **Model Theory Seminar**, WWU Münster, Germany.
A model theoretic account of the tilting equivalence.
Model Theory Seminar, UC Berkeley, USA:
Imaginaries in valued fields.
- Oct. **Number Theory Seminar**, ETH, Zurich, Switzerland.
Interpretable groups in algebraically closed valued fields.
Géométrie et Théorie des modèles, École normale supérieure, Paris, France:
Hensel minimalité.
- May **Logic Seminar**, University of Oxford, UK
An Imaginary Ax-Kochen-Ersbov principle.
- 2018 Nov. **Structures algébriques ordonnées**, Université Paris Diderot, France:
Imaginaires dans les corps Henséliens II: Invariance des types au dessus de RV.
Séminaire de logique, Université Lyon I, France:
Imaginaires dans les corps Henséliens.
Structures algébriques ordonnées, Université Paris Diderot, France:
Imaginaires dans les corps Henséliens I : densité des types sans quantificateurs définissables.
- Oct. **Neostability Theory**, CMO, Oaxaca, Mexico:
Metastability.
- Jun. **Théorie des modèles et groupes**, Université Paris Diderot, France:
Corps interprétables dans ACVF.
Model Theory Seminar, WWU Münster, Germany.
Corps interprétables dans ACVF.
- 2017 Dec. **Logic Seminar**, University of Chicago, USA:
Imaginaries in pseudo-p-adically closed fields.
- Nov. **Math Monday**, Undergrad lecture, UC Berkeley, USA:
Between characteristics.

- Sep. **Colloquium**, University of Indiana at Bloomington, USA:
Counting subgroups and representations: a model theoretic approach.
- Jan. **Séminaire général de logique**, Université Paris Diderot, France:
Groupes définissables dans des corps enrichis.
- Géométrie et théorie des modèles**, École Normale Supérieure, Paris, France:
Imaginaires dans les corps valués avec opérateurs.
- Model Theory Seminar**, WWU Münster, Germany.
Imaginarities in pseudo- p -adically closed fields.
- 2016 Oct. **Model Theory Seminar**, CUNY, New-York, USA:
Imaginarities in Valued Differential Fields II: Computing Canonical Bases.
- Kolchin Seminar**, CUNY, New-York, USA:
Imaginarities in Valued Differential Fields I: Finding Prolongations.
- Jun. **Théorie des Modèles et Groupes**, Université Paris Diderot, France:
Imaginaires dans les pseudo- p -adiquement clos.
- Apr. **Logic Colloquium**, UCLA, USA:
Imaginarities in valued fields with operators.
- Model Theory Seminar**, McMaster University, Hamilton, Canada:
Imaginarities in separably closed valued fields.
- 2015 Nov. **Logic Colloquium**, UC Berkeley, USA:
Transferring imaginaries.
- Jul. **“Neostability theory”**, CMO, Oaxaca, Mexico:
Definable and invariant types in enrichments of NIP theories.
- Jun. **Géométrie et théorie des modèles**, Université Paris Diderot, France:
Problèmes de comptage en théorie des groupes et imaginaires p -adiques.
- Mar. **Model theory seminar**, UC Berkeley, USA:
Valued differential fields, Imaginarities and the independence property.
- Feb. **Séminaire de Logique Mathématique**, Université Lyon 1, France:
Imaginaires dans les corps valués différentiels et propriété d’indépendance.
- Jan. **British Postgraduate Model Theory Conference**, Oxford University, UK:
Imaginarities in valued differential fields and the independence property.
- 2014 Nov. **Séminaire général de logique**, Université Paris Diderot, France:
Problèmes de comptage en théorie des groupes et imaginaires p -adiques.
- Sep. **Théorie des modèles et groupes**, Université Paris Diderot, France:
Imaginaires dans les corps valués différentiels.
- Jun. **Séminaire d’arithmétique** Université Lille 1, France:
Corps analytiques de différence.
- Mar. **Model theory seminar**, UC Berkeley, USA:
Analytic difference fields.
- Jan. **British Postgraduate Model Theory Conference**, University of Leeds, UK:
Analytic difference fields.
- 2013 Dec. **Théorie des modèles et groupes**, Université Paris Diderot, France:
Corps analytiques de différence.
- Sep. **Séminaire de Logique Mathématique**, Université Lyon 1, France:
Transferts d’imaginaires: Comment éliminer les imaginaires dans les corps p -adiques.
- Apr. **Model theory seminar**, UC Berkeley, USA:
Transferring imaginaries: how to eliminate imaginaries in p -adic fields.
- Jan. **British Postgraduate Model Theory Conference**, University of Manchester, UK:
Transferring imaginaries: how to eliminate imaginaries in p -adic fields.
- 2012 Dec. **Théorie des modèles et groupes**, Université Paris Diderot, France:
Nombres p -adiques et imaginaires II.
- Nov. **Structures algébriques ordonnées**, Université Paris Diderot, France:
Nombres p -adiques et imaginaires I.