

CURRICULUM VITÆ — NICOLAS MONOD (PHD 2001, ETH ZURICH)

Positions Held

2008–	Full Professor, EPFL
2014–2021	Director, Bernoulli Center
2005–2008	Full Professor, University of Geneva
2004–2005	Assistant Professor, University of Chicago
2001–2004	L. E. Dickson Instructor, University of Chicago

Awards and Honors

2016 Gauss Lectureship
2015 Berwick Prize (joint with P.-E. Caprace)
2012 Fellow of the American Mathematical Society
ERC Advanced Investigator Grant
ICM 2006 invited speaker
American Mathematical Society Plenary Speaker at Central Section Meeting
Salomon Bochner Lectures in Mathematics at Rice University
ETH Medal and Prize for the doctoral dissertation
Various grants from NSF (US), SNSF (CH), Clay (US), EU, Rothschild Foundation

Academic Management

Director of the Bernoulli Center (2014–2021)
Scientific Advisory Board of the Max-Planck Institut Bonn (2018–?)
Member of the executive committee of the EPFL math institute (2017–2021)
President of the Evaluation Committee of the Faculty of Basic Sciences at EPFL (2010–2014)
President of the Swiss Mathematical Society (2014–2015)
Member of the EPFL-wide Tenure and Promotion Committee (2010–2020)
Member of the EPFL math Hiring Committee (2010–2021)
Member of the Council of EPFL teachers (2016–2021)

Outreach

Outreach talks to the general public, radio appearances, student counselor, presentations for high school students, for mathematical olympiad teams, and for foreign visiting students

Editor for *L'Enseignement Mathématique*

Groups, Geometry and Dynamics (editor-in-chief)

Journal of Topology and Analysis

Commentarii Mathematici Helvetici

Teaching

Extensive teaching and syllabus-building experience in English and French, ranging from large freshmen lectures for non-mathematicians, to Bachelor and Master classes, to postgraduate courses.

Invited addresses

A list of over 200 speaking occasions is available on my webpage.

Twelve Representative Publications

- [i] *Bounded and unbounded cohomology of homeomorphism and diffeomorphism groups*
Inventiones Math. (with Nariman)
- [ii] *Lamplighters and the bounded cohomology of Thompson's group,*
GAFA
- [iii] *Gelfand pairs admit an Iwasawa decomposition,*
Math. Annalen
- [iv] *Groups of piecewise projective homeomorphisms*
PNAS
- [v] *Cantor systems, piecewise translations and simple amenable groups*
Annals of Mathematics (with Juschenko)
- [vi] *A fixed point theorem for L^1 spaces*
Inventiones Math. (with Bader–Gelder)
- [vii] *On the bounded cohomology of semi-simple groups, S -arithmetic groups and products*
Crelle's Journal (J. R. Ang. Math.)
- [viii] *Isometry groups of non-positively curved spaces: structure theory, discrete subgroups*
J. of Topology (with Caprace)
- [ix] *Property (T) and rigidity for actions on Banach spaces*
Acta Mathematica (with Bader–Furman–Gelder)
- [x] *Orbit equivalence rigidity and bounded cohomology*
Annals of Mathematics (with Shalom)
- [xi] *Superrigidity for irreducible lattices and geometric splitting*
Journal of the AMS
- [xii] *Continuous bounded cohomology and applications to rigidity theory*
GAFA (with Burger)

Publication list

- [75] *Flatmates and the bounded cohomology of algebraic groups*,
submitted, 2024.
- [74] *The bounded cohomology of transformation groups of Euclidean spaces and discs*,
(with F. Fournier-Facio and S. Nariman; appendix by A. Kupers),
submitted, 2024.
- [73] *A family of exotic group C^* -algebras*,
(with M. Gerasimova),
Adv. in Math. to appear (2024).
- [72] *Some comments on piecewise-projective groups of the line*,
submitted, 2023.
- [71] *Lie groups in the symmetric group: reducing Ulam’s problem to the simple case*,
(with A. Conversano),
J. of Algebra 640 (2024), 106–116.
- [70] *Asymptotic cohomology and uniform stability for lattices in semisimple groups*,
(with L. Glebsky, A. Lubotzky and B. Rangarajan),
Memoirs EMS, to appear.
- [69] *Bounded and unbounded cohomology of homeomorphism and diffeomorphism groups*,
(with S. Nariman),
Inventiones Math. 232 (2023), 1439–1475.
- [68] *Appendix on a question of Kazhdan and Yom Din* (appendix to Glasner’s article),
Isr. J. Math. 251 (2022), 467–493.
- [67] *Lamplighters and the bounded cohomology of Thompson’s group*,
GAF A (Geom. Funct. Anal.) 32 (2022), 662–675.
- [66] *A type I conjecture and boundary representations of hyperbolic groups*,
(with P.-E. Caprace and M. Kalantar),
Proc. London Math. Soc. 127 N° 2 (2023), 447–486.
- [65] *Between free and direct products of groups*,
(with M. Gheysens),
In *Geometric methods in group theory: papers dedicated to Ruth Charney*, to appear.
- [64] *Lie groups as permutation groups: Ulam’s problem in the nilpotent case*,
J. Group Theory, 25 N° 5 (2022), 851–865.
- [63] *The cohomology of semi-simple Lie groups, viewed from infinity*,
Trans. AMS, 9 (2022) 144–159.

- [62] *Gelfand pairs admit an Iwasawa decomposition*,
Math. Annalen 378 (2020), 605–611.
- [61] *Furstenberg boundaries for pairs of groups*,
Erg. Th. and Dyn. Sys., 41 N° 5 (2021), 1514–1529.
- [60] *Notes on functions of hyperbolic type*,
Bull. Belg. Math. Soc. Simon Stevin 27 N° 2 (2020), 167–202.
- [59] *Self-representations of the Möbius group*,
(with P. Py),
Annales Henri Lebesgue 2 (2019), 259–280.
- [58] *Asymptotics of Cheeger constants and unitarisability of groups*,
(with M. Gerasimova, D. Gruber and A. Thom),
Journal of Functional Analysis 278 N° 11 (2020), 108457
- [57] *Kaleidoscopic groups: permutation groups constructed from dendrite homeomorphisms*,
(with B. Duchesne and P. Wesolek),
Fund. Math. 247 (2019), 229–274.
- [56] *Future directions in locally compact groups*,
(with P.-E. Caprace),
LMS Lect. Notes 447 (2018), 343–355.
- [55] *The cup-product of Brooks quasimorphisms*,
(with M. Bucher),
Forum Math. 30 N° 5 (2018), 1157–1162.
- [54] *Fixed points in convex cones*,
Trans. AMS B N° 4 (2017), 68–93.
- [53] *Structural properties of dendrite groups*,
(with B. Duchesne),
Trans. AMS 371 N° 3 (2019), 1925–1949.
- [52] *The bounded cohomology of SL_2 over local fields and S -integers*,
(with M. Bucher),
IMRN 2017.
- [51] *Group actions on dendrites and curves*,
(with B. Duchesne),
An. Inst. Fourier 68 N° 5 (2018), 2277–2309 .
- [50] *Variation on a theme by Higman*,
Exp. Math. 35 N° 2 (2017), 226–235.

- [49] *Extreme points in non-positive curvature*,
Studia Math. 234 N° 3 (2016), 265–270.
- [48] *Fixed points for bounded orbits in Hilbert spaces*,
(with M. Gheysens),
Annales de l'ENS. 50 N° 1 (2017), 131–156.
- [47] *An indiscrete Bieberbach theorem: from amenable $CAT(0)$ groups to Tits buildings*,
(with P.-E. Caprace),
J. École Polytechnique 2 (2015), 333–383.
- [46] *Extensive amenability and an application to interval exchanges*,
(with M. de la Salle, K. Juschenko and N. Matte Bon),
Erg. Th. Dyn. Sys. 38 N° 1 (2018), 195–219.
- [45] *Equivariant measurable liftings*,
Fund. Math. 230 N° 2 (2015), 149–165.
- [44] *Relative amenability*,
(with P.-E. Caprace),
Groups Geom. Dyn. 8 N° 3 (2014), 747–774.
- [43] *Groups of piecewise projective homeomorphisms*,
PNAS 110 N° 12 (2013), 4524–4527.
- [42] *Non-supramenable groups acting on locally compact spaces*,
(with J. Kellerhals and M. Rørdam),
Doc. Math. 18 (2013), 1597–1626.
- [41] *An obstruction to ℓ^p -dimension*,
(with H. Petersen),
Annales Inst. Fourier 64 N° 4 (2014), 1363–1371.
- [40] *Cantor systems, piecewise translations and simple amenable groups*,
(with K. Juschenko),
Annals of Mathematics 178 N° 2 (2013), 775–787.
- [39] *Normal generation of locally compact groups*,
(with A. Eisenmann),
Bull. London Math. Soc. 45 N° 4 (2013), 734–738.
- [38] *Fixed points and amenability in non-positive curvature*,
(with P.-E. Caprace),
Math. Annalen 356 N° 4 (2013), 1303–1337.
- [37] *Amenable hyperbolic groups*,
(with P.-E. Caprace, Y. de Cornulier and R. Tessera),
JEMS (J. Eur. Math. Soc.) 17 N° 11 (2015), 2903–2947.

- [36] *An exotic deformation of the hyperbolic space*,
(with P. Py),
American J. of Math. 136 N° 5 (2014), 1249–1299.
- [35] *On the topological full group of a minimal Cantor \mathbf{Z}^2 -system*,
(with G. Elek),
Proc. AMS 141 N° 10 (2013), 3549–3552.
- [34] *Is an irng singly generated as an ideal?*
(with N. Ozawa and A. Thom),
Int. J. Algebra Comp. 22 N° 4 (2012).
- [33] *A fixed point theorem for L^1 spaces*,
(with U. Bader and T. Gelander),
Inventiones Math. 189 N° 1 (2012), 143–148.
- [32] *The norm of the Euler class*,
(with M. Bucher),
Math. Annalen 353 N° 2 (2012), 523–544.
- [31] *A lattice in more than two Kac–Moody groups is arithmetic*,
(with P.-E. Caprace),
Israel J. of Math. 190 N° 1 (2012), 413–444.
- [30] *Decomposing locally compact groups into simple pieces*,
(with P.-E. Caprace),
Cambridge Phil. Soc. 150 (2011), 97–128.
- [29] *A note on topological amenability*
IMRN 2011:17 (2011), 3872–3884.
- [28] *On the bounded cohomology of semi-simple groups, S -arithmetic groups and products*
Crelle’s Journal (J. R. Ang. Math.) 640 (2010), 167–202.
- [27] *The Dixmier problem, lamplighters and Burnside groups*,
(with N. Ozawa),
Journal of Functional Analysis 258 N° 1 (2010), 255–259.
- [26] *Non-unitarisable representations and random forests*,
(with I. Epstein),
IMRN (2009), 4336–4353.
- [25] *Isometry groups of non-positively curved spaces: structure theory*,
(with P.-E. Caprace),
Journal of Topology 2 N° 4 (2009), 661–700.
- [24] *Isometry groups of non-positively curved spaces: discrete subgroups*,
(with P.-E. Caprace),

- Journal of Topology** 2 N° 4 (2009), 701–746.
- [23] *Product groups acting on manifolds*
(with A. Furman),
Duke Mathematical Journal 148 N° 1 (2009), 1–39.
- [22] *Some properties of non-positively curved lattices*,
(with P.-E. Caprace),
C. R. Acad. Sci. Paris, (Ser. I) 346 N° 15–16 (2008), 857–862.
- [21] *Strong law of large numbers with concave moments*,
(with A. Karlsson),
arxiv 0803.1856 (2008), 2 pages.
- [20] *Vanishing up to the rank in bounded cohomology*
Mathematical Research Letters 14 N° 4 (2007), 681–687.
- [19] *Property (T) and rigidity for actions on Banach spaces*
(with U. Bader, A. Furman, T. Gelander),
Acta Mathematica 198 N° 1 (2007), 57–105.
- [18] *Superrigidity for irreducible lattices and geometric splitting*
Journal Amer. Math. Soc. 19 N° 4 (2006), 781–814.
- [17] *Orbit equivalence rigidity and bounded cohomology*
(with Y. Shalom),
Annals of Mathematics 164 N° 3 (2006) 825–878.
- [16] *An invitation to bounded cohomology*
Proceedings of the ICM 2006, Volume II, 1183–1211.
- [15] *Amenable actions, free products and a fixed point property*
(with Y. Glasner),
Bull. London Math. Soc. 39 N° 1 (2007), 138–150.
- [14] *Arithmeticity*
[13] *vs. non-linearity for irreducible lattices*
Geom. Ded. 112 N° 1 (2005) 225–237.
- [12] *Note: Superrigidity for irreducible lattices and geometric splitting*
C. R. Acad. Sci. Paris, (Ser. I) 340 N° 3 (2005), 185–190.
- [11] *Equivariant embeddings of trees in hyperbolic spaces*
(with M. Burger and A. Iozzi),
IMRN 2005:22 (2005), 1331–1369
- [10] *Boundedly generated groups with pseudocharacter(s)*
(with B. Rémy),

- Journal London Math. Soc.** 73 N° 1 (2006), 104–108 (Appendix to J.F. Manning).
- [9] *Ideal bicomings for hyperbolic groups, and applications*
(with I. Mineyev and Y. Shalom),
Topology 43 N° 6 (2004), 1319–1344.
- [8] *Cocycle super-rigidity and bounded cohomology for negatively curved spaces*
(with Y. Shalom),
J. Differential Geometry 67 N° 3 (2004), 395–455.
- [7] *Negative curvature from a cohomological viewpoint and cocycle superrigidity*
(with Y. Shalom),
C. R. Acad. Sci. Paris, Ser. I (337) N° 10 (2003), 635–638.
- [6] *On co-amenability for groups and von Neumann algebras*
(with S. Popa),
C. R. Acad. Sci. Canada 25 N° 3 (2003), 82–87.
- [5] *Stabilization of SL_n in bounded cohomology,*
Proceedings of the First JAMS Symposium (2002), *Contemp. Math.* 347 (2004) 191–202.
- [4] *On and around the bounded cohomology of SL_2*
(with M. Burger),
In: **Rigidity in dynamics and geometry**, Springer 2002 19–37.
- [3] *Continuous bounded cohomology and applications to rigidity theory*
(with M. Burger),
GAFA (Geom. Funct. Anal.) 12 N° 2 (2002), 219–280.
- [2] *Continuous bounded cohomology of locally compact groups*
Lecture Notes in Mathematics vol. 1758, Springer (2001), 214+ix pages.
- [1] *Bounded cohomology of lattices in higher rank Lie groups*
(with M. Burger),
J. Eur. Math. Soc. 1 N° 2 (1999) 199–235.