



CATALOGUE

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# COMPUTER ENGINEERING

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## BOOST THE SITE. METHODS OF WEB PAGES OPTIMIZATION

*N. S. Matsievsky*

*ISBN 978-5-9963-0024-2*

*264 pp.*

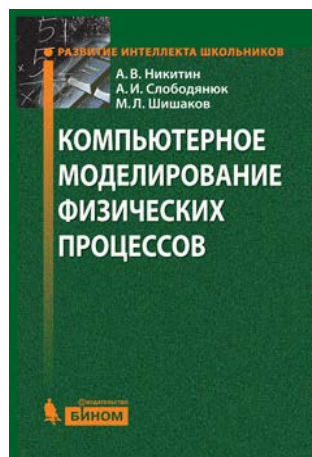
*145 x 215 mm, hardcover*

*2009*

The site brakes, and you do not know how to manage it? The quantity of animation on one page has exceeded all conceivable and inconceivable borders, and you do not know what to do? The page contains tens and hundreds of pictures, the designer has surpassed himself, and now the site loads terribly slowly? This book will help to cope with those and other problems dealing with

client productivity.

**Nikolay S. Matsievsky** Professional interests are concentrated in the field of client optimization and practical methods on manyfold time reduction of web pages loading.



## COMPUTER MODELING OF PHYSICAL PROCESSES

*A. V. Nikitin, A. I. Slobodjanjuk, M. L. Shishakov*

*ISBN 978-5-94774-966-3*

*679 pp., hardcover*

*145 x 215 mm*

*2011*

The book describes more than 30 various physical processes models. It presents all stages of mathematical modeling: statement of problem and its linguistic description, construction of mathematical model and solving algorithm, program realization, computing experiment, analysis of the results.

The CD contains files with the models described in the book, and also appendices to the book's basic material.

The book is intended for higher school students.



## FUNCTIONAL AND LOGIC PROGRAMMING: MANUAL, 2<sup>nd</sup> ED.

A. L. Ezdakov

ISBN 978-5-9963-0575-9

119 pp.

145 x 215 mm, hardcover

2011

The manual describes the basic aspects of functional and logic programming on Lisp and Turbo-Prologue languages. The book is intended for higher school students.

**Andrey L. Ezdakov** The senior lecturer of the Moscow Institute of Electronic Technology. The author of a considerable quantity of scientific, methodical and popular works.



## INTERACTIVE GRAPHIC SYSTEMS

V. I. Korneev

ISBN 978-5-94774-965-6

232 pp.

145 x 215 mm, hardcover

2009

The book presents the basic methods and algorithms of graphic representations construction. Methods of two-dimensional images modeling movement (animation), using of splines and three-dimensional surfaces construction are analyzed in detail. A reader would find a comparison of graphic programming principles in a popular operating system in past MS-DOS and in modern operating system Windows. The material is illustrated by listings of programs in C/C ++ language, including Windows API-functions.

language, including Windows API-functions.

The book is intended for the students mastering "Information Technology and Computing Machinery" discipline.

**Victor I. Korneev** Ph.D. in Physics and Mathematics, the senior lecturer of the Moscow Institute of Electronic Technology.





## **JET WEB SITES. CLIENT OPTIMIZATION IN ALGORITHMS AND EXAMPLES**

*N. S. Matsievsky, E. V. Stepanischev, G. I. Kondratenko*

*ISBN 978-5-9963-0253-6*

*335 pp.*

*145 x 215 mm, hardcover*

*2010*

The edition consolidates a large quantity of applied councils, algorithms and step-by-step managements which should help the beginning experts, already familiar with area of client optimization, to understand subtleties of sites work acceleration more deeply. Collected experience of world known experts, the book becomes a directory of the best instill practices for professionals.

**Nikolay S. Matsievsky** Professional interests are concentrated in the field of client optimization and practical methods on manyfold time reduction of web pages loading.



## **MAINTENANCE SERVICE OF COMPUTING MASHINERY**

*M. D. Loginov, T. A. Loginov*

*ISBN 978-5-9963-0085-3*

*319 pp., hardcover*

*145 x 215 mm*

*2010*

The book describes all stages of computing machinery maintenance service — from preventive maintenance till repair. A reader would get acquainted with different types of computers malfunctions' control and diagnostics, remote terminal units and local computer networks, and also with the basic ways of their elimination. The manual contains description of various service equipments and software. The book also deals with the current issues of recycling as well as

power- and resource saving.

**Michael D. Loginov** Teacher of the Tula State Machine-Building College (speciality «Maintenance service of computing machinery and computer networks»), he also works as systems engineer and systems administrator.

**Tatyana A. Loginova** Teacher of the Tula State Machine-Building College («Maintenance Service of Computing Machinery and Computer Networks» and «Software of Computing Machinery and Automated Systems»).



## OPERATING SYSTEMS

*V. M. Iljushechkin*

*ISBN 978-5-94774-963-2*

*111 pp.*

*145 x 215 mm, hardcover*

*2009*

The book introduces basic concepts of operating systems construction and functioning principles. Most of the topics are given on the basis of UNIX operating system.

The book is intended for the students mastering "Information Technology and Computing Machinery" discipline.

**Vladimir M. Iljushechkin** Professor of the Moscow Institute of Electronic Technology, Ph.D. in Engineering. The experience of scientific and pedagogical work in higher school is 35 years. The author of 10 books on programming and information technology.



## PROBLEMS IN PROGRAMMING, 2<sup>ND</sup> ED., REV.

*S. M. Okulov [etc.], edited by S. M. Okulov*

*ISBN 978-5-9963-0630-5*

*823 pp., hardcover*

*145 x 215 mm*

**2014**

The book contains a large set of problems in programming that will allow teachers to teach school leavers and students with different levels of initial training, thus forming their individual educational trajectories. The problems are matched to gradual increase of complexity and accompanied by the solutions on Pascal. The solutions can help students to conduct detailed analysis, find inaccuracies, create their own versions of improved programs, etc.

The book is intended for computer science teachers, school leavers and students.



## TECHNOLOGIES OF MULTIMEDIA AND PERCEPTION OF SENSATIONS

*A. V. Krapivenko*

*ISBN 978-5-94774-967-0*

*271 pp.*

*165 x 235 mm, hardcover*

*2009*

Various aspects of multimedia technologies influence on perception of the information by human sense organs are considered in detail in this book. Effects of perception are explained, on the basis of physiological, psychological, cultural, physical and information concepts. Different ways of computer influence on user's

sensations are described. The book gives practical recommendations for developers of a virtual reality systems, multimedia appendices and the corresponding peripheral equipment.

The book is intended for the students mastering "Information Technology and Computing Machinery" discipline, specialists, and also for everyone interested in interaction of computer user and multimedia technologies modern means issues.

**Andrey V. Krapivenko** Ph.D. in Physics and Mathematics, the senior lecturer of the Moscow Aviation Institute.

The basic sphere of scientific interests: multimedia technologies, processing of digital video, fractals, management in IT disciplines. The author of more than 15 printing works.

# MATHEMATICS



## ARTIFICIAL INTELLIGENCE

*L. N. Jasnitsky*

*ISBN 978-5-9963-0234-5*

*197 pp., hardcover*

*145 x 215 mm*

*2011*

The aim of the manual is to introduce to schoolchildren artificial intelligence history, and basic strategies applied at creation of intellectual information systems; to teach how to use neural network technologies and apply them while solving practical problems.

The manual is intended for senior pupils of information-technological, physical and mathematical, natural-scientific, socially-humanitarian schools.



## AUTONOMOUS ARTIFICIAL INTELLIGENCE, 2<sup>nd</sup> ED.

*A. A. Zhdanov*

*ISBN 978-5-94774-995-3*

*359 pp., hardcover*

*179 x 240 mm*

*2009*

The author logically reasons about goal functions and organization of the nervous systems which are enforced by the conditions in which a nervous system lives. Starting from philosophical-rational motivation the author proceeds directly to giving exact engineering descriptions of functions, structures and integrated circuits of nervous system models, and so forth, followed by program simulations

of the nervous systems and development of application systems prototypes. Such constructive approach defines important theoretical value of the book. As a practical result, the book yields a way to create self-learning machines similar to newborn alive creatures, step by step adapting to the given reality. The development in this direction leads to occurrence of systems of "Autonomous Artificial Intelligence" which is a newborn self-learning machine capable of achieving high level of intelligence at a mature age.

The book is intended for students and teachers, scientists and engineers and for all who are interested in the subject.

**Alexander A. Zhdanov** Professor, Doctor of Physical and Mathematical Sciences, the head of department of the Institute of System Programming of the Russian Academy of Sciences.



### **BASES OF THE GAMES THEORY: THE MANUAL**

*L. V. Kolobashkina*

*ISBN 978-5-9963-0334-2*

*164 pp., hardcover*

*145 x 215 mm*

*2011*

The manual contains the basic aspects of the games theory and describes how to choose optimum strategy of behavior in antagonistic and nonantagonistic conflicts. It also presents criteria of optimum strategy in «games with the nature» definition. Decision-making methods in antagonistic and nonantagonistic positional games with complete and incomplete information are considered. All presented methods

are accompanied by detailed examples. The book is written in accessible and clear language which makes the acquaintance to principles of rational behavior in conflicts understandable for a wide range of readers.

The manual is intended for students of the higher educational institutions mastering such disciplines as «Applied Mathematics», «Applied Mathematics and Informatics», «Mathematical Methods in Economy».



### **BASES OF INFORMATION THEORY, 3<sup>rd</sup> ED.**

*V. V. Panin*

*ISBN 978-5-9963-0013-6*

*438 pp.*

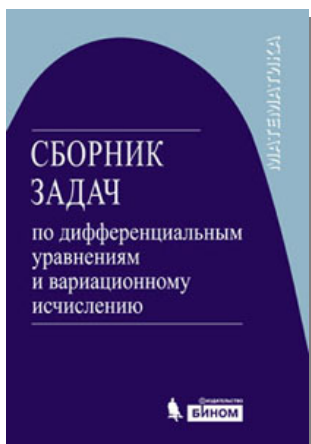
*165 x 235 mm, hardcover*

*2009*

The book presents a regular statement of issues concerning the classical information theory. A reader would find distinctions in methods of this theory construction by K. Shannon and S. Goldman. The author gives a uniform interpretation of classical information theory construction based on the above mentioned mutually supplementing methods.

The book is intended for graduate and post-graduate students, teachers and the engineers.

**Valerian V. Panin** Ph. D. in Engineering, Professor of the MEPhI. The author of 80 scientific works and 24 copyright certificates on inventions.



### **COLLECTION OF PROBLEMS ON DIFFERENTIAL EQUATIONS AND VARIATIONS CALCULUS, 3<sup>RD</sup> ED., REV.**

*V. K. Romanko [etc.], V. K. Romanko (ed.)*

ISBN 978-5-9963-0652-7

219 pp., *hardcover*

165 x 235 mm

2012

The book provides practical training on the course "Differential Equations and Variations Calculus". At the beginning of each section a reader would find typical problems' solutions and answers.

The book is intended for students of the mathematics, engineering physics and economics specialties.



### **COURSE OF MATHEMATICAL ANALYSIS, 4<sup>th</sup> ED.**

*A. M. Ter-Krikorov, M. I. Shabunin*

ISBN 978-5-94774-993-9

672 pp.

145 x 215 mm, *hardcover*

2009

The book presents a theoretical material which is illustrated by typical examples. Special attention is given to difficult sections of the mathematical analysis course (uniform convergence of functional numbers and integrals depending on parameter, uniform continuity of functions, etc.).

The book is intended for students of physical, mathematical and engineering-physical specialties and can be used for self education.

**Michael I. Shabunin** Doctor of Pedagogical Sciences, Professor of the Moscow Institute of Physics and Technology. The author of over 200 scientific and methodical works, textbooks and collections of problems.



## GEOMETRY 1 : TEXTBOOK FOR UNIVERSITIES

*S. L. Atanasyan, V. G. Pokrovsky, edited by S. L. Atanasyan*

*ISBN 978-5-9963-1531-4*

*331 pp., hardcover*

*145 x 215 mm*

**2014**

The textbook contains material on the first part of the geometry course, the study of which is necessary to the future mathematics teachers to work successfully with students. The theoretical material is illustrated by typical examples.

The book is intended for university students and teachers.



## ITERATIVE METHODS OF SOLVING SADDLE PROBLEMS

*U. V. Bychenkov, E. V. Chizhonkov*

*ISBN 978-5-9963-0118-8*

*349 pp., hardcover*

*145 x 215 mm*

**2010**

For the first time all known iterative methods for the large scale block structure linear algebraic equations which have the saddle point as the solution are considered in this book. The book provides detailed analysis of the ideas of construction, condition of convergence and optimization issues. The analysis results are presented in the form of formulae convenient for use. The appendix is

focused on application of theory for numerical modeling in hydrodynamics and adjacent areas.

The book is intended for scientists in the field of calculus mathematics, graduate and post-graduate students, and also for engineers and researchers in applied fields.

**Jury V. Bychenkov** Ph.D. in Physics and Mathematics, employee of Mechanical and Mathematical Faculty of the Lomonosov Moscow State University.

**Evgeny V. Chizhonkov** Ph.D. in Physics and Mathematics, Professor of the Lomonosov Moscow State University.



### LINEAR ALGEBRA. A COMPUTER PRACTICAL TRAINING SESSION, 2<sup>nd</sup> ED.

*V. A. Bubnov, G. S. Tolstov, O. E. Klemeshova*

ISBN 5-93208-171-6

168 pp.

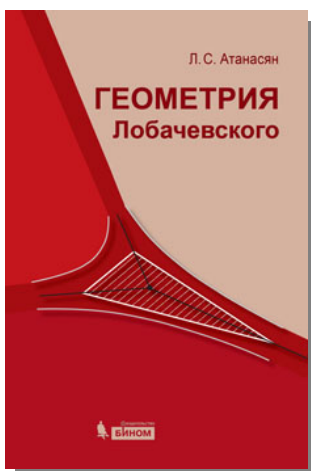
145 x 215 mm, softcover

2009

Following problems of linear algebra are included in the manual: calculation of the third order determinants, calculation of the fourth order determinants by decomposition on elements of a line (column), calculation of a rank of a matrix, multiplication of matrixes, calculation of a return matrix, the solving of systems of the linear equations by Gaussa' methods, Kramer's formula and in a matrix kind, and also a finding of own values of the linear operator. Calculation of all listed

problems is made with Microsoft Excel programme.

The book is intended for students, teachers of the higher educational institutions, who study theoretical bases of mathematics and computer science.



### THE LOBACHEVSKY GEOMETRY, 2<sup>ND</sup> ED., REV.

*L. S. Atanasyan*

ISBN 978-5-9963-0814-9

464 pp., hardcover

145 x 215 mm

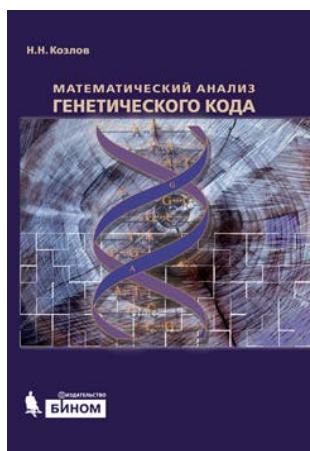
**2014**

The author presents the Lobachevsky geometry on the basis of school absolute geometry axiomatics and the Lobachevsky axiom. The first part of the book focuses on the Lobachevsky plane geometry, and the second one on the stereometry. Each chapter contains problems; the answers and guidance to them are given in the appendix. This book differs favorably from the other tutorials on

the Lobachevsky geometry.

The book can be successfully used by teacher training and university students and teachers. It will also be useful to high school mathematics teachers in arranging individual work with students interested in mathematics.





## MATHEMATICAL ANALYSIS OF THE GENETIC CODE

*N. N. Kozlov*

*ISBN 978-5-9963-0119-5*

*215 pp. + 8 pp, hardcover*

*145 x 215 mm*

*2010*

New properties of the genetic code, two major groups of its integrated characteristics and their interrelation are figured in the monograph. The book provides an analysis of the set of currently known genes, including human genome, as well as description of a number of unknown before effects.

The book is intended for scientists, teachers and graduate students specializing in the field of mathematical modeling in natural sciences.

**Nikolay N. Kozlov** Doctor of Physical and Mathematical Sciences, main scientist of the M.V. Keldysh Institute of Applied Mathematics (the Russian Academy of Sciences).



## MATHEMATICAL AND COMPUTING PROBLEMS OF MAGNETIC GAS-DYNAMICS

*K. V. Brushlinsky*

*ISBN 978-5-94774-898-7*

*200 pp.*

*145 x 215 mm, hardcover*

*2009*

The monograph concerns actual area of mathematical modeling in modern problems of dense plasma physics. Mathematical questions of magnetic gas-dynamics, numerical models of corresponding physical processes are presented. At research of two-dimensional mhd-flows special attention is given to a role and modeling of the Hall' effect. Features of the numerical decision of mhd-problems

are discussed. A reader would find examples of calculations of magnetic traps for plasma deduction and detailed review of plasma acceleration models by a magnetic field in channels.

The book is intended for scientists, post-graduate students, specialists.

**Konstantin V. Brushlinsky** Doctor of Physical and Mathematical Sciences, Professor, the main scientific employee of the M. V. Keldysh Institute of Applied Mathematics (the Russian Academy of Sciences). The author of more than 150 scientific works.



## **MATHEMATICAL METHODS IN BUSINESS AND MANAGEMENT: A MANUAL, 2<sup>nd</sup> ED.**

*V. V. Pokrovsky*

*ISBN 978-5-94774-832-1*

*110 pp., hardcover*

*145 x 215 mm*

*2011*

The manual presents methods of linear programming and mathematical statistics, allowing businessmen to take optimal decisions under the market economy conditions. The technique of mathematical models construction, graphic and numerical solving of optimization problems in MS Excel are described. Algorithms of computer processing of statistical criteria are offered. One chapter contains

problems and exercises; most difficult of them are given with solutions.

The manual is intended for university students and teachers.



## **MATHEMATICAL MODELS IN IMMUNOLOGY AND INFECTIOUS DISEASE EPIDEMIOLOGY**

*A. A. Romanyukha*

*ISBN 978-5-94774-900-7*

*293 pp.*

*165 x 235 mm, hardcover*

*2011*

*Series "Mathematical Modeling"*

This monograph is devoted to the construction and investigation of mathematical models of immunological and epidemiological process during infectious diseases. The author describes the phenomena of training, adaptation and aging of immune system, formation of immune deficiencies, their dependence on the level of

infection and other environmental factors. The reader would read about the method for assessing the quality of the immune system. The book includes description of epidemiological and demographic processes relations. The models are based on current knowledge about the pathogenesis and epidemiology of such diseases as influenza, pneumonia, tuberculosis.

For experts in the field of applied mathematics, immunology and epidemiology, as well as for undergraduate and graduate students in related disciplines.



## **ON MATHEMATICS AND MATHEMATICIANS. 2<sup>ND</sup> ED., REV. AND ADD.**

*B. M. Pisarevsky, V. T. Harin*

*ISBN 978-5-9963-0631-2*

*302 pp., hardcover*

*145 x 215 mm*

*2012*

The book focuses on the role of mathematics in man's knowledge of the outside world. The author describes the achievements of modern mathematics using as an example creative biographies of three outstanding Russian mathematicians of the XX century as A. N. Kolmogorov, S. L. Sobolev and A. N. Tikhonov.

The book will be interesting for students, teachers and tutors of mathematics and, as well as for everybody interested in this science.



## **PRACTICAL TRAINING SESSION ON HIGHER MATHEMATIC**

*L. I. Djuzhenkova, O. J. Djuzhenkova, G. A. Mihalina*

*ISBN 978-5-94774-335-7*

*ISBN 978-5-94774-998-4 (V. 1)*

*ISBN 978-5-94774-999-1 (V. 2)*

*145 x 215 mm, hardcover*

*2009*

The book presents all basic sections of higher mathematics: elements of the mathematical analysis, linear algebra, analytical geometry, probability theory and mathematical statistics. Each section contains an extensive list of problems which is premised with the background theoretical material and illustrative examples. Answers are given in the end of the book.

The book is intended for students and teachers of technical, economic, pedagogical and agricultural higher schools.



## PROBABILITY AND STATISTICS

*V. B. Monsik*

*ISBN 978-5-9963-0637-4*

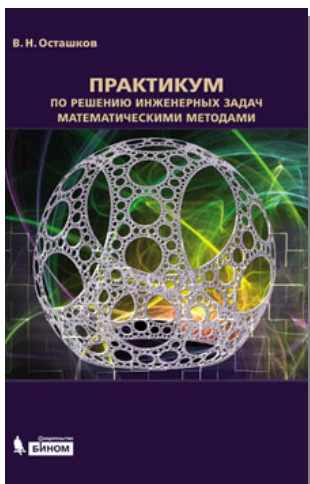
*381 pp., hardcover*

*145 x 215 mm*

*2011*

The manual describes theoretical bases and applied methods of probability theory and mathematical statistics. It provides an annual course of studying the discipline "The probability theory and the mathematical statistics". The theory is illustrated by many drawings, interesting numerical examples and applied problems.

The manual is intended for university students of engineering specialties.



## SOLVING ENGINEERING PROBLEMS USING MATHEMATICAL METHODS: A MANUAL

*V. N. Ostashkov*

*ISBN 978-5-9963-0628-2*

*200 pp., hardcover*

*145 x 215 mm*

*2013*

*Series "Mathematic Modeling"*

The author analyzes the heuristic methods of working and solving professionally-oriented tasks, discusses the problems of understanding their own feelings during research and creative processes. The manual can be used as an addition to existing tutorials on maths.

The book is intended for students and teachers of technical universities.



## THE ANALYSIS OF MATHEMATICAL MODELS: SYSTEMS OF PRESERVATION LAWS, BOLTSMAN' AND SMOLUHOVSKY' EQUATIONS

*V. A. Galkin*

*ISBN 978-5-94774-901-4*

*408 pp.*

*145 x 215 mm, hardcover*

*2009*

The monograph is devoted to the issues of problems correctness substantiation for nonlinear equations systems which have applied value in mathematical physics. The contents is directed on revealing and analysis of the basic mathematical structures connected with issues of mathematical modeling methods substantiation, leading to nonlinear systems of preservation laws including Nave-Stoks' system of gas dynamics, Boltsman', Smoluhovsky', Vlasov' equations in physical kinetics. Also Stefan' problem and heat-and-mass transfer models, connected with a crystals cultivation are described.

The book is intended for experts in the field of applied mathematics, physical kinetics and gas dynamics, and also for graduate and post-graduate students of corresponding specialties.

**Valery A. Galkin** Doctor of Physical and Mathematical Sciences, Professor of the Obninsk State Technical University for Nuclear Power Engineering. The expert in the field of mathematical modeling and calculations in physical kinetics, theories of preservation laws. The author of over 120 scientific works. The organizer of the international conferences «P. L. Chebysheva's Mathematical Ideas and their Application to Modern Problems of Natural Sciences».



## THE STATISTICAL DATA ANALYSIS IN PSYCHOLOGY

*V. K. Romanko*

*ISBN 978-5-94774-849-9*

*312 pp.*

*145 x 215 mm, hardcover*

*2009*

The present manual interprets the basic mathematical methods offered by the mathematical theory and widely put into practice in modern psychology-pedagogical researches. The basic concepts of probability theory are stated and concrete mathematical methods of data processing are described. A reader would find general recommendations about statistical software packages usage. The statement is conducted practically without strict mathematical proofs, but with detailed discussions, explanations and illustrations. Essence and applicability borders for specific statistical analysis methods are explained. The book is intended for students and teachers of higher schools.



## **TURBULENCE AND SELF-ORGANIZATION.**

### **PROBLEMS OF SPACE AND ENVIRONMENTS MODELING**

*A. V. Kolesnichenko, M. J. Marov*

*ISBN 978-5-94774-899-4*

*632 pp.*

*165 x 235 mm, hardcover*

*2009*

The monograph is devoted to the development of turbulence environments continual models — the ones which underly statements and numerical calculations of problems, connected with formation, structure and evolution of various astro- and geophysical objects. Stochastic modeling approaches to corresponding problems are considered as reflection of self-organizing processes in dissipative open systems. A reader would find the examples of orderliness origins in different objects and environments in the course of their evolution. The book is intended for scientists in fields of astrophysics, geophysics, planetology, aeronomy and space researches, and also for graduate and post-graduate students.

**Alexander V. Kolesnichenko** Professor, Doctor of Physical and Mathematical Sciences, the head of department of the M. V. Keldysh Institute of Applied Mathematics (the Russian Academy of Sciences). The expert in the area of continuous environments mechanics, theories of turbulence, thermodynamics of irreversible processes, planetary researches and kosmogonie. The author of over 160 scientific works and 4 monographs.

**Michael J. Marov** Academician of the Russian Academy of Sciences, Doctor of Physical and Mathematical Sciences, Professor. The head of department of the Vernadsky Institute of Geochemistry and Analytical Chemistry (Russian Academy of Sciences) and the main scientific employee of the M. V. Keldysh Institute of Applied Mathematics (the Russian Academy of Sciences). The expert in area of continuous environments mechanics, nonequilibrium kinetic processes, planetary researches and kosmogonie. The author of over 220 scientific works and 12 monographs.



## **VIVID MATHEMATICAL STATISTICS, 2<sup>nd</sup> ED.**

*M. B. Lagutin*

*ISBN 978-5-94774-996-0*

*472 pp., hardcover*

*170 x 240mm*

*2009*

This book primarily is a collection of interesting probability paradoxes and examples, gathered from many books and articles. The author's aim was to give a comprehensive presentation of the subject in entertaining manner. The book includes more than 300 pictures, 150 epigraphs, many test questions and numeric examples.

The first part of the book can be used as an introduction to the theory of probability. Most difficult theorems are not proven, but explained, illustrated and the readers are walked though these as they attempt to solve the problems. The second part of the book is devoted to mathematical statistics: parameter estimation and hypothesis

testing. All included problems have detailed solutions. The third part of the book contains sample problems for the most important methods and algorithms, such as nonparametric ANOVA (analysis of variance), principal components, hierarchical classification, rank correlation and regression.

The author is a professor of the Lomonosov Moscow State University.

The book is intended for undergraduate students.

# PHYSICS



## BASES OF THE DIFFRACTION PHYSICS THEORY

*P. J. Ufimtsev*

*ISBN 978-5-94774-*

*351 pp.*

*165 x 235 mm, hardcover*

*2009*

The book presents a diffraction of acoustic and electromagnetic waves on bodies, biggest in comparison with length of a wave. Asymptotic theory described in the book can be useful at solving various diffraction problems arising, for example, in such technician areas, as microwave aerals projecting, designing of acoustic barriers to lower the noise level, mobile and satellite radio communication, stealth-

technology on creation of objects invisible to a radar and sonar.

The book is intended for researchers, teachers of higher schools, graduate and post-graduate students studying the diffraction phenomena in such disciplines, as acoustics, optics, radiophysics, mathematical physics, etc.



## BASICS OF SELF-TIMED ELECTRONIC CIRCUITRY

*Plekhanov L. P.*

*ISBN 978-5-9963-1504-8*

*208 pp., hardcover*

*145 x 215 mm*

*2013*

The book presents in detail the initial ideas, working concepts, properties and creation of self-timed circuits. The reader would find the examples of combinational and sequential circuits, and the results of their unique properties' experimental verification. The narration is given from the point of new, functional approach, based on the study of logic functions that describe the schemes'

elements, without the theory of automatoin methods' involvement.

The book is intended for specialists in discrete electronics and students in this direction.





## FASCINATING NANOTECHNOLOGIES

*M. M. Alfimova*

*ISBN 978-5-9963-0394-6*

*96 pp., hardcover*

*165 x 235 mm*

**2011**

The book contains a description of three basic nanotechnology directions: new materials, nanoelectronic devices, biotechnologies. Readers would learn: what do nanotechnologies mean, which devices are required for creation of nanothings and how these things will look like. The text is supplied by qualitative illustrations, puzzles and tests.

The book is addressed to secondary school students.



## FUNDAMENTALS OF MATERIALS SCIENCE: TEXTBOOK

*G. G. Bondarenko, T. A. Kabanova, V. V. Rybalko*

*ISBN: 978-5-9963-0639-8*

*760 pp. hardcover*

*165 x 235 mm*

**2014**

The textbook is one of the most unabridged modern educational titles on materials science. It presents fundamental data on the structure, physical and chemical properties, phase transformations and physical processes of a wide range of materials, including nanostructured, as well as their structure and properties research methods. Possibilities of nanostructures application for the solution of

various technical tasks are widely illustrated. In the annex to the textbook a reader would find test tasks with variable answers that are intended for intermediate and final control.

The book is intended for students and graduate students specializing in the area of condensed environments and materials science physics, as well as for experts of various equipment and technologies areas.



### **GEOMETROPHYSICS, 2<sup>nd</sup> ED.**

*J. S. Vladimirov*

*ISBN 978-5-9963-0303-8*

*536 pp.*

*165 x 235 mm, hardcover*

*2010*

The book introduces a statement and the analysis of the geometrical approach to the description of the physical world, in particular to the A. Einstein' general theory of a relativity and the multidimensional geometrical theory of physical interactions. The first part contains introduction to the general theory of a relativity. The theory of a relativity, its formulations and generalizations are considered in detail in the

second part. The third part is devoted to a statement of the multidimensional geometrical theory of a microcosm. In the fourth part a reader would find the metaphysical analysis of geometrical and other approaches to physics for the purpose of a substantiation of necessity to pass to more perfect picture of the world.

The book is addressed for students and teachers of higher schools, physicists-theorists and philosophers.



### **ELECTROMAGNETISM. THE FUNDAMENTAL LAWS, 9<sup>th</sup> ED.**

*I. E. Irodov*

*ISBN: 978-5-9963-1334-1*

*319 pp.*

*145 x 215 mm, hardcover*

**2014**

This textbook contains both theoretical material (basic principles of electromagnetism) and analysis of numerous examples and problems. Problems are closely related to the main context and supplements and further develop the theory presented in the book. The material is presented using as little mathematics as possible while the main accent is made on considering the physical aspects of

the phenomenon.

The book is intended for students studying physics and other technical subjects.



**ELECTROMAGNETISM. PROBLEM-SOLVING METHODS: A MANUAL,  
2<sup>ND</sup> ED.**

*V. V. Pokrovsky*

*ISBN 978-5-9963-0641-1*

*120 pp., hardcover*

*145 x 215 mm*

*2011*

The manual is devoted to the methods of solving problems on general physics section "Electromagnetism". Most of the considered problems has been taken from the book "Problems in General Physics" by I. E. Irodov. Each section is preceded by the brief summary of theoretical issues and basic formulae. The methods of solving problems from each section are described.

The book is intended for students of physical specialties.



**LECTURES ON PLASMA PHYSICS**

*I. A. Kotelnikov*

*ISBN 978-5-9963-1158-3*

*384 pp., hardcover*

*165 x 235 mm*

*2013*

The book contains an expanded presentation of the course "Fundamentals of Plasma Physics". Special attention is given to the motion of particles in an electromagnetic field and the plasma kinetics, including the theory of Coulomb collisions, braking and recombination radiation, as well as a number of other elementary processes. A reader would find a detailed description of the theory

of one-fluid and two-fluid magneto hydrodynamics. The book is intended for students who are familiar with the course of electrodynamics and molecular physics as well as the basics of quantum mechanics and statistical physics. The tutorial contains about 200 problems with detailed solutions.

The book is intended for students, graduate students, university professors, practitioners, and researchers specializing in physics and technology of plasma.



### MECHANICS. THE FUNDAMENTAL LAWS, 12<sup>th</sup> ED.

*I. E. Irodov*

*ISBN: 978-5-9963-1626-7*

*309 pp., hardcover*

*145 x 215 mm*

**2014**

This textbook considers such fundamental laws of non-relativistic and relativistic mechanics as motion laws, laws of conservation of impulse, energy and impulse moment. Numerous examples and problems demonstrate how these laws are applied in different practical situations.

The book is intended for students studying physics and other technical subjects.



### MECHANICS. PROBLEM SOLVING METHODS: A TUTORIAL

*V. V. Pokrovsky*

*ISBN 978-5-9963-0175-1*

*256 pp., hardcover*

*145 x 215 mm*

**2012**

This tutorial is devoted to problem solving methods in general physics ( course section "Mechanics"). Most of the problems were taken from the collection of "Problems in General Physics" by I. E. Irodov. Each section is preceded by a brief statement of theory and provides basic formulae and the methods of solving problems, which can be used in this section.

The book is intended for students of physics specialties.



### **METAPHYSICS, 2<sup>nd</sup> ED.**

*J. S. Vladimirov*

*ISBN 978-5-94774-989-2*

*568 pp.*

*165 x 235 mm, hardcover*

*2009*

The book is devoted to the metaphysical bases of modern theoretical physics and disclosing of its leading development tendencies in the XXI century. The given (second) edition of the book is essentially processed and added. The first part describes the state of physics at the beginning of the XXth century. The 2nd part describes theories and programs within the limits of the standard theoretical-field

outlook. The 3rd part is devoted to the geometrical world outlook which has been developed on the ideas of general relativity theory and Kaluts'-Klejn' multidimensional theories.

In the 4th part the bases and possibilities of the relational approach are analyzed. The 5th part introduces principles of binary geometrophysics, combining the ideas of previous physical programs. Finally the 6th part of the book considers correlation of science (physics), philosophy and religion problems on the basis of the metaphysical principles revealed during the analysis of physics development.

The given edition will be of use for students and teachers of higher schools. It is addressed to physicists, engineers, philosophers and everyone interested in a physical picture of the world and tendencies of theoretical physics development.



### **METAPHYSICS. THE XXI CENTURY: SCIENCE, PHILOSOPHY, RELIGION**

*J. S. Vladimirov (ed.)*

*ISSN 1995-1574*

*440 pp.*

*165 x 235 mm, hardcover*

*2010*

The present book is devoted to problems of science, philosophy and religion correlation. Articles and materials collected in it are united by the idea of general metaphysical principles being the basics of all sections of world culture, including a science, philosophy and religion. The collection consists of four parts. The first part presents scientists' (mainly, physicists-theorists) views, the second part -

philosophers' views, the third part reflects the Orthodox Church representatives views. And the fourth part contains the materials reflecting the relation of various religious faiths to the considered problems.

The collection is intended for science officers, philosophers, teachers of higher schools, students, clerics and a wide range of readers interested in universe bases.



#### **METAPHYSICS. THE XXI CENTURY. THE LITERARY MISCELLANY, ISSUE 4: METAPHYSICS AND MATHEMATICS**

*Ju. S. Vladimirov (Ed.)*

*ISBN 978-5-9963-0551-3*

*463 pp., hardcover*

*165 x 235 mm*

*2011*

The present issue is devoted to philosophical (metaphysical) analysis of mathematics' bases and its parity with physics. The book consists of four parts. The first part contains articles on fundamental mathematics problems by Russian authors. The second part includes articles on mathematical science bases by prominent scientists of the past. The third part consists of articles written by physicists-theorists in which questions of physics and mathematics parity are discussed. Finally, the fourth part presents the works of philosophers on the bases and key problems of mathematics.

The book is intended for scientists (mathematicians, physicists and philosophers), teachers of higher schools, students and a wide range of readers who are interested in the Universe bases.



#### **QUANTUM MECHANICS: A TUTORIAL**

*Yu. A. Baikov, V. M. Kuznetsov*

*ISBN 978-5-9963-1159-0*

*291 pp., hardcover*

*165 x 235 mm*

*2013*

The manual is intended for the training specialists in the area of nanomaterials and nanotechnology. The book describes the main trends of quantum mechanics formalism, including operator algebra, matrix mechanics, and Dirac parenthesis unit. Special attention is paid to approximate quantum-mechanical methods, widely used in quantum chemistry. The book includes the elements of the developing direction of quantum mechanics, namely quantum qubits, which is associated with the design and construction of quantum computers in the future. Specific technique of quantum-mechanical calculations are widely discussed. The book is intended for students and teachers of higher technical universities.



### **QUANTUM PHYSICS. THE FUNDAMENTAL LAWS, 5<sup>th</sup> ED.**

*I. E. Irodov*

*ISBN: 978-5-9963-0283-3*

*256 pp., hardcover*

*145 x 215 mm*

*2013*

The textbook contains both theoretical and experimental material related to basic ideas of quantum physics and analysis of numerous examples and problems. Problems are closely related to the main context and supplement and further develop the theory presented in the book. The material is presented using as little mathematics as possible while the main accent is made on considering the physical aspects of the phenomenon.

The book is intended for students studying physics and other technical subjects.



### **PHYSICAL AND CHEMICAL BASES OF POLYMERIC SORBENTS SYNTHESIS: THE MANUAL**

*J. A. Lejkin*

*ISBN 978-5-9963-0127-0*

*413 pp., hardcover*

*145 x 215 mm*

*2011*

The book describes physical and chemical bases of synthesis and modifying of neutral and ion-exchange sorbents of the polymeric nature balance of ionic exchange and complex formation in liquid and hard phases, and also methods of their description are considered. The knowledge about basic interrelations "structure-property" is necessary for selection of chemical structure complexing

groups, selective to various anions and to cations, and also for creation and a choice of sorbents of the directed selectivity. The reader would find basic operational properties of commodity ionites and methods of their estimation.

The book is intended for students and post-graduate students of higher schools, scientific and technical experts in the field of synthesis and research of polymeric sorbents properties, and also their application in sorption technologies.





## PHYSICS OF THE CONDENSED CONDITION: THE MANUAL

*Ju. A. Baykov*

ISBN 978-5-9963-0290-1

293 pp., *hardcover*

145 x 215 mm

2011

In addition to traditional sections of physics of solids the manual presents some modern directions such as physics of photon crystals, nanoscale physics, fractal representations of crystals. The theoretical material of every chapter is supplemented by problems with solutions.

For students, post-graduate students and teachers of higher technical schools.



## PROBLEMS IN GENERAL PHYSICS, 10<sup>th</sup> ED.

*I. E. Irodov*

ISBN: 978-5-9963-1718-9

431 pp., *hardcover*

145 x 215 mm

**2014**

The book contains more than 2000 problems covering all main general physics topics including mechanics, electromagnetism, oscillations and waves, optics, quantum physics and physics of macro-systems. The set of problems in each topic is preceded by a brief summary of key theoretical facts. Reference tables are given at the end of the book.

The book is intended for students studying physics and other technical subjects.



## SHORT COURSE OF THEORETICAL MECHANICS: THE MANUAL, 3<sup>rd</sup> ED.

*G. N. Jakovenko*

ISBN 978-5-9963-0442-4

116 pp., *hardcover*

145 x 215 mm

2010

The book contains basic data on theoretical mechanics presented in two sections: kinematics and dynamics. Besides traditional issues the theory of sliding vectors, variable structure systems movement, quaternion description of a hard matter movement are discussed. The book is intended for students, post-graduate students and universities teachers.





**SOLUTION OF PROBLEMS ON RESISTANCE OF MATERIALS, 3<sup>rd</sup> ED.**

*E. A. Bulanov*

*ISBN 978-5-9963-0155-3*

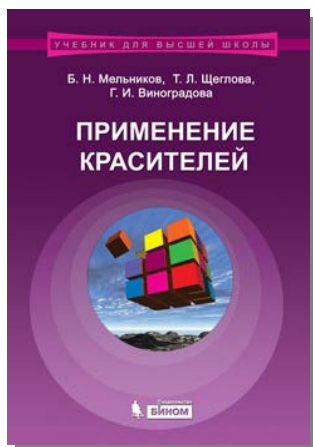
*215 pp., hardcover*

*145 x 215 mm*

*2010*

The manual contains theoretical data and detailed solutions of problems on the basic types of materials resistance, and also problems for independent solution with answers.

# CHEMISTRY



## APPLICATION OF DYES: THE MANUAL FOR HIGHER SCHOOLS, 3<sup>rd</sup> ED.

*B. N. Melnikov, T. L. Scheglova, G. I. Vinogradova*

ISBN 978-5-9963-0232-1

331 pp.

145 x 215 mm, hardcover

2010

The manual is devoted to the theoretical and practical issues of the dyes application in the textile, chemical, pulp-and-paper, tannery and fur, lacquer industry, and also in other spheres of the person vital functions. A reader would find the data on dyes and the objects of their application. In the present, the third, edition of this manual all changes in assortment of dyes made and technologies of

their application are covered. The approach to a material statement is essentially changed.

The manual is intended for students and the teachers specializing in area of organic dyes technology and intermediate products, and also for the technical officers which field of activity is connected with dyes use.



## BASIC CATALYSIS

*B. V. Romanovsky*

ISBN: 978-5-9963-0520-9

172 pp., hardcover

145 x 215 mm

**2014**

Series "The Textbook for Higher School"

This textbook written by the professor of the Department of Physical Chemistry, Faculty of Chemistry of the Lomonosov Moscow State University is divided into two parts. The first part describes the current understanding of catalysis fundamental physical and chemical principles common to all types of catalyst systems, the second part is devoted to the classification of catalysts and catalytic

processes approaches, as well as the main characteristics used in the assessment of the catalyst systems' effectiveness. The main attention is given to three main types of catalytic processes' features, such as homogeneous, enzymatic and heterogeneous catalysis.

The book is intended for students of chemical and other natural sciences departments at universities and colleges.



### **BASIC PHYSICAL CHEMISTRY: TEXTBOOK, 4<sup>th</sup> ED.**

*V. I. Gorshkov, I. A. Kuznetsov*

*ISBN 978-5-9963-0546-9*

*407 pp., hardcover*

*145 x 215 mm*

*2011*

The textbook includes bases of chemical thermodynamics, chemical balance, physical chemistry of electrolytes and nonelectrolyte solutions, boundary potentials and electromotive forces, chemical kinetics and catalysis.

It gives the short description of chromatography, extraction, rectification, uses ionselective electrodes methods. Basic positions of thermodynamics of

nonequilibrium processes are considered.

The textbook is intended for students of biological specialties.



### **BASICS OF ORGANIC CHEMISTRY**

*M. A. Jurovskaja, A. V. Kurkin*

*ISBN 978-5-9963-0204-8*

*236 pp., hardcover*

*165 x 235 mm*

*2010*

This manual provides the short course of organic chemistry which includes knowledge structure, reception methods, properties and application of the basic classes of organic compounds. The mechanisms of major organic reactions (nucleophilic replacements, elimination, etc.) are considered in detail. The book contains necessary information on modern most informative physical and

chemical methods of organic compounds research (mass spectrometry, nuclear magnetic resonance spectroscopy, infrared spectroscopy, etc.).

**Marina A. Jurovskaja** Doctor of Chemistry, Professor of the Lomonosov Moscow State University. The author of 4 books.

**Alexander V. Kurkin** Ph.D. in Chemistry, Professor of the Lomonosov Moscow State University.



## BIOLOGICALLY ACTIVE SUBSTANCES CHEMISTRY: BIOCHEMICAL BASES

*L. V. Kovalenko*

*ISBN 978-5-9963-0097-6*

*229 pp., hardcover*

*145 x 215 mm*

*2010*

The manual deals with the basic biopolymers and their components, principles of major catabolic and anabolic transformations and the ways of their regulation; mechanisms of interaction of some biologically active compounds with biochemical targets, various models of xenobiotic metabolism and role active oxygen in live systems.

The book is intended for graduate and post-graduate students, teachers and scientists.

**Leonid V. Kovalenko** Doctor of Chemistry, Professor of the D. Mendeleev University of Chemical Technology. His scientific interests are in the field of synthesis biogene carbonaceous acids and hetero-cyclic connections phosphoric analogues.

**Alexander G. Muravyev** Ph.D. in Chemistry, the leading developer of portable chemical complete laboratories, test complete sets and mini-express laboratories. The author of more than 100 publications in domestic and foreign editions, including 12 books, 15 inventions and patents.

**Alexander A. Rodin** Ph.D. in Chemistry.



## FUNDAMENTALS OF MODERN ORGANIC SYNTHESIS

*W. A. Smit, A. D. Dilman*

*ISBN 978-5-94774-941-0*

*750 pp., hardcover*

*170 x 240 mm*

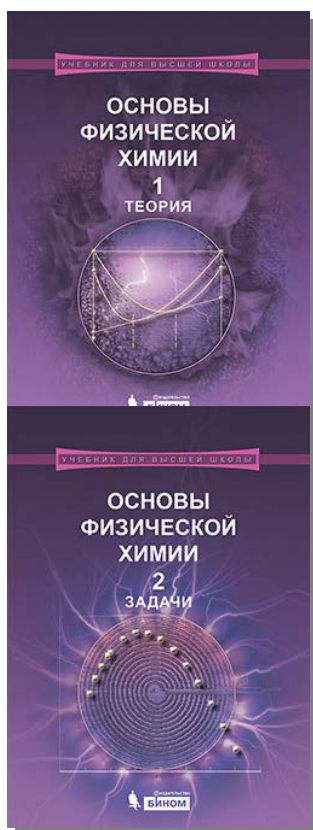
*2009*

This book provides the analysis of advanced methods in the synthesis of complex organic molecules. The focus is placed on the carbon-carbon bond forming methodologies for construction of acyclic and carbocyclic three-, four-, five-, and six-membered compounds. Various reaction types including heterolytic, radical, and concerted transformations and a series of transition metal mediated reactions

such as cross-couplings and olefin metathesis are covered.

The power of synthetic methodology is demonstrated on numerous synthesis of complex natural products examples. The key role of total synthesis of natural products in drug discovery is highlighted. The book contains extensive bibliography on all topics considered, mainly on original publications of the last decade.

The book is intended for students and researches interested in modern organic synthesis.



## FUNDAMENTALS OF PHYSICAL CHEMISTRY: A TRAINING MANUAL: IN 2 VOLUMES

V. V. Eremín [et al.]

ISBN 978-5-9963-0377-9, 978-5-9963-0535-3 (V. 1),

978-5-9963-0536-0 (V. 2)

320 pp. (V. 1), 263 pp. (V. II), *hardcover*

165 x 235 mm

2013

Series "Textbook for Higher School"

The manual is written by the professors of the Lomonosov State University Chemical Department. It describes the modern theoretical foundations of chemical thermodynamics and chemical kinetics and their practical applications. The book consists of two parts: the first part describes the theory and the second part includes problems, questions, exercises, tables of physical and chemical data, basic formulae, mathematical minimum. The reader would find answers or keys to all tasks.

The book is intended for students and teachers from specialized chemical schools, technical colleges and universities.



## LABORATORY PRACTICAL WORK ON THE GENERAL CHEMICAL TECHNOLOGY: MANUAL, 3<sup>rd</sup> ED.

V. A. Averyanov [etc.]; V. S. Beskov (ed.)

ISBN 978-5-9963-1377-8

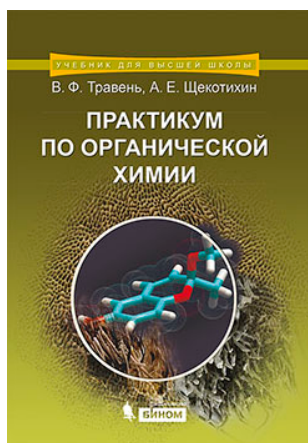
279 pp., *hardcover*

145 x 215 mm

**2014**

The manual describes 30 laboratory works entering into a course "General Chemical Technology". The presented works are distinguished by the problems put in them and the used laboratory technics. Descriptions of works on computer modeling are added by specially created programs which are in an easy approach on a publishing house site.

The manual is intended for students.



## MANUAL ON ORGANIC CHEMISTRY: MANUAL

*V. F. Traven, A. E. Shchekotikhin*

ISBN 978-5-9963-0359-5

592 pp., hardcover

165 x 235 mm

**2014**

The book includes methods of more than 300 organic compounds syntheses of all substances classes. A reader would find references from which the corresponding organic compound method was taken, as well as the sources with information about other methods of its synthesis. The authors provide data on utilization of solvents and by-products. Special attention is given to the newest techniques of

organic compounds synthesis, including those developed according to the principles of "green" chemistry.

This manual has been drafted together with the textbook (V. F. Traven "Organic Chemistry", the 2<sup>nd</sup> ed.) and the book of problems (V. F. Traven, A. Yu. Sukhorukov, N. A. Kondratova "Tasks in Organic Chemistry").

The book is intended for students, graduate students and teachers of chemical faculties of universities and chemical and technological higher education institutions.



## ORGANIC CHEMISTRY. PROBLEMS IN GENERAL CHEMISTRY COURSE WITH SOLUTIONS: MANUAL (IN 2 VOL.)

*M. V. Livantsov [and others], ed. Academician N. S. Zefirov*

ISBN 978-5-94774-759-1, 978-5-94774-757-7 (vol. 1), 978-5-94774-758-4 (vol. 2)

255 pp. (vol. 1), 714 pp. (vol. 2)

165 x 235 mm, hardcover

2012

Series "Textbook for Higher School"

This manual compiled on the basis of many years experience of teaching organic chemistry at the Lomonosov State University Chemistry Department, includes about 1200 problems and questions relating almost all topics of the contemporary organic chemistry university course. Particular attention is paid to the development of organic compounds structure analysis' skills and to the practice of assessing the impact of structural factors on compounds reactivity, as well as the involvement of stereochemical concepts while considering organic reactions mechanisms. The manual consists of 17 chapters. The first part contains problems and questions. The second part provides detailed solutions.

The book is intended for students of chemical universities, graduate students and teachers.





## ORGANIC CHEMISTRY: TERMS AND THE BASIC REACTIONS

*I. V. Borovlev*

ISBN 978-5-94774-755-3

359 pp.

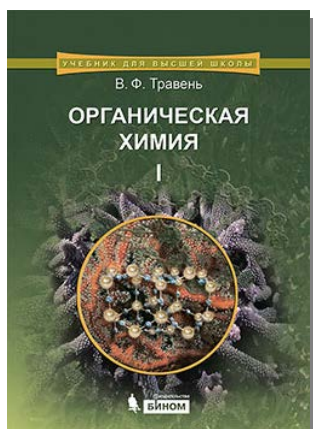
165 x 235 mm, hardcover

2010

The manual on organic chemistry contains the located in alphabetic order terms, concepts and the designations used for the description of molecules and processes with their participation. Special attention is given to stereochemical aspects of molecules structure, connection of a structure with reactionary ability, mechanisms of chemical reactions, including nominal.

The manual is intended for students of chemical specialities and for self-education.

**Ivan V. Borovlev** Doctor of Chemistry, Professor of the Stavropol State University. Area of scientific interests: chemistry of heterocyclic connections, theoretical organic chemistry. The author of more than 150 scientific and methodical works.



## ORGANIC CHEMISTRY: A TEXTBOOK FOR HIGHER SCHOOLS: IN 3 VOLUMES, 2<sup>ND</sup> ED.

*V. F. Traven*

ISBN 978-5-9963-0357-1

978-5-9963-0406-6 (V. I), 978-5-9963-0407-3 (V. II),

978-5-9963-0412-7 (V. III)

368 pp. (V. I), 517 pp. (V. II), 388 pp. (V. III)

165 x 235 mm

2013

Series "Textbook for Higher School"

This second edition of the well-known textbook is structured in accordance with the extent of the students' subject mastering: for the initial study the reader would find the fundamental information; the students specializing in the field of organic chemistry will find the chapters titled "In-depth study." The textbook is supplemented by the book of problems (V. F. Traven, A. Yu. Sukhorukov, N. A. Kondratova "Problems in Organic Chemistry") and manual (V. F. Traven, A. E. Shchekotikhin "Manual on Organic Chemistry").

The book is intended for students, graduate students and teachers of chemical and chemical-technological universities.



## PRACTICAL WORK IN ORGANIC CHEMISTRY

V. I. Terenin [etс.]; N. S. Zefirova (ed.)

ISBN 978-5-94774-942-7

568 pp., hardcover

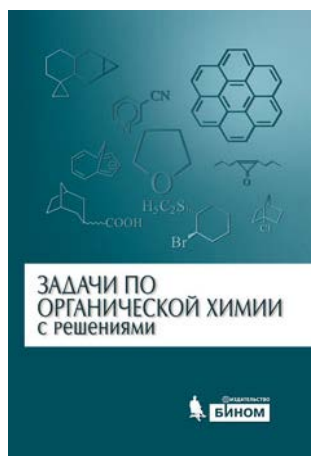
165 x 235 mm

2010

The manual presents the general course of organic chemistry in which a long-term operational experience of students' (the Chemical Faculty of the Lomonosov Moscow State University) practical work in organic chemistry is systematized. The book describes methods of organic connections of various classes synthesis. General rules and work methods in the organic laboratory are reviewed, general instructions on interpretation of nuclear magnetic resonance  $^1\text{H}$  and  $^{13}\text{C}$

spectrums synthesized compounds are given.

The book is intended for graduate and post-graduate students, teachers of chemical higher schools and scientists.



## PROBLEMS IN ORGANIC CHEMISTRY, 4<sup>th</sup> ED.

A. L. Kurts et al.

ISBN 978-5-9963-1321-1

350 pp., hardcover

145 x 215 mm

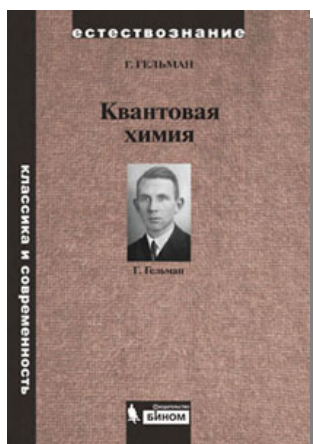
2013

The manual contains problems in organic chemistry which were offered to the third year students from the Lomonosov State University Chemical Department. All problems are supplied by detailed solutions, and where it is necessary, comments. Sections correspond to the structure of the basic organic chemistry course. Problems considerably differ on complexity. Key chemical

transformations, conditions and reagents are taken into account in solutions. This method helps students to develop independent approach to construction of rather difficult organic molecules skeletons.

The book is intended for students of higher schools studying organic chemistry, post-graduate students and teachers.





## QUANTUM CHEMISTRY, 2<sup>nd</sup> ED.

*G. Gelman*

ISBN 978-5-94774-768-3

533 pp., *hardcover*

165 x 235 mm

2012

This scientific publication, has been written by the German author during his work in the USSR. For the first time this fundamental work was published in Russian in 1937. This edition was supplemented by biographical essay written by the author's son, as well as some comments that take into account the current state of science.

The book is intended for researchers, university students and post graduate students.



## QUANTUM CHEMISTRY.

### MOLECULES, MOLECULAR SYSTEMS AND SOLIDS, 3<sup>rd</sup> ED., REV.

*V. G. Tsirelson*

ISBN 978-5-9963-1668-7

496 + 24 pp., *hardcover*

170 x 240 mm

**2014**

The book presents theoretical contemporary quantum chemical computations background of the wide range of chemical compounds structure and properties, from molecules to solids, including the nano-size systems. It considers contemporary views on chemical bonds and molecular interactions. The methods

used for interpretation of the computation results are given in detail. Well-illustrated material, which is essential for researchers and chemical engineers working in the science-intensive fields of industry, is presented in easy accessible form.

This book is written by Professor Vladimir G. Tsirelson, widely-recognized expert in the field who has been named as a recipient of the 2002 Alexander von Humboldt Research Award in the field of theoretical chemistry.

The book is intended for undergraduate and graduate students, researchers and lecturers of classic, pedagogical and technical universities. It will be also useful for experts in chemistry, physics, biology and materials science.



## THE GAS-CHROMATOGRAPHIC ANALYSIS OF NATURAL GAS: PRACTICAL GUIDANCE

*J. S. Drugov, A. A. Rodin*

ISBN 978-5-94774-763-8

174 pp.

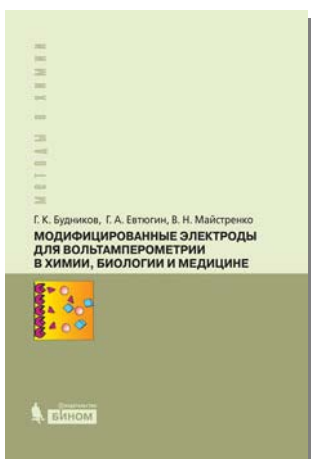
165 x 235 mm, hardcover

2009

The practical guidance is devoted to the gas-chromatographic analysis of natural combustible gas, liquefied gas, associated oil gases, gas condensate, and also petroleum refining gases and gaseous monomers for petrochemical synthesis.

A reader would find variants of gas-chromatographic analysis of natural gas components on adapter, microadapter and capillary columns WCOT with siloxane stationary phases, as well as PLOT with zeolites, silica gel, aluminium oxide, etc. Modules application with universal and selective detectors for identification and quantitative analysis of sulphur are described. The guidance presents techniques of routine laboratory analyses in processes of clearing, transportation, storage and oil refining and gas.

The guidance is intended for workers of the gas industry, graduate and post-graduate students of oil and petrochemical specialties of technological higher schools.



## THE MODIFIED ELECTRODES FOR VOLTAMPEROMETRY IN CHEMISTRY, BIOLOGY AND MEDICINE

*G. K. Budnikov, G. A. Evtjugin, V. N. Majstrenko*

ISBN 978-5-9963-0199-7

416 pp.

145 x 215 mm, hardcover

2010

The scientific edition describes theoretical bases of creation and functioning mechanisms of voltamperometry chemical sensor controls and biosensor controls on the basis of modified electrodes in the solving of problems of chemistry, biology and medicine and the environment objects control. Special attention is given to

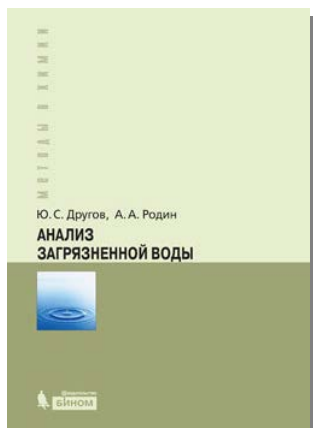
new directions in designing and application of the modified electrodes — to the using of nanoparticles and ionic liquids, the biomaterials, electrospinning polymers, self-managing, multitouch systems, to detecting of substances in a stream.

The book is intended for the experts working in the field of analytical chemistry and analytical instrument making, and also for teachers, graduate and post-graduate students of chemical, biological and medical specialties.

**Herman K. Budnikov** Doctor of Chemistry, Professor of the Kazan State University, the member-correspondent of the Russian Academy of Natural Sciences, Academician of the International Academy of Sciences of the Higher School. Scientific interests: the electroanalytical chemistry, chemically modified electrodes, biosensor controls, history of analytical chemistry and methodology of its teaching. The author of more than 900 scientific publications and 20 books.

**Gennady A. Evtjugin** Doctor of Chemistry, the manager of the Analytical Chemistry Chair of the Kazan State University. Scientific interests: the electroanalytical chemistry, chemically modified electrodes, biochemical methods of the analysis. The author of more than 200 scientific publications, 5 patents for inventions.

**Valery N. Majstrenko** Doctor of Chemistry, Professor, the member-correspondent of Republic Bashkortostan Academy of Science, the director of Scientific Research Institute of the Health and Safety, the manager of the Inorganic Chemistry Chair (the Bashkir State University).



## **ANALYSIS OF CONTAMINATED WATER: PRACTICAL GUIDE**

*Ju. S. Drugov, A. A. Rodin*

*ISBN 978-5-94774-762-1*

*678 pp., hardcover*

*165 x 235 mm*

*2012*

The practical guide is devoted to the most important issue of environmental analytical chemistry. The authors of the guide describe the methodology of priority pollutants determination in natural and waste waters, which is based on using a combination of effective sample preparation methods and descriptive methods of analysis. The described methodology allows to identify and quantify the target

compounds. A reader would find the official (standard) domestic and foreign (EU, USA) techniques of toxic organic and organometallic compounds and heavy metals detection.

The book is intended for professionals in the field of analytical chemistry, specialists of environmental laboratories, medical and chemical universities students.



## **THE ANALYSIS OF THE POLLUTED SOIL AND DANGEROUS WASTE: PRACTICAL GUIDANCE, 2<sup>nd</sup> ED.**

*Ju. S. Drugov, A. A. Rodin*

*ISBN 978-5-9963-0372-4*

*469 pp., hardcover*

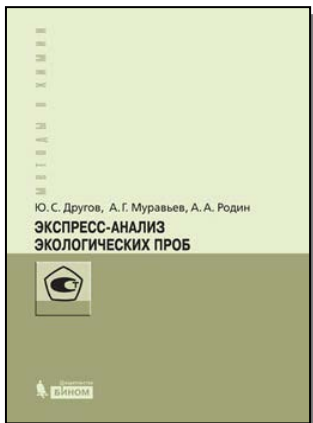
*165 x 235 mm*

*2011*

The book describes methods of the chemical analysis of pollution of soil and ground adjournment by household and industrial wastes. A reader would find traditional and new methods of testpreparing of soil and a waste samples, and also methods of substances polluting soil analysis and reliable receptions of target

connections identifications in complex matrixes. Standard techniques of priority soil pollution definitions (organic and metalloorganic compounds, metals), used in Russia and abroad, are given.

The book is intended for professionals in the field of ecological analytical chemistry, and also for experts dealing with preservation of the environment, students and post-graduate students.



### EXPRESS ANALYSIS OF ECOLOGICAL TESTS: PRACTICAL GUIDANCE

*J. S. Drugov, A. G. Muravev, A. A. Rodin*

*ISBN 978-5-9963-0200-0*

*424 pp., hardcover*

*165 x 235 mm*

*2010*

The following aspects are described in the practical guidance: constructional features of various devices applied while carrying out of express analyses in field conditions, including emergency and other extreme situations. Methods of work with display tubes and their complexes with other gas analyzers are considered in detail. A reader would find techniques of the most important gases definition. The

book introduces test methods and instrument equipment when analyzing various environment objects. The methods of water quality indicators' estimation are outlined.

**Jury S. Drugov** Doctor of Chemistry, member-correspondent of Petrovsky Sciences and Arts Academy, member of the Analytical Chemistry Scientific Council (the Russian Academy of Sciences), a member of the Adsorption and Chromatography Scientific Council (the Russian Academy of Sciences).



### INDUSTRIAL ECOLOGY: TRAINING MANUAL

*V. A. Zaitsev*

*ISBN 978-5-9963-0812-5*

*382 pp., hardcover*

*165 x 235 mm*

*2012*

The author describes definitions and basic principles of industrial ecology, waste-free (clean) production, methods of its organization and development. Special attention is given to the harmonious usage of air and water, recycling, disposal of household and dangerous waste, organization of waste-free production systems and eco-industrial parks. The ecological problems of building materials production, coke, and petrochemical industry, ferrous and nonferrous metallurgy, and energy are examined. The book is intended for university students studying environmental subjects.



## **MONITORING OF ENVIRONMENTAL ORGANIC POLLUTIONS.**

### **500 TECHNIQUES: PRACTICAL GUIDANCE, 2<sup>nd</sup> ED.**

*J. S. Drugov, A. A. Rodin*

*ISBN 978-5-94774-761-4*

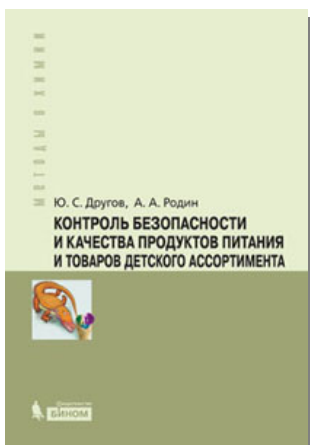
*893 pp.*

*165 x 235 mm, hardcover*

*2009*

The practical guidance presents more than 500 analytical techniques of environmental priority organic pollutions determination (drinking, potable and natural water, sewage, soils, ground adjournment, household and dangerous industrial wastes, atmospheric and working zone air, industrial emissions).. The techniques reflect the lists of Russian, American and European official acts.

The guidance is intended for the employees of analytical laboratories of any level occupied with the routine analysis of various objects, including arbitral analysis.



## **MONITORING OF SAFETY AND QUALITY OF FOOD AND GOODS FOR CHILDREN: PRACTICAL GUIDE**

*Yu. S. Drugov, A. A. Rodin*

*ISBN 978-5-9963-0371-7*

*440 pp., hardcover*

*165 x 235 mm*

*2012*

The practical guide explains how to use the main analytical techniques (chromatography, spectroscopy and electrochemistry) to determine the trace amounts of harmful substances in food, drinking water, milk, juices and beverages, as well as aqueous and gas extracts from toys and child care items.

The authors discuss new technologies of analytical procedures (sample cutting, sample preparation and identification of priority pollutants), capabilities of modern analytical equipment and licensed techniques of the health-chemical analysis improvement. A reader would find the description of optimal schemes of baby food and baby products analysis, as well as the ways of harmful substances in the air of children care institutions.

The guide is intended for experts in the field of environmental and health monitoring, the food industry laboratories staff and health care professionals (hygienists, clinicians, toxicologists), as well as for students of chemical, environmental, biological and medical schools.



**SAMPLE PREPARATION IN THE ECOLOGICAL ANALYSIS:  
PRACTICAL GUIDANCE, 3<sup>rd</sup> ED.**

*J. S. Drugov, A. A. Rodin*

*ISBN 978-5-94774-764-5*

*855 pp.*

*165 x 235 mm, hardcover*

*2009*

The purpose of this practical guidance is to describe in detail the sample preparation methods in practical ecological analytics for evaluation of polluting substances in air, water, soil, bioenvironments and food. Special attention is given to the newest methods of extraction from matrixes. Many standard techniques are

presented.

The guidance would be helpful for chemists conducting ecological analyses, graduate and post-graduate students of chemical higher schools and educational institutions of ecological profile.



**SUSTAINABLE DEVELOPMENT: THE MAN AND THE BIOSPHERE**

*G. A. Yagodin, E. E. Purtova*

*ISBN 978-5-9963-1141-5*

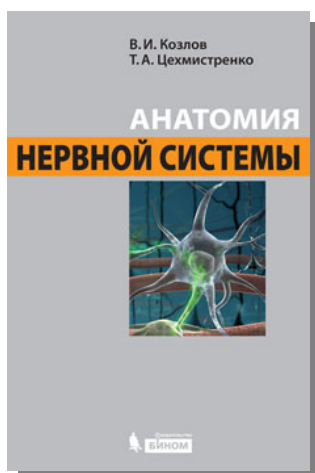
*109 pp., hardcover*

*145 x 215 mm*

*2013*

The book covers the history of the Earth and the development of life on it. The authors describe in detail the issues of energy security of life, the structure of the biosphere, the laws of existence. The main part of the manual is devoted to the consideration of the conflict between the people and the biosphere, particularly exacerbated recently, and the ways out of it, which lies in moving society towards sustainable development.

The book is intended for students of higher school studying in the field of ecology and nature.



**ANATOMY OF THE NERVOUS SYSTEM: A TEXTBOOK FOR STUDENTS,  
2<sup>ND</sup> ED.**

*V. I. Kozlov, T. A. Tsehmistrenko*

*ISBN 978-5-9963-1602-1*

*208 pp., hardcover*

**2014**

The textbook has been prepared in accordance with the curriculum "Anatomy of the Central Nervous System". It describes the issues of general anatomy, development and structure of brain and spinal cord, peripheral nervous system, as well as general principles and features of the autonomic nervous system structural organization. In describing the integrative systems of brain the authors give special attention to the construction of sensory and pyramidal pathways and morphofunctional features of extrapyramidal and limbic systems; moreover their role in human psyche formation are described. The book includes the anatomical description of senses, the issues of blood supply of brain and spinal cord, the structure of meningeal and liquor system as a whole. The material presentation is accompanied by traditional and original drawings and paintings.

The anatomical terms are based on the International Anatomical Nomenclature recommendations adopted by the International Committee on Anatomical Terminology (FCAT, 1998).

The book is intended for students of university psychological and medical departments, teacher training universities, as well as specialists interested in the anatomy of the nervous system.





## APPLIED ECOBIOTECHNOLOGY. 2-VOLUME SET

A. E. Kuznetsov [etc.]

ISBN 978-5-9963-0151-5

ISBN 978-5-9963-0152-2 (V. 1)

ISBN 978-5-9963-0153-9 (V. 2)

1114 pp., hardcover

165 x 235 mm

2010

The book contains systematized and generalized material on biological, engineering, ecological-economic bases, practical methods, ways of modern biotechnology use and realization aimed at environment protection. The focus is placed on biological ways of polluted water purification, deodorizations of air-gas emissions, waste processing, soils remediation, feature of bio damages and bio corrosion, obtaining and usage of biodecomposed polymers, bioindication and biomonitoring, and also ecological, economic and legislative bases of nature conservative measures.

The book is written by skilled teachers, known scientists and technologists from Russia and Germany.

The book is intended for graduate and post-graduate students, higher school teachers, scientists, process engineers and other experts in the biotechnology, who deal with the problems of environment protection and rational use of natural resources.



**Alexander E. Kuznetsov** Ph.D. in Chemistry, Member-Correspondent of the Russian Engineering Academy.



## CHROMATIN: PACKED GENOME, 3<sup>rd</sup> ED.

S. V. Razin, A. A. Bystritskiy

ISBN 978-5-9963-1611-3

176 pp.+16 pp., hardcover

145 x 215 mm

2013

This monograph thoroughly describes different aspects of eukaryotic genome structure and functions from the point of view of its chromatin nature. To the histone code is given special attention as well as its influence on genes' expression. Also modern data and models concerning genome organization in chromosome territories are discussed. A reader would find primary information on the function of higher eukaryotes' genome. The book contains a color insert of 16

pages. The book is written by one of the world's leading cell nucleus and chromatin researchers, Deputy Head of Molecular Biology Chair in the Lomonosov Moscow State University professor Sergey V. Razin.

The book is intended for university students studying and skilled molecular biologists.



### **DOCTRINE OF HALLUCINATIONS, 3<sup>RD</sup> ED., REV.**

*V. A. Gilyarovskiy*

*ISBN 978-5-9963-0462-2*

*224 pp., hardcover*

*145 x 215 mm*

*2011*

The scientific research by the classic Russian psychiatrist provides detailed assessment of the hallucinations problem. The book is devoted to one of the disordered perception issues such as hallucinatory disorders. The author describes clinical hallucinatory states of various genesis. Special attention is given to psychogenic and toxic hallucinations.

The book will be useful to psychiatrists, neurologists, psychologists and others, as well as students and practitioners in related disciplines.



### **BASICS SOMNOLOGY PHYSIOLOGY AND NEUROCHEMISTRY OF THE CYCLE "WAKE—SLEEP", 3<sup>RD</sup> ED.**

*V. M. Kovalzon*

*ISBN 978-5-9963-1204-7*

*239 pp., hardcover*

*145 x 215 mm*

**2014**

The book deals with the following issues related to the cycle "wake—sleep" regulation: phenomenology and definitions, anatomy, physiology and neurochemistry of the corresponding brain systems, organization of diurnal "biological clock " of the body, interaction of circadian and homeostatic mechanisms, molecular genetic mechanisms; evolution of sleep; sleep

deprivation, sleep and memory, sleep and hormones, peptide DSIP role in the regulation of sleep. The information, based on the latest data, is for the first time published in Russian.

Each chapter contains brief introduction to this problem, and the list of recommended English-language theoretical works' review. The annex contains six short essays on the history of somnology.

The book is intended for scientists and university teachers and can be used as a textbook for undergraduate and graduate students specializing in the fields of physiology, psychophysiology and psycho neurology.



## LIGHT-SENSITIVE BIOSYNTHESIS OF CHLOROPHYLL

*O. B. Beljaeva; F. F. Litvina (ed.)*

ISBN 978-5-94774-926-7

232 pp.

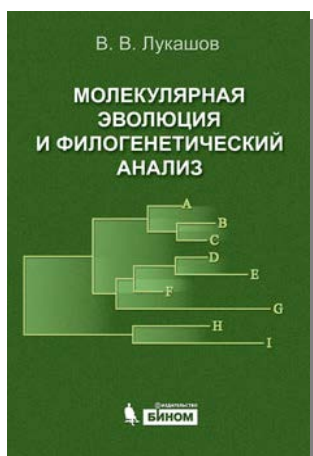
145 x 215 mm, hardcover

2009

The book deals with stages of the chlorophyll biosynthesis from active protochlorophyllid-fermental complex formation to the development of photosynthesis reactionary centers pigments. Recent and modern fundamental molecular biology research is being discussed. Special attention is given to priority research of Russian scientists.

The book is intended for biophysicists, and also for teachers, graduate and post-graduate students of biological higher schools.

**Olga B. Beljaeva** The leading research assistant of the Biological Faculty of the Lomonosov Moscow State University, Doctor of Biological Sciences. The author of 75 scientific publications.



## MOLECULAR EVOLUTION AND PHYLOGENETIC ANALYSIS

*V. V. Lukashov*

ISBN 978-5-9963-0114-0

256 pp., hardcover

145 x 215 mm

2009

The book contains a broad spectrum of theoretical and practical issues of the molecular evolution and phylogenetic analysis: the principles, goals and terminology; sequence alignment; evolutionary models and genetic distances; phylogenetic tree building methods. Recombination analysis, nucleotide and amino acid composition, codon usage, the analysis of mitochondrial DNA and

molecular clock are described in the book. Special attention is given to the role of evolutionary analysis in studying the epidemiology of infectious disease – molecular epidemiology. All these issues are considered using actual experimental data. A reader would also find information about computer programmes used in the evolutionary analysis.

This book is written by the author who is Associate Professor of the University of Amsterdam (The Netherlands) and senior researcher of the D.I. Ivanovsky Institute of Virology (Moscow, Russia).

The book is intended for pre- and postgraduate students as well as researchers.



## MOLECULAR GENETIC AND BIOCHEMICAL METHODS IN MODERN PLANT BIOLOGY

*V. V. Kuznetsov, V. V. Kuznetsov, G. A. Romanov*

487 pp., hardcover

165 x 235 mm

2011

The book describes more than 30 methods of modern experimental biology, which are actively used in the study of plants: the methods of genetic engineering and bioinformatics, functional genomics, protein chemistry and histologic chemistry, methods of biologically active compounds and signal transduction study as well as cell biology and analysis of subcellular structures. The structure and method of the

book materials presentation facilitate the task of methods' mastering and help to avoid mistakes in the course of the experiment and to interpret the results correctly. Many of the described methods are widely used both in the study of plant objects and objects of the kingdoms of living organisms.

The book is intended for students, researchers conducting basic or applied research in the field of plant biology and agriculture.



## NGS: HIGHLY EFFICIENT SEQUENCING

*D. V. Rebrikov, D. O. Korostin, E. S. Shubin, V. V. Ilinsky*

ISBN 978-5-9963-1784-4

288 c., hardcover

145 x 215 mm

**2014**

With the advent of the new generation of nucleotide DNA sequence determining methods genetics has reached fundamentally different level of living systems research. Large-scale sequencing of genomes, transcriptomes and microbiomes gives a huge amount of information, feeding the new research field "bioinformatics". There is no doubt that highly efficient sequencing data interpretation will shortly lead to breakthrough discoveries in biology. This book

deals with the peculiarities of new generation sequencing (NGS) methods , both in the laboratory and in bioinformatics.

The book is intended for research laboratories and medical diagnostic laboratories staff and students seeking to understand the features of new generation sequencing methods.



# **QUANTUM BIOPHYSICS OF ANIMALS AND MAN : THE MANUAL, 4<sup>th</sup> ED.**

*A. I. Zhuravlev*

*ISBN 978-5-9963-0448-6*

*398 pp.*

*145 x 215 mm*

*2011*

The book is devoted to an actual problem of research of free radical processes, active forms of oxygen and antioxidant systems roles in animals' and man metabolism. The manual includes the material which deals with many aspects of this scientific direction: from the molecular mechanisms connected with generation and liquidation of free radicals, to medicamentous recommendations.

The material will be of great interest to students-biophysicists (molecular biophysicists) and students of medical specialties.



# **REAL-TIME PCR, 3<sup>rd</sup> ED.**

*D.V. Rebrikov (ed.)*

*ISBN 978-5-9963-0600-8*

*221 pp., hardcover*

*145 x 215 mm*

*2011*

The purpose of this manual is to provide enlightenment to anyone seeking to maximize the quality of real-time PCR, qPCR or qRT-PCR results. The book describes various variants and features of the equipment for carrying out PCR in real time. It offers recommendations for choice of the amplifier. The systems of fluorescent registration of accumulation of DNA are considered. A reader would find the key factors defining the choice of oligonucleotide sequence and

amplification programs parameters. Special attention is given to preparation of tests and features of the received data analysis that is necessary for getting authentic results.

Separate chapters are devoted to PCR application in real time for the solving various problems: definitions of the transcript level, virus loading, nucleotide polymorphism, relative maintenance of nucleic acids on GMO example.

The book is intended for employees of genetic engineering and medical diagnostics laboratories, and also for teachers and students specializing in the area of molecular biology.



## CLINICAL DERMA ONCOLOGY: ATLAS

*I. A. Lamotkin*

*ISBN 978-5-9963-0360-1*

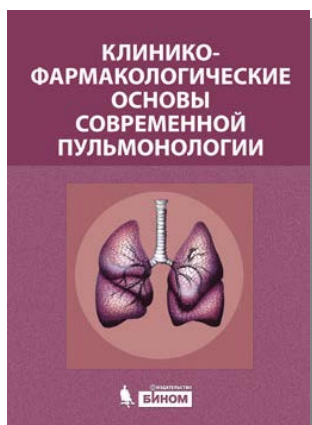
*499 pp.*

*195 x 251 mm*

*2011*

The book describes all aspects of skin tumor process (non-malignant and malignant new growths initially arising in skin and mucous membranes; metastatic skin defeats; genodermatosis associated with malignant visceral tumors, and paraneoplastic dermatosis). All diseases are systematized on the basis of modern classifications. Fifty five chapters of the atlas include materials on clinic, histology, differential diagnostics, prognosis and treatment of more than 400 nosological forms relating to derma oncology. The atlas reflects experience of derma oncology patients' treatment in the Central Military Clinical Hospital after N. N. Burdenko. The book is illustrated with 757 color photos from personal practice of the author.

The atlas is intended for doctors of various specialties (dermatologists, oncologists, cosmeticians, haematologists, etc.), students and post-graduate students.



## CLINICAL PHARMACOLOGICAL BASES OF MODERN PULMONOLOGY

*E. E. Bazhenov, V. A. Ahmedova, V. A. Ostapenko (ed.)*

*ISBN 978-5-9963-0168-3*

*359 pp., hardcover*

*165 x 235 mm*

*2010*

Treatment of patients with lungs diseases is generalized in the book from demonstrative medicine point of view. Each clinical entity is supplied with a complex of therapeutic actions, physiotherapeutic procedures and other methods of influence on the causative agent. The ways of the intoxication syndrome elimination, normalization of drainage function of bronchial tubes and immune status of the patient organism are covered. Special attention is given to preventive drugs. Diagnostics and therapy of urgent conditions and chronic diseases of bronchopulmonary system are considered.

The book is intended for students and general practitioners, therapists, lung specialists, phthisiatricians, teachers of medical higher schools, post graduate students.





## **DOCTOR — PATIENT RELATIONS, MODERN APPROACH, 2<sup>nd</sup> ED.**

*G. M. Mestergazi*

*ISBN 978-5-9963-0053-2*

*112 pp.*

*145 x 215 mm, hardcover*

*2009*

The manual describes legal and ethical issues of doctor — patient relations. The notion “doctor blunder” is analyzed in detail. A reader would find concrete examples of typical medical practice examples. The focus is placed on the medicines prescription.

The book will be helpful for graduate and post-graduate students of medical higher schools.

**George M. Mestergazi** The author of more than 50 scientific works, including the monographs and the manual for system vocational training of doctors.



## **INJURY OF THE ANKLE JOINT ZONE: THE ATLAS**

*S. P. Mironov (Ed.)*

*ISBN 978-5-9963-0298-7*

*231 pp., hardcover*

*165 x 235 mm*

*2011*

The monography is devoted to the methods of diagnostics, conservative and operative treatment of the soft tissues injuries and ankle joint zone fractures. Special attention is given to the classification of fractures in account to trauma mechanism, direction of injury force and its size, and also the level of anatomic structures injury. The author underlines the importance of fragments dynamic

reposition method at relatively stable types of fractures, demonstrates its high efficiency reached by combination of the periods of fracture consolidation and rehabilitation of the patient.

All photos and illustrations, presented in the book, are also reproduced on the CD.

The book is of special interest for traumatologists-orthopedists, and trainees of postgraduate professional courses.



## ORTHOPEDICS OF THE FIRST STEPS

*V. A. Mitskevich*

*ISBN 978-5-9963-1546-8*

*359 p., hardcover*

*145 x 215 mm*

*2013*

Walking is a multicomponent function of the body, which includes a large number of motions. The process of mastering walking is built on the gradual transition from relatively simple to more complex movements. The first steps cause questions from parents about the propriety of child development and ways of visible violations' correction. Polyclinics doctors do not always have ready answers on such questions because of the lack of concentrated information

concerning an early infant locomotion. The gap is filled by this book "Orthopedics of first steps", which is devoted to the physiology and pathology of the initial period of walking.

The book is intended for orthopedists, pediatricians, neurologists and rehabilitation specialists. The book is also important for shoemakers, manufacturers of children's shoes, podiatrists and prosthetists. It will also be interesting to all attentive parents.



## PLASMA COAGULATION IN TRAUMATOLOGY AND ORTHOPEDY

*N. A. Shesternja, S. V. Ivannikov, D. A. Tarasov*

*ISBN 978-5-9963-0054-9*

*103 pp.*

*145 x 215 mm, hardcover*

*2009*

The monograph presents the first experience of argon plasmas clinical application in locomotor apparatus surgery. Efficiency of coagulation and elimination tissues in a contactless way is convincing.

The major part of the information (1,3 Gb) is presented on a compact disc in the form of a photo- and video data.

The book is intended for traumatologists-orthopedists, surgeons.





## PROFESSIONAL DISEASES: A HANDBOOK FOR DOCTORS

*V. V. Kosarev, S. A. Babanov*

*ISBN 978-5-9963-0467-7*

*422 pp., hardcover*

*145 x 215 mm*

*2011*

The book is devoted to the occupational diseases arising from influence of an industrial dust, vibration, noise, ionizing and non ionizing radiations, high and low temperatures, chemical, biological factors, and also due to work at height and in caisson, functional overstrain. Professional oncological and skin diseases, principles and methods of diagnostics and prevention are described. The

handbook includes the list of occupational diseases, clinical examples.

The edition is intended for professional pathologists, therapists, neurologists, otorhinolaryngologists, dermatologists, surgeons, orthopedists; clinical interns and the post-graduate students participating in preliminary and planned medical inspections, and also students of medical higher schools.



## STRATEGY AND TACTICS OF URGENT ABDOMINAL SURGERY

*A. I. Kovalev*

*ISBN 978-5-9963-0478-3*

*360 pp., hardcover*

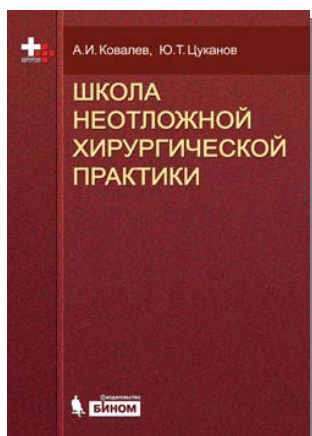
*220 x 290 mm*

*2011*

The book describes principles of diagnostics and treatment of acute surgical diseases of the abdominal cavity organs which general surgeons often meet. There are two sections devoted to acute urological and gynecologic pathology. A reader would find the basic approaches preoperative preparation and

postoperational care to patients with urgent abdominal pathology.

The book is intended for doctors, interns, students and higher schools post-graduate students.



## **THE SCHOOL OF URGENT SURGICAL PRACTICE, 2<sup>nd</sup> ED.**

*A. I. Kovalev, J. T. Tsukanov*

*ISBN 978-5-9963-0167-6*

*743 pp., hardcover*

*165 x 235 mm*

*2010*

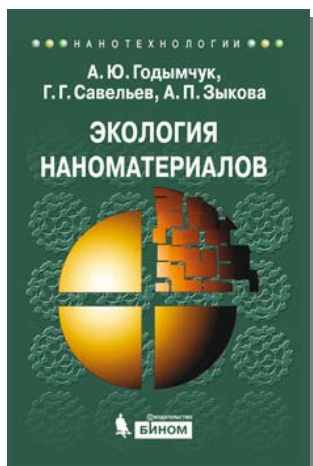
Clinical displays of various acute surgical diseases are demonstrated from modern point of view; basic methods of diagnostics used in urgent surgery are given. General surgery issues (warm-pulmonary resuscitation, principles of blood transfusion, basic operative techniques, principles of conducting the postoperative period), technical questions of the operative interventions which are carried out at

various acute diseases are considered.

The book is intended for doctors-interns, clinical interns and post-graduate students, general surgeons, teachers of medical higher schools.

# NANOTECHNOLOGY

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## ECOLOGY OF NANOMATERIALS: A TUTORIAL

A. Y. Godymchuk, G. G. Savelyev, A. P. Zyкова

ISBN 978-5-9963-0523-0

272 pp., hardcover

145 x 215 mm

2012

This tutorial describes the potential and actual environmental risks arising from the interaction of nanomaterials with the environment. The analysis was made on the basis of the experimental study of nanomaterials migration and routes while penetrating into the ecosystem (atmosphere, hydrosphere, lithosphere), physico-chemical properties of nanosized sols, as well as research in the field of toxicology and ecotoxicology of nanomaterials in their interaction with plants, soil, invertebrates and mammals. Special attention is paid to issues of penetration, migration and removal of nanoparticles from the human body.

The authors formulate general conclusions and list perspective areas of research in the field of environmental of nanomaterials.

The book is intended for teachers and students specializing in the development and application of nanotechnology.



## ELECTRONIC PROPERTIES AND APPLICATION OF NANOTUBES

Dyachkov P. N.

ISBN 978-5-9963-0154-6

488 pp., hardcover

145 x 215 mm

2010

The monography reflects recent and modern aspects in the field of nanotubes studying and application. The reader would find methods on obtaining, structure, electronic, optical, mechanical, magnetic and emissive properties of nanotubes. The book describes surprising inventions done with the help of these new materials: one-electronic, field and quantum nanotransistor, chemical sensor controls, sources of optical and x-ray radiation, logic elements, memory cells and even a radio receiver with only one carbon nanotube.

Special attention is given to calculation of nanotubes' electronic structure using the method of linearized attached cylindrical waves. One of the sections describes the new direction in science — nanoelectromagnetism.

The book is intended for research assistants, students and post-graduate students of physical, chemical and engineering specialities.



## **FUNDAMENTALS OF NANOSTRUCTURED MATERIALS. OPPORTUNITIES AND PROBLEMS**

*R. A. Andrievsky*

*ISBN 978-5-9963-0622-0*

*252 pp., hardcover*

*145 x 215 mm*

*2012*

The book describes the current trends of nanostructured materials science and unsolved problems in this area. The author systematized many data on the impact of size effects and the interfaces on the physical, physical-chemical and mechanical properties of nanomaterials, summarized and analyzed the thermal, radiation, deformation and corrosion stability data. A reader would find the most typical nanomaterials features based on titanium, silicon compounds and their alloys.

The book is intended for researchers, teachers, engineers and university students working in the field of nanotechnology and nanomaterials.



## **FUNDAMENTALS OF NANOTECHNOLOGY : TEXTBOOK**

*N. T. Kuznetsov, V. M. Novotortsev, V. A. Zhabrev, V. I. Margolin*

*ISBN 978-5-9963-0853-8*

*397 pp., hardcover*

*190 x 170 mm*

**2014**

The authors of the textbook present the general ideas of nanotechnology and its conceptual problems. They affect self-organization and synergetic matters in the nanoworld and analyze possibilities of nanometrology. Specific features and nanoworld problems are considered.

The book is intended for undergraduate and graduate students, technical workers and scientists, as well as for all who are interested in problems of modern science.



## INNOVATIVE NANOCLUSTERS

*G. L. Azoev*

*ISBN 978-5-9963-0739-5*

*296 pp., hardcover*

*165 x 235 mm*

*2011*

For the first time the book introduces to readers a phenomenon of innovation clusters in the world and Russian nanotechnology industry. A reader will find the following information: why and how nanotechnological clusters are formed, how they are managed, what are the perspectives for Russia in this field. . The book summarizes the global and local experience, highlights the failures and

achievements, provides the ways of solving actual problems of nanotechnology clusters in Russia.

The book has been prepared within the Project of the Russian Ministry of Education and Science and is intended for developers and manufacturers of nanoproducts, the participants of innovative projects, teachers and students of nanotechnological and economic institutions. It will be useful for a wide range of managers.



## INORGANIC NANOMATERIALS: A TEXTBOOK

*E. G. Rakov*

*ISBN 978-5-9963-0625-1*

*477 pp., hardcover*

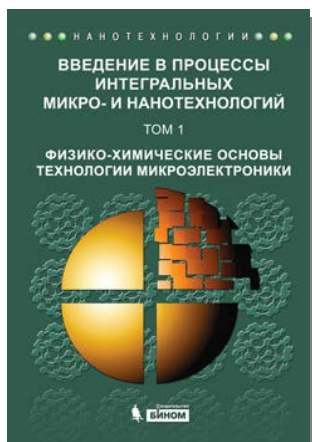
*145 x 215 mm*

*2013*

*Series "Nanotechnology"*

The study guide describes inorganic nanomaterials' properties and applications. Special attention is paid to nanoscience and nanotechnology terminology. The reader would find the information on unusual, atypical substances, materials and methods of their obtaining which helps him to develop his own ideas.

The book is intended for students specializing in the field of nanotechnology and nanomaterials, as well as for teachers.



## INTRODUCTION IN PROCESSES OF INTEGRATED MICRO- AND NANOTECHNOLOGIES. 2-VOLUME SET

*J. N. Korkishko (ed.)*

*ISBN 978-5-9963-0341-0*

*ISBN 978-5-9963-0335-9 (V. 1)*

*ISBN 978-5-9963-0336-6 (V. 2)*

*145 x 215 mm, hardcover*

*2010*

The book presents physical and chemical bases of microelectronics technology. Technological processes classification is described. Criteria defining the character of their course and quality of products are formulated. Special attention

is given to the processes of epitaxy, thin films obtaining, welding and soldering, machining and clearing of materials surface, as well as alloying, modifying and a photolithography.

Mechanisms of electric fields and radiations influence on some of these processes are reviewed. Division of the book into 2 volumes is caused by large content, at the same time each volume has its separate significance.

The book is intended for the students studying technology of microelectronics and radio engineering microelectronic devices, post-graduate students and specialists.



## METHODS OF COMPACTION AND CONSOLIDATION OF NANOSTRUCTURED MATERIALS AND PRODUCTS: A TUTORIAL

*O. L. Hasanov [et al.]*

*ISBN 978-5-9963-0844-6*

*269 pp., hardcover*

*2013*

*145 x 215 mm*

*Series "Nanotechnology"*

The authors describe the basic methods of compaction and consolidation of powdered nanomaterials for making products. The most of them are dedicated to bulk nanostructured materials and ceramic items with constructional and functional purposes. The reader would find detailed information about method

of powders ultrasonic compaction, constructions of collector pressed forms for various geometric shapes powder products production. The characteristics of the stress-strain state and the rheological properties of compacted powder materials are described.

The book is intended for students specializing in the field of materials science, as well as technology specialists.





**METHODS OF OBTAINING AND RESEARCH OF NANOMATERIALS AND NANOSTRUCTURES. LABORATORY WORKSHOP ON NANOTECHNOLOGY: A TRAINING MANUAL, 2<sup>ND</sup> ED.**

*E. D. Mishina [etc.], ed. A. S. Sigov*

ISBN 978-5-9963-0617-6

184 pp., hardcover

145 x 215 mm

2013

Series "The Textbook for Higher School"

The author represents the descriptions of the laboratory works for students in the fields of "Nanotechnology in Electronics" and "Quantum Electronics". In the course of work the students will study some methods of nanoparticles and nanocomposites obtaining, will acquire the skills to work with nanometer-sized objects and possess modern physicochemical methods of research. Each series of works is preceded by theoretical introduction, which can play the role of a brief lecture notes.

The book is intended for students, graduate students, teachers of classical, pedagogical and technological universities as well as for professionals working on the problems of development and application of nanotechnology.



**MODELING OF 3D NANO CIRCUIT ENGINEERING**

*N. K. Trubochkina*

ISBN 978-5-9963-0291-8

499 pp., hardcover

165 x 235 mm

2012

The book presents the basic concepts of the theory of transition circuitry required for the development of new element basis of various types of supercomputers. The theory of transition circuitry features the new component concept of nanostructures synthesis, in which material and transition (connection) between the materials are used as a minimum component for the synthesis of circuits. A reader would find data of experimental 2D and 3D modeling of physical and electric processes in silicon transition nanostructures with a minimum topological size of 10-20 nm and a comparative analysis of four types of circuitry. The book can be recommended for researchers, graduate students and engineers specializing in the development of element base of supercomputers and alternative computing systems.





## **NANOBIOTECHNOLOGY: MANUAL**

*A.B. Rubin (Ed.)*

*ISBN 978-5-9963-0627-5*

*384 pp., hardcover*

*145 x 215 mm*

*2012*

This manual on the course "Nanobiotechnology" was created by the Chair of Biophysics and Bioengineering (the Biological Faculty of the Lomonosov Moscow State University). It includes description of modern instruments (atomic force microscopy, confocal microscopy, laser interference microscopy, Raman spectroscopy and EPR) and modeling techniques, as well as laboratory work cycle devoted to the use of nanostructures (quantum dots, colloidal particles, liposomes).



## **NANOELECTRONICS: A MANUAL, 2<sup>nd</sup> ED.**

*A. A. Schuka*

*ISBN 978-5-9963-0735-7*

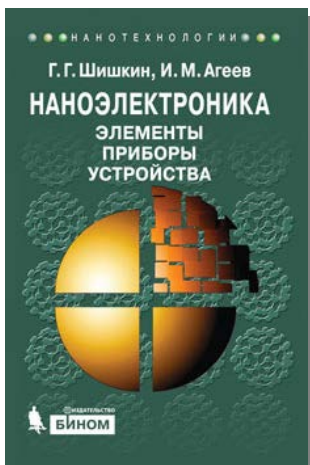
*342 pp.*

*145 x 215 mm, hardcover*

*2012*

The book includes description of the main directions in modern electronics development, which uses the physical effects occurring in nanostructures. The author analyzes the transition from micro- to nanoelectronic devices, presents descriptions of nanotechnology processes, elements, nanoelectronic devices and new materials, which are closely related to the priority area of nanoscience and nanotechnology development.

The book is intended for students, as well as for graduate students and researchers specializing in the field of nanoelectronics and nanotechnology.



## NANOELECTRONICS. ELEMENTS, DEVICES: MANUAL

*Shishkin G.G.*

*ISBN 978-5-9963-0638-1*

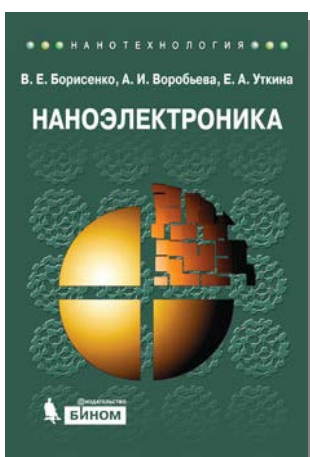
*408 pp., hardcover*

*145 x 215 mm*

*2011*

The manual describes physical and technological bases of nanoelectronics, including its functioning principles and characteristics of nanoelectronics devices on the basis of quantum-dimensional structures: resonance-tunnel, one-electronic and spintronic devices. Features of quantum computers, electronic devices on superconductors and nanobioelectronic devices are considered. Each chapter is supplied by testing questions and tasks for self-preparation.

The manual is intended for students of technical colleges, post-graduate students, teachers and practical experts in the field of electronics.



## NANOELECTRONICS: THE MANUAL

*V. E. Borisenko, A. I. Vorobyeva, E. A. Utkin*

*ISBN 978-5-94774-914-4*

*223 pp.*

*145 x 215 mm, hardcover*

*2009*

The manual deals with the fundamental physical effects taking place in nanostructures due to their lowered regularity. Classification of low denominated structures is given. The book describes approaches, that allow to form such structures in semiconductors, and also modern methods of their research. Features of charge carriers transport in nanodenominated structures are

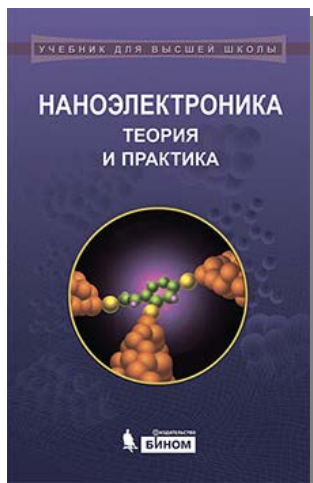
discussed.

The manual will be helpful for students.

**Victor E. Borisenko** Professor, Doctor of Physical and Mathematical Sciences, the prorector on study of the Belarusian State University of Informatics and Radioelectronics. The author of more than 300 scientific articles and 5 books.

**Alla I. Vorobyeva** Ph. D. in Engineering, the scientific employee of the Belarusian State University of Informatics and Radioelectronics. The author of more than 100 scientific works, including 23 copyright certificates on inventions, 3 manuals and 60 scientific articles in domestic and foreign editions.

**Elena A. Utkina** Ph. D. in Engineering, the senior scientific employee of the Belarusian State University of Informatics and Radioelectronics. The author of more than 60 scientific publications, including 2 manuals and more than 30 scientific articles.



## **NANOELECTRONICS: THEORY AND PRACTICE: A TEXTBOOK, 2<sup>ND</sup> ED.**

*V. E. Borisenko, A. I. Vorobyeva, A. L. Danyluk, E. A. Utkina*

*ISBN 978-5-9963-1015-9*

*366 pp., hardcover*

*145 x 215 mm*

*2013*

*Series "Textbook for Higher School"*

The authors examine fundamental physical effects and electronic processes that are typical for nanoscale structures. The principles of operation and types of nanoelectronic devices for information processing are described. The textbook includes information on nanotechnological approaches which enable to create nanoelectronics device structures and spintronics. Along with the updated and

expanded theoretical material of the previous edition this textbook presents practical problems and test questions for self checking.

The book is intended for students, undergraduate and graduate students in the field of modern electronics and nanotechnologies.

**Victor E. Borisenko** Professor, Doctor of Physical and Mathematical Sciences, the prorector on study of the Belarusian State University of Informatics and Radioelectronics. The author of more than 300 scientific articles and 5 books.

**Alla I. Vorobyeva** Ph. D. in Engineering, the scientific employee of the Belarusian State University of Informatics and Radioelectronics. The author of more than 100 scientific works, including 23 copyright certificates on inventions, 3 manuals and 60 scientific articles in domestic and foreign editions.

**Elena A. Utkina** Ph. D. in Engineering, the senior scientific employee of the Belarusian State University of Informatics and Radioelectronics. The author of more than 60 scientific publications, including 2 manuals and more than 30 scientific articles.



## **THE NANOMARKET: FROM NANOTECHNOLOGIES TO NANOPRODUCTS**

*G. L. Azoeva (Ed.)*

*ISBN 978-5-9963-0421-9*

*319 pp., hardcover*

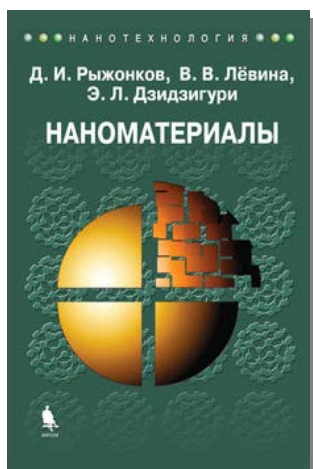
*165 x 235 mm*

*2011*

The book presents systematized description of the world and Russian nanomarket. The book forms a complex vision of the market, its threats and abilities, the knowledge about strategy and nanoindustry mechanisms implementation. The factual base is founded on the information from the world

consulting and analytical companies and field marketing researches of Russian nanoindustry.

The book is intended for employees of the scientific and industrial organizations developing and producing nanoproducts, teachers, students and post-graduate students of higher schools and other participants of nanotechnology network.



## **NANOMATERIALS, 2<sup>nd</sup> ED.**

*D. I. Ryzhonkov, V. V. Levin, E. L. Dzidziguri*

*ISBN 978-5-9963-0345-8*

*365 pp., hardcover*

*145 x 215 mm*

*2010*

The purpose of this manual is to describe various methods of obtaining superdispersed (nano-) materials: mechanical, physical, chemical, biological. Modern concepts of electric, magnetic, thermal, optical, diffusion, chemical and mechanical properties of nanomaterials are systematized. Dependence of these properties on nanoparticles' material structure and geometrical sizes are highlighted. Considerable attention is given to nanomaterials storage and

transportation.

The book is intended for graduate and post-graduate students and teachers.

**Dmitry I. Ryzhonkov** Professor of the National University of Science and Technology, Doctor of the Engineering Sciences.

**Vera V. Levina** Professor of the National University of Science and Technology, Doctor of Engineering Sciences, the winner of the State Award of the Russian Federation.

**Ella L. Dzidziguri** The senior scientific employee of the National University of Science and Technology, Ph.D. in Engineering Sciences. Area of scientific interests: x-ray diffractometry methods, including for nanomaterials structure and properties studying.



## **NANOTECHNOLOGY MATERIALS AND METHODS: MANUAL, 2<sup>nd</sup> ED.**

*V. V. Starostin*

*ISBN 978-5-9963-0346-5*

*431 pp.*

*145 x 215 mm, hardcover*

*2010*

The book introduces the basic knowledge about nanotechnology and nanoobjects, nanoparticle prominent features and properties. Considerable attention is given to functional and constructional materials (fullerene, carbon nanotube, Langmuir molecular films) and their application, and also to nanoparticle and ordered nanostructures obtaining methods. A reader would learn about the results of

artificial nanoformation, probe nanotechnology methods, beam and other new lithographie methods.

The book is intended for graduate and post-graduate students of the higher educational institutions specializing in nanotechnology.

**Victor V. Starostin** Ph. D. in Engineering, the senior lecturer of the Moscow State Institute of Radiotechnics, Electronics and Automation. The author of 65 scientific and methodical works.



## **NANOWORLD WITHOUT FORMULAE**

*Yu. I. Golovin*

*ISBN 978-5-9963-0292-5*

*543 pp., hardcover*

*165 x 235 mm*

*2012*

The book describes the basic ideas and principles of nanoscience and nanotechnology in a way that is understandable for pupils, students, teachers, engineers and technical workers of related sectors, representatives of social and humanitarian professions who in the near future may run into nanotechnology in their subject areas or at the household level.

The author systematizes nanoobjects, methods of their obtaining and researching, describes the major directions of nanostructures science development and the most important spheres of nanoproducts application: electronics, aerospace engineering, medicine and health, defense and national security, and consumer goods. Ethical issues and socio-economic impacts of the nanorevolution are discussed.



## NONLINEAR EFFECTS IN NANO- AND MICROHETEROGENEOUS SYSTEMS

*S.A. Gridnev, Yu. E. Kalinin, A. V. Sitnikov, O.V. Stogniy*

*ISBN 978-5-9963-0294-9*

*448 pp., hardcover*

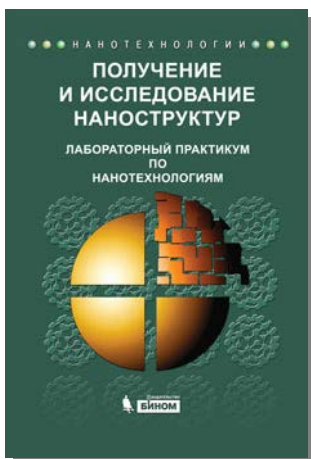
*145 x 215 mm*

*2011*

The research of nonlinear phenomena in multicomponent heterogeneous systems, which exist in amorphous, nano- and microcrystalline states, helps to ascertain the physical nature of many phenomena occurring in them and improve existing theoretical propositions. It also helps to develop new materials which possess unique physical properties. In order to solve these problems successfully

it is very important to know the features of the atoms spatial arrangement in the amorphous, nano- and microcrystalline solids and multicomponent heterogeneous systems, the basic mechanisms of electron transport in heterogeneous metal-insulator transition and formation mechanisms of magnetic anisotropy in a ferromagnet-dielectric nanocomposites, magnetoelectric phenomena in ferromagnetic-piezoelectric systems. The above features are discussed in this book.

The book is intended for professionals in the fields of chemistry, physics and materials science.



## OBTAINING AND RESEARCH OF NANOSTRUCTURES

*A. A. Evdokimov [etc.]; A. S. Sigov (ed.)*

*ISBN 978-5-9963-0228-4*

*146 pp., hardcover*

*145 x 215 mm*

*2010*

The book presents laboratory works descriptions for students (specialty "Nanotechnology in Electronics"). While performing these works students will get acquainted with some nanoparticles and nanocomposites reception methods, get skills of work with nanometre objects and acquire modern physical and chemical research methods. Each cycle of works is supplied with introduction which can be

considered as lectures summary.

The book is intended for graduate and post-graduate students, teachers of classical, pedagogical and technological universities, and also a wide range of the experts working in the field of nanotechnology.





## PHYSICAL BASICS OF SILICON NANO-ELECTRONICS

*G. I. Zebrev*

*ISBN 978-5-9963-0181-2*

*240 pp., hardcover*

*145 x 215 mm*

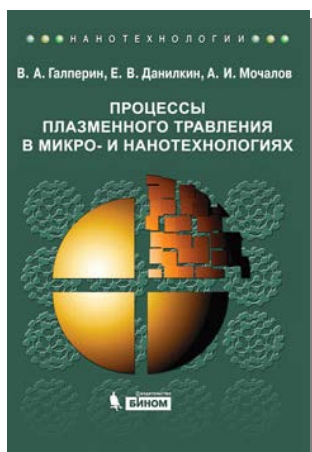
*2010*

The textbook deals with silicon nanoelectronics, which is interpreted as CMOS-based digital electronics with sub-100 nm nodes.

The following aspects are described in detail: elementary basics of quantum mechanics, physical kinetics and carrier transport; general trends of modern nanoelectronics (Moore's Law, scaling principles and its physical limits, heat

production and trade-offs of miniaturization); electrostatics of MOS structure; basic models of I-V characteristics; carrier transport in channels, mobility, short- and narrow channel effects, DIBL, etc.; strong electric field effects in the FET channel including hot electron and impact ionization; original physics-based diffusion-drift model based on analytical solution of current continuity equation and capable to describe I-V characteristics of MOSFET in all operation regimes in a unifying manner and many others.

The book is intended for pre- and postgraduate students, as well as for practicing engineers involved in research in electronics industry.



## PROCESSES OF PLASMA ETCHING IN MICRO- AND NANOTECHNOLOGIES

*V. A. Galperin, E. V. Danilkin, A. I. Mochalov; W. P. Timoshenkov (ed.)*

*ISBN 978-5-9963-0032-7*

*300 pp., hardcover*

*145 x 215 mm*

*2010*

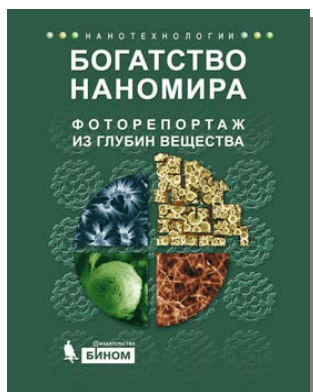
In the light of currently known nanotechnologies and micromechanics processes and systems of the vacuum-plasma etching, which find wide application in manufacture of modern superlarge integrated schemes, products of microelectromechanical systems and nanosystems are considered. Analysis of ways of meeting vacuum-technical requirements to such processes, description of

control and diagnostic methods are provided. The book is intended for students of the higher schools studying processes of micro- and nanoelectronics, post-graduate students, engineers and the scientists occupied in the technology of integrated schemes and micromechanics.

**Alexey I. Mochalov**

Doctor of Engineering Sciences, Professor of the Moscow Institute of Electronic Technology.





## **RICHNESS OF THE NANO-WORLD.**

### **PHOTO-REPORT FROM THE DEPTHS OF MATTER**

*Yu. D. Tretyakov (ed.)*

*ISBN 978-5-9963-0108-9*

*176 pp., hardcover*

*170 x 215 mm*

*2009*

This book presents a unique collection of scientific photographs obtained by various methods such as optical microscopy, scanning and transmission electron microscopy as well as scanning probe microscopy.

The book consists of 10 topics and contains more than 200 color and black-and-white photographs. Every topic of the book is preceded by a short introduction written in a popular manner which gives a general idea of the properties of each type of the materials. Photos and their descriptions illustrate various aspects of synthesis and structural features of inorganic substances.

Selection of material, captions and popular descriptions accompanying photographs will make it interesting for readers with different levels of knowledge such as researchers working in fields of chemistry, physics and matter science but also for everyone interested in nanotechnology.



## **SMALL OBJECTS — BIG IDEAS.**

### **A BROAD VIEW OF NANOTECHNOLOGY**

*Ehrlich G. V.*

*ISBN 978-5-9963-0522-3*

*254 pp., hardcover*

*165 x 235 mm*

*2011*

The purpose of this book is to give knowledge, inspire hope and dispel doubt. Let's look at nanotechnologies without preconception and we will see that they are nothing more than a new synthetic knowledge-based discipline, which unifies physical, chemical and biological knowledge. Let's look at the world around and

inside us and see many nanoobjects that constitute the material basis of life. We will visit the industry enterprises and discover a variety of nanotechnologies. Finally we will look into the future and imagine how nanotechnology can change our lives.

This science fiction book is intended for a wide range of readers who are interested in the problems of modern science and think about the future, including students of higher schools who will be the builders of this future world — the world of nanotechnology.



## THE SOL-GEL TECHNOLOGIES. NANO-DISPERSED SILICA

*N. A. Shabanova, P. D. Sarkisov*

*ISBN 978-5-9963-0521-6*

*328 pp., hardcover*

*145 x 215 mm*

*2012*

This monograph summarizes the research and practical experience in the field of chemistry and technology of nanosized silica in Russian and world practice. Authors' attention is directed to colloid-chemical basis of the sol-gel technology of hybrid organic-inorganic nanoparticles and porous materials synthesis, particles with hollow structure synthesis, etc. The authors present the analysis of different options of the sol-gel process accounting for the reactivity of silica, modern

theories of phase formation and aggregation stability of disperse systems. A reader would find formulation and main technological parameters of the sol-gel synthesis of functional nanomaterials with different parameters of composition, dispersion, porosity, structure and morphology.

The book is intended for a wide range of researchers, specialists from different industries, graduate students involved in the synthesis of nanosystems.



## **BALLISTICS AND HOMING OF FLYING VEHICLES**

*Sikharulidze Yu.G.*

*ISBN 978-5-9963-0531-5*

*407 pp., hardcover*

*165 x 235 mm*

*2011*

The book contains classical and new actual problems of the theory of aircrafts flight, including carrier rockets and space vehicles, descent vehicles, ballistic missiles and their heads, interplanetary devices, reusable space transport systems, aviation-rocket complexes of air start, etc. It describes communication of optimum laws of ballistics modeling problems management with real algorithms of

homing in control systems of flying machines. Terminal algorithms of homing for various phases of a trajectory are considered in detail. A reader would find principles of robust homing algorithms construction, capable to adapt for actual flight conditions.

The book is intended for post-graduate students and students of corresponding specialties, experts in the field of ballistics and running of flying vehicles.



## **EQUIPMENT AND SOFTWARE CONTROL SYSTEMS. INDUSTRIAL NETWORKS AND CONTROLLERS**

*V. V. Kangin, V. N. Kozlov*

*ISBN 978-5-94774-908-3*

*418 pp.*

*145 x 215 mm*

*2010*

The book deals with the issues of computerized distributed technological processes' control systems organization: basic industrial networks architecture, components of human-machine interface, types of workstations and operating controllers. Comparative estimation of controllers from their economic and

operational characteristics point of view is given. Much attention is given to the industrial controllers programming issues.

The book is intended for university graduate students. It will also be useful for the engineers working in the field of technological processes automation.

**Vladimir V. Kangin** Doctor of Engineering Sciences, Professor of the Arzamas Polytechnical Institute (branch of the Nizhny Novgorod State Technical University). The author of more than 250 published scientific works, 2 monographs, 20 manuals.

**Vladimir N. Kozlov** Doctor of Engineering Sciences, Professor of the St.-Petersburg State Polytechnical University, the Academician of the International Academy of Sciences of the Higher School and the Russian Academy of Natural Sciences. The author of more than 180 proceedings and 20 monographies.



#### **MICROELECTRONIC INSTRUMENT TRANSFORMATORS: A TUTORIAL**

*V. B. Topilsky*

*ISBN 978-5-9963-0635-0*

*493 pp. hardcover*

*165 x 235 mm*

*2012*

The manual describes the complex of issues related to analog and analog-digital circuitry information-measuring systems (IMS) and management systems. A reader would find a detailed description of the components of such systems (microelectronic sensors, signal amplifiers, analog-digital converters and display units).

The book is intended for students, teachers of relevant disciplines, specialists involved in the development and operation of IMS for various purposes.



#### **THE PROBLEMS SOLVING ON MATERIALS RESISTANCE, 3<sup>rd</sup> ED.**

*E. A. Bulanov*

*ISBN 978-5-9963-0155-3*

*215 pp.*

*145 x 215 mm, hardcover*

*2010*

The manual contains theoretical data and detailed problems solving on the basic types of materials resistance, and also problems for the independent solving with answers.

The manual is intended for students.



## **RADIATION EFFECTS IN SILICON INTEGRATED CIRCUITS FOR SPACE APPLICATION**

*K. I. Tapero, V. N. Ulimov, A. M. Chlenov*

*ISBN 978-5-9963-0633-6*

*304 pp.*

*145 x 215 mm, hardcover*

*2012*

The book analyzes the impact of ionizing radiation (IR), mainly of outer space, on micro- and nanoelectronics products' characteristics. The authors consider the basics of the IR-semiconductors interactions physics, the change of device structures electrophysical parameters due to the formation of nanoscale defects under the IR action; ionizing dose effects in the structure of Si/SiO<sub>2</sub> and their

influence on the devices and circuits characteristics, single events in the products of micro- and nanoelectronics under the influence of individual charged particles, etc.

The book is intended for technical professionals working in the field of electronics, as well as undergraduate and graduate students.

# ECONOMICS AND MANAGEMENT



## APPLIED ECONOMICS

*B. A. Rajzberg*

ISBN 978-5-9963-0299-4

318 pp.

170 x 260 mm

2010

The manual presents the basic knowledge of applied economics. It deals with economical and practical achievements, changes and reforms in the world and Russian economy, the reasons of crisis situations occurrence, changes of scientific views on economic objects, processes, relations. The book is intended for the students studying economy and finance, for persons getting the second education in economy, and also for those who study applied economics and

finance by themselves.

**Boris A. Rajzberg** Doctor of Economics, Doctor of Technical Science, Professor. The author of many textbooks, manuals, the dictionaries published in total circulation more of one million of copies.



## BASES OF PROJECTS MANAGEMENT, 2<sup>nd</sup> ED.

*M. N. Grashina*

ISBN 978-5-9963-0295-6

237 pp., hardcover

145 x 215 mm

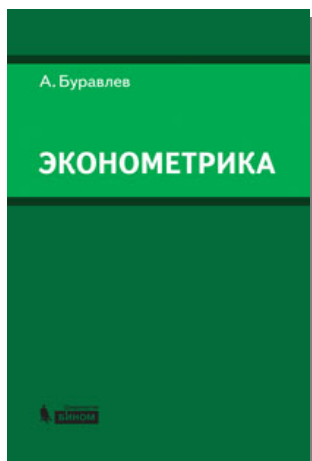
2011

Series "Projects, programs, portfolios"

The president of consulting company PSM Consulting CIS Marina Grashina and guru in the sphere of project management, the developer of the first version of well-known standard PMBOK, director of consulting company Project Management Partners (USA) William Dulkan completely described the basis of

projects management. The reader would find advices of the eminent Russian experts in that field.

For heads of projects, top-managers of the companies, heads of functional divisions, students, post-graduate students and teachers of higher schools.



## ECONOMETRICS: A TUTORIAL

*A. I. Buravlev*

*ISBN 978-5-9963-0741-8*

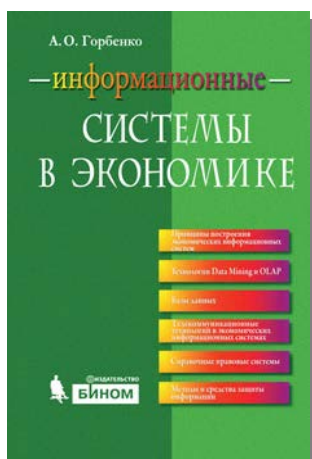
*164 pp., hardcover*

*145 x 215 mm*

*2012*

The tutorial describes the basic concepts of econometrics, methods of econometric models' construction and statistical analysis. It deals with univariate and multivariate linear and nonlinear regression models, dynamic rows, econometric equations systems with multi-temporal factors. The theoretical material is accompanied by examples and questions for self-assessment and tests on each topic given in the appendixes.

The book is intended for students of economic specialties.



## INFORMATION SYSTEMS IN ECONOMY

*A. O. Gorbenko*

*ISBN 978-5-9963-0337-3*

*288 pp., hardcover*

*145 x 215 mm*

*2010*

The manual contains a series of lectures "Information Systems in Economy". The author uses system approach in consideration of current affairs in information technology in economy. The material is devoted to the principles of information systems use in professional economic work; it also describes the tendencies of corresponding software products application in real economic conditions in

different subject domains.

The book is intended for students and teachers of higher schools.

**Andrey O. Gorbenko** Ph.D. in Engineering Sciences, Professor of the Academy of Economic Safety and the G. V. Plehanov Russian Economic Academy. The author (co-author) of more than 90 works in the fields of information systems, computer science and another scientific directions for students.





## ON THE OTHER SIDES OF PROJECTS. NOTES OF THE CONSULTANT

*V. V. Ilyin*

*ISBN 978-5-9963-0180-5*

*376 pp., hardcover*

*145 x 215 mm*

*2011*

The new book of the well known Russian consultant, author of some editions on project management and quality management describes practical aspects of projects' management office organization. The author on the basis of personal experience represents his own variant of project management processes interaction (PMBOK, etc.), quality management processes (ISO 9000) and

purposes management processes (BSC, MBO).

The book is intended for project managers, top-managers and heads of functional divisions.



## PROJECT MANAGEMENT DOCUMENTATION, 2<sup>nd</sup> ED.

*A. S. Kutuzov, A. N. Pavlov, A. V. Shavrin and others*

*ISBN 978-5-9963-0746-3*

*159 pp., hardcover*

*145 x 215 mm*

*2013*

This is the first and unique publication in Russian which contains collection of documents which meet all requirements of a project management company. The book includes examples of templates filling with reference to a number of typical projects. The structure and the maintenance of documents are completely coordinated with PMBOK (the 4th edition) — the latest version of the most popular

world project management standard.

The book was prepared by a group of *PM Expert* managers and employees. *PM Expert* is one of the leading Russian consulting companies in the sphere of project management.

The book is intended for heads of projects, top-managers and heads of functional divisions.



## PROJECT MANAGEMENT IN INFORMATION TECHNOLOGIES

*V. I. Grekul, N. V. Korovkina, Yu. V. Kupriyanov*

ISBN 978-5-9963-1121-7

336 pp., hardcover

165 x 235 mm

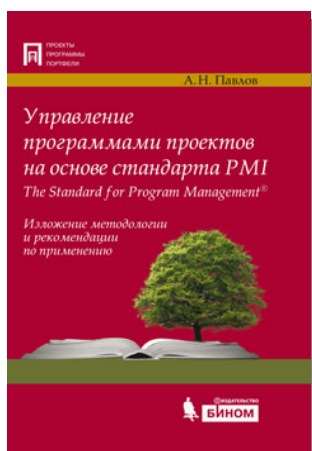
2013

Series "Projects, Programs and Portfolios"

Project management techniques are pretty much universal. However, the scope of the project has a significant impact on the organization of its management. It is especially typical for such specific fields as information technology and systems.

Life cycle model and the hierarchical structures of IT-projects, the memberships of the project teams, the sources of risks and their mitigation techniques, etc. are different and specific.

This book describes the standards and practices of project management for implementation of IT-solutions. The authors present procedures and modern methods of information technology management.



## PROGRAMME MANAGEMENT PROJECTS BASED ON THE STANDARD PMI THE STANDARD FOR PROGRAM MANAGEMENT®: METHODOLOGY AND APPLICATION

*A. N. Pavlov*

ISBN 978-5-9963-0745-6

304 pp., hardcover

145 x 215 mm

2012

This book contains generalization of the author's long-term experience in managing large-scale technology programs and projects, as well as the development of standards and guidelines, participation in many international and

local conferences and symposiums, lectures and training courses in this area. Many professionals will be particularly interested in practical experience and lessons learned during the program management of projects on the basis of the standard PMI The Standard for Program Management®. In addition to the standard presentation the book contains valuable author's comments and recommendations, essentially supplementing and enriching its basic content.

The book is intended for top and middle management, program and project managers and professionals involved in projects, implementing enterprise systems management programs or\and conducting large, complex projects and programs.



**PROJECTS MANAGEMENT ON THE BASIS OF PMI PMBOK<sup>®</sup> STANDARD. METHODOLOGY AND APPLICATION, 3<sup>RD</sup> ED., REV. AND ADD.**

*A. N. Pavlov*

*ISBN 978-5-9963-0930-6*

*271 pp., hardcover*

*145 x 215 mm*

**2014**

The author of the book is the head of "PM Expert" — one of the leading Russian consulting companies in the field of project management. He gives a detailed information about the most known American standard on projects management PMBOK<sup>®</sup> (the fifth and last edition). The book contains valuable author's comments and recommendations essentially supplementing and enriching its basic contents. The Russian-English glossary on project management is included. The book will be useful to project managers, top-managers of companies, heads of functional divisions, students, post-graduate students and teachers of higher schools.



**PROJECT PORTFOLIO MANAGEMENT ON THE STANDARD PMI THE STANDARD FOR PORTFOLIO MANAGEMENT<sup>®</sup>. METHODOLOGY AND REFERENCES ON APPLICATION**

*A. N. Pavlov*

*ISBN 978-5-9963-1645-8*

*214 pp., hardcover*

*145 x 215 mm*

**2013**

The book represents the author's interpretation and vision of the practical use of the PMI The Standard for Portfolio Management<sup>®</sup>, assigned for efficient projects portfolio management. The author provides a detailed description of all 14 processes of portfolio management standards, including the set of inputs, tools, methods and outputs of processes. A reader would find a practical guidance on the most effective use of every process and the real lessons (both positive and negative) learned. Each chapter includes descriptions, analysis and consequences of business cases and problematic situations that have arisen in large portfolios of projects. The book is intended for senior and mid-level managers of projects portfolios and major programs, as well as for professionals involved in the implementation of enterprise portfolio management.



## STRATEGY + FINANCE: BASIC KNOWLEDGE FOR COMPANY EXECUTIVES

*V. P. Savchuk*

ISBN 978-5-9963-0163-8

302 pp.

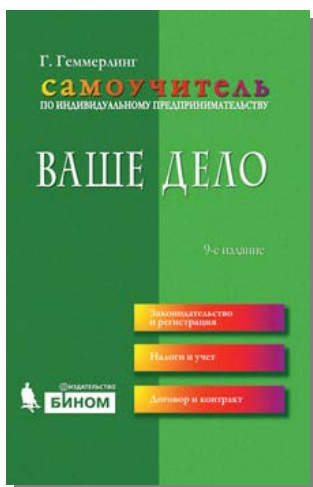
165 x 235 mm, hardcover

2009

The book deals with the business strategic operation connected with an enterprise strategic profile formation, and also with working out and realization of the strategic plan on the basis of the balanced system of indicators. The basic technologies of financial management are presented as means of proprietor strategic targets achievement. The ways of management technologies during the crisis are analyzed. A reader would know how to create the anti-recessionary

measures system to preserve the enterprises productivity. The basic methodical points of the book are illustrated on an example of complex re-structuring of the real domestic enterprise.

The book can be useful to listeners of MBA programs, teachers and students of higher schools.



## YOUR BUSINESS: TEACH-YOURSELF BUSINESS TEXTBOOK, 9<sup>th</sup> ED.

*G. A. Gemmerling*

ISBN 978-5-9963-0323-6

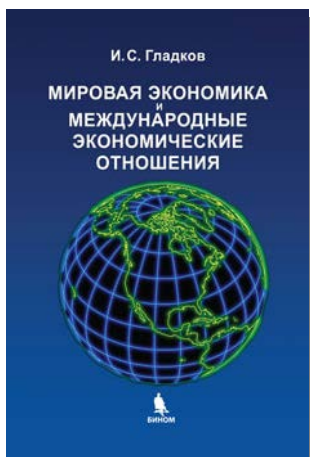
96 pp., hardcover

205 x 260 mm

2010

The book contains the whole scope of initial knowledge and checked up recommendations, which are necessary for any person for foundation and successful conducting his/her own business.

Recommendations given in the book will save individual entrepreneurs from many mistakes which are made very often at the stages of firm registration.



**WORLD ECONOMY AND THE INTERNATIONAL ECONOMIC RELATIONS:  
THE MANUAL, 4<sup>th</sup> ED.**

*I. S. Gladkov*

*ISBN 978-5-94774-388-3*

*341 pp.*

*145 x 215 mm, hardcover*

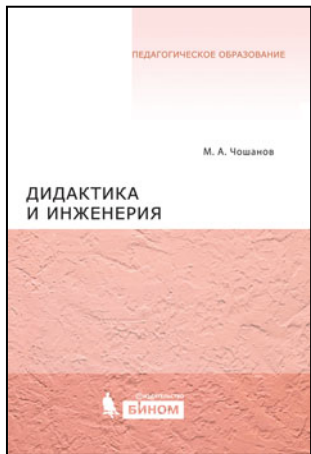
*2009*

The manual contains actual and statistical data of all basic sections of the integrated course "World economy".

The manual would be interested for the students trained on economic and legal specialties in higher educational institutions, and for everyone interested the international economic issues.

# PEDAGOGICS

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## DIDACTICS AND ENGINEERING

*M. A. Choshanov*

*ISBN 978-5-9963-0263-5*

*248 pp., hardcover*

*145 x 215 mm, hardcover*

*2010*

The reader will find answers to the questions: why during the informatiozation of education epoch the problem of didactics and engineering integration becomes so important? What is didactics engineering, how to project training technologies, how to teach efficiently? The author uses his practical experience on using didactic engineering while teaching his students methods of teaching mathematics

at the Texas University (USA).

The book is addressed to school teachers and students of pedagogical universities, and also everyone who is interested in problems of teaching technologies projecting.



## ENGINEERING OF LEARNING TECHNOLOGIES

*M. A. Choshanov*

*ISBN 978-5-9963-0264-2*

*239 pp., hardcover*

*145 x 215 mm*

*2011*

The book is a continuation of the authors' work "Didactics and Engineering". Special attention is given to the tools of didactic engineering, namely taxonomy of learning purposes, engineering of knowledge and methods of cognitive visualization, designing of educational tasks and didactic situations, as well as desingning of education control system. The author draws on his experience of

didactic engineering implementation at the Texas University of El Paso (USA).

The book is intended for school teachers and students of pedagogical universities, and also everyone who is interested in learning technologies design.



## ESSAY OF HEURISTIC PSYCHOLOGY

*A. N. Louk*

*ISBN 978-5-9963-0197-3*

*228 pp., hardcover*

*145 x 215 mm*

*2011*

The author of the book is a remarkable popularizer of psychology. His personal and professional experience has been reflected in the book. It is the result of thorough observations, experiments, thoughts of the author, based on the ideas, works, finds of past and present psychologists and doctors. This book has been written several decades ago, but each teacher, each thinking parent and also each student would find psychological data in the bright, easily perceived form. The issues which are considered in the book are very urgent nowadays.



## HOW TO TEACH PHYSICS AT SCHOOL

*J. A. Samonenko*

*ISBN 978-5-9963-0612-1*

*285 pp. hardcover*

*145 x 215 mm*

*2011*

The manual describes issues on psychology of training, general didactics and methodology of school physics teaching. The author analyzes the reasons of hardships which pupils have in mastering physics and presents the ways of their overcoming. The ways of strengthening children learning motivation are discussed.

For schools teachers, teachers of extracurricular education, school textbooks authors.





### **LEARN TO SPEAK PUBLICLY, 4<sup>TH</sup> ED.**

*V. V. Shakhidzhanyan*

*ISBN 978-5-9963-1696-0*

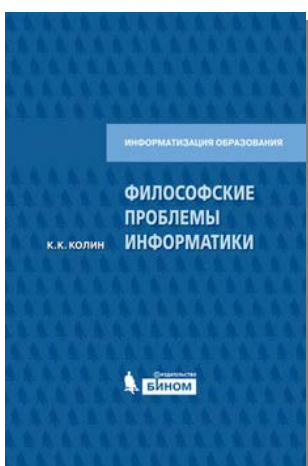
*477 pp., hardcover*

*195 x 251 mm*

*2013*

The book summarizes the creative experience of the famous Russian psychologist and journalist Vladimir Shakhidzhanyan. His course of lessons helps readers to speak easily and freely in front of any audience, to carry on a dialogue, to formulate their thoughts.

The book is intended for a wide range of readers.



### **PHILOSOPHICAL PROBLEMS OF INFORMATICS**

*K. K. Kolin*

*ISBN 978-5-9963-0347-2*

*264 pp., hardcover*

*145 x 215 mm*

*2010*

The book addresses the history of Informatics' origin and development, evolution of its subject area, modern philosophical and scientific methodological aspects as well as prospects Informatics' development as an independent branch of science.

The book is intended for teachers and students of higher educational institutions, as well as for readers interested in modern science current state, problems and

prospects of development.



### **STEPS TO CREATIVITY, 2<sup>nd</sup> ED., REV. AND ADD.**

*A. A. Melik-Pashayev, Z. N. Novlyanskaya*

*ISBN 978-5-9963-0749-4*

*159 pp., hardcover*

*2012*

The book is devoted to the overall aesthetic development of children, as well as the issue of their art-graphic and literary abilities development.

The system of creative tasks suggested by the authors will allow parents in a captivating and playful way to develop the child's observation, artistic imagination and to help to awaken his/her aesthetic attitude to reality.

The book is intended for parents and children's psychologists.



## THE BASICS OF PSYCHOLOGICAL AND PEDAGOGICAL TEACHING OF MATHS. THE THEORY, THE TECHNIQUE, THE PRACTICE

*O. S. Medvedeva*

*ISBN 978-5-9963-0497-4*

*204 pp., hardcover*

*145 x 215 mm*

*2011*

The book describes the possibility of using psychological and pedagogical knowledge for mathematical education improvement. The book is intended for teaching methods specialists, teachers and students of teacher training universities.



## UNSUCCESSFUL TALENTED SCHOOLCHILDREN

*E. I. Shcheblanova*

*ISBN 978-5-9963-0195-9*

*245 pp., hardcover*

*145 x 215 mm*

*2011*

Almost every teacher deals with talented children. Such children are high pleasure and high headache for the teacher. These children with their talents and singularities enter the group of psychological-pedagogical risk. This child can have admiring abilities, lag behind co-students in something or have difficult character. The mission of teachers and psychologists who should work in close cooperation, is to reveal efficiently such child and help him to open his talents, and develop

social skills.

More than 20 years the author has been engaged in revealing and developing talents of children in the well-known gymnasium "Sozvezdie", whose credo is not to select bright children, but to develop in the course of training their talents as much as possible. For this reason the book is full of optimism and will be interesting to every fascinated teacher.

# NON-FICTION

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## FASCINATING NANOTECHNOLOGIES

*M. M. Alfimova*

*ISBN 978-5-9963-0394-6*

*96 pp., hardcover*

*165 x 235 mm*

*2011*

The book contains a description of three basic nanotechnology directions: new materials, nanoelectronic devices, biotechnologies. Readers would learn: what do nanotechnologies mean, which devices are required for creation of nanothings and how these things will look like. The text is supplied by qualitative illustrations, puzzles and tests.

The book is addressed to secondary school students.



## FUTUROLOGY. XXI CENTURY: IMMORTALITY OR GLOBAL CATASTROPHE

*M. Batin, A. Turchin*

*ISBN 978-5-9963-1019-7*

*264 pp., hardcover*

*215 x 290 mm*

*2012*

Futurology studies the probability of various scenarios of the future of humanity, based on historical patterns, social trends and technological advances. In response to the rapid technological advances the main dilemma of the future - physical immortality of humans or global catastrophe springs up. The choice

between these pathways might happen in this century. Each of us is responsible for the particular scenario to be developed in the course of the humanity history.

The purpose of this book is to impel the reader to act towards the positive future scenario development. The authors believe that in order to reach this goal it is crucial to understand the prospects, opportunities and risks for civilization and each individual. The authors hope that the readers will come to recognize the need for practical steps towards life extension and prevention of a global catastrophe. The book shows some real practical steps which are possible now, and offers various options for action.

**Alexei Turchin** is the expert of Russian Transhumanist Movement on global risks, the author of "The Structure of Global Catastrophe", "War and 25 other Doomsday Scenarios" as well as a number of articles on the impact of new technologies on the survival of human civilization.

**Mikhail Batin** is the Founder and President of the Science for Life Extension Foundation, member of the Advisory Council at the Buck Institute for Research on Aging, Gerontological Society of the Russian Academy of

Sciences, the author of "Cures for Aging" book and a number of articles on the mechanisms of aging and the development of methods to substantially extend lifespan as well as the author of a popular blog "Humanity +".



### **A HALF-DEAD CAT, OR NANOTECHNOLOGY THREAT**

*Taranenko S. B., Balyakin A. A., Ivanov K. V.*

*ISBN 978-5-9963-1516-1*

*248 pp., hardcover*

*145 x 215 mm*

*2013*

The authors in an easy and relaxed form explain very difficult and serious things about the risks of nanotechnology. Grey goo and fighting nanorobots are all things which the average consumer knows about the threats connected with nanotechnology. But this is only a drop in the ocean.

There is a large difference between the world of nano and the world of micro, because it is very difficult to understand the nature of threats emanated from nanoworld. But this understanding allows us to get control over nanotechnologies, to learn how to handle nanomaterials safely, to control the distribution of nanoproducts, to prevent detriment of ourselves and the environment by the scientific and technological progress results.

The book is intended for a wide range of readers.



### **LEARN NANOWORLD: SIMPLE EXPERIMENTS: A TUTORIAL**

*V. A. Ozeryansky, M. E. Kletsky, O. N. Burov*

*ISBN 978-5-9963-1108-8*

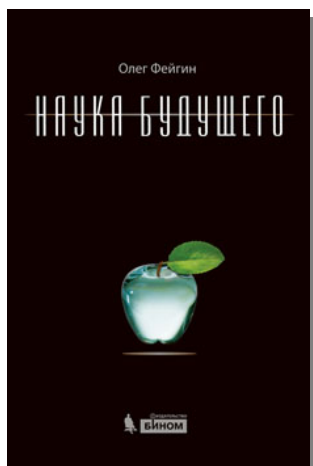
*142 pp., hardcover*

*165 x 235 mm*

*2012*

The training manual, written by scientists of Southern Federal University staff, provides a brief history of nanotechnology and 14 original design works, illustrating the major concepts of nanotechnology.

The book is intended for pupils, teachers, students, as well as for anyone interested in nanotechnology.



## SCIENCE OF THE FUTURE

*O. O. Feigin*

*ISBN 978-5-9963-1073-9*

*248 pp., hardcover*

*145 x 215 mm*

*2013*

How was our world born, and what is its future? Are there other worlds and other dimensions? What are life and intellect and how did they come to our planet? Is it possible to create an artificial intellect and what will it create? What secrets does the Earth's hydrosphere keep? What is the connection between sunspots and ionospheric storms? How is it possible to teleport information and to make the quantum decoder?

The author of the book O. Feigin, academician of the Ukrainian Academy of Sciences, a brilliant popularizer of science, examines these and similar questions in the light of recent developments in the area of astronomy, physics, chemistry and biology. Recent natural sciences news such as the string theory, dark matter and origin of life are discussed.

The book is intended for anyone interested in the problems of modern science.



## SECRET TECHNOLOGY. BIOSPHERE AND GEOSPHERE WEAPONS

*V. L. Pravdivtsev*

*ISBN 978-5-9963-0750-0*

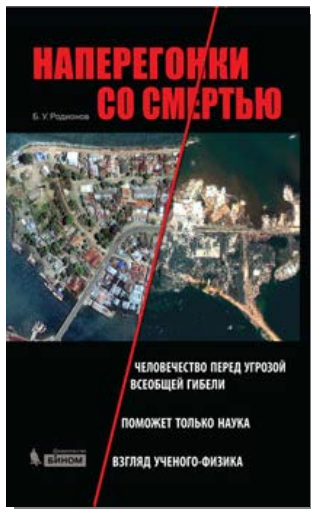
*335 pp., hardcover*

*145 x 215 mm*

*2012*

Features of the ionospheric (and climate) weapons are enormous and exceed everything that has been created by mankind so far in the field of armaments. They can destroy entire countries and continents, influence the global economy, geological (tectonic) processes and even the human mind. It is necessary for scientists to develop a fundamentally new means of defense and resistance.

And it's not a science fiction, ionospheric (and climate) weapons — are the reality and the near future!



## RACING WITH DEATH

*B. U. Rodionov*

*ISBN 978-5-9963-0564-3*

*272 pp., hardcover*

*205 x 260 mm*

*2012*

Threats of a general destruction of humanity revealed by modern science can declare themselves in the nearest future. There are various scenarios: epidemics, geotectonic disasters, falling asteroids and other cosmic catastrophes, but they are all interrelated and are able to destroy our civilization soon.

What options does science offer? What planetary threats are the most dangerous? Author of the book Boris Rodionov, professor, doctor of physical-mathematical sciences, academician of the Academy of Natural Sciences, talks about different

ways to prevent a general collapse.

# THE BKL PUBLISHERS

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