

Curriculum Vitae

E.A. Vassilieva

1 Administrative informations

- *Name* : Vassilieva
- *Given name* : Ekaterina
- *Nationality* : French/Russian
- *Office* : Ecole Polytechnique – LIX – Route de Saclay – 91128 Palaiseau Cedex
- *E-mail* : katya@lix.polytechnique.fr
- *Phone* : (+33) 1 69 33 41 24
- *Present situation* : researcher at the French National Research Foundation (CNRS) – LIX – Ecole Polytechnique

2 Education:

1. *M.S. - Mathematics, Applied Mathematics* (5 years), Moscow State University, Moscow, Russia, June 1997
2. *Ph.D. Thesis*
 - *Site name* : Department of Mechanics and Mathematics, Chair of Higher Algebra, Moscow State University, Russia
 - *Subject* : Standard Bases of Free Superalgebras
 - *Ph.D. supervisors* : A.A. Mikhalev – A.V. Mikhalev
 - *Ph.D. defence* : the 3rd of March 2000

3 Teaching experience

3.1 Tutorials

1. *Linear Algebra*, Tutorial (36 h.), 1st and 2nd year of university, Moscow State University, 1998/1999 and 1999/2000

2. *Mobile Networks*, Tutorial (12 h.), 4th year of the university cycle, Pôle Universitaire Léonard de Vinci, 2000/2001
3. *Mobile Networks*, Tutorial (12 h.), Third cycle, Pôle Universitaire Léonard de Vinci, 2000/2001
4. *Algorithmics and langage C*, Tutorial (24 h.), Licence of Bio-Informatics, Université Paris 7, 2001/2002
5. *Informatics and modelisation*, Tutorial (24 h.), 3rd year, Institut Universitaire Professionnalis  (IUP) d'Informatique, Universit  Paris 7, 2001/2002
6. *Computation theory and complexity*, Tutorial (24 h.), Ma trise d'Informatique, Universit  Paris 7, 2001/2002
7. *Mathematics for Informatics*, Tutorial (24 h.), Licence d'Informatique, Universit  Paris 7, 2001/2002

3.2 Programming tutorials

1. *Programming in Java*, Tutorial (20 h.), 1st year, Ecole Polytechnique, 2001/2002
2. *Programming in Java*, Tutorial (20 h.), 1st year, Ecole Polytechnique, 2002/2003
3. *Scilab*, Tutorial (8 h.), 1st year, Ecole Polytechnique, 2002/2003

3.3 Other

1. Correction of Linear Algebra exams, 1st and 2nd year of university cycle, Moscow State University, 1998/1999 et 1999/2000
2. Correction of entrance exams to Moscow State University, 1997, 1998 et 1999

4 Conference organisation experience

1. Participation in organisation of *International Algebraic Kurosh Conference*, Moscow, May 1998
2. Participation in organisation of the conference *Formal Power Series and Algebraic Combinatorics* (FPSAC'00), Moscow, June 2000

5 Collaborations during PhD thesis

1. LIAFA (Laboratoire d'Informatique Algorithmique : Fondements et Applications) – Universit  Paris 7 – January/March 1999 (3 months)

6 Postdocs

1. *NATO grant* – April-December 2000 – Universit  Paris 7 – LIAFA (Laboratoire d'Informatique Algorithmique : Fondements et Applications) – Subject : Combinatorial Methods in Mobile Communications

2. *Grant of Ecole Polytechnique* – January-December 2001 – Ecole Polytechnique – LIX (Laboratoire d’Informatique de l’Ecole Polytechnique) – Subject : Algorithmical and Combinatorial Problems in Mobile Telecommunications

7 Conference communications

7.1 National conferences

1. *Standard bases of ideals of universal enveloping algebras of Lie superalgebras*, (with A.A. Mikhalev and A.V. Sereguin), International Kurosh Algebraic Conference, Abstracts of Talks, Moscow (1998), p. 86, Moscow State University Press, 1998 (in Russian)
2. *Involutive approach to associative algebras*, International Kurosh Algebraic Conference, Abstracts of Talks, Moscow (1998), p. 150, Moscow State University Press, 1998 (in Russian)
3. *Properties of different involutive divisions in free associative algebras*, Lyapun International Conference “Semigroups and Applications”, Abstracts of Talks, Saint-Petersburg (1999), p. 11, Saint-Petersburg State University Press, 1999 (in Russian)
4. *Involutive bases and composition techniques in colour Lie superalgebras*, International Algebraic Seminar on 70 years of Department of Higher Algebra, Abstracts of Talks, Moscow (1999), p. 74, Moscow State University Press, 1999 (in Russian)
5. *Performance analysis of PSK protocols with diversity*, (with D. Krob), Services liés à la mobilité et aux réseaux mobiles de troisième génération (MS3G’01), C. Gagnon, G. Pujolle, A. Girard, S. Ubéda, Eds., 53–58, **C-213**, Editions de l’INRIA, 2001

7.2 International conferences

1. *Involutive Bases of Free Algebras*, International Congress of Mathematicians (ICM’98), Abstracts of Short Communications, Berlin (1998), p. 31, Documenta Mathematica, 1998
2. *Standard bases of ideals of super commutative polynomial algebras*, (with A.A. Mikhalev), in Proceedings of “Second International Tainan-Moscow Algebra Workshop”, A.V. Mikhalev, E. Zelmanov, Y. Fond, Eds., Hong Kong, 108–126, Springer Verlag, 1999
3. *On the center of the quantum plactic algebra*, (with J.C. Novelli), Formal Power Series and Algebraic Combinatorics (FPSAC’00), 709–718, Springer Verlag, 2000
4. *Performance Analysis of Modulation Protocols: a Combinatorial Approach*, (with D. Krob), Discrete Models – Combinatorics, Computation and Geometry (DM-CCG’01), R. Cori, M. Morvan, Eds., Discrete Mathematics and Theoretical Computer Science, Conference Edition, 203–214, 2001
5. *A bijection for Unicellular Partitioned Bicolored Maps*, (with G. Schaeffer), Formal Power Series and Algebraic Combinatorics (FPSAC’06), San Diego, USA, 326 – 336, 2006
6. *Partitioned Cacti: A Bijective Approach to the Cycle Factorization Problem*, (with G. Schaeffer), Formal Power Series and Algebraic Combinatorics (FPSAC’08), Valparaiso, Chile, 2008

7. *A Combinatorial Way of Counting Unicellular Maps and Constellations*, (with G. Schaeffer), International Algebraic Conference on Occasion of 100th Anniversary of Professor A.G. Kurosh, Moscow, Russia, 2008
8. *Bijjective Enumeration of Bicolored Maps of Given Vertex Degree Distribution*, (with A. Morales), Formal Power Series and Algebraic Combinatorics (FPSAC'09), Hagenberg, Austria, 2009

8 Publications in journals

1. *Free left symmetric algebras*, (avec A.A. Mikhalev), Fundamental and Applied Mathematics, **2**, 611–613, 1996 (in Russian)
2. *Involutive bases of free algebras*, Fundamental and Applied Mathematics, (5), **4**, 993–1002, 1999 (in Russian)
3. *Endomorphisms of free supercommutative algebras*, Uspekhi Mat. Nauk, (55), **1**, 139–141, 2000 (in Russian); translation in Russian Math. Surveys 55 (2000), no. 1, 190–191
4. *Zassenhauss Lie idempotents, q -bracketing and a new q -exponential/logarithm correspondence*, (with G. Duchamp et D. Krob), J. of Algebraic Combinatorics, **12**, 251–277, 2000
5. *Performance evaluation of demodulation with diversity – A combinatorial approach I: Symmetric function theoretical methods*, (with J.L. Dornstetter, D. Krob, J.Y. Thibon), Discrete Mathematics and Theoretical Computer Science, **5**(1), 191 – 204, 2002
6. *Performance evaluation of demodulation with diversity – A combinatorial approach II: Bijective methods*, (with D. Krob), Discrete Applied Mathematics, **145**(3), 403 – 421, 2005
7. *Using Geometrical Properties for Fast Indexation of Gaussian Vector Quantizers*, (with D. Krob, J. M. Steyaert), EURASIP Journal on Applied Signal Processing (EURASIP JASP), Volume 2007 (2007), Article ID 63192, 11 pages
8. *A Bijective Proof of Jackson's Formula for the Number of Factorizations of a Cycle*, (with G. Schaeffer), J. Comb. Theory, Ser. A 115(6): 903-924, 2008

9 Other

1. *Informatics* :

- Systems : Unix (Linux) and Windows
- Languages : C/C++, Java, Maple, HTML, LaTeX

2. *Languages* :

- English : fluent
- French : fluent
- Japanese : advanced
- Russian and Byelorussian : native

References : available upon request