

RESUME OF PAULA TRETKOFF (née Paula Beazley Cohen)

Summary of personal data

Name: Paula Tretkoff

Mailing address: Dept. of Math., Texas A&M Univ., College Station, TX 77843-3368

e-mail: paulatretkoff@tamu.edu

Citizenship: United States citizen

Birthplace: Sydney, Australia

Tenured positions

- 1) Professor in the Department of Mathematics, Texas A&M Univ., 2002 – present.
- 2) Directeur de recherche au CNRS, Université de Lille 1, France: 1995 – present.

Previous position

Chargé de recherche au CNRS, Université de Paris VI, France: 1983–1995 (tenured 1985).

Degrees and diplomas obtained

- *– Habilitation à diriger les recherches: Pure Mathematics, June 1995, Univ. Paris 6, France.
- *– Doctor of Philosophy (PhD): Pure Mathematics, March 1985, Univ. Nottingham, England.
- *– Bachelor of Science with double First Class Honours, University Medal (prox. acc.): Applied Mathematics (1978), Pure Mathematics (1979), Univ. of Sydney, Australia.

Funding

- NSF Individual Grant, Principal Investigator: July 1, 2004–June 30, 2007.
- NSF Individual Grant, Principal Investigator: September 15, 2008–August 31, 2012.
- NSA Individual Grant, Principal Investigator: October 1, 2008–October 1, 2010 (declined).
- NSA Individual Grant, Principal Investigator: March 31, 2012– September 30, 2014.
- BIG12 Fellow grant, University of Colorado, Boulder, USA, academic year 2011/2012.

Honorary and visiting positions

- *– Member Institute for Advanced Study, Princeton, academic year 1995/96
- *– Member Institute for Advanced Study, Princeton, Spring semester 2000.
- *– Visiting Professor of Mathematics, Macquarie University, Sydney, (1996–1999).
- *– Visiting Professor, Princeton University, USA, academic year 2001/2002.

Publications List

Publications appearing in refereed Journals (or Proceedings)

- [1] with A. Regev: *Asymptotic estimates of some S_n -characters and the identities of the 2×2 matrices*, Comm. Algebra **10** no. 1 (1982), 71–85.
- [2] *On the coefficients of the transformation polynomials for the elliptic modular function*, Math. Proc. Camb. Phil. Soc **95** (1984), 389–402.
- [3] *Heights of torsion points on commutative group varieties*, Proc. London Math. Soc. **(3) 52** (1986), 427–444.
- [4] with A. Regev: *Asymptotics of combinatorial sums and the central limit theorem*, Siam J. Math. Anal. **19**, no. 5, (1988) 12041215.
- [5] with A. Regev: *On maximal degrees of Young diagrams*, Europ. J. Combin. **9**, (1988), 607–616.
- [6] with J. Wolfart: *Modular embeddings for some non-arithmetic Fuchsian groups*, Acta Arith. **LVI** (1990), 93–110.
- [7] with J. Wolfart: *Monodromie des fonctions d’Appell, variétés abéliennes et plongement modulaire*, SMF Astérisque **198-199-200** (1991), 97-1-05.
- [8] *On the non-commutative torus of real dimension two*, Number Theory and Physics, Proc. Winter School Les Houches, 1989, Spring. Proc. in Physics, **47** (1990), 151–156.
- [9] *Heights of torsion points on commutative group varieties II*, Proc. London. Math. Soc. **(3) 62** (1991), 99–120.
- [10] with J. Wolfart: *Algebraic Appell-Lauricella Functions*, Analysis **12**, (1991) 359–376.
- [11] with J. Wolfart: *Fonctions hypergéométriques en plusieurs variables et espaces des modules de variétés abéliennes*, Ann. Sci. Ecole Norm. Sup., 4 sér. **t. 26** (1993), 665–690.
- [12] with J. Wolfart: *Dessins de Grothendieck et variétés de Shimura*, C.R. Acad. Sci. Paris, **t. 315**, Sér 1 (1992), 1025–1028.
- [13] with C. Itzykson and J. Wolfart: *Fuchsian triangle groups and Grothendieck dessins; Variations on a theme of Belyi*, Comm. Math. Phys. **163** no. 3 (1994), 605–627.
- [14] *Dessins d’enfant and Shimura varieties*, The Grothendieck theory of dessins d’enfants (Luminy 1993), 237 – 243, London Math. Soc. Lecture Note Ser., 2000, Cambridge Univ. Press, Cambridge (1994), 237–243.
- [15] *Propriétés transcendentes des fonctions automorphes*, Sémin. de Théorie des Nombres (Paris), 1993, Camb. Univ. Press (1995).
- [16] with F. Hirzebruch: Book review for Bull AMS **32**, no1 (1995) of: Deligne and Mostow’s *Commensurabilities among lattices in $PU(1, n)$* , Ann. Math. Stud. 132 (1993).
- [17] with T.M.W. Eyre and R.L. Hudson: *Higher order Ito product formula and generators of evolutions and flows*, Int. Jour. Theor. Phys. **34**, no 8 (1995), 1481–1486.
- [18] *Humbert surfaces and transcendence properties of automorphic functions*, in *Symposium of Diophantine Problems (Boulder, CO, 1994)*, Rocky Mountain J. Math. **26**, no 3 (1996), 987–1001.
- [19] with Y. Manin and D. Zagier: *Automorphic pseudo-differential operators*, in *Algebraic Aspects of Integrable Systems*, Progr. Nonlinear Differential Equations Appl, **26**, Birkhäuser (1997), 17–47.

- [20] with E. Bombieri: *Effective Diophantine Approximation on G_m, II* , Annali della Scuola Norm. Sup di Pisa **XXIV**,**2**, Serie IV (1997), 205–225.
- [21] with R.L. Hudson, K.R. Parthasarathy and S. Pulmannova, *Hall’s transformation via quantum stochastic calculus*, Proceedings of the Quantum Probability Workshop, Gdansk, (1997) Banach Centre Pub. 43.
- [22] with E. Bombieri, Appendix by U. Zannier: *Siegel’s Lemma, Padé Approximations and Jacobians*, Annali della Scuola Norm. Sup di Pisa **XXV**,**1–2**, Serie IV (1997), 155–178.
- [23] with R.L. Hudson: *Generators of quantum stochastic flows and cyclic cohomology*, Math. Proc. Cambridge Philos. Soc. **123**, no 2 (1998), 345–363.
- [24] with A. Regev: *Asymptotics of character sums associated to Young-derived sequences*, Israel Journal of Mathematics **112** (1999), 301–325.
- [25] *A C^* -dynamical system with Dedekind zeta partition function and spontaneous symmetry breaking*, J. Théorie des Nombres de Bordeaux, **11** (1999), 15–30.
- [26] *Dedekind zeta functions and quantum statistical mechanics*, Contemporary Mathematics, **241** (1999), 121–128.
- [27] *On the modular function and its importance for arithmetic*, in the Proceedings of the Ecole thématique de Printemps, CNRS: *Bruit des fréquences des oscillateurs et dynamique des nombres algébriques*, Chapelle des Bois, Jura, France, April 5–10, 1999, Lect. Notes Phys. 550, 388?397 (2000) (Springer Verlag).
- [28] with U. Zannier: *Multiplicative dependence and bounded height, an example*, in Proceedings of the Algebraic Number Theory and Diophantine Approximation Conference, Graz, 1998, Walter de Gruyter (2000) 93–101.
- [29] with A. Regev, *A six generalized squares theorem, with applications to P.I. algebras*, Journal of Algebra, 239 (2001) 174–190.
- [30] with G. Wüstholz: *Applications of the André–Oort Conjecture to some questions in transcendence*, in A Panorama in Number Theory, A view from Baker’s garden, CUP (2002) Ed. G. Wüstholz, 89–106.
- [31] with U. Zannier, *Fewnomials and intersections of lines with real analytic subgroups in G_m^n* , Bull. London Math. Soc. 34 (2002) 21–32.
- [32] with A. J. van der Poorten, *Ideal constructions and irrationality measures of roots of algebraic numbers*, Illinois J. Math., Volume 46, Issue 1 (Spring 2002).
- [33] *Perspectives de l’approximation diophantienne et de la transcendance*, Ramanujan Journal, Volume 7 (Special Volume: Robert Rankin (1915–2001, A Memorial Tribute) Numbers 1-3, September 2003, 367–384.
- [34] with E. Bombieri: *An elementary approach to effective diophantine approximation on G_m* , in Number Theory and Algebraic Geometry, LMS Lecture Notes, Vol. 303, 75th birthday volume for Sir P. Swinnerton-Dyer, eds. M. Reid, A. Skorobogatov, Cambridge University Press, 2004, 41–62.
- [35] Appendix to the paper: *Triangle Fuchsian differential equations with apparent singularities*, by H. Shiga, T. Tsutsui, J. Wolfart, Osaka J. Math., **41** (2004), 625–658.
- [36] *Noncommutative number theory*, DIMACS Series in Discrete Mathematics and Theoretical Computer Science, Volume **64**, 37–51, AMS 2004.
- [37] *Interactions between number theory and operator algebras in the study of the Riemann zeta function (d’après Bost–Connes)*, Number theory (New York, 2003), 87–103, Springer.

- [38] *Noncommutative geometry and number theory*, Minicourse at Mount Holyoke Meeting on Noncommutative Geometry June 2000, in: *Surveys in Noncommutative Geometry*, Eds. N. Higson, J. Roe, CMI/AMS 2006, 143–189.
- [39] *Hyperbolic distribution problems on Siegel 3-folds and Hilbert modular varieties*, *Duke Math. J.* **129**, no. 1 (2005), 87–127.
- [40] with P–A. Desrousseaux, M.D. Tretkoff, *Transcendence of values at algebraic points for certain higher order hypergeometric functions*, *IMRN/15278* (61) 2005, 3835–3854.
- [41] with P–A. Desrousseaux, M.D. Tretkoff, *Zariski-density of exceptional sets for hypergeometric functions*, *Forum Mathematicum* **20**, Issue 2 (2008), 187–199.
- [42] with M.D. Tretkoff, *Transcendence of special values of Pochhammer functions*, *Int. J. of Number Theory* **5** (4) (2009), 667–677.
- [43] *Transcendence of values of transcendental functions at algebraic points*, Monroe H. Martin Inaugural Lecture (Part I: Transcendence of values of some special functions) and Seminar (Part II: Transcendence properties of Appell–Lauricella functions), 2009, in *Noncommutative Geometry, Arithmetic, and Related Topics*, Proceedings of the 21st JAMI Conference, Baltimore 2009, JHUP (2011), 279–295.
- [44] with A. Connes, *The Gauss-Bonnet Theorem for the noncommutative two torus*, in *Noncommutative Geometry, Arithmetic, and Related Topics*, Proceedings of the 21st JAMI Conference, Baltimore 2009, JHUP (2011), 141–158.
- [45] with an appendix by M.D. Tretkoff, *A transcendence criterion for CM on some families of Calabi-Yau manifolds*, in *From Fourier Analysis and Number Theory to Radon Transforms and Geometry - In Memory of Leon Ehrenpreis*, eds. H.M. Farkas, R.C. Gunning, M.I. Knopp, B.A. Taylor, *Developments in Math.*, Springer (2012).
- [46] *Transcendence and CM on Borcea-Voisin towers of Calabi-Yau manifolds*, *Journal of Number Theory*, Volume 152, July 2015, 118–155.
- [47] *K3 surfaces with algebraic period ratios have complex multiplication*, *International J. of Number Theory*, Volume No. 11, Issue No. 5, (2015), 1709–1724
- [48] *Transcendence of Zeros of Automorphic Forms For Cuspidal Triangle Groups*, to appear in *Math. Reports Royal Society of Canada* (see <https://arxiv.org/abs/1809.09656>)

Books

- [1] *Complex Ball Quotients and Line Arrangements in the Projective Plane*, (with an Appendix by H.-C. Im Hof), MN-51, Princeton University Press, 2016.
- [2] *Periods and Special Functions in Transcendence*, *Advanced Textbooks in Mathematics*, World Scientific, 2017.

Other articles and preprints

- [1] *Explicit calculations of some effective constants in transcendence proofs*, *Publ. Math. Univ. Pierre et Marie* **66**, no. 2 (1984).
- [2] *Structure complexe non commutative et superconnexions*, Preprint of the MPI, Bonn, no. MPI/92–19 (1992).
- [3] with A. Connes: *Conformal geometry of the irrational rotation algebra*, Preprint of the MPI, Bonn. no. MPI/92–23 (1992).
- [4] with J. Wolfart and H. Shiga: *Criteria for complex multiplication and transcendence properties of automorphic functions*, Preprint of Uni. Frank. (1993).

- [5] *Sur la mécanique statistique d'après les travaux de Bost-Connes, Comptes-rendus des Journées Académiques de Lille, le 9 et 10 mars (1998).*
- [6] *Dedekind zeta functions and quantum statistical mechanics*, Publications of CERFIM, Switzerland and as ESI, Vienna, preprint No. 617 (1998).

Editorial duties

Member of the Editorial Board of the “International Journal of Number Theory”, World Scientific, 2005–2018.

Refereeing duties

Refereed research articles on various occasions for about 15 different journals, including Inventiones, Duke Math. Journal, Journal of Number Theory, J. für die Reine und Angew. Math., Israel Math. Journal, Proceedings of the AMS, Ramanujan Journal Journal of Algebra, Algebra and Number Theory, Proceedings of the Thirteenth Conference of the Canadian Number Theory Association, Journal of the American Mathematical Society

Refereed NSA proposals several times and NSF proposals on about 15 occasions.

Review and Report on Promotion to Tenure Applicant for Bates College, 2014.

Review of book proposal for World Scientific, 2015.

Member of NSF Panel for Individual Grant Proposals, January 2004.

Refereed a grant proposal for The Swiss National Science Foundation (2011).

Refereed a grant proposal for The French National Research Agency (ANR)(2012).

Member of both the National Security (NSA) Number Theory panel and the NSA Algebra panel for 2014-2015. Primary and Secondary Handler at least 24 proposals.

Member of National Security (NSA) Number Theory panel for 2015-2016. Primary and Secondary Handler for at least 6 proposals (only Young Investigator Awards being offered)

Review of Discovery Grant application in Mathematics and Statistics for the Natural Sciences and Engineering Research Council of Canada (NSERC), 2015.

Selected plenary and invited lectures

- *– **Non-commutative geometry festival**, Texas A&M U., April 30- May 3, 2014:
Invited lecture: *An ϵ -knowledge introduction to some basic objects of commutative and noncommutative geometry*
- *– **Number Theory Days**, EPFL Lausanne, Switzerland, May 6–7, 2011:
Plenary lecture: *The Analytic Subgroup Theorem and Variations of Hodge Structure*
- *– **New York Joint Number Theory Seminar Lectures**, CUNY Graduate Center, December 10, 2009.
Invited lecture: *Transcendence of special values of hypergeometric functions*
- *– **Monroe H. Martin lectures**, Johns Hopkins, February 23–24, 2009.
- *– **Arizona Winter School**, Tucson, Arizona, March 15–19, 2008
Course: *Transcendence of special values of modular and hypergeometric functions*
- *– **Southern California Number Theory Day**, Caltech, March 8, 2008
Plenary Lecture: *Transcendence of special values of classical functions*
- *– **Distinguished Women in Mathematics Colloquium**, University of Texas, Austin, February 4, 2008.
Aspects of transcendental number theory
- *– **Kuwait Fund Lecture**, Cambridge University, England, May 3rd, 2005
Modular and hypergeometric functions, transcendence and monodromy
- *– **Journées Arithmétiques de Lille**, France, July 2–6, 2001
Plenary lecture: *Perspectives de l'approximation diophantienne et de la transcendance*
- *– **American Mathematical Society (AMS) Meeting** Columbia University, New York, NY, USA, November 4–5, 2000,
Invited Address: *Equidistribution on Shimura varieties and applications.*
- *– **British Mathematical Colloquium (BMC)** at Southampton University, England, March 29-April 1, 1999,
Invited morning lecture: *Effective diophantine approximation by Thue-Siegel, bypassing Dyson*
- *– **Australian Mathematical Society Conference**, Sydney, Australia, September 27– October 1 1998,
Plenary lecture: *Non-commutative geometry and number theory*

Administration of research and other activities

- *– Member of the editorial committee of La Gazette des Mathématiciens (publication of the French Mathematical Society), January 1993– December 1997.
- *– Member of the administrative committee of the CNRS lab. Arithmétique – Géométrie – Analyse – Topologie, Université de Lille 1, January 1996– September 1999.
- *– Correspondant for international relations between the University of Lille and Australia, January 1997 – December 1997.
- *– Member of the Council of the Société Mathématique de France, 1996–1999.
- *– Head of international relations for the Société Mathématique de France, 1997–1999.

- *– Delegate of Assoc. femmes et mathématiques to the Conference : “Femmes et sciences”, in cooperation with the European Parliament and Edith Cresson, European commissaire, Brussels, 28-29 March 1998.
- *– Delegate of the Société Mathématique de France to the Council of the International Mathematics Union, Dresden, 15-16 August 1998.
- *– Delegate of the Société Mathématique de France to the Council of the European Mathematical Society, Berlin, 28-29 August 1998.
- *– Elected member of the Council of femmes et mathématiques, France, 1998–1999.
- *– Member of the Subcommittee on Parity (Assoc. femmes et mathématiques, France), since June 1998.
- *– Nominated member of the French ministerial committee “Conseil national des universités” (C.N.U. 25ème section), January 2000–September 2001.
- *– Member of NSF Panel for Individual Grant Proposals: January 2004.
- *– Member of Graduate Committee, Texas A&M Math Dept, 2003/2004, 2004/2005, 2015-2017.
- *– Member of Postdoctoral Hiring Committee, Texas A&M Math Dept, 2003/2004, 2004/2005, 2007/2008.
- *– Member of Promotion Committee, Texas A&M Math Dept, 2004/2005, 2005/2006, and 2010/2011.
- *– Member of the Teaching Committee, Texas A&M Math Dept, 2009/2010.
- *– CAFRT (Committee on Academic Freedom, Responsibility, and Tenure), Texas A&M, Fall 2010.

Organization of major events and conferences

- *– Member of the Organizing Committee of the European Mathematics Conference (ECM), Paris, 6-10 July 1992
- *– Member of the Scientific Committee of the Journées Arithmétiques, Rome, 11–17 July, 1998
- *– Associate Secretary for the SMF (Société Mathématique de France) of the Joint AMS/SMF Meeting Lyon, 17–20 July, 2001.
- *– Founder and Co-organizer of ArithmeTexas, Texas A&M April 2-3, 2005.
- *– President of the Scientific Committee of the Journées Arithmétiques, Edinburgh, 2–6 July, 2007.
- *– Member of the Scientific Committee of the Journées Arithmétiques, St Etienne, 6–10 July, 2009.
- *– Co-organizer of a JAMI (Japan-U.S. Mathematics Institute) activity, Johns Hopkins University, 2008/09, on Noncommutative geometry and arithmetic, with a conference March 23–26, 2009.

Organization and co-organization of other conferences

- *– Lundi Arithmétique, March 10th, 1997 at the Institut Henri Poincaré, Paris.
- *– Journée d’Analyse et Géométrie, May 6th, 1997.
- *– Mini-colloquium *Approximation et transcendance*, Université de Bordeaux 1, 8–9 January, 1998
- *– *Journées Académiques “Les nombres”*, 9-10 March 1998, Lycée Jean Perrin de Lambersart, Lille.
- *– *Journées Arakelov*, Université de Lille 1, 14-16 December 1998
- *– Member of the Scientific Committee of the *Ecole thématique de Printemps, CNRS: Bruit de fréquences des oscillateurs et dynamique des nombres algébriques*, Chapelle des Bois, Jura, France, 6–9 April, 1999
- *– Co-organizer with M. Fried of the meeting *Heights on moduli spaces*, University of California at Irvine, October 19–21, 2000.
- *– Co-organizer with D. Goldfeld of a Special Session entitled *Arithmetic Geometry and Modular Forms* at the AMS Meeting at Columbia University, New York, NY, November 4–5 2000.
- *– *Problèmes diophantiens*, Université de Lille 1, June 11-13, 2001.

Organization and co-organization of seminars

- *– Colloquium de Mathématiques at the Université de Lille 1, 1996/1997
- *– Séminaire Jeunes Chercheurs, Université de Lille 1, 1996/1998
- *– Séminaire d’Algèbre et de Théorie des Nombres de Lille, 1997/1999.
- *– Princeton University/Institute for Advanced Study Number Theory Seminar, 2001/2002.
- *– Co-organizer of Texas A&M Number Theory Seminar, 2002/2003, 2003/2004, 2004/2005.

Doctoral supervision

- *– Geoffroy Derome, PhD thesis, 1999, Université de Lille 1.
- *– Pierre-Antoine Desrousseaux, PhD thesis 2001, Université de Lille 1.

Postdoctoral supervision

- *– Lenny Fukshansky (at Texas A&M University), 2004–2007.
- *– Margaret Upton (at Texas A&M University), 2007–2010.

Visiting positions of 1 month or more at Scientific Institutions

- *– Institut Henri Poincaré, Paris, France, January–March 1982.
- *– Weizmann Institute of Science, Rehovot, Israel as Sir Charles Clore fellow.
 - December 1981
 - April 1982
 - December 1982
 - August–January 1985
 - August 1986–January 1987 and August 1987–January 1988
- *– Institut des Hautes Etudes, Bures-sur-Yvette, France, January–July 1987.
- *– MSRI, Berkeley, USA
 - October 1987
 - March 1993
- *– Harvard University, Boston, USA, September 1988.
- *– Max-Planck-Institut, Bonn, Germany
 - July–August 1989
 - January–March 1992
 - January–March 1994
 - mid-January–mid-February 1998
- *– Macquarie University, Sydney, Australia
 - September 1989
 - August–September 1990
 - August–September 1993
 - July–August 1995
 - July–September 1996
 - August 1997
 - October–November 1998
 - September–October 1999
- *– Princeton University, Princeton, USA,
 - April 1995
 - Visiting lecturer with rank of Professor for the year 2001/2002
- *– Institute for Advanced Study, Princeton, USA
 - member for the academic year 1995/96 with participation in the special program in Number Theory.
 - visitor for 1 month in April 1997
 - member for the second semester of the academic year 1999/2000 (January – July 2000) with participation in the special program on L -functions.
- *– ETH Zurich, Switzerland, April–June 1996
- *– Istituto Univ. di Architettura di Venezia, Venice, Italy
 - CNR visiting professorship for July 1998
- *– University of Pisa, Italy
 - CNR visiting professorship for July 1999

Visits of less than 1 month at Scientific Institutions

- *— Cambridge University, Cambridge, England, February 1984, May 2005.
- *— Goethe University, Frankfurt, Germany
 - February 1985
 - June 1988
 - July 1991
 - 5–10 January 1993: PROCOPE mission (Franco-German collaboration)
 - 1–13 June 1993: PROCOPE mission
 - 18–28 December 1993: PROCOPE mission
 - 3–11 March 1994: PROCOPE mission
 - 24–28 September 1994: PROCOPE mission
- *— Nottingham University, Nottingham, England
 - October 1993
 - 24–30 July 1994: HCM mission (Human Capital and Mobility)
 - 29 May–7 June 1997: mission in the context of the Franco–British cooperation
- *— Trondheim University, Trondheim, Norway, 28 February–5 March 1995.
- *— University of Colorado at Boulder, USA
 - November 1995
 - October 2000
- *— Queen’s University, Kingston, Canada, February 1996
- *— Weizmann Institute of Science, Rehovot, Israel
 - December 1996
 - 19 December 1999 – 6 January 2000
- *— Kyushu University, Fukuoka, Japan, 10–20 September 1996
- *— Max–Planck–Institut Bonn, Germany
 - 18–26 January 1997
 - 2–6 March 1997
 - 17 June—5 July 1997
 - 16–20 November 1997
 - 19 January–16 February 1998
 - 25–27 March 1998
 - 11 April–3 May 1999
 - 5–12 December 1999
 - 17–27 April 2001
 - 7–21 February 2004
- *— Istituto Univ. di Architettura di Venezia, Venice, Italy
 - 14–24 February 1997
- *— Centro di Ricerca Matematica Ennio de Giorgi, Pisa, Italy.
 - 7–14 May 2005
- *— ETH Zürich, Switzerland

- 24–28 May 1997
- 8–25 April 1998
- *– Muenster University, Germany, 12–16 November 1997
- *– Southampton University, England, 25 February–1 March 1998
- *– Manchester University, England
- 3–6 March 1998
- 29 May – 2 June 1998
- *– CERFIM, Locarno, Switzerland, 4–8 April 1998
- *– University of Rome III, 17–21 July, 1998
- *– Slovakian Academy of Sciences, Bratislava, 7–12 September 1998
- *– Erwin Scroedinger International Institute for Mathematics, Vienna, Austria, 12–26 September 1998 for the ESI program in Number Theory and Physics.
- *– Tel-Aviv University, Israel, 21–30 December 1998, 19–26 December 2005.
- *– University of Hong Kong, Pokfulam, Hong Kong, 18–23 March 1999.
- *– Mathematical Institute at Cuernavaca, Mexico, 2–7 March 2000.
- *– Université des Sciences et Technologies de Lille, France, 12–28 September 2003.
- *– University of Fairbanks, Alaska, January 22–29, 2005.
- *– Macquarie University, Sydney, Australia, Nov 21–Dec 5, 2003, Mar 9–22, 2005.
- *– Caltech, Pasadena, California, 7–14 March 2008.
- *– ETH Zürich, Switzerland 8–11 May 2011.
- *– BIG12 Fellow at the University of Colorado, Boulder, 10–20 February 2012.
- *– University of Colorado, Boulder, 7–13 March 2014.
- *– University of Colorado, Boulder, 17–24 August 2014.
- *– Institute for Advanced Study, Princeton, New Jersey, 12–22 September 2014.
- *– Institute for Advanced Study, Princeton, New Jersey, 7–17 November 2014.

Invited to participate in the following conferences:

- *– Journées Arithmétiques, Metz, August 1981
- *– Number Theory Conference, Grygannog, June 1982
- *– Conference in Modular Forms, Durham, June 1983
- *– Conference in Enveloping Algebras, Durham, July 1983
- *– International Summer School for Number Theory, Nice, September–October 1983
- *– Number Theory Conference, St. Etienne, October 1983
- *– Colloquium in Honour of Klaus Roth, London, July 1985
- *– Workshop on Cyclic Cohomology, Warwick, April 1987
- *– Cyclic Cohomology and K-theory Workshop, Oberwolfach, June 1987

- *– Number Theory Conference, Oberwolfach, March 1988
- *– International Mathematics and Physics Conference, Swansea, July 1988
- *– Number Theory and Physics, Les Houches, March 1989
- *– Diophantine Workshop, March 1993, MSRI Berkeley
- *– The Grothendieck Theory of Dessins, April 1993, Luminy
- *– Théorie des Systèmes en Physique, June 1994, Luminy
- *– Probabilités quantiques, June 1994, Luminy
- *– Symposium on Diophantine Problems, June 1994, Boulder
- *– Arbeitstagung, Bonn, June 1995
- *– Hypergeometric Workshop, June 1996, ETH Zürich
- *– Hypergeometric Festival, September 1996, Fukuoka, Japan
- *– Rencontres Anciens-Nouveaux de Lille, Nov 1996
- *– Arithmetic Algebraic Geometry, Lunteren, December 1996
- *– Arbeitstagung, Bonn, June 1997
- *– Journées Arithmétiques de Limoges, September 1997
- *– Rencontres mathématiciens-physiciens, Strasbourg, December 1997
- *– Rencontre en honneur d’A. van der Poorten, Bordeaux, January 1998
- *– *Journées Académiques “Les nombres”*, March 1998, Université de Lille 1, Lille
- *– Conference in Honour of F. Hirzebruch, Warsaw, May 1998
- *– Diophantine Approximation, Luminy, May 1998
- *– Journée en honneur d’Alain Baker, Strasbourg, June 1998
- *– Algebraic Geometry, MPI für Mathematik, Bonn, July 1998
- *– ICM 1998, Berlin, August 1998
- *– Algebraic No. Theory and Diophantine Approximation, Graz, August 1998
- *– Riemann Zeta Function, Schroedinger Inst., Vienna, September 1998
- *– Australian Mathematical Society Conference, Sydney, September 1998
- *– *Workshop on number theory, transcendence and diophantine geometry*, University of Hong Kong, Pokfulam, Hong Kong, March 1999
- *– British Mathematical Colloquium (BMC) at Southampton University, England, March 1999
- *– Ecole thématique de Printemps, CNRS: *Bruit des fréquences des oscillateurs et dynamique des nombres algébriques*, Chapelle des Bois, Jura, France, April 1999
- *– Arakelov Geometry and Applications Conference, Obernai, France, June 1999
- *– Workshop on diophantine approximation, Pisa, Italy, July 1999
- *– Journées Arithmétiques de Rome, July 1999
- *– Conference in Honour of Alan Baker, Zürich, Switzerland, August 1999
- *– Bruit en $1/f$ et théorie des nombres, Inst. H. Poinc., Paris, December 1999

- *– Unusual applications of number theory, DIMACS, USA, January 2000
- *– Pacific North West Number Theory, Oregon State University, April 2000
- *– Millennial number theory, U. Illinois Urbana–Champagne, May 2000
- *– Transcendence and diophantine app., U. Ill. Urbana–Champagne, May 2000
- *– Mount Holyoke Conference on Noncommutative Geometry, June 2000
- *– Colloque en l’honneur de Michel Mendès-France, Bordeaux, September 2000
- *– Conference on Heights on moduli spaces, Univ. California Irvine, October 2000
- *– American Mathematical Society (AMS) Meeting, Columbia University, New York, November 2000
- *– World Math. Year Series, Centro de Mat. do Porto, Portugal, December 2000
- *– Formes Modulaires, Lille, January 2001
- *– Journées Arithmétiques de Lille, France, July 2001
- *– Workshop on Zeta-functions and Associated Riemann Hypotheses, Courant Institute, New York, May 2002
- *– Central Texas Algebra Conference, Waco, Texas, February 2003
- *– The Lenstra Treurfeest — A farewell conference, MSRI and U.C. Berkeley, California, March 2003.
- *– Arithmetical Geometry and Number Theory – 60th birthday conference in honor of Nicholas Katz, Princeton University, December 2003.
- *– Non-Commutative Geometry and Operator Algebras, Vanderbilt Univ., Nashville, May 15–25, 2004.
- *– Weekend conference on Number Theory, BIRS Banff, Canada, Nov 19–21, 2004.
- *– Workshop in Diophantine Problems and Analytic Number Theory, BIRS Banff, Canada, Nov 21–25, 2004.
- *– Diophantine Geometry Program, De Giorgi Center, Pisa, May 7–14, 2005.
- *– Southern California Number Theory Day, Caltech, May 8, 2008. *Plenary lecture*
- *– Arizona Winter School, Tucson, Arizona, May 14–19, 2008 *Plenary lectures (graduate course), research project with graduate students*
- *– Noncommutative Geometry, Arithmetic and Related Topics, JAMI, Johns Hopkins, March 23–26, 2009.
- *– Unlikely Intersections in Algebraic Groups and Shimura Varieties, Centro De Giorgi, Pisa, Italy, March 28– April 1, 2011, *Lecture*.
- *– Number Theory Days, EPFL Lausanne, Switzerland, May 6–7, 2011, *plenary lecture*
- *– Non-commutative geometry festival, Texas A&M U., Texas, USA, April 30- May 3, 2014, *invited lecture*

**Invited colloquium and seminar lectures
(since October 1995) — place, date**

- *— University of Colorado at Boulder, USA — 30/11/95
- *— University of Colorado at Boulder, USA — 02/11/95
- *— Princeton University, USA — 06/12/95 and 13/12/95
- *— Columbia University, New York, USA — 29/01/96
- *— Queen's University, Kingston, Canada (3 lectures) — 08/02/96
- *— Temple University, Philadelphia, USA — 19/02/96
- *— Institute for Advanced Study, Princeton, USA — 07/03/96
- *— Institute for Advanced Study, Princeton — 07/10/96
- *— ETH, Zürich, Switzerland — 10/04/96
- *— ETH, Zürich, Switzerland — 24/05/96
- *— University of Basel, Switzerland — 31/05/96
- *— ETH, Zürich, Switzerland — 05/06/96
- *— ETH, Zürich, Switzerland — 27/06/96
- *— Macquarie University, Australia — 25/07/96
- *— Macquarie University, Australia — 05/08/96
- *— Macquarie University, Australia — 13/08/96
- *— University of Newcastle, Australia — 22/08/96
- *— Chiba University, Japan — 22/09/96
- *— Université de Lille 1, France — 24/10/96
- *— Université de Valenciennes, France — 05/02/97
- *— Columbia University, USA — 31/03/97
- *— University of Pennsylvania, USA — 07/04/97
- *— City University New York, New York — 17/04/97
- *— Princeton University, USA — 22/04/97
- *— Université de Toulouse, France — 23/05/97
- *— Université de Paris 6, France — 29/05/97
- *— Nottingham University, England — 06/06/97
- *— Macquarie University, Australia — 11/08/97
- *— Adelaide University, Australia — 15/08/97
- *— Macquarie University, Australia — 25/08/97
- *— Muenster University, Germany — 13/11/97
- *— Max-Planck-Institut für Math. Bonn, Germany — 27/1/98
- *— Frankfurt University, Germany — 13/2/98
- *— Université de Lille 1, France — 20/2/98
- *— King's College London, England — 25/2/98
- *— Southampton University, England — 27/2/98
- *— Exeter University, England — 3/3/98
- *— Manchester University, England — 4/3/98
- *— Université de Rennes, France — 12/3/98
- *— Université de Lille 1, France — 13/3/98
- *— Université de Franche-Comté (Besançon), France — 2/4/98

- *– Université de Bourgogne (Dijon), France – 3/4/98
- *– CERFIM, Locarno, Switzerland – 6/4/98
- *– ETH, Zürich, Switzerland – 24/4/98
- *– Université de Lille 1, France – 5/5/98
- *– Journée femmes et mathématiques: Institut Henri Poincaré, Paris – 6/6/98
- *– Slovakian Academy of Sciences, Bratislava, Slovakia – 11/9/98
- *– Erwin Schroedinger Institute, Vienna, Austria – 16/9/98
- *– University of Newcastle, Newcastle, Australia – 14/10/98
- *– University of NSW, Sydney, Australia – 19/10/98
- *– University of Sydney, Sydney, Australia – 23/10/98
- *– University of Adelaide, Adelaide, Australia – 30/10/98
- *– Macquarie University, Sydney, Australia – 4/11/98
- *– Australian National University, Canberra, Australia – 19/11/98
- *– University of Bar-Ilan, Israel – 23/12/98
- *– University of Tel-Aviv, Israel – 27/12/98
- *– Institut Henri Poincaré, Paris, France – 11/1/99
- *– Université de Lille 1, France – 22/1/99
- *– University of Basel, Basel, Switzerland – 4/2/99
- *– Institut Henri Poincaré, Paris, France – 6/2/99
- *– Université de Lille 1, France – 5/3/99
- *– Centre Emile Borel, Institut Henri Poincaré, Paris, France – 25/3/99
- *– Université de Bordeaux, Talence, France – 6/5/99
- *– Université de Paris VI, Paris, France – 20/5/99
- *– Cambridge University, England – 8/6/99
- *– Macquarie University, Sydney, Australia – 27/9/99
- *– Newcastle University, Newcastle, Australia – 6/10/99
- *– Université de Rennes, Rennes, France – 18/11/99
- *– Université de Besançon, Besançon, France – 25/11/99
- *– Institute for Advanced Study, Princeton, USA – 22/2/00
- *– City University of New York Graduate Centre, NY, USA – 24/2/00
- *– Columbia University, NY, USA – 23/3/00
- *– Temple University, Philadelphia, USA – 26/4/00
- *– University of Colorado at Boulder, USA – 9/11/00
- *– University of Pennsylvania, Philadelphia, USA – 13/11/00
- *– Columbia University, NY, USA – 20/11/00
- *– Cornell University, NY, USA – 23/09/01
- *– University at California, Irvine, USA – 17/01/02
- *– Texas A&M, College Station, USA – 08/02/02
- *– Baylor University, Waco, USA – 02/22/03
- *– University of Texas, Austin, USA – 03/27/03
- *– Texas Christian University, Fort Worth, USA – 10/27/03
- *– Macquarie University, Sydney, Australia – 11/25/03
- *– North Texas University, Texas, USA (Millican Lectures)– 01/30/04
- *– University of Notre Dame, IN, USA, Colloquium – 02/02/04

- *— University of Notre Dame, IN, USA – 02/03/04
- *— Texas A&M University, TX, USA – 04/01/04
- *— Vanderbilt University, TN, USA – 05/21/04
- *— University of Minnesota, Minneapolis, MN, USA, Colloquium – 11/11/04
- *— Tel-Aviv University, Israel – 12/21/04
- *— Homer High School, Homer, Alaska – 01/14/05
- *— University of Alaska, Fairbanks, Alaska – 01/27/05
- *— Max-Planck-Institut für Mathematik, Bonn, Germany — 02/23/05
- *— Macquarie University, Sydney, Australia — 03/18/05
- *— De Giorgi Center, Pisa, Italy – 05/12/05
- *— Vanderbilt University, TN, USA – 09/22/05& 09/23/05
- *— University of Texas, Austin, TX, USA – 02/22/07
- *— University of Houston, Houston, TX, USA – 10/22/08
- *— University of Texas, Austin, TX, USA – 02/05/08
- *— Caltech, Pasadena, CA, USA – 03/13/08
- *— CUNY Graduate Center, NY, USA – 12/10/09
- *— Texas A&M Number Theory Seminar, College Station, TX, USA – 02/24/10
- *— University of Colorado at Boulder, CO, USA – 03/18/10
- *— Texas A&M Number Theory Seminar, College Station, TX, USA – 03/31/10
- *— Working Geometry Seminar, Texas A&M, College Station, TX, USA
– 11/23/10, 11/30/10
- *— Texas A&M First Year Graduate Seminar, College Station, TX, USA – 12/03/10
- *— ETH Zürich, Zürich, Switzerland – 5/9/11, 5/10/11
- *— University of Colorado at Boulder, USA – 2/16/12
- *— University of Texas at Austin, USA – 11/08/12
- *— University of Colorado at Boulder, USA – 3/11/14
- *— University of Colorado at Boulder, USA – 3/10/15
- *— Claremont McKenna College, USA – 4/12/16
- *— Claremont McKenna College, USA – 4/13/16