

Curriculum Vitae - Professor Alexei Panchishkin (Pantchichkine)

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Date of Birth: 7th December, 1953 in Ordzhonikidze, USSR (Russia) Nationality: French

Current Position: Full Professor of the University Grenoble Alpes since October, 1992

Promoted to the Exceptional Class Full Professor since October, 2011.

Professional Address :

UMR 5582, Institut Fourier, Université Grenoble Alpes

100, rue des mathématiques, 38610, Gières, FRANCE

Studies and Diplomas :

1961-1971 High School, Moscow region ; final examination with Golden Medal

25.06.1976 Diploma in Mathematics, Moscow State University, Chair of Higher Algebra

30.11.1979 PhD in Mathematics, Moscow State University (under the direction of Prof. Yu.I.Manin).

1979 - 1987 Assistant professor, Dep. of Math. Moscow State University

1987 - 1992 Associated professor, Dep. of Math. Moscow State University

15.06.1990 Habilitation in Mathematics, Moscow State University

1984-1985 Visiting Professor, Univ. of Oxford, UK (joint work with Prof. B.J.Birch)

1999 -2000 Membership of Institute of Advanced Study, Princeton, USA

1994-1995 Visiting Professor (JSPS-CNRS), Japan (University of Sapporo, 6 months)

Since 1989 Several extended research stays in Germany (University of Goettingen, University of Bielefeld, University of Heidelberg, Mannheim, Max-Planck-Institut in Bonn), Italy (University of Padova), Shanghai (Tongji University, China).

Co-organisation of Conference "*Workshop p-adic analysis*" in Vietnam Institute for Advanced Study in Mathematics (April 2015, Hanoi, Vietnam),

Co-organisation of Conference "*Modular Forms Workshop*" (June 2015, University of Hawaii at Manoa (USA) with Simons foundation (AMS),

Co-organisation of 28th Journées Arithmétiques in July 2013, Grenoble, France.

My principal domain of research is the algebraic number theory, with a special reference to the arithmetic of automorphic forms and the theory of complex and p-adic zeta functions.

Founder of new mathematical directions : "Arithmetic of automorphic p-adic L-functions",

"Algorithmic arithmetic of function fields"

Solution of a problem of Coleman-Mazur

Author of new mathematical notions : Panchishkin distributions, Panchishkin condition for the existence of motivic p-adic L-functions.

Since 1975

Author of 80 publications including prestigious journals: *Inventiones Math.*, *Duke Math.J.*, *Ann.*

Inst.Fourier, *Izvestia AN USSR*, *Mat.Sbornik Moscow Math.Journal*, *St-Petersburg*

Math.Journal, *Communications in Algebra*, *Journal de Théorie des Nombres de Bordeaux*, *Israel*

Mathematical Journal, and

8 books in Number theory (Springer Verlag) and in Teaching of Mathematic (Gordon and Breach, Mir Editors, MCNMO Editors, Moscow) (in Algebra and Number Theory).

Since 2001 Member of a research group in Cryptology in the Fourier Institute (Grenoble, France).

A coauthor of a patent (number FR 02/12429), with R.Gillard, F.Leprevost and X.-F.Roblot.

Since 1986 Direction of 15 PhD Thesis (Moscow State University and University of Grenoble).

List of publications

(see also <https://www-fourier.ujf-grenoble.fr/~panchish/pf11.pdf>)

1. Panchishkin A.A., There exist no Ramanujan congruences modulo 691^2 , Mat. Zametki 17 (1975), 255-263
2. Panchishkin A, Convolutions des séries de Hecke et leurs valeurs aux points entiers, Mat. Sbornik 104 (1977) 617- 651 (with Manin Yu.I. ; English translation: Math. USSR, Sb. 33, 539-571 (1977), and in Selected Papers of Yu.I.Manin, World Scientific, 1996, pp.325-357)
3. Panchishkin A , Sur les séries de Dirichlet associées aux formes modulaires de poids entiers et demi-entiers, Izvestija Akad. Nauk. (Ser. Mat.) 43 (1979) 1145-1157 (in Russian)
4. Panchishkin A , Carrés symétriques de séries de Hecke et leurs valeurs aux points entiers, Mat. Sbornik 108 (1979) 393-417 (in Russian)
5. Panchishkin A , Valeurs aux points entiers de la bande critique des convolutions de Rankin-Shimura, Uspekhi Mat. Nauk, 1978, N5, pp.195-196 (in Russian)
6. Panchishkin A , Convolutions des formes modulaires de poids entiers et demi-entiers, et leur arithmétique. PhD de l'Université d'Etat de Moscou, 1979, 109 pp. (in Russian)
7. Panchishkin A, Sur les séries de Hecke p-adiques. In : « Algèbre » (Ed. A.I.Kostrikin), Edit. de l'Université d'Etat de Moscou, 1980, pp. 68-71 (in Russian)
8. Panchishkin A , Mesures complexes attachées aux produits eulériens, Trudy Sem. Petrovskogo 7 (1981) 239-244 (in Russian)
9. Panchishkin A, Formes modulaires, Dans la série « Algèbre. Topologie. Géométrie. » Vol. 19. VINITI Publ. : Moscou, 1981, pp.135-180 (in Russian)
10. Panchishkin A, Prolongement p-adique analytique des convolutions de formes modulaires, Abstracts of the 17th USSR Algebraic Conference, Leningrad, September 1981 (in Russian)
11. Panchishkin A , Mesures locales attachées aux produits eulériens dans les corps de nombres. In : « Algèbre » (Ed. A. I. Kostrikin), Edition de l'Université d'Etat de Moscou, 1982, pp.119-138 (in Russian)
12. Panchishkin A..A., Le prolongement p-adique analytique de fonctions L de Rankin I, C. R. Acad. Sci.Paris 294 (1982) 51-53
13. Panchishkin A..A., Le prolongement p-adique analytique de fonctions L de Rankin II, C. R. Acad. Sci. Paris 294 (1982) 227-230
14. Panchishkin A.A., Convolutions non-archimédiennes de Rankin de niveau supérieur, Vestnik MGU (Sér. Matem) 1982, Ser. 1, N3, pp.65-69
- 15 Panchishkin A. , Rezultaty eksperimentalno-epidemiologicheskogo obsledovaniya napravlenno na vyiavlenie lits s transistorno-arterialnoi gipertoniei (Résultats d'une étude expérimentel-épidémiologique, consacrée à la détection des personnes ayant une hypertension artérielle transistorielle) Problemy umstvennogo truda (Problèmes du travail intellectuel). M. MGU, v.6, p.9 (1983)
16. Panchishkin A. , « Formes automorphes et le principe de fonctorialité » , In : _Formes automorphes, représentations et fonctions L_. Mir Publ. : Moscou, 1984, pp. 249-286 (in Russian)
17. Panchishkin A., Le prolongement p-adique analytique de fonctions L de Rankin, Groupe d'Etude d'Analyse Ultramétrique (1981/82), 1983, 9, N3, J14
18. Panchishkin A.A., Problèmes d'algèbre, partie 1 (in Russian), 1985, Edition de l'Université d'Etat de Moscou (with A.I.Kostrikin, V.A.Artamonov et al.)

19. Panchishkin A., Recueil de problèmes sur les fonctions trigonométriques (with Ye.T.Shavgulidze, 1985, Edition Nauka_, in Russian ; traduction en anglais : _Trigonometric functions (Problem - Solving Approach) , Edition Mir, 1986)
20. Panchishkin A.A., Problèmes d'algèbre, partie 2 (in Russian, with A.I.Kostrikin, V.A.Artamonov et autres), 1986, Edition de l'Université d'Etat de Moscou
21. Panchishkin A., A functional equation of the non-Archimedean Rankin convolution, Duke Math. J. 54 (1987) 7-89
22. Panchishkin A.A., Un critère de _nitude pour familles de courbes de Weil, Zapiski Nauch. Seminarov LOMI, 160 (1987) 41-53 (in Russian, with Gerzhoy P.I.)
23. Panchishkin A.A., Problèmes d'algèbre, partie 3 (in Russian, with A.I.Kostrikin, V.A.Artamonov et autres), 1987, Edition de l'Université d'Etat de Moscou
24. Panchishkin A. , Non-Archimedean convolutions of Hilbert modular forms, Abstracts of the 19th USSR Algebraic Conference, September 1987, Lvov. Vol. 1, p.211 (in Russian)
25. Panchishkin A., Local measures corresponding to Euler products in number _elds, Amer. Math.Soc. Transl. (2), 137 (1987), pp.1-13
- 26 Panchishkin A., Problèmes d'Algèbre (in Russian, with A.I.Kostrikin, V.A.Artamonov et autres) 1987, Ed. _Nauka_, pp.1-351
27. Panchishkin A., Convolutions non-archimédiennes de Rankin et leurs équations fonctionnelles, Izvestija Akad. Nauk. Ser. Matem. 52 (1988) 336-354 (in Russian)
28. Panchishkin A. , Convolutions de formes modulaires de Hilbert et leurs analogues non-archimédiens, Mat. Sbornik 136 (1988) 574-587 (in Russian)
29. Panchishkin A. , Fonctions zêta automorphes non-archimédiennes, Edition de l'Université d'Etat de Moscou, 1988, 165 p. (in Russian)
30. Panchishkin A. , Un algorithme rapide pour la factorisation des polynômes sur les corps _nis, Proceedings of the Conference on Constructive Methods and Algorithms in Number Theory, Minsk, 1989, p.117 (in Russian, with Potemine I.Yu.)
31. Panchishkin A. , Sur les séries de Hecke non-archimédiennes, In : _Collection de travaux sur l'algèbre_, Ed. A.I.Kostrikin, Edition de l'Université d'Etat de Moscou, 1989, pp. 95 - 142 (in Russian)
32. Panchishkin A. , Fonctions zêta non-archimédiennes associées aux formes modulaires de Siegel, Abstracts of the International Algebraic Conference, Novosibirsk, August 1989 (in Russian)
33. Panchishkin A., Introduction à la théorie des nombres, 1989, Edition VINITI, (in Russian, with Manin Yu.I.), 303 p.
34. Panchishkin A. , Non-Archimedean L-functions over totally real _elds, Abstracts of the Conference _Modulformen von mehreren Variablen_, Oberwolfach, 1-7 July, 1990
35. Panchishkin A. , Fonctions zêta non-archimédiennes associées aux formes automorphes, Travaux de Conf. Int. «Automorphic Functions and their Applications » , 1990, Chabarovsk, Publ. Institute for Appl. Math. Of the USSR Acad.Sci., pp.135 - 162 (in Russian)
36. Panchishkin A. , Théorie de fonctions zêta p-adiques associées aux formes automorphes. Habilitation, Université d'Etat de Moscou, 1990, 150 pp. (in Russian)
37. Panchishkin A. , Non-Archimedean L-functions of Hilbert and Siegel Modular Forms, Lecture Notes in Math, N 1471, Springer-Verlag, 1991, 160 pp.
38. Panchishkin A. , Automorphic forms, L-functions, and p-adic analysis. Algebra and Analysis (Tomsk, 1989), AMS Transl. Ser., 151, Providence, R.I., 1992, pp.121-134

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40. Panchishkin A. , Admissible non-Archimedean standard zeta functions associated with Siegel modular forms, Proceedings of the Joint AMS Summer Conference on Motives, Seattle, July 20_August 2 1991, Seattle, Providence, R.I., 1993, vol.2, pp. 251 _ 292
41. Panchishkin A. , Motives for absolute Hodge cycles. Proceedings of the Joint AMS Summer Conference on Motives, Seattle, July 20_August 2 1991, Seattle, Providence, R.I., 1993, vol.1, pp.461-483
42. Panchishkin A. , Motives over totally real fields and p-adic L-functions. Annales de l'Institut Fourier, Grenoble, 44, 4 (1994), 989_1023
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44. Panchishkin A. , Algorithmes rapides pour factorisation des nombres et des polynômes, tests de primalité, courbes elliptiques et modules de Drinfeld. Séminaire de Théorie des nombres (Caen), Fascicule de l'Année 1993 - 94. p.1-10.
45. Problèmes d'algèbre (deuxième édition russe élargie : « Factorielle », Moscou, 1995, 454 p., with V.A.Artamonov et autres, Ed. A.I.Kostrikin)
46. Panchishkin A.A. , Number Theory I : Introduction to Number Theory, Encyclopaedia of Mathematical Sciences, vol. 49, Springer-Verlag, 1995, 303 p. (with Manin Yu.I.)
47. Panchishkin A.: "Exercises in Algebra" : a Collection of Exercises in Algebra, Linear Algebra and Geometry_, Ed. by A.I.Kostrikin, Gordon and Breach Publishers, 1996, 464p. (with V.A.Artamonov et autres, Ed. A.I.Kostrikin)
48. Panchishkin A. ,Transformation de Mellin p-adique et fonctions L. Résumés du Colloque Franco-Vietnamien de Mathématiques, Ho-Chi-Minh-Ville (3-8 mars 1997), p. 43
49. Panchishkin A. , Non_Archimedean Mellin transform and p-adic L Functions. Vietnam Journal of Mathematics, 25 (1997) N3, 179-202
50. Panchishkin A., p-adic families of modular forms and their applications. Kurosh Algebraic Conference. Abstracts of Talks, Ed. by Yu. A. Bakhturin, A. I. Kostrikin, A. Yu. Ol'shanskii. Moscou, 1998, pp. 99-100
51. Panchishkin A., p-adic families of automorphic representations and Siegel modular forms. International Algebraic Seminar. Abstracts of Talks. Moscou, 2000, 85-86
52. Panchishkin A. , Opérateurs de Frobenius sur les formes modulaires de Siegel with caractères et fonctions zêta. Algebra i Analiz, 12 (2000), no.2, 1-34 (in Russian, with Andrianov A.N.)
53. Panchishkin A. , On the Siegel_Eisenstein measure and its applications. Israel Journal of Mathematics, Vol. 120, Part B (2000), 467-509
54. Panchishkin A. , Sur les produits triples Lambda - adiques, Communications in Algebra, 29, No. 9, 2001, pp.3727-3740 (with Le Bras, Yann-Henri)
55. Panchishkin A. , Singular Frobenius operators on Siegel modular forms with characters and zeta functions. St.-Petersbourg Math.J., vol. 12, no. 2 (2001), pp.233-257 (with Andrianov A.N.)
56. Panchishkin A. , A new method of constructing p-adic L-functions associated with modular forms, Moscow Mathematical Journal, 2 (2002), Number 2, 1-16

57. Panchishkin A. , On p-adic integration in spaces of modular forms and its applications. J. Math. Sci., New York 115, No.3, 2357-2377 (2003).
58. Panchishkin A. , Utilisation des modules de Drinfeld en cryptologie. C. R. Acad. Sci. Paris 336, No.11, 879-882 (2003) (with Gillard R. ; Leprevost F. ; Roblot X.-F.)
59. Panchishkin A. , Two variable p-adic L functions attached to eigenfamilies of positive slope, Inventiones Math., v.154, N3 (2003), pp. 551 - 615
60. Panchishkin A., Sur une condition suffisante pour l'existence des mesures p-adiques admissibles, Journal de Théorie des Nombres de Bordeaux, 15 (2003), pp. 805-829
61. Panchishkin A.A., Non-Archimedean L-Functions and Arithmetical Siegel Modular Forms, Lecture Notes in Mathematics 1471, Springer-Verlag, 2004 (2nd augmented ed., with M. Courtieu), viii+196 p.
62. Panchishkin A. The Maass-Shimura differential operators and congruences between arithmetical Siegel modular forms. Moscow Mathematical Journal, v. 5, N 4, 883-918 (2005).
63. Panchishkin A.A., _Introduction à la Théorie des Nombres_ (with Yu.I.Manin), Encyclopaedia of Mathematical Sciences, vol. 49 (2nd ed.), Springer-Verlag, 2005, 514 p.
64. Panchishkin A.A., Admissible p-adic measures attached to triple products of elliptic cusp forms, (with Böcherer, S.) Documenta Math. Extra volume : John H.Coates' Sixtieth Birthday (2006), 77-132.
65. Panchishkin A.A., Triple products of Coleman's families and their periods (a joint work with S.Boecherer) Proceedings of the 8th Hakuba conference “Periods and related topics from automorphic forms”. September 25 - October 1, 2005, Ed. H.Yoshida, Kyoto, Daichisya, February 2006, pp. 89-130.
66. Panchishkin A. Explicit Shimura's conjecture for $Sp(3)$ on a computer (with Kirill Vankov), Math. Research Letters 14, Issue 2, March 2007 173-187.
67. Panchishkin A. Triple products of Coleman's families *Fundamentalnaya i Prikladnaya Matematika* (Fundamental and Applied Mathematics) 12, N 3 (2006) 89-100 (English translation: *Journal of Mathematical Sciences*, Springer New York, Volume 149, Number 3 / mars 2008, pp. 1246-1254
68. Panchishkin A., p-adic Banach modules of arithmetical modular forms and triple products of Coleman families. *Pure Appl. Math. Q.* 4, part 1 (2008), 1133-1164
69. Panchishkin A., Méthodes locales et globales en arithmétique (in Russian). *Matematicheskoe Prosveshchenie, Sér.3*, 12, 55-79 (2008)
70. A.Panchishkin, p-adic Interpolation of Triple L-functions : Analytic Aspects. In : *Automorphic Forms and L-functions II : Local Aspects* (Contemporary Mathematics, Volume of the conference proceedings in honor of Gelbart 60th birthday) - David Ginzburg, Erez Lapid, and David Soudry, Editors, AMS, BIU, 2009, 313 pp. ; pp.1-41 (with Böcherer, S.)
71. A.A. Panchishkin, Introduction à la Théorie des Nombres (in Russian, with Yu.I.Manin), Moscou, MCMNO, 552 pp. (2009)
72. A.Panchishkin, K.Vankov, Explicit formulas for Hecke operators and Rankin's lemma in higher genus, In : *Algebra, Arithmetic and Geometry in honor of Y.I. Manin*, Progress in Mathematics, vol. 269-270, pp. 532-554, Birkhäuser, Boston (2010)
73. Panchishkin A., Two modularity lifting conjectures for families of Siegel modular forms, *Mathematical Notes*, Volume 88 (2010) Numbers 3-4, 544-551.
74. Panchishkin A., Sur les fonctions zêta et familles des formes modulaires de Siegel. *Mathématiques fondamentales et appliquées.*, 16, N 5, (2010) 139-160.

75. Boecherer, S., Panchishkin A., Higher Twists and Higher Gauss Sums, Vietnam Journal of Mathematics 39, N 3 (2011) 309-326
76. Panchishkin A., Families of Siegel modular forms, L-functions and modularity lifting conjectures, Israel Journal of Mathematics, 185 (2011) 343-368
77. Panchishkin A., Analytic constructions of p-adic L-functions and Eisenstein series. Travaux du Colloque "Automorphic Forms and Related Geometry, Assessing the Legacy of I.I.Piatetski-Shapiro (23-27 April, 2012, Yale University in New Haven, CT)", 345-374, 2014
78. Panchishkin, A., A p-adic integral for the reciprocal of L-functions. Travaux du Colloque "Automorphic Forms and Related Geometry, Assessing the Legacy of I.I. Piatetski-Shapiro" (23 - 27 April, 2012, Yale University in New Haven, CT), Contemporary Mathematics, 345-374 (with Stephen Gelbart, Stephen D. Miller, and Freydoon Shahidi), 53-68, 2014.
79. Panchishkin, A., p-adic Zeta Functions and Quasi-modular Forms , Journal of Mathematical Sciences, Volume 2, Number 4, April 2015 , 171-184.
80. Panchishkin, A., Formes modulaires arithmétiques et nouvelle constructions des fonctions L p-adiques sur les groupes classiques, Les Annales Mathématiques de la Faculté des sciences de Toulouse, 25, N 2-3, 2016, 339-364.
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