

Clément Requilé | Curriculum Vitae

Institute for Mathematics - Freie Universität Berlin
Office 209 - Arnimallee 3, 14195 Berlin, Germany

requile@math.fu-berlin.de

<http://page.mi.fu-berlin.de/requile/>

Education

Master in Computer Science **University of Montpellier**
Modélisation, Optimisation, Combinatoire et Algorithmique 07/2014

Bachelor in Mathematics **University of Montpellier**
Mathématiques Fondamentales et Appliquées 07/2011

Affiliation

PhD student in Mathematics **Freie Universität Berlin**
Supervisor: Juanjo Rué 09/2014 - present
Research group: Combinatorics and Graph Theory (A.G. Szabó)

Phase II student **Berlin Mathematical School**
Mentor: Raman Sanyal 02/2015 - present

Research interests

My main topic consists in applying analytic techniques to the exact and *asymptotic enumeration of discrete structures* and to the study of their random counterparts. Another topic of interest is the design of *fixed-parameter tractable algorithms* to efficiently solve NP-Hard problems on graphs. I also like *combinatorial games* on graphs.

Preprints

- ▷ **Enumeration of labelled 4-regular planar graphs**, with Marc Noy and Juanjo Rué. *Submitted, arXiv:1709.04678.*
- ▷ **Proper coloring Painter-Builder game**, with Małgorzata Bednarska-Bzdęga, Michael Krivelevich and Viola Mészáros. *Submitted, arXiv:1612.02156.*

Working papers and work in progress

- ▷ **Random cubic planar graphs revisited**, with Marc Noy and Juanjo Rué.
- ▷ **Simple cubic planar maps**, with Marc Noy and Juanjo Rué.
- ▷ **Maximal structures in subcritical graph classes**, with Michael Drmota, Lander Ramos and J. Rué.
- ▷ **Non-uniform hypergraphs with degree constraints**, with Elie de Panafieu.

Publications

- ▷ **Strong Ramsey games: drawing on an infinite board**, with Dan Hefetz, Christopher Kusch, Lothar Narins, Alexey Pokrovskiy and Amir Sarid. *Journal of Combinatorial Theory, Series A 150C (2017) pp. 248-266, arXiv:1605.05443.*

Publications in proceedings with referee for congresses

- ▷ **FPT algorithms for plane subgraph and topological minor completion problems**, with Dimitris Chatzidimitriou, Archontia C. Giannopoulou, Spyridon Maniatis, Dimitrios M. Thilikos and Dimitris Zoros. *Proceedings of the 41st International Symposium on Mathematical Foundations of Computer Science, Krakow, Poland - Leibniz International Proceedings in Informatics, volume 58, pp. 26:1-26:13.*

- ▷ **Random cubic planar graphs revisited (extended abstract)**, with Marc Noy and Juanjo Rué. *Proceedings of the Discrete Mathematics Days JMDA 2016, Barcelona, Spain - Electronic Journal of Discrete Mathematics*, volume 54, pp. 211-216.
- ▷ **Variants of plane diameter completion**, with Petr A. Golovach and Dimitrios M. Thilikos. *Proceedings of the 10th International Symposium on Parameterized and Exact Computation 2015, Patras, Greece - Leibniz International Proceedings in Informatics*, volume 43, pp. 30-42.
- ▷ **Triangles in random cubic 3-connected planar graphs (extended abstract)**, with Juanjo Rué. *Proceedings of the EuroComb 2015, Bergen, Norway - Electronic Journal of Discrete Mathematics*, volume 49, pp. 383-391.

Teaching Experiences

ProInformatik I: Logik und Diskrete Mathematik
Lecturer

Freie Universität Berlin
Summer semester 2017 - 36 hours

Stochastik II
Teaching Assistant

Freie Universität Berlin
Summer semester 2015 - 30 hours

Grants

FU Berlin Research Alumni Program

Size of the largest 2-connected component in a random cubic planar graph.

Travel grant to UPC, Barcelona
06 - 07/2016

DAAD - CAMPUS FRANCE

Principal investigators: Juanjo Rué and Vladý Ravelomanana.

Analytic, probabilistic and geometric methods for random constrained graphs.

Bilateral Project ID - 57134837
01/2015 - 12/2016

Marie Curie Career Integration Grant (Europe) # 630749 CountGraph FP7-PEOPLE-2013-CIG

Principal investigator: Juanjo Rué.

Enumeration of discrete structures: algebraic, analytic, probabilistic and algorithmic methods for enriched planar graphs and planar maps.

03/2014 - 12/2016
(early termination)

Internships

Parameterized complexity of modification problems on plane graphs
Supervisor: Dimitrios M. Thilikos

LIRMM, Montpellier
03 - 06/2014

Model reduction with many timescales of bio-chemical graphs
Supervisor: Ovidiu Radulescu

DIMNP - UoM
06 - 08/2013

Algorithms of approximation for the maximum clique problem
Joint with Gaëlle Hisler. Supervisor: Rodolphe Giroudeau

UoM
03 - 06/2013

Topological methods in combinatorics
Supervisor: Jorge Luis Ramírez Alfonsín

UoM
03 - 06/2012

Organization of scientific meetings

10th Jornadas de Matematica Discreta y Algoritmica
Member of the organizing committee (chair: Juanjo Rué)

Barcelona
6 - 8/07/2016

TAU-FUB Joint Workshop on Positional Games
Member of the organizing committee (chairs: Michael Krivelevich and Tibor Szabó)

Berlin
22 - 26/02/2016

Advanced Courses and thematic meetings

Fall School on Random Graphs
Student

IES de Cargèse
09/2015

Block Course on Additive Combinatorics
Student

Freie Universität Berlin
10/2014

Conference talks

European Conference on Combinatorics, Graph Theory and Applications, 2017 <i>Enumeration of labelled 4-regular planar graphs</i>	Vienna 28/08/2017
Berlin-Poznań seminar on Discrete Mathematics <i>On the enumeration of regular planar graphs</i>	Hamburg 21/04/2017
Journées ALÉA 2017 <i>Énumération des graphes planaires 4-réguliers</i>	Marseille 20/03/2017
FUB-TAU Joint Research Workshop on Graph and Hypergraph Coloring <i>On a version of the game of Painter-Builder</i>	Tel Aviv 5/03/2017
10th Jornadas de Matematica Discreta y Algoritmica <i>Random cubic planar graph, revisited</i>	Barcelona 7/07/2016
10th International Symposium on Parameterized and Exact Computation <i>Variants of plane diameter completion</i>	Patras 16/09/2015
European Conference on Combinatorics, Graph Theory and Applications, 2015 <i>Triangles in random cubic 3-connected planar graphs</i>	Bergen 31/08/2015

Seminar talks

LIMDA Joint Seminar <i>The enumeration of 4-regular planar graphs</i>	UPC, Barcelona 26/04/2017
Combinatorics reading seminar <i>Graph limits: graph parameters and connection matrices</i>	UPC, Barcelona 31/01/2017
Combinatorics reading seminar <i>Sampling and random walks on expander graphs</i>	UPC, Barcelona 27/10 - 03/11/2016
Combinatorics reading seminar <i>The phase transition in random graphs</i>	UPC, Barcelona 12/04/2016
Seminar Discrete Geometry <i>Intrinsic volumes for polyconvex sets</i>	Freie Universität Berlin 15/12/2016
LIMDA Joint Seminar <i>Variants of plane diameter completion</i>	UPC, Barcelona 18/11/2015
Research Seminar Combinatorics <i>Triangles in random cubic planar graphs</i>	Freie Universität Berlin 15/07/2015
Research Seminar Combinatorics <i>A parameterized algorithm for the diameter improvement problem for plane graphs</i>	Freie Universität Berlin 27/11/2014
Séminaire AIGCo <i>Complexité paramétrée et complétion plane à diamètre borné</i>	LIRMM, Montpellier 12/06/2014

Languages

Natural

French (native), *English* (fluent), *German* (good) and *Spanish* (good)

Programming

Python, *C*, *C++* and mathematical softwares (*Maple*, *MatLab* and *Sage*)