

## Rabanovich Vyacheslav Ivanovich (CV)

**Date of birth:** December 4, 1973

**Marital status:** married.

**Address:** Institute of Mathematics, National Acad. of Sci. of Ukraine, 3, Tereshchenkivska st., Kyiv, Ukraine, 01601.

**E-mail:** slavik@imath.kiev.ua

### Education:

- 1991–1996, a student at Kiev State University, department of Mathematics and Mechanics, Bachelor's degree in Math., "Representations of generalized Weyl algebra with involution".
- 1995–1996, BSc., Radioecology, Ukrainian Radiological Studies Centre, Kiev.
- 1996–1999, a postgraduate student at Inst. of Math. of NAS of Ukraine.
- 2000 Phd., Mathematics, title – "Matrix Banach Algebras and Representation Theory", supervisor: professor Yu. S. Samoilenko.
- 1999–present, a researcher at Inst. of Math. of National Acad. of Sci. of Ukraine.

**Current position:** Senior scientific researcher (from 2004).

**Research experience:** Matrix Banach Algebras, Representation Theory of  $*$ -Algebras, Braid Group Representations, PI Algebras, Linear Algebra — spectra of sums of Hermitian matrices, collections of orthoprojection, idempotent and unitary matrices, their trace invariant functions and simultaneous reducing of continuous matrix-functions.

### Participant of the conferences

- 1) Representation Theory and Computer Algebra, Kiev, Ukraine, March, 1997.
- 2-3) Symmetry in Nonlinear Mathematical Physics, Kiev, Ukraine, June, 23-29, 2003 and June, 20-26, 2005
- 4) Representation Theory and Its Applications, Uppsala, Sweden June, 22-27, 2004,
- 5) 17-th International conference on Domain Decomposition Methods, St. Wolfgang/Strobl, Austria, July, 3-7, 2006.

### Short research visits:

- 1) Uppsala University, Department of Mathematics, May, 9-22, 2006.
- 2) University Bonn, Department Probability Theory and Mathematical Statistics, March and November, 2007.

### Person specification:

- 1) I have a Phd in Representation Theory. The main target of it is to prove the existence of certain properties of algebras using representation theory.
- 2) I am working with sums and products of matrices and deal with Horn inequalities for eigenvalues and with combinatorics arising there.

3) Representations of linearly connected orthoprojections are closely related to such problems as spectrum of sum of Hermitian matrices, representations of quivers, graphs and Braid groups. The focus of my research activity of last four years is unitary Braid group representations.

**Publications.** There are 19 my mathematical articles in 7 journals. All of them are available in English. Here are some of them relevant to Representation theory and Matrix analysis.

- [1] S. Kruglyak, V. Rabanovich and Yu. Samoilenko, *On sums of projections*, Func. Anal. and Appl., **36**, no. 3, (2002) 182-195.
- [2] V. Rabanovich. *Every matrix is a linear combination of three idempotents*. Linear Algebra and Its Appl. **390**, (2004) 137-143.
- [3] S. Albeverio and S. Rabanovich, *On a class of unitary representations of the Braid groups  $B_3$  and  $B_4$* , Preprint 327, SFB 611, Bonn University, 2007, 11p.
- [4] V. Mazorchuk and S. Rabanovich, *Multicommutators and multianticommutators of orthogonal projections*, Linear and Multilinear Algebra, Vol. 56(6), (2008) 639-646.
- [5] S. Albeverio and S. Rabanovich, *Decomposition of a scalar operator into a product of unitary operators with two points in spectrum*, Linear Algebra and Its Appl., Vol. 433, (2010) 1127-1137.