

CV

Athanase Papadopoulos

Born in 1957

Position : Directeur de Recherche (1st class).

Employer : Centre National de la Recherche Scientifique.

French citizen

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Work :

Institut de Recherche Mathématique Avancée
(Université de Strasbourg et CNRS)

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1. RESEARCH

Fields of interest : Geometry and topology in low dimensions, metric geometry, complex analysis, metric geometry, combinatorial group theory, dynamical systems, history of mathematics.

(About 180 publications, including 30 monographies and edited books.)

2. DIPLOMAS

1981 Ingénieur, Ecole Centrale de Paris

1983 Doctorat de troisième cycle (PhD), mathematics, Université de Paris-Sud (Orsay)

1989 Doctorat d'Etat (Habilitation), mathematics, Université de Paris-Sud (Orsay)

3. POSITIONS HELD

1983-84 Assistant associé, Université de Paris-Sud, Orsay

Since Octobre 1984 : Full-time researcher at CNRS.

4. VISITING POSITIONS (FOR ONE MONTH AND MORE)

December 1983 : Université de Genève.

Juin 1983 : University of Florence

1984-85 Institute for Advanced Study (Princeton)

April 1985 : MSRI (Berkeley)

April-June 1986 : UNAM (Mexico)

Novembre & December 1986 : University of Pisa

February to June 1988 : Max-Plank Institut, Bonn

February to May 1989 : University of Southern California (Los Angeles)

April to June 1990 : Max-Plank-Institut (Bonn)

February 1991 : University of Florence

1993-94 : Institute for Advanced Study (Princeton)

July to September 1994 : Max-Plank Institut, Bonn

March and April 2003 : University of Florence.

March to May 2006 and September 2006 : Max-Plank Institut, Bonn
 April 2006 : Center for Topology and Quantization of Moduli Space (Aarhus).
 January-February 2009 and July-August 2009 : Max-Plank Institut, Bonn
 October 2009 : EPFL (Lausanne).
 May 2010 : Hausdorff Mathamtics Institute, Bonn
 April and May 2011 : Max-Plank-Institute, Bonn.
 January 2011 : Osaka (City University of Osaka).
 April and May 2011 : Max-Planck Institut, Bonn.
 November-December 2011 : Osaka (University of Osaka, 1 month)
 February to April 2013 : Erwin Schrödinger Institut (Vienna).
 January 2014 : Erwin Schrödinger Institut (Vienna)
 March-August 2014 : Galatasaray University, Istanbul.
 September 2014-December 2014 : CUNY, Ada Peluso Professor (New York)
 April and May 2015 : Max-Plank-Institute (Bonn)
 October 2015 : CUNY, Graduate Center (New York)
 December 2015, Tokyo (Gakushuin Univ.)
 January-February 2016 : Tata Institute (Bombay)
 October 2016 : CUNY, Graduate Center
 November 2016 : Max-Plank-Institute (Bonn)
 January-June 2017 : Distinguished Visiting Professor, Brown University.
 September 2017 : Gakushuin University, Tokyo.
 November-December 2017 : Bangalore (ICTS) and Banaras Hindu University.
 April 2017 : Fudan University (Shanghai)
 May 2017 : CUNY and Brown University
 September-December 2018 : Tsinghua University (Beijing)
 January-February 2018 : Presidency University (Calcutta) and Tata Institute (Bombay)
 April-June 2018 : UNAM (Mexico)
 April-June 2019 : Lamé chair (Saint Petersburg)

5. PHD STUDENTS

Sonia Cannas (PhD started in 2016)
 Firat Yasar (PhD started in 2016)
 Elena Frenkel (PhD started in 2014)
 Vincent Alberge (PhD obtained in 2016)
 Ahmad Said (PhD obtained in 2013)
 Valentina Disarlo (PhD obtained in 2013)
 Ousama Malouf (PhD obtained in 2011)
 Moreno Andreatta (Habilitation obtained in 2010)
 Guillaume Théret (PhD obtained in 2006)
 Abdelhadi Belkhirat (PhD obtained in 2003)
 Jean-Christophe Curtillet (PhD obtained in 1998)
 Mohammed Mesmoudi (PhD obtained in 1994)
 Michel Coornaert (PhD obtained in 1991)

6. ORGANIZATION AND SCIENTIFIC COMMITTEES OF INTERNATIONAL CONFERENCES (THE MOST RECENT ONES)

- June 2020, Conference on Teichmüller theory, org. A. Papadopoulos, Euler Institute (St Petersburg).
- December 5, 2019–December 15, 2019, CIMPA Research School, DST Centre for Interdisciplinary Mathematical Sciences, Institute of Science, Banaras Hindu

University, India. Co-organisers Bankteswar Tiwari, S. G. Dani and K. Gongopadhyay.

- March, 4–8, 2019, Moduli spaces, Tsinghua Univ. (Beijing), co-organisers L. Ji, J. Jost and S.-T. Yau.
- 17 December–21 décembre 2018, “The Legacy of Joseph Fourier”, co-organisateurs : L. Ji, S.-T. Yau, Tsinghua Sanya International Mathematics Forum, Chine.
- New Trends in Teichmüller Theory and Mapping Class Groups, MFO Oberwolfach, 2–8 Sep 2018. Co-organisers : K. Ohshika, R.C. Penner and A. Wienhard,
- September 13–15, 2018 ; IRMA Strasbourg, Combinatorics, topology, and biology. International conference dedicated to Bob Penner
- June 7–19, 2018, IRMA, Strasbourg. Geometry, topology of manifolds, and physics. International conference dedicated to Vladimir Turaev.
- Orsay, 11–13 juin 2018, Topologie différentielle et mathématiques d’aujourd’hui, International conference in honor of the 90th birthday of Jean Cerf. Co-organisers : F. Bourgeois, F. Laudenbach, V. Poenaru and L. Siebenmann,
- Geometry, Groups and Dynamics, 6 –24 November 2017, International Center for Mathematical Sciences, Bangalore, Co-organisers : C. S. Aravinda, S. G. Dani, and K. Gongopadhyay.
- Strasbourg, September 7–9, 2017, Geometry, Dynamics and Physics. (The 100th Encounter between Mathematicians and Theoretical Physicists). Co-organisers : N. A’Campo and S. Yamada,
- Strasbourg, June 8–10, 2017, Geometry and Physics. (The 99th Encounter between Mathematicians and Theoretical Physicists). Co-organisers : V. Alberge and K. Ohshika,
- Beijing, February 27 – March 3, 2017, Conference on Moduli spaces and applications in geometry, topology and mathematical physics, Morningside Center for Mathematics, Chinese Academy of Sciences. Co-organisers : L. Ji, J. Jost and X. Sun,
- Strasbourg 2-4 june 2016, Around Poincaré, (Co-organisers : Lizhen Ji and Sumio Yamada)
- Strasbourg 1-3 September 2016, A tribute to René Thom (Co-organiser Florence Lecomte)
- Conference : Teichmüller theory (co-organisers Ken’ichi Ohshika, Ser Peow Tan et Weixu Su), 11-16 January 2016, Tsinghua Sanya International Mathematics Forum, China.
- Tianjin, China (Chern Center) (co-organisers Lizhen Ji, Weixu Su and L. Schneps) Conference on Grothendieck-Teichmüller theory, 20-27 July, 2016.
- 20-27 September 2015, University of Cagliari, Master-class on Funsker geometry (co-organiser Rezo Caddeo).
- Strasbourg, 10-11 September 2015, Symposium “Mathématiques et musique : des Grecs à Euler”. (Co-organiser : X. Hascher)
- Strasbourg, 17-19 September 2015, Geometry and Biophysics. (Co-organisers : R. Penner and J. Sulkowska)
- Workshop ”Spherical and hyperbolic geometry” IRMA, 2-3 March, 2015, Strasbourg Co-organiser D. Slutskiy.
- “Geometry, arithmetic and physics : Around motives” Strasbourg, 28-30 May 2015. Co-organiser Florence Lecomte.
- French-Japanese workshop on Teichmüller spaces and surface mapping class groups, Strasbourg, 4-5 juin, 2015. Co-organiser Alberge.
- “Geometry in History” Strasbourg, 11-12 June, 2015. Co-organiser S.G. Dani.
- December 2014, Conference on group actions, (co-organisers L. Ji et S.-T. Yau) Tsinghua Sanya International Mathematics Forum, China.

- September 2014, University of the Aegean (Samos) Conference on Geometry (co-organiser G. Tsapogas, N. A'Campo)
- 18-10 September 2014, University of Strasbourg, “Riemann, Einstein and geometry” (co-organiser Sumio Yamada)
- September 2012, University of Strasbourg, “Lie, Klein and the Erlangne program” (co-organiser Lizhen Ji)
- June 2014, University of Strasbourg, “Riemann, topology and physics” (co-organiser Lizhen Ji)
- June 2014, Rabat (Maroc) Conference on moduli spaces in honor of Bill Thurston (scientific committee).
- May 2014, University of Strasbourg, Master-class and conference “ Around Thurston-Grothendieck-Teichmüller theories”.
- April 2014, University of Galatasaray (Istanbul), Master-class and conference on Finsler geometry (co-organisers Muhammed Uludag and Norbert A'Campo).
- February 2014, Oberwolfach, conference on Teichmüller theory (co-organisers R. Penner, S. Morita and A. Weinhard)
- November 2013, University of Galatasaray, Japanese-Turkish Geometry conference (scientific committee)
- Scientific and organisation commitee of the RAMJAS International conference on the history of mathematics, Delhi, November 2013.
- September 2013, University of Strasbourg, “Entropy in mathematics and in physics), co-organiser Nicolas Juillet.
- May 2013, University of Samos, Conference on Finsler Geometry (co-organisers G. Tsapogas, M. Uludag, C. Vernicos).
- January to April 2013 : co-organiser (with Penner, Funar and Neretin) of a trimester at the Erwin-Schrödinger Institut (Vienna) on Teichmüller theory. The semester involved also a master-class and two international conferences.
- August 2012 Centre for Quantization, Geometry and Topology, Aarhus. Master class and conference “Around the Ehrenpreis conjecture” (co-organisers R. Penner and J. E. Andersen).
 - July 2012 Kunming, China , Conference on “Group Actions and Applications in Geometry, Topology and Analysis”, (co-organisers L. Ji and S. T. Yau)
 - Scientific and organisation commitee of the RAMJAS International conference on the history of mathematics, Delhi, November 2012.
- American Institute of Mathematics, Palo Alto, October 2012. Co-organisation with Kasra Rafi, Fanny Kassel and Jing Tao of the workshop “Thurston’s metric on Teichmüller space”,
- October 2012. Organisation and scientific committee of the conference “Teichmüller theory and arithmetic”, Galatasaray University, Istanbul,
- June 2012 Strasbourg. : Conference “Mapping class groups and quantum topology”, (I was part of the scientific committee)
- November 2011, University of Galatasaray, Istanbul, “Geometry and arithmetic around Teichmüller theory”, (Scientific committee)
- November 2011 : Conference in honor of Peter Buser, Centre Stefano Franscini, Ascona (Scientific committee)
- June-July 2010, EMS-ESF-ERCOM at CRM (Barcelona) “Teichmüller Theory in Mathematics and Physics” (co-organisers R. C. Penner and S. Morita).
- February 2010, Oberwolfach, conference on Teichmüller theory (co-organisers R. Penner and S. Morita)
- June 2009, conference on Teichmüller theory CIRM (Luminy), scientific committee.

- September 2011, Strasbourg, conference on “Lorentz geometry in mathematics and in physics”. (Co-organiser : Charles Boubel).
- September 2011, Strasbourg, conference on “Discretization in mathematics and in physics”. (Co-organiser : Dmitry Millionschikov).
- Membre of the scientific committee of the conference “Mathematics and Computation in Music Conference” (MCM 2011), IRCAM, Paris, 5-17 juin, 2011.
- September 2010, Strasbourg, conference on “Moduli spaces in mathematics and in physics” (co-organiser V. Fock).
- June 2010, Strasbourg, conference on “Geometric aspects of probability and relativity theory”. (Co-organsier : Jacques Franchi).
- September 2009, Strasbourg, conference on “Quantum Topology and Chern-Simons theory” (co-organiser Gwenaël Massuyeau)
- June 2009, Strasbourg, conference on “Representation theory in mathematics and in physics”. (co-organiser : S. Souaifi).
- Co-organiser and scientific committee of the “Conference on Geometry and Its Applications”, Polytechnic Institute of Bucharest, October 2008, 2009, 2010, 2011, 2012, 2013.
- Co-organisateur with Xavier Hascher of a yearly symposium in Strasbourg on mathematics and music.

Other organization responsibilities

- In charge of a link (Strasbourg, Zurich, Grenoble, Nice) for the GEAR program (NSF Research Networks in Mathematical Science) “Topology, geometry, and dynamics of character varieties”, 2012-2018.
- In charge of the French ANR research netwok “géométrie de Finsler et applications”, 2012-2016.
- Organiser of the Geometry and Topology seminar at the University of Strasbourg, since 1991.
- In the last 5 years, I have been in charge (main invesigator) of CNRS collaborative projects with China (CNRS-NSFC (Chine)), Turkey (CNRS-TUBITAK) and Switzerland (Germaine de Staël) and in charge of the section “Groupes de difféotopies et espaces de Teichmüller” of the French research network GDR 2105.
- Member of the national evaluation committees of the Greek universities, Ioannina (2011), Athens (2012) and Patras (2013).

7. BOOK EDITION

I am the author and/editor of several volumes.

7.1. Handbook of Teichmüller Theory, Vol. I–VII. Several volumes, published by the EMS (European mathematical society). Volume I (2006), Volume II (2008), Volume III (2012), Volume IV (2014), Volume V (2016), Volume VI (2016), Volume VII will appear in 2018.

7.2. Master-class of geometry. A collection of courses by N. A'Campo - A. Papadopoulos, F. Dal'Bo, G. Link, F. Herrlich, J. Marché, C. Petronio, S. Matveev and V. Schröder. EMS (2012).

7.3. Leonhard Euler, Mathématicien, physicien et théoricien de la musique. Co-editor X. Hascher (musicologist), CNRS Edition, CNRS Editions, Paris, 2015. The authors are P. Bailhache, D. Foata, X. Hascher, Y. Hellegouarch, Ch. Houzel, F. Jedrzejewski , P. Jehel, G. Théret, A. Kleinert, E. Knobloch, Ch. Théret, F. Nicolas and A. Papadopoulos.

- 7.4. **The collected musical works of Euler.** Collective book, with translations from the Latin and French into English, and commentaries, R. Caddeo, P. Jehel, X. Hascher and H. Papadopoulos. 2 volumes, 2015, Hermann, Paris.
- 7.5. **Handbook of Hilbert Geometry.** (Editors : A. papadopoulos and M. Troyanov), chapters by Vernicos, Walsh, Lemmens-Nussbaum, Papadopoulos, Papadopoulos-Troyanov, Papadopoulos-Yamada, Marquis, Crampon, Alvarez-Paiva, Guo, Nussbaum, Karlsson, Troyanov, Ohshika-Miyachi-Yamada, Papadopoulos-Kim, European Mathematical Society, 2014.
- 7.6. **La théorie des parallèles de Lambert.** Critical edition with English translation and mathematical and historical commentary, ed. Blanchard (Paris), coll. Sciences dans l’Histoire, Paris, 214 p., 2014.
- 7.7. **Handbook of Group Actions Vol. I–V.** Co-editors Lizhen Ji and S. T. Yau, International Press and Higher Education Press. About 15 authors in each volume. Volume I and II appeared in 2015, Volumes 3 and 4, 2018, Volume 5, 2019.
- 7.8. **Lie and Klein : The Erlangen program and its impact on mathematics and physics.** (Co-editor Lizhen Ji), The authors are : A’Campo-Papadopoulos, Frances, Goenner, Gray, Vinogradov, Meusburger, Ji. European Mathematical Society Publishing House, 2015.
- 7.9. **From Riemann to differential geometry and relativity.** Editors : L. Ji, A. Papadopoulos and S. Yamada, Authors : V. Alberge and E. Frenkel, J.-P. Bourguignon, J. Franchi, H. Goenner, J. Gray, C. Houzel, A. Hermann, E. Humbert, F. Jedrzejewski, M. Mars, K. I. Ohshika, L. Ji and S.-T. Yau, F. Luo, J.-P. Nicolas, A. Papadopoulos, G. Plotnitsky, T. Sunada, S. Yamada, V. Pambuccian, H. Struve, R. Struve. 2017, Springer Verlag.
- 7.10. **The collected works of Herbert Busemann.** Two volumes, with commentaries. Ed. A. Papadopoulos, Springer Verlag, 2018.
- 7.11. **Menelaus’ Spherics.** , With Roshdi Rashed, *Menelaus’ Spherics : Early Translation and al-*Māhāni*/ al-Harawi’s Version* (Critical edition of Menelaus’ *Spherics* from the Arabic manuscripts, with historical and mathematical commentaries), De Gruyter, Series : Scientia Graeco-Arabica, 21, 2017, 890 pages.
- 7.12. **René Thom, Des mathématiques à la biologie et à la philosophie.** Collective book, ed. A. Papadopoulos, (Authors : Andreatta, Chaperon, Chenciner, Poenaru, Petitot, Papadopoulos, Ohshika, Jerdzejewski, Wildgen, Trotman, Fukuda, F. Thom) CNRS-Editions, 2018.
- 7.13. **In preparation : Geometry in History.** Collective book, edited by S. G. Dani and A. Papadopoulos (Authors : V. Poenaru, F. Laudenbach, A. Papadopoulos, Y. Eliashberg, A. Chenciner, W. Goldman, V. Alberge, A. Mednykh, V. Pambuccian, K. Ohshika, K. Shiohama, T. Sunada, S. Tabachnikov) Springer Verlag, 2018.
- 7.14. **In preparation : Hyperbolic and spherical geometry.** Collective book (ed. V. Alberge and A. Papadopoulos) Authors : A’Campo, Papadopoulos, Frenkel, Attaoui, Senapati, Slutskyi, Abrosimov, Mednykh, Fillastre, Ho, Izmostiev. European Mathematical Society, to appear in 2018.
- 7.15. **In preparation : The complete musical writings of Christiaan Huygens.** translated into English with commentaries (R. Caddeo, X. Hascher, F. Jedrzejewski, A. Papadopoulos, Editors), to appear in 2018, Hermann, Paris.

- 7.16. **In preparation : Mathematics and music, From the Greeks to Euler.** ed. X. Hascher and A Papadopoulos, Collective book, chapters by Y. Bugeaud, C. Charitos, X. Hascher, R. Herman, A. Papadopoulos, S. Negrepontis, F. Jedrzejewski, S. Cannas. ed. Hermann, Paris, to appear in 2019.
- 7.17. **In preparation : The complete works of J. Sauveur.** , ed. F. Jedrzejewski and A Papadopoulos, ed. Hermann, Paris, to appear in 2019.
- 7.18. **In preparation : In the tradition of Thurston.** Collective book, edited by V. Alberge, K. Ohshika and A. Papadopoulos (Authors : A'Campo, Alberge, Baba, Berestovskii, Bonsante, Bowere, Erlandsson, Kashaev, Kojima, Lecuire, Meigniez, Miyachi, Ohshika, Papadopoulos, Sakuma, Théret) Springer Verlag, 2019.
- 7.19. **In preparation : Teichmüller spaces and dessins d'enfants.** Collective book, edited by L. Ji, A. Papadopoulos, W. Su, World Scientific, 2019.
- 7.20. **In preparation : Moduli spaces.** Collective book, edited by L. Ji, J. Jost and A. Papadopoulos, International Press and Higher Education Press, 2019.
- 7.21. **Géométrie et théorie des groupes : les groupes hyperboliques de Gromov.** (with M. Coornaert and T. Delzant) Lecture Notes in Mathematics, vol. 1441, Springer Verlag, 1990.
- 7.22. **Symbolic Dynamics and hyperbolic Groups.** (with M. Coornaert) Lecture Notes in Mathematics, Vol. 1539 (1993) Springer Verlag.
- 7.23. **Lobachevsky's Pangeometry.** Critical edition, with translation and mathematical commentary, Heritage of European Mathematics, Vol. 4, European Mathematics Publishing House, 322 pages, 2010.
- 7.24. **Metric spaces, convexity and nonpositive curvature.** 300 pages, European Mathematical Society (EMS), Zürich, 2005, second edition, 360 pages, 2014.
- 7.25. **Rigid actions of the mapping class group.** CTQM Master-Class series, European Mathematical Society Publishing House, 150 pages, in preparation.

8. TEACHING

Although my position is a purely research one, I teach regularly at the undergraduate and graduate levels at the University of Strasbourg.

I taught as a visiting professor at several universities : Florence, USC, CUNY, Brown, Univ. Rome, Osaka, Aarhus and at Summer Schools (Greece, Italy, Switzerland, India, Japan and Morocco).

RÉFÉRENCES

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- [4] Réseaux ferroviaires et feuilletages orientables sur une surface, C. R. Acad. Sc. Paris, t. 299, Série I, No 3, 1984, p. 85-88.
- [5] Sur la forme bilinéaire associée à un réseau ferroviaire, C. R. Acad. Sc. Paris, t. 301, Série I, No. 18, 1985, p. 833-836.
- [6] L'extension du flot de Fenchel-Nielsen au bord de Thurston de l'espace de Teichmüller, C. R. Acad. Sc. Paris, t. 302, Série I, No. 8, 1986, p. 325-327.
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- [9] (avec R. C. Penner) A characterization of pseudo-Anosov maps. Pacific Jour. of Math. Vol 130 No. 2 (1987) p. 359-377.
- [10] (avec John D. McCarthy) Involutions in surface mapping class groups. l'Enseignement Mathématique, t. 33 (1987), p. 275-290.
- [11] Sur le bord de Thurston de l'espace de Teichmüller d'une surface non compacte Mathematische Annalen, 282, (1988) p. 353-359.
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- [19] (avec Ulrich Oertel) Intersection forms for measured laminations carried by a branched manifold, Topology and Its Applications 50 (1993) p. 99-116.
- [20] (avec M. Coornaert) Symbolic Dynamics and hyperbolic Groups, Lecture Notes in Mathematics, Vol. 1539 (1993) Springer Verlag.
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- [37] (avec M. Coornaert) Symbolic coding for the geodesic flow associated to a hyperbolic group, Manuscripta Math. 109, 465-492 (2002).
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- [40] (avec C. Charitos) Hyperbolic Structures and Measured Foliations on 2-Dimensional Complexes Monatsh. Math. 139 (2003) 1, 1-17
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- [43] (avec U. Oertel) Broken Hyperbolic structures and affine foliation on surfaces, Indag. Math. (N.S.) 15 (2004), no. 2, 269-282.
- [44] (avec R. C. Penner) The Weil-Petersson form and affine foliations on surfaces, Annals of Global Analysis and Geometry, 27 (2005), 53-77. 39.
- [45] Medie e Proporzioni nella musica greca, Lettera Matematica Pristem, Vol. 55, p. 41-48, Springer, Milano, 2005.
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