

# Michele Triestino

Place and date of birth Rome (Italy), March 10th, 1987

Personal Married, one child

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## Present position

2016–present **Maître des conférences**, *Université Bourgogne Franche-Comté*, Institut de Mathématiques de Bourgogne, Dijon (France).

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## Past positions

2018-2019 **Délégations**, During the academic year 2018-19 I was “en délégation” (no teaching duties), working at INRIA Lille (1st semester) and Laboratoire Paul Painlevé, Lille (2nd semester).

2016 **Professor adjunto**, *UFF*, Niterói, RJ (Brazil), Departamento de Matemática Aplicada (GMA).

2014-2016 **Post-doc**, *PUC*, Rio de Janeiro (Brazil), (pós-doutorado de excelência CAPES, selected by IMPA).

2013-2014 **ATER (lecturer)**, *UMPA-ÉNS*, Lyon (France).

2010-2014 **Ph.D. Student**, *UMPA-ÉNS*, Lyon (France), Thesis: *La dynamique des difféomorphismes du cercle selon le point de vue de la mesure* (Generic dynamics of circle diffeomorphisms with respect to measure).  
advisor Étienne Ghys

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## Main research interests

Dynamical Systems, Ergodic Theory, Geometry and Geometric Group Theory, (and formerly Probability Theory).

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## Preprints

**Ping-pong partitions and locally discrete groups of real-analytic circle diffeomorphisms, I: Construction**, joint work with Juan Alonso, Sébastien Alvarez, Dominique Malicet and Carlos Meniño, submitted.

**Cut-off method for endogeny of recursive tree processes**, joint work with Victor Kleptsyn, at the moment the text contains many imprecisions and is not ready for a journal.

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## Accepted papers

**On James Hyde’s example of non-orderable subgroup of  $\text{Homeo}(D, \partial D)$** , *L’Enseignement Mathématique* (2).

**Groups of piecewise linear homeomorphisms of minimal flows**, joint work with Nicolás Matte Bon, *Compositio Mathematica*.

**Small  $C^1$  actions of semidirect products on compact manifolds**, joint work with Christian Bonatti, Sang-hyun Kim and Thomas Koberda, *Algebraic & Geometric Topology*.

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## Published works

2020 **Property FW, differentiable structures, and smoothability of singular actions**, joint work with Yash Lodha and Nicolás Matte Bon, *J. Topol.* **13**, no. **3** (2020) 1119–1138.

2019 **One-dimensional actions of Higman’s group**, joint work with Cristóbal Rivas, *Discrete Analysis* 2019:20, 15pp.

**Ping-pong configurations and circular orders on free groups**, joint work with Dominique Malicet, Kathryn Mann and Cristóbal Rivas, *Groups Geom. Dyn.* **13**, no. **4** (2019) 1195–1218.

**Groups with infinitely many ends acting analytically on the circle**, joint work with Sébastien Alvaréz, Dmitry Filimonov, Victor Kleptsyn, Dominique Malicet, Carlos Meniño and Andrés Navas, *J. Topol.* **12**, no. 4 (2019) 1315–1367.

**Hyperbolicity as an obstruction to smoothability for one-dimensional actions**, joint work with Christian Bonatti and Yash Lodha, *Geom. Topol.* **23** (2019), 1841–1876.

2016 **Stationary random metrics on hierarchical graphs via (min, +)-type recursive distributional equations**, joint work with Mikhail Khristoforov and Victor Kleptsyn, *Commun. Math. Phys.* **345**, no. 1 (2016), 1–76.

2014 **Généricité au sens probabiliste dans les difféomorphismes du cercle**, *Ensaio Matemáticos* **27**, Soc. Brasil. Mat. (2014), 1–98.

2013 **On the invariant distributions of  $C^2$  circle diffeomorphisms of irrational rotation number**, joint work with Andrés Navas, *Math.Z.* **274**, no. 1 (2013), 315–321.

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## Collective works

2020 **Arbeitsgemeinschaft: Zimmer’s Conjecture**, *Oberwolfach Rep. 48/2019*, Title of contribution: *Proof of Zimmer’s Cocycle Superrigidity: centralizers and finite dimensional invariant subspaces*, 49–53.

2019 **Entropy, Lyapunov exponents, and rigidity of group actions**, Main text by Aaron W. Brown, with 4 appendices by D. Malicet, D. Obata, B. Santiago and M. Triestino, S. Alvarez and M. Roldán. Edited by M. Triestino., *Ensaio Matemáticos* **33**, Soc. Brasil. Mat. (2019), 1–197.

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## Invitations for talks

2020 **Dynamics on your screen**, *on-line mini-conference*.  
Seminar, Rome.

2019 **Korean Institute of Advanced Studies**, Seoul, South Korea, (minicourse).

**KIAS Workshop on low-dimensional topology**, Seoul, South Korea.

**Dubrovnik IX. Topology and dynamical systems**, session *Geometric Group Theory*, Inter-University Centre Dubrovnik, Croatia.

**Ordered Groups and Rigidity in Dynamics and Topology**, Casa Matemática Oaxaca (CMO), Mexico.

**Seminars**, Rennes, Bordeaux, Montevideo (2×), Santiago de Chile (USACH), Lille, Paris (Diderot), Montpellier.

2018 **Journées Nancéiennes de Géométrie**, IECL, Nancy.

**Rencontre de la Fédération de Recherche en Mathématiques Rhône-Alpes-Auvergne**, ENS Lyon, (minicourse).

**International conference on dynamical systems**, SUSTech, Shenzhen, China.

**Seminars**, Lille, Warsaw (IMPAN), Krakow, Amiens, Paris (Jussieu), Warwick, Zürich (ETH).

2017 **Affine and one-dimensional dynamics**, Aussois, France, (minicourse).

**Coloquio Latinoamericano de Algebra**, session *Group Theory*, PUC Quito.

**Beyond Uniform Hyperbolicity**, BYU (Provo, UT).

**Seminars**, Grenoble, Lausanne (EPFL), Avignon.

2016 **1st joint meeting Brazil-Italy in Mathematics**, session *Group Theory*, IMPA (Rio de Janeiro).

**International Conference on Dynamical Systems**, Búzios (Rio de Janeiro).

**Seminars**, Dijon, Paris (Jussieu), Rio de Janeiro (IMPA, UFF), Lille.

2015 **Frontiers in Analysis and Probability**. Strasbourg/Zurich meeting, University of Zurich.

**Valparaiso’s dynamics working days: Groups and low dimensional dynamics**, PUC-Valparaiso.

**Workshop de Topologia & Dinâmica 2015**, Universidade Federal Fluminense, Niteroi, RJ, Brazil.

**Seminars**, São Paulo (USP), Rio de Janeiro (UFRJ), Nice, Paris (Orsay).

2012–2014 **Seminars**, Rio de Janeiro (UFF, UFRJ), Paris (Villetaneuse), Amiens, Kyoto (Ritsumeikan, Kyoto University), Tokyo (Todai 2×, Keio), Rennes, Avignon, Bern.

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## Students

2019–2021 **João Carnevale**, *Group actions on one-manifolds*, PhD student, codirection with Chrisrian Bonatti.

2018 **Robin Carlier**, *Stage: Autour de l'espace extérieur*, undergrad student from ENS Lyon, 6 weeks.

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## Organization of upcoming and past events

2020–2021 **Organizer of the regular seminar *Géométrie, Algèbre, Dynamique et Topologie***, IMB, Dijon.

2021 **Organizer of the conference *Uniformly and non uniformly hyperbolic dynamics – Conference on the occasion of Christian Bonatti's 60th birthday***, Chateau de Goutelas, Marcoux, France, from June 13th to 18th, 2021.

2019 **Organizer of the workshop *One-dimensional actions of 3-manifold groups***, IMB, Dijon, from November 4th to 8th, 2019.

2017–2018 **Organizer of the regular seminar *Géométrie et Systèmes Dynamiques***, IMB, Dijon.

2016 **Organizer for the workshop for young researchers: *Groups acting on manifolds***, in Teresópolis, RJ, Brazil, from June 20th to 24th, 2016.

2015 **Organizer for the international summer school for students *Modern Mathematics***, at Jacobs University, Bremen (Germany), from July 4th to 14th, 2015.

2014 **Organizer for the international summer school for students *Modern Mathematics***, at the ENS-Lyon, from August 20th to 29th, 2014.

2012 **Local organizer for the *International summer school for young students (ISSMYS)***, at the ENS-Lyon, from August 20th to 29th, 2012.

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## Projects (as Principal Investigator)

2019–2023 **ANR Gromeov (PRC 2019)**, *Groups of homeomorphisms of manifolds*, 184 060 €.

2019–2022 **Accompagnement nouvelle équipe de recherche (ANER)**, Région Bourgogne-Franche-Comté, *Actions de groupes sur les variétés (Agroupes)*, 26 000€.

2019 **PEPS Jeunes Chercheurs CNRS**, *Questions diverses sur les actions des groupes sur le cercle et la droite*, 3 500€.

2017 **PEPS Jeunes Chercheurs CNRS**, *Groupes localement discrets de difféomorphismes du cercle*, 4 000€.

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## Other responsibilities

2020–present **Membre du conseil de laborataoire**, IMB, Dijon.

2020 **Membre du comité de selection pour un poste de MCF 25**, IMB, Dijon.

2018–present **Membre de la commission de la bibliothèque**, IMB, Dijon.