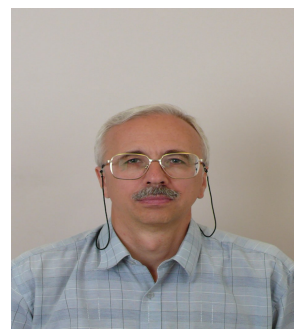


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Education

- ✓ 1964-1974 Ordinary and secondary school No 36, Kharkov
- ✓ 1974-1979 Master at School of Chemistry; V.N. Karazin Kharkiv National University, Specialty: Theoretical Chemistry.
- ✓ 1996-1999 Postdoctoral position in Physical Chemistry School of Chemistry; Kharkov State University

Degrees

- ✓ 1979 Master (Specialist) degree in Chemistry.
Thesis presented in English: "Theoretical study of hydrogen bound nucleotide base complexes"
- ✓ 1987 PhD (Candidate of Science) in Physical Chemistry.
Dissertation: "Phenomenological description of hydration kinetics of inorganic binders"
- ✓ 2001 ScD (Doctor of Science) in Physical Chemistry.
Dissertation: "Simple discrete dynamics of solid state chemical reactions"

Employment

- ✓ 2017 - till now Head of the Materials Chemistry Department, School of Chemistry, V.N. Karazin Kharkiv National University
- ✓ 2001- 2017 Professor of the Chemical Technology Department (since 2004 Materials Chemistry Department); School of Chemistry; V.N. Karazin Kharkiv National University
- ✓ 1999-2001 Leading Research Fellow; School of Chemistry; V.N. Karazin Kharkiv National University
- ✓ 1990-1999 Senior Research Fellow; School of Chemistry; Kharkov State University
- 1979-1990 Engineer, Research Fellow and then Senior Research Fellow of the Laboratory of Thermokinetic Analysis at Kharkov Institute for Civil Engineering

Subjects read

- ✓ Principles of Chemical Engineering; the textbook is approved by the Ministry of Education and Science of Ukraine for chemical specialities of high education institutions
- ✓ Advanced Physical Chemistry
- ✓ Theoretical Methods of Solids and Surfaces Computers in Chemistry

Scientific interests

Theoretical aspects of surface chemistry and crystal growth; heterogeneous (nano)catalysis, kinetics and mechanisms, spatio-temporal behavior in catalytic surface reactions. Growth and form, nucleation and growth mechanisms, in particular in thin-film growth. Random tessellations and

their use in chemistry. Discrete models; inverse kinetic problems in discrete statement; issues of the data analysis.

Selected publications

- ✓ Korobov A. Planar discrete birth-growth Poisson-Voronoi tessellations with the von Neumann neighbourhood. *Journal of Statistical Mechanics: Theory and Experiment* 023404, 2017 (DOI 10.1088/1742-5468/aa5a29).
- ✓ Korobov A. Reversible reshaping of supported metal nanoislands under reaction conditions in a minimalistic lattice model. *Journal of Statistical Physics*, 2016, V. 163, № 3, P. 576–592.
- ✓ Korobov A. Scaling properties of planar discrete Poisson-Voronoi tessellations with von Neumann neighborhoods constructed according to the nucleation and growth mechanism. *Phys. Rev.*, 2014, V. E89, P. 0324051.
- ✓ Majda D., Korobov A., Filek U., Sulikowski B., Midgley P., Vowles D., Klinowski J. Low-temperature thermal decomposition of crystalline partly and completely deuterated ammonium perchlorate. *Chem. Phys. Lett.*, 2011, V. 504, P. 185-188.
- ✓ Korobov A. Kolmogorov-Johnson-Mehl-Avrami kinetics in different metrics. *Phys. Rev.*, 2007, B 76, 085430.
- ✓ Korobov A. Discrete versus continual description of solid state reaction dynamics from the angle of meaningful simulation. *Discrete Dynamics in Nature and Soc.*, 4 (2000) 165-179
- ✓ Korobov A. Geometrical probabilities in heterogeneous kinetics: 60 years of side by side developments (Review). *J. Math. Chem.*, 24 (1998) 261-290.
- ✓ Korobov A. Solid-phase reaction kinetics: towards deeper insight through a discrete description (Review). *Heterogeneous Chemistry Reviews*. 3 (1996) 477-497
- ✓ Korobov A. The rate of a heterogeneous chemical process as a measure of the random marked-point process. *Thermochimica Acta*, 224 (1993) 281- 289.

Research projects

- ✓ During 1996-2015 the Project Leader of 7 Scientific Projects funded by the Ministry of Education and Science of Ukraine. In particular, in 2013–2015: "New concepts and means of multi-scale modeling and prediction of properties of materials organized on nano- and micro-levels". Leading researcher in the projects: 2016–2018: "Nanosystems and nanostructured materials: design, physico-chemical characterization, rationalizing of use in advanced technologies, medicine, analysis." 2019–till now: "Fundamentals of controlling physico-chemical and operational properties of nano- and microstructures in condensed systems: theoretical prediction and experimental studies."
- ✓ 2003: Visiting Professor at Peterhouse and at the Department of Chemistry, Cambridge University, Great Britain
- ✓ 2005-2006: "Structural Factors in Solid State Reaction Kinetics" International Joint Project IJP2004/R1-FS; Cambridge University, Great Britain

Linguistic ability

Ukrainian, Russian, English

Experience in English includes:

Work at Cambridge University, Great Britain in 2003, 2005-2006; projects are mentioned above
Papers published in international journals, about 30 papers without co-authors.

Book translated from English into Russian: "Chaos and integrability of nonlinear dynamics" by M. Tabor, Wiley, 1989; published in Russian by URSS Publishing in 2001.

Diploma paper was presented in English