Raphaël Tinarrage

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Education

Since 2017 **PhD**, *Inria Saclay*, Orsay, *Thesis in Topological Data Analysis*.
Advisors : Frédéric Chazal and Marc Glisse

2016–2017 **Master**, *ENS, Paris-Saclay University*, Orsay, *M2R mathematics for life sciences*.

2015–2016 **Master**, *Ecole normale supérieure*, Cachan, *M2 Preparation to the Agregation degree*.
Accepted, rank 68^{th}

2014–2015 **Master**, *Paris-Sud University*, Orsay, *M1 Fundamental and applied mathematics, Magistère de mathématiques* 2^{nd} *year*.

2013–2014 **Licence**, *Paris-Sud University*, Orsay, *L3 Fundamental and applied mathematics, Magistère de mathématiques* 1^{st} *year*.
Licence degree

2011–2013 **CPGE (Preparatory classes)**, *Camille Pissaro High School*, Pontoise, *MPSI and MP*.

Publications

02/2020 **Computing persistent Stiefel-Whitney classes of line bundles**.
Preprint

12/2019 **Recovering the homology of immersed manifolds**, *https://arxiv.org/abs/1912.03033*.
Preprint

11/2018 **DTM-based filtrations**, *https://arxiv.org/abs/1811.04757*, with Hirokazu Anai, Frédéric Chazal, Marc Glisse, Yuichi Ike, Hiroya Inakoshi, Raphaël Tinarrage and Yuhei Umeda.
Published in Symposium Abel 2018 proceedings and SoCG 2019 conference

Talks and posters

05/2020 **Talk for PhD students seminar**, *Séminaire informel*, Orsay.
Introduction to persistent homology

03/2019 **Talk for DATASHAPE team seminar**, *Inria Saclay*, Orsay.
Introduction to characteristic classes

10/2019 **Talk for DATASHAPE team seminar**, *Inria Saclay*, Orsay.
Recovering the homology of immersed manifolds

04/2019 **Talk for Topo-Dyn team**, *LMO*, Orsay.
DTM-filtrations

02/2019 **Talk for PhD students seminar**, *LAMFA*, Amiens.
Introduction to persistent homology

12/2018 **Talk for PhD students seminar**, *IMJ-PRG*, Jussieu, Paris.
Introduction to persistent homology

12/2018 **Talk for PhD students seminar**, *LMO*, Orsay.
Introduction to persistent homology

11/2018 **Talk for DATASHAPE team seminar**, *Inria Saclay*, Orsay.
DTM-filtrations

06/2018 **Poster presentation**, *ATMCS conference*, IST-Austria, Klosterneuburg (Autriche).
DTM-filtrations

Various scientific works

2014-2017 **Co-direction of In Vitro Artificial Intelligence**, *Centre de Recherche Interdisciplinaire*, Paris.
Synthetic neurology club

2016 **Research work**, *for M2R*.
Stochastic modelisation of aging, genetic evolution

2015 **Master Thesis**, *for magistère de mathématiques*.
Dynamics on flat surfaces

2014 **Licence Dissertation**, *for magistère de mathématiques*.
Introduction to differential geometry

2013 **Short Dissertation**, *for MP*.
Classification of finite simple groups

Teaching

Since 2017 **Organisation of MATh.en.JEANS seminar**, *Collège Alain Fournier*, Orsay.
Vulgarisation of mathematics in middle school

Since 2017 **Statistical interpretation of data**, *UE M331, L3 MINT, Paris-Sud University*, Orsay.
Assistant professor

Since 2017 **Modelisation project**, *UE M326, L3 MINT, Paris-Sud University*, Orsay.
Assistant professor

2017-2019 **Differential equations**, *UE M257, L2 BC, Paris-Sud University*, Orsay.
Assistant professor

Participation in seminars

July 2019 **Saint-Flour Summer School**, Saint-Flour, France.

June 2019 **SoCG, Symposium of computational geometry**, Portland, Oregon, USA.

June 2018 **ATMCS, Algebraic Topology: Methods, Computation, and Science**, Klosteneurbug, Austria.

December 2017 **JGA, Journées de la géométrie algorithmique**, Aussois, France.

Programming skills

Languages HTML, PHP, CSS, C

Maths MATLAB, SAGE, GAP, LATEX, PYTHON

System Windows, Mac, Linux (Debian)

Hobbies

Science Maths and their applications to experimental science, philosophy of consciousness, some themes of sociology and epistemology

Teaching Alternative teaching methods, visualization in space (in dimension 3 or 4)

Arts Instruments with strings or mouthpiece, sewing, conception of perfume

Sports Hiking, speleology, ballet