# Najib Idrissi

Curriculum Vitæ

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## Academic Career

Since Sept. 2018 Maître de conférences, Université de Paris & Institut de Mathématiques de Jussieu-Paris Rive Gauche (IMJ-PRG), Paris, France.

Feb. 2018–Aug. 2018 **Postdoctoral researcher**, ETH Zürich, Zürich, Switzerland. Group of Thomas Willwacher. Funded by ERC StG 678156–GRAPHCPX.

Sept. 2015–Jan. 2018 **Doctorate in Mathematics**, Université de Lille & Laboratoire Paul Painlevé, Lille, France. Advisor: Benoit Fresse. Title: Operadic Formality and Homotopy of Configuration Spaces. Thesis defended on November 17th, 2017.

Sept. 2011–Aug. 2015 Élève fonctionnaire, École Normale Supérieure de Paris, Paris, France.

2014–2015: Research internship in preparation of a doctorate, Université de Lille. 2013–2014: Master's degree in Fundamental Mathematics, Université Paris Diderot. Fall 2013: Research internship in algebraic topology, Massachusetts Institute of Technology.

2009–2011 Classes prépas (MPSI/MP), Lycée Henri Wallon, Valenciennes, France.

### Awards

2019–2020 **Peccot Lecture**, Collège de France – Fondation Claude-Antoine Peccot, Paris, France. "[...] rewards each year young mathematicians under 30 who have been noticed in theoretical or applied mathematics"

#### Research

#### **Publications**

- [1] Najib Idrissi. "Formality of a higher-codimensional Swiss-Cheese operad." In: *Algebr. Geom. Topol.* (2020). arXiv: 1809.07667. Forthcoming.
- [2] Najib Idrissi. "The Lambrechts-Stanley Model of Configuration Spaces." In: *Invent. Math* 216.1 (2019), pp. 1–68. ISSN: 1432-1297. DOI: 10.1007/s00222-018-0842-9. arXiv: 1608.08054.
- [3] Najib Idrissi. "Swiss-Cheese operad and Drinfeld center." In: *Israel J. Math* 221.2 (2017), pp. 941–972. DOI: 10.1007/s11856-017-1579-7. arXiv: 1507.06844.

#### **Preprints**

- [4] Najib Idrissi. Real Homotopy of Configuration Spaces. Cours Peccot. 2021. 164 pp. In preparation.
- [5] Ricardo Campos, Julien Ducoulombier, and Najib Idrissi. Boardman-Vogt resolutions and bar/cobar constructions of (co)operadic (co)bimodules. Version 2. 2019. arXiv: 1911.09474. Pre-published. 68 pp.
- [6] Ricardo Campos, Najib Idrissi, and Thomas Willwacher. *Configuration Spaces of Surfaces*. Version 2. 2019. arXiv: 1911.12281. Pre-published. 50 pp.
- [7] Ricardo Campos, Julien Ducoulombier, Najib Idrissi, and Thomas Willwacher. A model for framed configuration spaces of points. 2018. arXiv: 1807.08319. Pre-published. 27 pp.
- [8] Ricardo Campos, Najib Idrissi, Pascal Lambrechts, and Thomas Willwacher. Configuration Spaces of Manifolds with Boundary. 2018. arXiv: 1802.00716. Pre-published. 107 pp.
- [9] Najib Idrissi. Curved Koszul duality of algebras over unital versions of binary operads. Version 3. 2018. arXiv: 1805.01853. Pre-published. 33 pp.

#### Other documents

- [10] Najib Idrissi. "Formalité opéradique et homotopie des espaces de configuration." PhD thesis. Université Lille 1, Nov. 17, 2017. 173 pp. URL: http://ori.univ-lille1.fr/notice/view/univ-lille1-ori-455595.
- [11] Najib Idrissi. "Homologie et complexes de déformations d'opérades  $E_n$ ." Master's thesis. Université Paris Diderot, 2014.

# Funding

#### Obtained

- 2019 Holder of an Exploratory Project for First Support "Young Researcher (PEPS JCJC)", CNRS / Insmi, 3500 €.
- Sept. 2015–Jan. 2018 Specific doctoral contract "normalien", École Normale Supérieure de Paris.

#### Member

- 2021–2024 Member of the ANR project "Higher Algebra, Geometry, and Topology (HighAGT)". Coordinator: Bruno Vallette..
- 2014–2015 Member of the ANR project "Homotopie algébrique, Opérades et groupes de Grothendieck— Teichmüller (HOGT)". Coordinator: Benoit Fresse.

# Supervision

2020–2021 Marie-Camille Delarue, Master's thesis, Sorbonne Université / ENS.

Yasamin Jalalian, Bachelor thesis, École Polytechnique.

Title: Lie algebras and the PBW theorem. Defense on April 22<sup>nd</sup>, 2021.

## Service

## Organization

- Since Oct. 2018 **One of the organizers of the Topology Seminar**, Institut de Mathématiques de Jussieu-Paris Rive Gauche.
- Jan. 2019–June 2019 **Organization of a reading seminar on homological stability**, *Institut de Mathématiques de Jussieu-Paris Rive Gauche*.
  - Oct. 2017 Participation to the organization of the introductory day for young researchers, Colloque 2017 du GDR Topologie Algébrique, Paris.
  - 2016–2017 One of the organizers of the PhD students' seminar, Laboratoire Paul Painlevé, Lille.

    Jurys
  - Jan. 2020 PhD jury of Erica Minuz (advisor: Marcel Bökstedt), Aarhus University.
  - Sept. 2019 Master's memoir jury of Basile Coron (advisor: Thomas Willwacher), Sorbonne Université / ETH Zürich.
  - 2018–2019 Exam jury for L1 MIASHS, Université Paris Diderot.

#### Other

ongoing Peer reviews (reports and/or opinions).

Adv. Math. • Alg. Geom. Topol. • Comm. Math. Phys. • Compos. Math. • Geom. Topol.

- Homol. Homot. Appl. J. Éc. Polytech. Math. J. Lond. Math. Soc. Lett. Math. Phys.
- Proc. Roy. Soc. Edinburgh Sect. A Selecta Math.
- ongoing Writing of abstracts for Zentralblatt MATH.

#### Talks

- Oct. 2021 Colloque 2021 du GDR Topologie Algébrique, Université de Strasbourg.
- June 2021 Barcelona Conference on Higher Structures, Centre de Recerca Matemàtica (CRM).
- May 2021 **Topology and Geometry seminar**, University of Haifa, online.
- Mar. 2021 **Topology Seminar**, Massachusetts Institute of Technology (MIT), online.
- Feb. 2021 Research Seminar on Algebraic Topology, Universität Hamburg, online.
- Jan. 2021 **Séminaire Algèbre et topologie**, *Université de Strasbourg*, online.

- Oct. 2020 Topology seminar, Northeastern University, online.
- Apr. 2020 Toric Topology Research Seminar, Institut Fields, online.
- Feb. 2020 Málaga & Topology Meeting, Universidad de Málaga.
- Jan. 2020 Seminar, Aarhus Universitet.
- Dec. 2019 **Opening workshop of the OCHoTop project**, École Polytechnique Fédérale de Lausanne (EPFL).
- Nov. 2019 **Journée de topologie**, *Université de Picardie Jules Verne*.
- July 2019 Algebraic Topology Seminar, Université catholique de Louvain.
- May 2019 **Higher Homotopy Algebras in Topology**, Max-Planck-Institut für Mathematik (MPIM).
- May 2019 **Topology Seminar**, Institut de Mathématiques de Jussieu-Paris Rive Gauche.
- Jan. 2019 Higher Structures, Centre International de Rencontres Mathématiques (CIRM).
- Dec. 2018 Stockholm Topology Seminar, Stockholm Universitet & KTH.
- Nov. 2018 Geometry & Topology Seminar, Institut de Mathématiques de Jussieu-Paris Rive Gauche.
- June 2018 Derived Geometry and Higher Categorical Structures in Geometry and Physics (junior speaker), Fields Institute.
- June 2018 Colloque du département, University of Regina.
- May 2018 Graph Complexes, Configuration Spaces and Manifold Calculus, University of British Columbia.
- Dec. 2017 Topology, Geometry, and Algebra seminar, Université de Nantes.
- Dec. 2017 Algebra and Topology seminar, Université de Strasbourg.
- Nov. 2017 Mathematical Physics and Algebraic Topology Seminar, Université d'Angers.
- Nov. 2017 Homotopy in Algebraic Geometry Seminar, Université Paul Sabatier.
- Oct. 2017 Singular Spaces Geometry Seminar (× 2), Université de Lille.
- Oct. 2017 Séminaire Itinérant de Catégories, Université du Littoral Côte d'Opale.
- Aug. 2017 Talks in mathematical physics, ETH Zürich.
- July 2017 Young Topologists Meeting 2017, Stockholm Universitet & KTH.
- May 2017 Singular Spaces Geometry Seminar (× 2), Université de Lille.
- Feb. 2017 Conference for Young researchers in homotopy theory and categorical structures, Max-Planck-Institut für Mathematik (MPIM).
- Jan. 2017 Algebraic Topology Seminar, Université catholique de Louvain.
- Nov. 2016 Algebraic Topology Seminar, Université Paris 13.
- Oct. 2016 Conference in the honour of Saïd Zarati, Institut des Hautes Études à Tunis.
- Oct. 2016 **2016 Meeting of the GDR Algebraic Topology and Applications**, Université de Picardie Jules Verne.
- Sept. 2016 **Topology Seminar**, Université de Lille.
- June 2016 Talks in Mathematical Physics, ETH Zürich.
- Apr. 2016 **Topology Seminar**, Institut de Mathématiques de Jussieu-Paris Rive Gauche.
- Dec. 2015 PhD students' seminar, Université de Lille.
- Dec. 2015 PhD students' seminar, Université de Picardie Jules Verne.
- Oct. 2015 Algebraic Topology seminar, Université catholique de Louvain.
- Sept. 2015 **Topology Seminar**, Université de Lille.

## Teaching

2020–2021 Homotopy II, M2 Fundam. Math (lectures, 24h).

Elementary Algebra and Analysis 1 + Mathematical Reasoning 1, L1 Maths (lecture+exercises, 56.5h).

Elementary Algebra and Analysis 2, L1 Chemistry (exercises, 36h).

Algorithms and Programming, L2 (exercises+labs, 42h).

2019–2020 Real Homotopy of Configuration Spaces, Peccot Lecture, Collège de France (8h).

Introduction to Homotopy Theory, M2 Fundam. Math (lectures, 24h).

Elementary Algebra and Analysis 1 + Mathematical Reasoning 1, L1 MIASHS (lecture+exercises, 56.5h).

Elementary Algebra and Analysis 2, L1 Chemistry (exercises, 36h).

Algorithms and Programming, L2 Maths (exercises+labs, 42h).

2018–2019 Elementary Algebra and Analysis 1, L1 MIASHS (lecture+exercises, 72h).

Elementary Algebra and Analysis 2, L1 Chemistry (exercises, 36h).

2017–2018 Calculus 1, L1 MASS (exercises, 36h).

Fundamental mathematics 1, L1 SESI (oral exams & tutoring, 16h + 10h).

 $2016-2017 \quad \textit{Matrix calculus}, \ L2 \ \text{econ-management (exercises, 36h)}.$ 

Calculus 1, L1 econ-management (exercises, 15h).

Calculus 1, L1 MASS (exercises, 15h).

2015–2016 Fundamental mathematics 2, L1 SESI (exercises, 66h).

## Visits

- July 2019 Université catholique de Louvain Pascal Lambrechts (5 d.).
- June 2019 ETH Zurich Thomas Willwacher (5 d.).
- June 2018 University of Regina Don Stanley (10 d.).
- Aug. 2017 ETH Zurich Thomas Willwacher (5 d.).
- Jan. 2017 Université catholique de Louvain Pascal Lambrechts (5 d.).
- June 2016 ETH Zurich Thomas Willwacher (4 d.).

## Conferences attended

- 2021 Barcelona Conference on Higher Structures? (Centre de Recerca Matemàtica) Colloque 2021 du GDR Topologie Algébrique et Applications? (Université de Strasbourg).
- 2020 Toric Topology and Polyhedral Products (Fields Institute) [cancelled due to Covid19] Málaga & Topology Meeting (Universidad de Málaga).
- 2019 Opening workshop of the OCHoTop project (EPFL) Journée de topologie (Université de Picardie Jules Verne) Colloque 2019 du GDR Topologie Algébrique et Applications (Université d'Artois) Groupe de travail : Valeurs zêta multiples en quantification par déformation (Université de Montpellier) SYM 10 Years Old (Københavns Universitet) Topologie de basse dimension : Colloque en l'honneur de Christian Blanchet (Université Paris Diderot) Higher Homotopy Algebras in Topology (Max-Planck-Institut für Mathematik, Bonn) Structures Supérieures (Centre International de Rencontres Mathématiques, Luminy) Higher Structures in Holomorphic and Topological Field Theory (Institut des Hautes Études Scientifiques).
- 2018 New trends in K-theory and homotopy theory A conference in honor of Max Karoubi's 80th birthday (Institut Henri Poincaré, Paris) Colloque 2018 du GDR Topologie Algébrique (Université de Montpellier) Derived Geometry and Higher Categorical Structures in Geometry and Physics (Fields Institute) Graph Complexes, Configuration Spaces and Manifold Calculus (University of British Columbia) Rational Homotopy and its Applications (Université de Lille).

- 2017 Colloque 2017 du GDR Topologie Algébrique (Université Paris Diderot) Séminaire Itinérant de Catégories (Université du Littoral Côte d'Opale) Journée des doctorants du Nord-Pas-de-Calais (Université du Littoral Côte d'Opale) Workshop on Persistent Homology (Université de Montpellier) Young Topologists Meeting 2017 (Stockholm Universitet & KTH) Algebraic Topology and Representation Theory (Université de Lille) Derived Algebraic Geometry and Interactions (Université de Toulouse) Fourth Young Mathematicians Colloquium (Vrije Universiteit Brussel) Lens Topology and geometry 2017 (Université d'Artois, Lens) Workshop on Quantum Topology (Université de Lille) Conference for Young researchers in homotopy theory and categorical structures (Max-Planck-Institut für Mathematik, Bonn).
- 2016 Conference in the honour of Saïd Zarati (Institut des Hautes Études à Tunis) Colloque
  2016 du GDR Topologie Algébrique et Applications (Université de Picardie Jules Verne)
   Young Topologists Meeting 2016 (Københavns Universitet) Workshop: Factorization
  Algebras and Functorial Field Theories (Mathematisches Forschungsinstitut Oberwolfach)
   Séminaire Itinérant de Catégories (Université de Lille).
- 2015 Colloque 2015 du GDR Topologie Algébrique et Applications (Université de Toulouse-3) Lens Topology and geometry 2015 (Université d'Artois, Lens) Introductory School Homotopy theory, manifolds, and field theories (Hausdorff Research Institute for Mathematics) Séminaire du projet ANR HOGT (Université de Strasbourg) Second Young Mathematicians Colloquium (KU Leuven Kulak) Séminaire Itinérant de Catégories (Université du Littoral Côte d'Opale, Calais) Masterclass : K-théorie topologique et applications (Université de Strasbourg) Séminaire du projet ANR HOGT (Université de Lille).
- 2014 Colloque 2014 du GDR Topologie Algébrique et Applications (Université Blaise Pascal)

   Colloque de clôture du projet ANR HOGT (Université de Nice) Espaces des lacets en géométrie et topologie (Université de Nantes) Young Topologists Meeting 2014 (Københavns Universitet) Young Mathematicians Colloquium (Université de Lille) Séminaire du projet ANR HOGT (Université de Lille).
- 2013 Gelfand Centennial Conference: A View of 21st Century Mathematics (Massachusetts Institute of Technology) Conference in Algebra and Topology celebrating Lionel Schwartz's 60th birthday (Université de Nantes).