João Lourenço

Contacto

Département de mathématiques
Université Sorbonne Paris Nord
99 avenue Jean-Baptiste Clément
93430 Villetaneuse, França

Email: lourenco@math.univ-paris13.fr
Página web: math.univ-paris13.fr/~lourenco

Investigação

Geometria algébrica, teoria dos números, teoria das representações. Variedades de Shimura, programa de Langlands geométrico, teoria geométrica das representações em característica mista.

Formação

Doutoramento em Matemática, Universität Bonn 2017–2020
- Tese: *Teoria de Bruhat–Tits, grassmanianas afins e modelos locais*
- Orientador: Peter Scholze (defesa: 7 set. 2020, *magna cum laude*)

Mestrado em Matemática, Universität Bonn 2015–2017
- Orientador: Peter Scholze

Licenciatura em Matemática, Universidade do Porto 2012–2015

Cargos

Professeur des universités, Université Sorbonne Paris Nord 2025–
Akademischer Rat auf Zeit, Universität Münster 2024–25
Wissenschaftlicher Mitarbeiter, Universität Münster 2022–23
Gast, Max-Planck-Institut für Mathematik, Bona 2022
Research associate, Imperial College London 2020–21
Wissenschaftlicher Mitarbeiter, Universität Bonn 2017–20

Artigos

17. (com K. Bando, I. Gleason e J. Yu) "The Bezrukavnikov equivalence in mixed characteristic", em preparação.
16. (com T. Richarz, E. Viehmann e T. Wedhorn) "Moduli descriptions of local models", em preparação.
15. (com A. Ivanov, I. Gleason, L. Hamann e K. Zou) "On the schematic and analytic constructions of the local Langlands category", em preparação.
14. (com R. Cass) "Mod p sheaves on Witt flags", arXiv:2503.01796.
13. (com P. Achar, T. Richarz e S. Riche) "A modular ramified Satake equivalence", arXiv:2403.10651, submetido.
12. "Distributions and normality theorems", arXiv:2312.17121, submetido.
11. (com J. Anschütz, Z. Wu e J. Yu) "Gaitsgory's central functor and the Arkhipov–Bezrukavnikov equivalence in mixed characteristic", arXiv:2311.04043, submetido.
10. (com P. Achar, T. Richarz e S. Riche) "Fixed points under pinning-preserving automorphisms of reductive group schemes", arXiv:2212.10182, a publicar em *Annali della Scuola Normale Superiore di Pisa, Classe di Scienze*.
9. (com I. Gleason) "On the connectedness of p-adic period domains", arXiv:2210.08625, submetido.
8. (com N. Fakhruddin, T. Haines e T. Richarz) "Singularities of local models", arXiv:2208.12072, *Mathematische Annalen* **391** (2025), n.º 4, 6205–6250.
7. (com I. Gleason) "Tubular neighborhoods of local models", arXiv:2204.05526, *Duke Mathematical Journal* **173** (2024), n.º 4, 723–743.
6. (com J. Anschütz, I. Gleason e T. Richarz) "On the p-adic theory of local models", arXiv:2201.01234, a publicar em *Annals of Mathematics*.
5. (com T. Haines e T. Richarz) "On the normality of Schubert varieties: remaining cases in positive characteristic", arXiv:1806.11001, *Annales Scientifiques de l'École Normale Supérieure* (4) **57** (2024), n.º 3, 895–959.

4. “Teoria de Bruhat–Tits, grassmanianas afins e modelos locais”, Dissertação, Universität Bonn, 2020. bonndoc.
3. “Théorie de Bruhat–Tits pour les groupes quasi-réductifs”, arXiv:2001.05362, *Journal de l'Institut de Mathématiques de Jussieu* **21** (2022), n.º 4, 1331–1362.
2. “Grassmanniennes affines tordues sur les entiers”, arXiv:1912.11918, *Forum of Mathematics Sigma* **11** (2023), Paper n.º e12, 65 pp.
1. “The Riemannian Hebbarkeitssätze for pseudo-rigid spaces”, arXiv:1711.06903.

Financiamentos

Sonderforschungsbereich 1442 “Geometrie: Deformationen und Rigidität”, Deutsche Forschungsgemeinschaft • Investigador principal nos projectos A1 (com E. Hellmann e P. Schneider) e A5 (com E. Viehmann e Y. Zhao).	2024–25

Palestras

“Comparaison des faisceaux sur Isoc et Bun”, Luminy	16.02.26
“Comparaison des faisceaux sur Isoc et Bun”, Paris Nord	12.12.25
“Comparaison des faisceaux sur Isoc et Bun”, Orsay	02.12.25
“Comparaison des faisceaux sur Isoc et Bun”, Marselha	18.11.25
“Mod p sheaves on Witt flags”, Singapura	10.11.25
“Modular ramified Satake”, Singapura	03.11.25
“Comparaison des faisceaux sur Isoc et Bun”, Jussieu	29.09.25
“Comparison of sheaves on Isoc and Bun”, Paderborn	29.08.25
“Comparaison des faisceaux sur Isoc et Bun”, Estrasburgo	10.04.25
“Comparaison des faisceaux sur Isoc et Bun”, Clermont-Ferrand	25.03.25
“Arkhipov–Bezrukavnikov for p-adic groups”, Tóquio	07.10.24
“Arkhipov–Bezrukavnikov pour les groupes p-adiques”, Jussieu	22.04.24
“Modular ramified Satake”, Münster	18.04.24
“Arkhipov–Bezrukavnikov for p-adic groups”, Geometric and categorical representation theory, Clermont-Ferrand	23.10.23
“Local models revisited”, 75.º aniversário de M. Rapoport, Münster	02.10.23
“Teoria geométrica das representações e geometria p-ádica”, Coimbra	26.07.23
“Variétés des drapeaux et +-régularité globale”, Théorie des représentations à Lyon	26.06.23
“Towards Bezrukavnikov via p-adic central sheaves”, Local Langlands and p-adic methods, Bona	12.06.23
“Towards Bezrukavnikov via p-adic local models”, Arithmetic of Shimura varieties, Oberwolfach	03.02.23
“p-adic local models I & II”, Münster	10.22
“Modèles locaux p-adiques : géométrie et cohomologie”, Paris-Nord	06.22
“Mini-cours sur la théorie p-adique des modèles locaux”, Caen	26.05.22
“Tubular neighborhoods of local models II”, MPIM Bona	06.05.22
“Local models for p-adic shtukas”, MPIM Bona	28.04.22
“On the p-adic theory of local models”, Hong Kong	15.03.22
“On the p-adic theory of local models II”, Rampage	09.02.22
“On the p-adic theory of local models”, Munique	12.01.22
“Sur la théorie p-adique des modèles locaux”, Orsay	07.12.21
“Sur la théorie p-adique des modèles locaux”, Paris Rive Gauche	29.11.21
“On the p-adic theory of local models”, Fields Medal Symposium, Toronto	26.10.21
“Towards the Scholze–Weinstein conjecture on local models”, Londres	11.11.20
“Vers la conjecture de Scholze–Weinstein sur les modèles locaux”, Paris Nord	09.10.20

	"On the geometry of mixed characteristic affine Grassmannians", Oberwolfach	24.07.20
	"Twisted affine Grassmannians in wildly ramified cases", Bona	28.11.19
	"Bruhat–Tits theory for pseudoreductive groups", Bona	21.11.19
	"Twisted affine Grassmannians over $\mathbf{Z}$", Modularity and Moduli Spaces, Oaxaca	21.10.19
	"Twisted affine Grassmannians and local models of Shimura varieties", Londres	11.10.19
	"Twisted Kac-Moody groups over the integers", Immeubles et grassmanniennes affines, Luminy	30.08.19
	"Local models for some wildly ramified groups", Bona	20.12.18
	"The Riemannian Hebbarkeitssatz for pseudo-rigid spaces I & II", Bona	04.17
Conferências	"Sino-French Symposium on Number Theory", Tianyuan Mathematics Research Center, Hangzhou (orador)	06–07.26
	"Simons Collaboration Annual Meeting", Nova Iorque	03.26
	"Géométrisation de la correspondance de Langlands locale", Luminy (orador)	02.26
	"ENTR Workshop 25", Paderborn (orador)	08.25
	"BIRS Workshop", Hangzhou	07.25
	"Oberwolfach Seminar on Algebraic groups", Oberwolfach	04.25
	"Simons Collaboration on Perfection in Algebra, Geometry and Topology Annual Meeting", Nova Iorque	03.25
	"Geometric approaches to the local Langlands program", Maryland	03.25
	"Reduction of arithmetic varieties", Oberwolfach (orador)	10.24
	"Workshop on Shimura varieties, representation theory and related topics", Tóquio (orador)	10.24
	"Simons Collaboration Annual Meeting", Nova Iorque	03.24
	"Geometric and categorical representation theory", Clermont-Ferrand (orador)	10.23
	"Conferência por ocasião do 75.º aniversário de M. Rapoport", Münster (orador)	10.23
	"Local Langlands and p-adic methods", Bona (orador)	07.23
	"Arithmetic of Shimura varieties", Oberwolfach (orador)	02.23
	"Summer School on The Langlands Programme", Paris	07.22
	"30.as Rencontres arithmétiques de Caen", Caen (orador)	05.22
	"2021 Fields Medal Symposium: Peter Scholze", Toronto (orador)	11.21
	"Oberwolfach Arithmetic Geometry", Oberwolfach (orador)	07.21
	"Modularity and moduli spaces", Oaxaca (orador)	10.19
	"Hausdorff School on the Emerton–Gee stack and related topics", Bona	08.19
	"Immeubles et grassmanniennes affines", Luminy (orador)	09.19
	"Arithmetic Geometry in Carthage", Cartago	06.19
	"The p-adic Langlands programme and related topics", Londres	05.19
	"Groupes algébriques et géométrisation du programme de Langlands", Lyon	06.18
	"Leçons Hadamard par P. Scholze", Paris	04.17
	"Arizona Winter School 2017: Perfectoid Spaces", Tucson	03.17
	"Oberwolfach Seminar on Perfectoid Spaces", Oberwolfach	10.16
Ensino	Curso "Espaces perfectoïdes"	S2 2025–26
	TDs de álgebra 6, assistente de É. Hoffbeck	S2 2025–26

	TDs de álgebra linear, assistente de C. Ausoni	S2 2025–26
	TDs de programação, assistente de N. Mustafa	S2 2025–26
	TDs de álgebra comutativa, assistente de P. Boyer	S1 2025–26
	TDs de topologia algébrica, assistente de B. Vallette	S1 2025–26
	Grupo de trabalho "Affine Deligne–Lusztig theory" (com E. Viehmann e I. Zachos)	S2 2024–25
	Curso "Lineare Algebra II", assistente de E. Viehmann	S2 2024–25
	Grupo de trabalho "Vector bundles in the v-topology and Sen theory" (com E. Hellmann e L. Mann)	S1 2024–25
	Curso "Lineare Algebra I", assistente de E. Viehmann	S1 2024–25
	Curso "Algebraic Geometry II"	S2 2023–24
	Curso "Geometrische Lineare Algebra", assistente de U. Hartl	S1 2023–24
	Seminário "Homological and Frobenius methods in commutative algebra"	S2 2022–23
	Grupo de trabalho "Bezrukavnikov" (com K. Zou)	S1 2022–23
	Seminário "Darstellungstheorie endlicher Gruppen" (com E. Viehmann)	S1 2022–23
	Grupo de trabalho "Geometrization of the Langlands program" (com M. Tamiozzo)	S1 2020–21
Visitas	Singapura, acolhido por I. Gleason	10.25
	Maryland, com I. Gleason e J. Yu, acolhido por T. Haines	03.25
	Grenoble, acolhido por P. Achar e S. Riche	07.22
	Paris-Nord, acolhido por S. Morra e A.-C. Le Bras	06.22
	Paris-Saclay, acolhido por K. Česnavičius	11.21
	Imperial College London, acolhido por A. Caraiani	02.20
	Institut de mathématiques de Jussieu, acolhido por J. Anschütz e T. Richarz	12.18
Revisor	*Annals of Mathematics*, *Inventiones Mathematicae*, *Forum of Mathematics Pi*, *Annales Scientifiques de l'École Normale Supérieure*, *Mathematische Annalen*, *Representation Theory*, *Canadian Journal of Mathematics*, *Épijournal de Géométrie Algébrique*.	
Línguas	Português (língua materna), alemão, inglês, espanhol, francês, italiano (correntes).	