

# CURRICULUM VITAE

Natalie Žukovec

## Present Position

<u>Institution</u>	<u>Location</u>	<u>Position</u>
Faculty of Electrical Engineering Czech Technical University	Prague Czech Republic	<b>Associate Pofessor,</b> <b>Department of Mathematics</b>

## Education and Qualification

- Habilitation in Applied Mathematics, Czech Technical University in Prague, 2009
- RNDr. in Mathematics: Algebra, Number Theory and Mathematical Logic, Charles University, Prague, Czech Republic, May 2005.
- Ph.D. in Mathematics: Algebra, Number Theory and Mathematical Logic, Charles University, Prague, Czech Republic, March 2002.
- Graduated with Honour Diploma from the Department of Mathematics and Mechanics, Belorussian State University, Minsk, Belarus, June 1997.

## Specialization. Fields of Interest

- Group Theory: Hamming Distances of Groups;
- Partial Representations of Groups;
- Nonassociative algebras and superalgebras: Lie, alternative, Malcev algebras and superalgebras, their generalizations, relations and applications;
- Poisson algebras and superalgebras and their deformations.

I have also a broad interest in algebraic and combinatorial structures.

## Positions

01.07.2009 – ,	Associate Professor at the Department of Mathematics, Faculty of Electrical Engineering, Czech Technical University in Prague
1.10.2003 – 30.09.2004	Postdoc at the Institute of Mathematics and Statistics, University of São Paulo, São Paulo, Brasil Research project: Free Malcev and alternative superalgebras on one odd generator Advisor: Prof. Dr. Ivan Shestakov
19.02.2001 – 30.06.2009	Assistent Professor at the Department of Mathematics, Faculty of Electrical Engineering, Czech Technical University in Prague
1.10.1997 – 22.03.2002	Postgraduate student at the Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic Dissertation research: Close 2-groups Supervisor: Doc. Aleš Drápal, CSc
1.09.1992 – 30.06.1997	Student at the Department of Mathematics and Mechanics, Belorussian State University, Minsk, Belarus Diploma thesis: Modules over the ring of p-adic numbers Supervisor: Prof. Dr. Oleg Mel'nikov

## Teaching Experience

### Department of Algebra, Faculty of Mathematics and Physics, Charles University, Prague

From Fall Semester 1998 to Summer Semester 2003 I taught first-year students in Linear Algebra I, II, I also taught third-year students in Group Theory (Fall 2000) and second-year students in Algebra (Summer 2002).

### Department of Mathematics, Faculty of Electrical Engineering, Czech Technical University in Prague

From Summer Semester 2001 I teach first- and second-year students in Calculus-I, II, Mathematical Logic, Introduction to Algebra, Linear algebra, Graph theory, Discrete Mathematics and Logic (in Czech and English). From 2016 I teach fourth-year students in Theory of algorithms.

I also taught PhD-students in Introduction to Nonassociative algebras (Summer 2007) and Introduction to Superalgebras (Fall 2008).

## Awards and Grants

- Grant Agency of the Academy of Sciences of Czech Republic, KJB101210801, *Superalgebra approach for free algebras* (2008-2010)
- Grant Fundação de Amparo à Pesquisa do Estado de São Paulo, Brazil (FAPESP) 07/51589-3, *Skew-symmetric identities of octonions and deformations of Poisson Malcev algebras* (2007)
- Grant Agency of Czech Republic, GA ČR 201/07/1051, *Algebraic and Measure-Theoretic Aspects of Quantum Structures*, co-applicant (2007-2009)
- Travel Support from Fields Institute, Canada (2005)
- Travel Support from the European Mathematical Society Committee for Support of East European Mathematicians (SEE EMS), Ekaterinburg (2005)
- Institutional Grant MSM 6840770010, Czech Technical University in Prague, *Aplikovaná matematika v technických a fyzikálních vědách*, co-applicant (2005-2011)
- Grant Fundação de Amparo à Pesquisa do Estado de São Paulo, Brazil (FAPESP) postdoc grant 03/01237-2, *Free Malcev and alternative superalgebras on one odd generator* (2003-2004)
- Travel Support from Centre de Recerca Matemàtica, Barcelona, Spain (2003)
- Institutional Grant MSM 210000010, Czech Technical University in Prague, *Aplikovaná matematika v technických vědách*, co-applicant (1999-2004)
- Grant Agency of the Charles University, GA UK 269/2001/B-MAT/MFF, *Kombinatorika grup a multilineárních forem*, co-applicant (2001-2004)
- Travel Support from Charles University (Suprasl 1999, Wisla 2000, São Paulo 2000, Bialystok 2001)
- PhD scholarship, Charles University (1997-2001)
- Honour Diploma of the Belorussian State University (1997)
- scholarship, Belorussian State University, (1992-1997)

## Organization of conferences

- The International Conference "Lie and Jordan Algebras, their Representations and Applications-II", (May 2004, Guarujá, Brazil) - the member of the Organizing Committee

## Professional Activities

### Reviewer

- Mathematical Reviews
- Houston Journal of Mathematics
- Communications in Algebra

## Research Publications

### Refereed Journals and Conference Proceedings

1. *Small distances of small 2-groups*, Comment. Math. Univ. Carolinae, **42**(2001), no.2, 247–257.
2. *On irreducible partial representations of groups* (with M. Dokuchaev), C. R. Math. Acad. Sci. Soc. R. Canada, **24**(2002), no.2, 85-90.
3. *Partial Actions, Partial Group Rings and Crossed Products* (with M. Dokuchaev), Algebraic structures and their applications, Inst. Math. Ukr. Nat. Acad. Sci., (2002), 212-223.
4. *On multiplication tables of groups that agree on half of the columns and half of the rows* (with A. Drápal), Glasgow Math. J., **45**(2003), no.2, 293-308.
5. *On finite degree partial representations of groups* (with M. Dokuchaev), J. Algebra, **274**(2004), no.1, 309-334.
6. *The neighbourhood of dihedral 2-groups* (with M. Bálek, A. Drápal), Acta Appl. Math., **85**(2005), no 1-3, 25-33.
7. *On associative algebras satisfying the identity  $x^5 = 0$*  (with I. Shestakov), Algebra Discrete Math., no. 1 (2004), 112-120.
8. *The universal multiplicative envelope of the free Malcev superalgebra on one odd generator* (with I. Shestakov), Comm. Algebra, **34**(2006), no.4, 1319-1344
9. *The free Malcev superalgebra on one odd generator and related superalgebras*, (with I. Shestakov), Fundam. Prikl. Mat., **10**(2004), no.4, 97-106 (in Russian), J. Math. Sci. (N. Y.), **140**(2007), no.2, 243-249(in English)
10. *The Malcev Poisson superalgebra of the free Malcev superalgebra on one odd generator*, (with I. Shestakov), J. Algebra Appl. **5**(2006), no. 4, 521–535
11. *Speciality of Malcev superalgebras on one odd generator* (with I. Shestakov), J. Algebra **301**(2006), no.2, 587–600
12. *The free alternative superalgebra on one odd generator*, (with I. Shestakov), Internat. J. Algebra Computations, **17**(5/6) (2007), 1215-1247.
13. *A base of the free alternative superalgebra on one odd generator*, (with I. Shestakov), Doklady Akademii Nauk, **422**(2) (2008), 169-171 (in Russian), Doklady Mathematics, **78**(2) (2008), 693-695 (in English)
14. *Skew-symmetric identities of octonions*, (with I. Shestakov), J. Pure Appl. Algebra, **213**(2009) 479-492.
15. *The free alternative nil-superalgebra of index 3 on one odd generator*, (with J. Scholtzová), J. Algebra Appl. **9** (2010), no. 2, 209-222.