Curriculum Vitæ

David Cimasoni

Section de mathématiques
rue du Conseil-Général 7-9
1211 Genève 4
Switzerland

Phone: +41 22 379 11 39
E-mail: David.Cimasoni@unige.ch
Web: www.unige.ch/math/folks/cimasoni/

Born: December 2, 1975
Citizenship: Swiss
Civil status: Married, two children (born 2017 and 2018)
Languages: French (native), English (fluent), German (good), Greek (basic).

Education

06/2002: PhD in Mathematics – Université de Genève.
02/1998: MSc in Mathematics – Université de Genève.

Employment

Since 09/2010: Maitre d'Enseignement et de Recherche – Université de Genève.
09/2007–08/2010: Heinz Hopf Lecturer – ETH Zurich.
01/2007–05/2007: Lecturer – UC Berkeley.
09/2005–08/2007: SNF Postdoctoral Fellow – UC Berkeley.
09/2003–08/2004: SNF Postdoctoral Fellow – IRMA (Strasbourg) & IMB (Dijon).
1998–2005: Teaching Assistant – Université de Genève.

Teaching

2025–2026: Algèbre II, Théorie élémentaire des noeuds.
2024–2025: Algèbre II, Maths à PartaG.
2023–2024: Algèbre II, Chapitres choisis de géométrie.
2022–2023: Théorie des noeuds, Géométrie I.
2018–2022: Algèbre I.
2017–2018: Théorie des noeuds, Topologie générale, Géométrie différentielle.
2016–2017: Chapitres choisis de géométrie, Topologie générale, Géométrie différentielle.
2015–2016: Topologie générale, Géométrie différentielle, The dimer and Ising models.
2014–2015: Algèbre et Géométrie III, Théorie de l'homologie, Géométrie différentielle.
2013–2014: Géométrie I, Chapitres choisis de géométrie.
2012–2013: Géométrie I, Cohomologie.
2011–2012: Géométrie I, Surfaces de Riemann.
2010–2011: Géométrie I, Topologie algébrique.
2009–2010: Algebra I, Algebra II.
2008–2009: Cohomology and Homotopy, Topologie, Seminar über Polytope.
2007–2008: Algebraic Topology, Knot Theory.
Spring 2007: Complex Analysis.

Fellowships, Awards, Visiting positions

01/2023–12/2026: Funding from the SNF for one doctoral students and one postdoc.
09/2012–08/2017: Funding from the SNF for two doctoral students.
06/2015–07/2015: Visiting Professor at the UPMC, Paris.
09/2005–08/2007: Advanced Research Fellowship from the SNF.
10/2004: Prix Vacheron Constantin.
09/2003–08/2004: Research Fellowship from the SNF.
08/2000–12/2000: Grants M. L. Anliker and Marc Birkigt.

Conference and seminar organisation

June 2025: Conference *Swiss Knots 2025* in Geneva, with Paul Turner.
June 2015: Conference *Swiss Knots 2015* in Geneva, with Sebastian Baader and Paul Turner.
April 2013: Conference *Swiss Knots 2013* in Bern, with Sebastian Baader, Pierre Dehornoy and Paul Turner.
March 2009: Conference *Swiss Knots 2009* in Fribourg, with Sebastian Baader, Ruth Kellerhals, Paul Turner and Van Quach Hongler .
Since 2010: Geneva *Séminaire de Topologie et Géométrie*, with Rinat Kashaev and Paul Turner.
2007-2010: ETHZ *Algebra-Topology Seminar*, with Sebastian Baader, Karin Baur, Alessandra Iozzi and Emmanuel Kowalski.
Spring 2007: UC Berkeley *Topology Seminar*, with Michael Hutchings, Rob Kirby and Peter Teichner.
1998-2002: Geneva Graduate Student Seminar – the so-called *Poulpor Seminar*, with Mathieu Baillif.

PhD students

02/2023–   : Gaetan Simian (co-direction with Anthony Conway).
09/2013–12/2017: Mounir Benheddi, *Khovanov homology of torus links: structure and computations* (co-direction with Paul Turner).
09/2014–10/2017: Anthony Conway, *Invariants of colored links and generalizations of the Burau representation.*
09/2013–08/2017: Anh Minh Pham, *The dimer and Ising models on non-orientable surfaces.*

Master students

Since 2010, Geneva: Ali Abdallah, Ruth Ben Zion, Mounir Benheddi, Anh Minh Pham, Robin Delabays, Kleopatra Zacharova, Solenn Estier, Thibault Grangier, Livio Ferretti, Gaëtan Simian, Hugo Nougarede, Iuliia Popova, Diego Klopfenstein.
2007–2010, ETH Zurich: Benjamin Gehrig, Jens Hinrichsen, Luca Matasci, Benny Löffel, Alex Maier, Pascal Rolli, Marco Läubli, Benjamin Miesch, Florian Naef, Eric Schaanning.

Administrative and editorial positions

Since 09/2015: *Academic advisor* of the Mathematics Department, Université de Genève.
Since 10/2011: Member of the editorial board of *L'Enseignement Mathématique*.

Publications

Refereed articles

[1] Extended signatures and link concordance (with Livio Ferretti and Iuliia Popova), *Proc. Edinburgh Math. Soc.* **69** (2026), 60-94.

[2] A diagrammatic computation of abelian link invariants (with Livio Ferretti and Jessica Liu), *Algebr. Geom. Topol.* **25** (2025), 5113–5136.

[3] On the Kashaev signature conjecture (with Livio Ferretti), *Fund. Math.* **266** (2024), 275–287.

[4] On Arf invariants of colored links (with Gaetan Simian), *Glasg. Math. J.* **68** (2026), 147–163.

[5] Torres-type formulas for link signatures (with M. Markiewicz and W. Politarczyk), *Michigan Math. J.*

[6] Minimal bipartite dimers and higher genus Harnack curves (with Cédric Boutillier and Béatrice de Tilière), *Probab. Math. Phys.* **4** (2023), 151–208.

[7] Graph coverings and twisted operators (with Adrien Kassel), *Algebr. Comb.* **6** (2023), 75–94.

[8] The dimer and Ising models on Klein bottles, *Ann. Inst. Henri Poincaré D* **11** (2024), 503–569.

[9] Elliptic dimers on minimal graphs and genus 1 Harnack curves (with Cédric Boutillier and Béatrice de Tilière), *Comm. Math. Phys.* **400** (2023), 1071–1236.

[10] Isoradial immersions (with Cédric Boutillier and Béatrice de Tilière), *J. Graph Theory* **99** (2022), 715–757.

[11] Topological complexity of photons' paths in biological tissues (with Tiziano Binzoni and Fabrizio Martelli), *J. Opt. Soc. Am. A* **36**(11), 1883–1891 (2019).

[12] The topological hypothesis for discrete spin models (with Robin Delabays), *J. Stat. Mech. Theory Exp.* (2019), 033216, 17 pp.

[13] Identities between dimer partition functions on different surfaces (with Anh Minh Pham), *J. Stat. Mech. Theory Exp.* (2016), 103101, 22 pp.

[14] A Burau-Alexander 2-functor on tangles (with Anthony Conway), *Fund. Math.* **240** (2018), 51–79.

[15] Splitting numbers and signatures (with Anthony Conway and Kleopatra Zacharova), *Proc. Amer. Math. Soc.* **144** (2016), 5443–5455.

[16] Revisiting the combinatorics of the 2D Ising model (with Dmitry Chelkak and Adrien Kassel), *Ann. Inst. Henri Poincaré D* **4** (2017), 309–385.

[17] Colored tangles and signatures (with Anthony Conway), *Math. Proc. Cambridge Philos. Soc.* **164** (2018), 493–530.

[18] Link Floer homology categorifies the Conway function (with Mounir Benheddi), *Proc. Edinburgh Math. Soc.* **59** (2016), 813–836.

[19] Kac-Ward operators, Kasteleyn operators, and s-holomorphicity on arbitrary surface graphs, *Ann. Inst. Henri Poincaré D* **2** (2015), 113–168.

[20] The critical temperature for the Ising model on doubly periodic graphs (with Hugo Duminil-Copin), *Electron. J. Prob.* **18** (2013), 1–18.

[21] The critical Ising model via Kac-Ward matrices, *Comm. Math. Phys.* **316** (2012), 99–126.

[22] Discrete Dirac operators on Riemann surfaces and Kasteleyn matrices, *J. Eur. Math. Soc.* **14** (2012), 1209–1244.

[23] A generalized Kac-Ward formula, *J. Stat. Mech. Theory Exp.* (2010), P07023.

[24] Dimers on graphs in non-orientable surfaces, *Lett. Math. Phys.* **87** (2009), 149–179.

[25] Dimers on surface graphs and spin structures. II (with Nicolai Reshetikhin), *Comm. Math. Phys.* **281** (2008), 445–468.

[26] Generalized Seifert surfaces and signatures of colored links (with Vincent Florens), *Trans. Amer. Math. Soc.* **360** (2008), 1223–1264.

[27] Dimers on surface graphs and spin structures. I (with Nicolai Reshetikhin), *Comm. Math. Phys.* **275** (2007), 187–208.

[28] A generalization of several classical invariants of links (with Vladimir Turaev), *Osaka J. Math.* **44** (2007), 1–31.

[29] Slicing Bing doubles, *Algebr. Geom. Topol.* **6** (2006), 2395–2415.

[30] A Lagrangian representation of tangles II (with Vladimir Turaev), *Fund. Math.* **190** (2006), 11–27.

[31] A Lagrangian representation of tangles (with Vladimir Turaev), *Topology* **44** (2005), 747–767.

[32] The Conway potential function of a splice, *Proc. Edinburgh Math. Soc.* **48** (2005), 61–73.

[33] Studying the multivariable Alexander polynomial by means of Seifert surfaces, *Bol. Soc. Mat. Mexicana (3)* **10** (2004), 107–115.

[34] Long Line Knots (with Mathieu Baillif), *Arch. Math.* **83** (2004), no. 1, 70–80.

[35] The Conway potential function of a graph link, *Math. Proc. Cambridge Philos. Soc.* **136** (2004), 557–563.

[36] The Alexander module of links at infinity, *Int. Math. Res. Not.* (2004), no. 20, 1023–1036.

[37] A geometric construction of the Conway potential function, *Comment. Math. Helv.* **79** (2004), 124–146.

[38] L'homologie de Novikov des entrelacs de Waldhausen. *C. R. Acad. Sci. Paris Sér. I Math.* **333** (2001), 939–942.

[39] Computing the writhe of a knot, *J. Knot Theory Ramifications* **10** (2001), 387–395.