

Piotr TOURKINE

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Born 01/02/1987, France
Citizenship : French

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Career

2026	Habilitation thesis defense <i>"Methods in S-matrix theory", Université Savoie-Mont-Blanc. Jury : Björn Herrmann (president), Gregory Korchemsky, Joao Penedones, Michela Petrini, Slava Rychkov.</i>
2019–current	Faculty (chargé de recherches) , CNRS, Laboratoire d'Annecy-Le-Vieux de Physique Théorique, Annecy, France
2020–2021	Scientific Associate , CERN, Geneva, <i>on leave of absence from CNRS.</i>
2017–2020	Marie-Curie & CERN Fellow , CERN, Geneva, Switzerland, <i>interrupted May 2019</i>
2015–2017	Postdoctoral Research Associate , Queens' College Cambridge, <i>Undergraduate supervision, Research allowance and various rights</i>
2014–2017	Postdoctoral Research Fellow , Department of Applied Mathematics and Theoretical Physics, Centre for Mathematical Sciences, University of Cambridge.
2010–2014	PhD in theoretical physics , IPhT, CEA Saclay and Université Pierre et Marie Curie (now Sorbonne Université, <i>"Results in perturbative quantum supergravity"</i> . Supervisor : Pierre Vanhove. Defense committee : Michael B. Green (president), David Skinner, Dimitrios Tsimpis (referees), Zvi Bern, Emil Bjerrum-Bohr, Boris Pioline
2007–2011	École Normale Supérieure , Paris, <i>normalien.</i>

Grants, Fellowships. Total directly managed : 592.5k€

2026	CNRS Tremplin, 4k€, targeted to ERC CoG 2026 proposal preparation
2025	CNRS Tremplin, 6.5k€, targeted to ERC CoG 2026 proposal preparation
2025	AAP USMB <i>Generalized symmetries</i> , 5k€
2022 - 2026	Agence Nationale de la Recherche (ANR JCJC), <i>SPARTA</i> , 315 k€
2022 - 2023	Bourse Emergence INP, 78 k€, on : scattering amplitudes and the double-copy.
2021-2022	AAPG USMB <i>Bootstrap and Swampland</i> , 9 k€
2017	CERN Fellowship ; Marie Skłodowska-Curie Individual Fellowship <i>NewLoops</i> , developing new methods in scattering amplitudes using twistor geometry and strings, institution : CERN, <i>MSCA funding 175k€; both fellowships obtained independently.</i>

Institutional responsibilities

2024–present	Referee in funding agencies ; NSERC, ANR, SNF
2021–2025	Elected member of Comité National of CNRS , <i>4-year mandate in national committee in charge of theoretical physics for CNRS in France. Responsibilities include : hiring new CNRS members (concours CNRS), evaluation of researchers and laboratories, promotions.</i>
04/09/2025	PhD defense committee Panos Marinellis, IJCLab, Orsay
31/07/2025	External referee for PhD thesis These Faizan Bhat, IISC, Bangalore, India
01/07/2025	Rapport stage de M2 Sacha Ployet, ICFP M2
01/07/2025	PhD defense committee Sara Ricossa Geneva, Switzerland
06/2024	PhD defense committee Remy Larue, Grenoble, France
04-05/2024	Maitre de Conférence selection committee , LPTHE, Sorbonne Université, Paris , <i>(university faculty position)</i>

04-05/2024	Maitre de Conférence selection committee , LAPTh, Annecy, Université Savoie Mont-Blanc , (<i>university faculty position</i>)
12/2023	PhD defense committee Mehmet Gumus, Trieste, Italy
08/2023	PhD defense committee Miguel Coreia, Lausanne, CH
06/2023	PhD defense committee Paolo Pinchini, Uppsala, Sweden <i>Référent handicap au CoNRS</i> ,
2021	External PhD defense referee ("Viva") for Elliott Bridges. <i>BCJ Identities in Pure Spinor Superspace</i> . Advisor : Carlos Mafra , Southampton, UK
2019	External PhD defense referee for Zhengwen Liu. <i>Novel aspects of scattering equations</i> . Advisor : Claude Duhr , Louvain-la-Neuve, Belgium
2014-present	Referee, 10 papers/year mostly for PRL, JHEP, Scipost (top journals in my field), but also for Nucl Phys B, Phys. Rev. D, J. Phys. A, Communications in Mathematical Physics, Annales Henri Poincaré, Journal of Physics communications, European Physics Journal C.
2015-2016	Cambridge High Energy Physics weekly seminars.

Students

2026	Baptiste Guilleminot, M2 (4 months)
2025–2028	Antoine Villey, PhD
2025	Antoine Villey, M2 (3 months)
2025	Baptiste Guilleminot, M1 (4 months)
2025	Georgia Vassileiou, M1 (4 months)
06/2023	Antoine Vincenti, M1
2023–2026	Damien Leflot (PhD)
2023	Damien Leflot (M2)
2021–2024	Felipe Figueroa (PhD). After PhD : Postdoc in Mons.
2021	Felipe Figueroa, Master's thesis.

Postdocs directly supervised

2025-2026	Simon Metayer (ANR SPARTA)
2023-2026	Mehmet Gummus (ANR SPARTA)
2022-2023	Yihong Wang (CNRS Emergence)

Outreach

2026	Article, "Was string theory discovered by accident", <i>The Conversation</i> , 2026 Brasserie des sciences , Public science talk "Universality : are the laws of nature inevitable" Cargèse School , Public science talk "Universality : are the laws of nature inevitable" Pour La Science Commentaire sur article, "La théorie des cordes émerge-t-elle naturellement à partir de principes géométriques?"
2025	Fête de la science 2025 , Atelier modèle standard en jeux et conférence "Pourquoi la physique est-elle décrite par les mathématiques" LAPP et LAPTh Vulgarisation scientifique Réponse à un lecteur, <i>Science et Vie</i> Oct. 2025 sur tests de la théorie des cordes. Vulgarisation scientifique Commentaire sur article, <i>Science et Vie</i> 2025 sur "Where is M-theory in the space of scattering amplitudes".
2023	Fête de la science 2023 , LAPP et LAPTh
2015	Cambridge Science Festival , Center for Mathematical Science Open Day, Organisation and volunteering.

Conference Organization, and Others

2026	Organiser of Cargese School of fundamental physics , Cargèse, Corsica, June 2026. Organiser of International Conference "Amplitude Bootstrap : from Flat to Curved Space" https://indico.cern.ch/event/1697899/
2025	Organiser of Quy Nhon School of fundamental physics , Quy Nhon, Vietnam.
2024	Workshop on S-matrix bootstrap , LAPTh, Annecy
2024	Organising and scientific committee of Strings 2024 , CERN.
2023	Organiser of ICISE Quy Nhon summer school, directory and scientific board on <i>Modern developments in quantum field and string theory. In charge of fundraising with CNRS (14k€) and APCTP (4.2k€)</i> Fête de la science 2023 , LAPP et LAPTh
2022	Conference Strings and Quantum gravity in the Alps , LAPTh, Annecy. One-day workshop gathering the community of neighbouring institutions in Geneva, Lausanne, Lyon. https://indico.in2p3.fr/event/27428/
2021	Co-director of Cargese summer school on <i>Modern developments in quantum field and string theory</i>
2019	Conference organisation "Workshop on multi-loop calculations, methods and applications 2019" https://multi-loop-2019.sciencesconf.org/ ENS/LPTHE weekly group seminar organisation
2015-2016	Cambridge High Energy Physics weekly seminars. <i>In charge of invitations and organisation of the weekly String Theory group seminars.</i>
2011	Organisation of String Cosmology and Gravitation Student Conference 2011. <i>Annual Paris-London-Munich student conference. Scientific and Organizing committee, London Mathematical Society, London.</i>

Conference talks and seminars

2026	Seminar Rencontres Théoriciennes , <i>Polynomial boundedness, causality and gravity Regge trajectories</i> , Paris, March 2026. Seminar , <i>Polynomial boundedness, causality and gravity Regge trajectories</i> , University of Geneva, Feb. 2026. Seminar , <i>Polynomial boundedness, causality and gravity Regge trajectories</i> , University of Torino, May. 2026. Conference talk, Amplitudes 2026 , "Scattering in Higher-dimensions", Queen Mary University of London, July. 2026.
2025	Discussion session , Yukawa Institute, <i>Bootstrap conference</i> , Kyoto, Japan, (nov 2025) Review talk , IPhT, CEA Saclay, <i>Conférence TUG 2025, Th'eorie, Univers, Gravitation</i> Two lectures , EPFL, <i>Conference Machine Learning for High Energy Physics</i> Seminar , zoom, <i>Bootstrap and AI</i> , UK
2024	Conference talk , Southampton, <i>Eurostrings 2024, Celestial holography session</i> Seminar , EPFL, <i>The Regge bootstrap</i> Conference talk , Paris, <i>Rencontres de Physique des Particules 2024</i> Group seminar , IAS, Princeton, <i>The Regge bootstrap</i>
2023	Lecture on Generalised Symmetries LAPTh, <i>1h of introductory lecture / review</i> EMPG Seminar , Edinburgh, <i>Regge bootstrap and Non-perturbative S-matrices</i> Colloquium , Grenoble, <i>Review on Bootstrap and Holography</i> Conference talk , Les Diablerets, <i>Workshop "S-matrix bootstrap V, Non-perturbative S-matrices</i> Seminar , Uppsala, <i>Non-perturbative S-matrices</i>

- Joint Belgian HEP-TH seminar, Colloquium** Mons, *Non-perturbative S-matrix bootstrap*.
- Seminar series String Field Theory**, online, <https://string-field-theory.org/journal-club/>, *String theory monodromies and loop momentum*
- Conference talk, String theory at finite alpha'**, IAS, Princeton, *Non-perturbative S-matrix bootstrap*.
- Seminar series Motives and Periods**, online, <https://www.ihes.fr/~vanhove/motivefeynman-2023.html>, *Coon amplitude and q-deformed number theory*.
- 2022 **Conference seminar, QCD Meets Gravity**, Zurich
- Group seminar**, Imperial College London
- Conference seminar in Corfu Celestial Amplitudes workshop** Corfu, Greece
- Review conference seminar on tropical geometry in string theory**, "Combinatorial Algebraic Geometry : Tropical and Real (HYBRID)", ICTS, Bangalore (on zoom)
- Group seminars on the field theory limit of string theory and accumulation point amplitudes**, IAS, Princeton.
- Group seminars on accumulation point amplitudes and Non-perturbative unitarity**, IHES, Bures-sur-Yvettes.
- 2021 **Two lectures on "String theory amplitudes"**, Elliptics 2021 conference, Uppsala, Sweden
- Online seminar**, Durham
- Online seminar**, Bootstrap collaboration
- Online seminar**, AEI Potsdam, Germany
- Online lecture**, Moscow State Lomonosov University, Institute of Theoretical Physics
- 2020 **Online conference 'Elliptics and beyond', workshop talk** CERN, MITP Mainz, NBI Copenhagen.
- Group Seminar**, LAPTH Annecy.
- Conference "Rencontres de Physique des Particules"** Ecole Polytechnique, Palaiseau, France, **conference colloquium talk**
- 2019 **Conference talk QCD meets gravity IV**, UCLA, Los Angeles, *on Monodromies of string amplitudes*
- Conference talk, String Theory from a Worldsheet Perspective**, GGI, Florence
- Group seminar** Nordita, Stockholm
- 2018 **Galileo Galilei Institute "Amplitudes in the LHC Era", workshop talk** on *Monodromies of string amplitudes*.
- Rencontres théoriciennes**, Institut Henri Poincaré, Paris,
- 2017 **Conference Talk, "QCD meets Gravity"**, UCLA, Bhaumik Institute,
- String theory seminar**, Dublin Institute for Advanced Studies,
- Group seminar**, Imperial College, London
- Amplitudes 2017, conference talk**, Edinburgh, Scotland
- conference talk at Integrability in Gauge and String Theory 2017**, ENS, Paris,
- Workshop seminar, KITP, Program "Scamp17" on scattering amplitudes**
- Group seminar, "Fields And Strings"**, LMU Munich, *Invited by Ivo Sachs*
- Group seminar "Particle Physics Theory"**, Higgs centre, Edinburgh
- Group seminar "Amplitude seminar"**, Higgs centre, Edinburgh
- 2016 **Conference Talk, "QCD meets Gravity"**, UCLA, Bhaumik Institute,
- Conference Talk, "Amplitudes in Asia"**, Beijing,
- Conference Talk, "Gravity, Twistors and Amplitudes"**, Newton Institute, Cambridge, UK, *invited*
- Conference Talk, "Aspects of Amplitudes"**, Nordita, Stockholm, Sweden, *invited*
- Group seminar**, Mathematical Institute, University of Oxford, UK

2015	Group seminar, AEI, Max Planck Institute, Golm, Germany Triangular String seminar, QMUL, London, UK. String Duality seminar, <i>invited by Prof. Xi Yin</i>, Harvard University, Cambridge, MA. High energy physics seminar, Brown University, Providence, RI.
2014	Group seminar, <i>invited by Prof. L. Mason</i>, Oxford. High energy group seminar, <i>invited by Prof. Dirk Kreimer</i>, Humboldt Universität, Berlin, Germany. Conference talk (young speaker), Amplitudes 2014, IPhT, CEA Saclay, France. “young speaker symposium” at “Summer school on structures in local quantum field theory” Les Houches, France.
2013	Group Seminar, LMU Munich. String Theory Seminar, Imperial College, London. Group Seminar, AEI, Potsdam, Germany. Strings, CFT & Integrability group seminar, ETH Zürich, Switzerland. Seminario Teorico Roma, Tor Vergata. <i>Invited by Prof. Massimo Bianchi</i>. Group seminar <i>Invited by Prof. Marco Matone</i>, Padova, Italy. Seminar “Rencontres Théoriciennes” IHP, Paris. Conference talk, Supersymmetric Quantum Systems, J.I.N.R. Dubna, Russia. Conference talk, Quantum Gravity in Paris, Orsay (Fr), <i>invited</i>. String Theory Seminar DAMTP, Cambridge, <i>Inv. by Prof. M.B. Green</i>. High Energy Group Seminar NBIA Copenhagen. Tropical Geometry Seminar Maths Department, UPMC, Paris.
2012	Conference talk, student conference SCGSC, Paris.

Teaching

2026–	Master’s level classes, 4 lectures of 2h , “S-matrix theory”, EPFL, Lausanne
2024–	Organisation of pre-seminar for PhD students of LAPTh LAPTh, Annecy,
2019–2020	Exercise classes in String theory Master of International Centre for Fundamental Physics, second year (M2), Ecole Normale Supérieure, Paris
2015–2017	Teaching Assistant in maths Part III , <i>University of Cambridge</i> , <i>Master’s level</i> , Quantum field theory I, Exercise classes.
2012–2014	Teaching Assistant in Physics , <i>UPMC/Paris Sorbonnes Universités</i> . Second year “Wave physics”, classes, oral exams and experiments. First year “Physics for biologists”, classes, oral exams & experiments.

Education

26 mars 2026	Soutenance d’HDR. <i>Jury : Slava Rychkov, Gregory Korchemsky, Joao Penedones, Michela Petrini, Björn Hermann</i>
2010–2014	PhD in Theoretical High Energy Physics , with honours (“Très honorable”) <i>Results in perturbative quantum supergravity from string theory</i> . Supervisor : Pierre Vanhove (CEA Saclay & IHES).
2009–2010	M2 of Theor. Phys. , E.N.S, <i>Mention “Bien”</i>
2008–2009	M1 in Physics , E.N.S. and 6-month internship at MIT, Cambridge (MA). <i>first year Master’s degree</i> .
2007–2008	B.Sc. in Physics with classes of pure maths , E.N.S.
2007	Admission to École Normale Supérieure (E.N.S.) , rue d’Ulm, Paris, <i>concours Maths-Physique-Info</i>
2004–2007	Classes Préparatoires Math-Physique <i>Intensive preparatory classes for competitive exams for French “Grandes Écoles”</i> . Lycée Joffre, Montpellier.

2004	“Baccalauréat scientifique”, Grade “ <i>Très Bien</i> ”, Lycée Joffre, Montpellier, France
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Scholarships

2014	3-year Postdoctoral fellowship, DAMTP, Univ. of Cambridge, <i>accepted</i> ;
2015	Queens' College Research Associateship (research allowance, dinning rights)
2011	PhD Grant with T.A. position, extra C.E.A. Saclay grant <i>9k€ over three years</i>
2007-2010	École Normale Supérieure of Paris, <i>4-year scholarship, ~ 80k€</i>

Short-term undergraduate research projects

2010	IHES, Bure-sur-Yvette, France, <i>Harmony between gauge theories and gravity.</i> Supervisor : Pierre Vanhove, 2 months.
2009	M.I.T. Cambridge, MA <i>Controllable adhesion using field-activated fluids</i> (Ewoldt, Tourkine et al., <i>Physics of Fluids</i> , 2010). Supervisor : Anette Hosoi, 6 months.
2008	ESPCI, Paris <i>Delayed freezing in water repellent materials</i> (Tourkine et al., <i>Langmuir</i> , 2009) Supervisor : David Quéré, one month.

Languages, Miscellaneous

Languages	French (native), English, Russian (A2)
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