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Education

- Specialist, Biology (Biochemistry), Novosibirsk State University, School of Natural Science, Novosibirsk, Russia, 1975.
- Kandidatskaya degree (Ph.D.), Biological Sciences (Biophysics), Institute of Biophysics, Siberian Branch of Russian Academy of Sciences, Krasnoyarsk, Russia, 1985.
- Doctoral degree (D.Sc.), Biological Sciences (Biophysics), Institute of Biophysics, Siberian Branch of Russian Academy of Sciences, Krasnoyarsk, Russia, 1995.
- Professor, Biological Sciences (Biophysics), Siberian Federal University (former Krasnoyarsk state university), 2003
- Additional Education in program “Psychology”, Department of raising the level of lecturer's skills, Siberian Federal University, Krasnoyarsk, Russia, 2002
- Additional Education in program “Computer technologies in education”, Department of raising the level of lecturer's skills, Siberian Federal University, Krasnoyarsk, Russia, 2004
- Additional Education in program, Department of raising the level of lecturer's skills, Siberian Federal University, Krasnoyarsk, Russia, 2005
- Additional Education in program, Department of raising the level of lecturer's skills, Siberian Federal University, Krasnoyarsk, Russia, 2005
- Additional Education in Department of raising the level of lecturer's skills, Siberian Federal University, Krasnoyarsk, Russia, 2007-2008.
- Additional Education in program Department of raising the level of lecturer's skills, Siberian Federal University, Krasnoyarsk, Russia, 2009.
- Additional Education in program Department of raising the level of lecturer's skills, Siberian Federal University, Krasnoyarsk, Russia, 2014.

Current Position

- Since 1999 - Professor, Head, Department of Biophysics, Institute of Fundamental Biology and Biotechnology, Siberian Federal University (former Krasnoyarsk state university), Krasnoyarsk
- Since 1995 - Leading Researcher, Laboratory of Photobiology, Institute of Biophysics, Siberian Branch of Russian Academy of Sciences, Krasnoyarsk
- Since 2007 - Courtesy Professor of Agricultural and Biological Engineering Department at the University of Florida (USA)
- Since 2006 - Director of Research, Applied BioSystems, Ltd, Krasnoyarsk

Previous Positions

- 1996 – 2003 – Professor, lecturer in Biology, Department of High School Pedagogy, Krasnoyarsk State University, Krasnoyarsk.
- 1989 – 1996 – Lecturer in Biology, Department of Physiology and Biochemistry, Krasnoyarsk State University, Krasnoyarsk.
- 1981 – 1994 – Researcher, post-doc, senior researcher, Laboratory of Photobiology, Institute of Biophysics, USSR Academy of Sciences, Siberian Branch, Krasnoyarsk.
- 1975 – 1981 – Laboratory assistant, junior researcher, Laboratory of Photobiology, L.V.Kirensky Institute of Physics, USSR Academy of Sciences, Siberian Branch, Krasnoyarsk.
- 1974 – 1975 – Laboratory assistant, Scientific Research Department, Novosibirsk State University, Novosibirsk.

Honors

- 2013** – A letter of gratitude for the expertise of the project proposals for the Fulbright the student competition for 2014-2015 from Director of Fulbright Program in Russia, Joel Ericson, Ph.D., 17/09/2013.
- 2013** - Certificate of attendance in nomination “Youth research and investment projects”
- 2013**- Gratitude (Commendation) from the Rating agency “Expert RA” for participation in the research of Russian institutes of higher education integrated rating
- 2013**-Certificate of attendance and presentation. We confirm that Kratasyuk Valentina attended the 3rd Joint Seminar on Environment and Climate Change 8th-10th July 2013 Seminar included within the international activities carried out by the International Campus of Excellence of the Sea (CEIMAR), the International Network of Chairs in Environment and Climate Change of the Siberian Federal University, ARCOPOL-PLUS Network and the Russian-Spanish University Centre. Contributing with the following oral presentations “Laboratory of Bioluminescence of the Siberian Federal University”, “Bioluminescent enzymatic biosensors: biotechnical design”, “Postgraduate programmes at SibFU”, “Bioluminescent enzyme technology for biotesting of water, soil and air – as a new tool in environmental monitoring”, “The Bioluminescent Practical Course for Forming Research Competence Pupils”
- 2013** – A letter of gratitude from Educational Department of closed administrative-territorial entity Zheleznogorsk city Administration for highly qualified job in Distance Open Theoretical and Practical Conference: «Challenges and Opportunities of Nuclear Industry for 7-10 grade pupils at the territory of State Corporation “ROSATOM” presence.
- 2013** – Krasnoyarsk Scientific Research Foundation Award for participation in the Regional Exhibition “Science days in Krasnoyarsk Region2013”
- 2013**- Certificate of attendance and presentation. We confirm that Kratasyuk Valentina attended International Conference “Biodiagnostics in soil and adjoining areas evaluation”, Moscow State University, 4-6 February 2013.
- 2012** – Krasnoyarsk Scientific Research Foundation Certificate for the project “Contemporary school bioluminescent practical training session”, the head of the project Kratasyuk Valentina, 2012.
- 2012**- A letter of gratitude from the Ministry of education and science of Krasnoyarsk Region “For long conscientious work, productive research and educational work in the field of Krasnoyarsk Region higher education”
- 2012**- A letter of gratitude from the rector of Siberian Federal University “For a high degree of proficiency, initiative and productive work, for the services to the university and owing to anniversary»

2012 – The honorary degree “Honorary worker of Russian Federation Higher Education”. The Ministry of education and science of Russian Federation order: 31 № 1250/k-II. Certificate for the institutional award № 39742

2012 – Certificate for participation in The 5th Municipal Assembly “Krasnoyarsk. Technologies of the Future”

2012 - The Innovation Project and Scientific Research Results Contest Award, The 5th Municipal Assembly “Krasnoyarsk. Technologies of the Future”, April 2012.

2012 – A letter of gratitude from SibFU “For contribution to secondary school students education, career guidance work and a proactive approach to life” ??в рамках реализации совместных проектов с образовательными учреждениями??

2012 – A letter of gratitude from Educational Department of closed administrative-territorial entity Zheleznogorsk city Administration for highly qualified job in Distance Open Theoretical and Practical Conference: «Challenges and Opportunities of Nuclear Industry for 8-11 grade pupils at the territory of State Corporation “ROSATOM” presence.

2012 – A letter of gratitude from Interdistrict Gifted Children Educational Resource Center “Krasnoyarsk Teacher Training College № 1 named after M. Gorkiy” for Contribution in development of the gifted children cognition interest in the field of biology and physics and realization of the program “Selected chapters of biophysics”

2010 - Award of the 5th International Competition “University book – 2010” in the nomination “The best electronic education publication” for the book “Information and communication technologies in scientific research”, 1 September 2010.

2009 – “National ecology prize” winner in the nomination “Education for sustainable development” 2009, project “Ecology and business – antagonism, balance, symbiosis” www.ecoprize.ru. The winner certificate.

2009 – The Ministry of education and science of Russian Federation Certificate of Honour “For long conscientious work, productive research and educational work in the field of higher education”

2008 – Award of Siberian Federal University for scientific results and publications.

2007 – Award of Siberian Federal University for scientific results and publications.

2007 – A letter of gratitude from Eugene A. Vaganov, Member of the RAS, rector of Siberian Federal University “For a high degree of proficiency, initiative and productive work and public activities, for the services to the university и в связи с юбилейной датой”

2007 – Award of The U.S. Russia Center for Entrepreneurship in competition “Business of Innovational technologies 2007”

2007 – Named “The Women of Year”, Krasnoyarsk, 2007

2007 – Courtesy professor of Agricultural and Biological Engineering Department, University of Florida, USA

2005 – The Kennedy Space Center “In recognition of your continued support of NASA/KSC Education Programs

2004-2005 - Fulbright Scholarship

2004 – Named “The best professor of Krasnoyarsk” by Krasnoyarsk Region Local Administration

2003 – Krasnoyarsk Region Governor Certificate of Honour for highly research results and qualified specialists training, Krasnoyarsk

2003 – A letter of gratitude from Krasnoyarsk Regional Science Foundation for participation and contribution to the Science Foundation Council of experts, for highly qualified specialists training and moral support

2002 – Award of Educational Department of Krasnoyarsk Region’s Administration “For significant contribution in developing of education, a high degree of proficiency, initiative and creative work”

2002 – A letter of gratitude from rector of Krasnoyarsk State University “For long-term active scientific and pedagogical work in favor of the university, for highly qualified specialists training”

2001 - Award "The best presentation of educational program "Bioluminescence as an educational tool" presented on the "Da Vinci, -Darwin, -Linnaeus, initiative (Public understanding of science and health, 2001), meeting of European Science and Technology Week (Florence, Italy)

2001 - Named "Soros Professor" Selected and named by International Soros Science Education Program for outstanding contributions to world science and to science education

2000 – Award "Outstanding scientists of Siberian Branch of Russian Academy of Sciences"

1998 - Named "Soros Associate Professor" by International Soros Science Education Program for outstanding contributions to world science and to science education

1986 – Bronzed medal of USSR exhibition of national economy "For progress of scientific results"

1982 – Medal "Inventor of USSR" (1982)

1978 – The best young researcher of Oktyabrsky district, Krasnoyarsk

Memberships

The Scientific Council of the International Society of Bioluminescence and Chemiluminescence, the council.

The member, Organizing Committee of 9, 10, 11, 12, 13, 14, 15 International Symposium on Bio- and Chemiluminescence

The member of the International Society of Environmental Toxicology and Chemistry.

The member of Asian Federation of Biotechnology

The member of Russian Fulbright Alumni

The member of Russian Society of Biotechnologist

The member of Russian National Committee of Biophysicist

The member of Russian Society for Photobiology

The member of International Society on Bioencapsulation.

The member of Russian Biochemical Society.

The member of the European Society for Photobiology.

Member of editorial boards of the leading peer-reviewed journals

The editor, scientific journal "Proceeding of Siberian Federal University" (Biology), since 2007.

The editor, scientific journal "Proceeding of Krasnoyarsk state university", 2004-2007.

The reviewer, scientific journal "Analytical and Bioanalytical Chemistry", "Journal of Photochemistry and Photobiology B: Biology", " Pharmacognosy Research", " British Journal of Educational Technology ".

Membership of Academic and Scientific Councils

The council, The Academic Council of Federal State Educational Institution of Higher Professional Education "Siberian Federal University" since February 2011

The council, The Scientific Council for Ph.D.-degree and Doctor of Sciences, DM 212.099.15, Siberian Federal University.

The council, The Scientific Council for Ph.D.-degree and Doctor of Sciences D 003.007.01., Institute of Biophysics, Siberian Branch of Russian Academy of Sciences.

The council, The Academic Council of Institute of Fundamental Biology and Biotechnology, Siberian Federal University.

The council, The Academic Council of Physical Faculty, Siberian Federal University (former Krasnoyarsk state university), 1999 - 2007

The council, The Scientific Council for Ph.D.-degree and Doctor of Sciences – degree defended in Biophysics, Institute of Biophysics, Krasnoyarsk since 2001

The council, The Academic Council of Institute of Biophysics, Krasnoyarsk, 1997-2011.

The council, The Scientific Council K 212.099.02 for Ph.D.-degree defended in Ecology, Siberian Federal University (former Krasnoyarsk state university), Krasnoyarsk, since 2004

Scientific expertise

Expert, Global World Communicator Education and Science. The International Council of Scientists. Certificate № 0622. The participant of the survey in the third phase of the Worldwide Professional University Ranking program 2013/2014 –World Public Reputation of the Universities. Expert, Advanced Research Foundation (Russia), since 2013.

Expert, Federal register of expert of the scientific and technical area, Scientific Research Institute – Federal Research Centre for Projects Evaluation and Consulting Services (SRI FRCEC), The Ministry of education and science of Russian Federation (Certificate № 02-00694 from 26.04.2012); the area of expertise: Biology and Medicine, since 2012.

The member of the Council of Experts of Krasnoyarsk Regional Innovation and Technology Business Incubator, the area of expertise: Innovations in biology and medicine, since 2012.

Expert, Institute of International Education, Inc., - Expertise of the Fulbright Program projects, area of expertise: Biology, Ecology, Education, since 2007г.

Expert, Science project competition of Far Eastern branch of RAS, the area of expertise: Biology and Ecology, since 2008.

The member of the jury of BIT Siberia Contest (Innovation Technology Business 2008, Innovation Technology Business 2009), the area of expertise: Innovations in biology and medicine, 2008 - 2009.

Advisor –expert, INTAS, the area of expertise: Biology, since 1998.

Expert, Educational and Methodical Council of SibREMC (Siberian Regional Educational and Methodical Center), the area of expertise: Biology, Ecology, Biophysics, since 2005.

Expert, Distance Open Theoretical and Practical Conference: «Challenges and Opportunities of Nuclear Industry», All-Russian Project «Rosatom School», since 2011.

Teaching

Development of new educational programs:

area 011200.62 Physics, Qualification: Bachelor, 011200.62.07 Biochemical Physics (profile); area 011200.68 Physics, Qualification: Master, 011200.68.01 Biophysics (program); area 011200.68 Physics, Qualification: Master, 011200.68.07 Environment and People: framework for surveillance and control (program); area 020400.62 Biology, Qualification: Bachelor, 020400.62.07 Biophysics (profile); area 020400.68 Biology Qualification: Master, 020400.68.03 Biophysics; Basic education programs for graduate school: 03.00.00 Biosciences, 03.01.02 Biophysics; programs for teacher training faculty of Siberian Federal University "Scientific and educational activities of the teacher in the Autonomous University", "Aspects of the innovation activity of the teacher of high school"; specialty "Biochemical Physics"; specializations "Physics of Biological Systems" and "Physical bioecology" for the specialty "Biochemical Physics", specialization "Theory of education and methods of teaching biology".

Development of new educational courses and teaching them in Russian and foreign universities:

Medical genetics, Photobiophysics, Objective workshop in Biology, Ecology, Basic Biology, Modern problems of biophysics, Modern problems of biophysics, biology and biotechnology, History of development of biology, History of biology, History and methodology of biology and chemistry, Methodology of scientific creativity, Biological sensors, Aspects of the innovation

activity of the teacher of high school, Scientific and educational activities of the teacher in the Autonomous University, Methodology for the preparation and presentation of the thesis, The structure of thesis research.

Selected pedagogical works (Teaching complex of disciplines, etc.):

1. State-of-the-art equipment and methods for studying biological systems: tutorial / edited by A.J. Sinskey, T.G. Volova. – Krasnoyarsk: Siberian Federal University [SibFU]; Krasnoyarsk : Institute of Biophysics SB RAS, 2011. – 479 p. *Recommended by UMO on classical university education as a tutorial for university students enrolled in the area 020400 "Biology" and related specialties;*

2. State-of-the-art equipment and methods for studying biological systems. Large practicum [electronic resource]: tutorial / T.G. Volova, E.I. Shishatskaya, A.J. Sinskey et al.; edited by T.G. Volova, A.J. Sinskey; developer Training Systems Center Information and Telecommunications complex SibFU. - electronic data (13 MB). - Krasnoyarsk: Siberian Federal University, 2012. – 1 electron optical disk (CD). *Recommended by UMO on classical university education as an electronic tutorial for university students enrolled in the area 020400 "Biology" and related specialties;*

3. Physics and Chemistry of bioluminescence: tutorial / Krasnoyarsk: Siberian Federal University [SibFU], 2012. – 217 p. *Recommended by UMO on classical university education as a tutorial for university students enrolled in the area "Biology"(06.00.00 UGSN "Biological Sciences") and related specialties;*

4. Special biophysical practicum: biology, physics and chemistry of bioluminescence: tutorial / Krasnoyarsk: Siberian Federal University [SibFU], 2012. – 111 p. *Recommended by UMO on classical university education as a tutorial for university students enrolled in the area "Biology"(06.00.00 UGSN "Biological Sciences") and related specialties;*

5. Information and communication technologies in natural science research [electronic resource] - Krasnoyarsk: Publishing and Printing Complex Siberian Federal University [SibFU], 2009. -177 p.

6. Photobiophysics: tutorial - Krasnoyarsk: Publishing and Printing Complex Siberian Federal University [SibFU], 2008.

7. History and Methodology of Biology and Biophysics: tutorial / Krasnoyarsk: Publishing and Printing Complex Siberian Federal University [SibFU], 2009. - 413 p.

Additional Information:

1. Management of research and educational centers:

- Research and Education Center "Yenisei": Head of External Relations (1999 -2002), Head of educational direction (2002-2014);

- Scientific training center "Research Department of Biophysics": scientific supervisor (1999 – 2005).

2. International Activity in Education

- Professor Emeritus of the Department of Agricultural and Biological Engineering, University of Florida (USA) since 2007;

- Visiting Professor, NASA Educational Program, Spaceflight and Life Sciences Training Program (SLSTP), John F. Kennedy Space Center, Florida, USA (2005);

- Fulbright Scholar in international exchanges in the field of science and education, Department of Agricultural and Biological Engineering, project "Comparison of the role of science in education in universities in the USA and Russia", University of Florida, USA (2004-2005);

- participation in the Week of Science and Technology at the European Week of Science and Technology, 5-7 November 2000, Florence (Italy), Seminar "Da Vinci – Darwin – Linnaeus", educational program "Life tells about itself with the light".

- Visiting Lecturer: University of Cadiz (Spain, 2013), University of Bologna (Italy, 2008), Far Eastern State University (2000, 2007), University of Florida (USA, 2005), University of North Dakota (USA, 2005), North Dakota State University (USA, 2005), University of Pittsburgh (USA, 2005), Carnegie Meloni University (USA, 2005), University of Utah (USA, 1993), University of Wroclaw (Poland, 1989).

Lecture courses

2014- The Modern Problems of Biophysics, Structure of PhD-scientific research, Structure of scientific research, History of Biology

2013- The Modern Problems of Biophysics, History and Methodology of Biology and Biophysics, Structure of PhD-scientific research, Structure of scientific research, History of Biology

2012- Introductory Biology, The Modern Problems of Biophysics, History and Methodology of Biology and Biophysics, Structure of PhD-scientific research, Structure of scientific research, History of Biology

2011- General Ecology, Introductory Biology, History and Methodology of Biology and Biophysics, Structure of scientific research, History of Biology

2010 - General Ecology, Introductory Biology, History and Methodology of Biology and Biophysics, Structure of scientific research

2009- General Ecology, History and Methodology of Biology and Biophysics, Structure of scientific research, Biological Sensors,

2008- General Ecology, Introductory Biology, The Modern Problems of Biophysics, History and Methodology of Biology and Chemistry, Photobiophysics,

2006 -General Ecology, Introductory Biology, Environmental Biology, Evolution, The Modern Problems of Biophysics, History and Methodology of Biology and Chemistry,

2005 - Introduction to Microbiology, Biological Sensors, Biochemistry, Bioluminescence and Luminous organisms, Marine Bioluminescence.

Projects in Education

- Comparative analysis of increasing of science significance as a basis for education at the universities of Russia and USA
- The development of educational institutions having the correspondence high school
- Fusion between science and education in Research Educational Center “Research Biophysical Chair”
- Science Education Centre “Yenisei” (Fundamentals of Ecologization of Education and Technologies)
- Development of Institute of physical –chemical biology and basic ecology

Educational activities

Since 1999– Head, Department of Biophysics, Established program in Biochemical physics and Biochemistry. Courses in biology, biophysics, biosensors, history of biology and ecology

Since 1996 – Professor, Department of High School Pedagogy, Established program in Methods and methodology of scientific training of school teachers of biology

Since 1989 – Professor, Department of Biophysics, courses in Biosensors, Biology, Ecology, History of biology, Scientific Methodology, Problems in modern biology, Luminous

- organisms and bioluminescent analysis, Public understanding of Science
- 2005 – Principal Investigator, NASA Educational program, Spaceflight and Life Sciences Training Program (SLSTP), Kennedy Space Center, Florida, supervisor of 2 students, lectures in Biological sensors for Space biotechnology
- 2004-2005 - Fulbright scholar, University of Florida, Gainesville, Florida USA, Project “Comparative analysis of significance of science as a basis for education at the universities of USA and Russia”, Grant of Fulbright Scholar Program (Institute of Open Education) <http://international.ifas.ufl.edu/FOCUSWEB/focusjan05003.htm>
- 2001- 2002 -Lead developer of educational program “Bioluminescence as an educational tool” presented on the “Da Vinci, -Darwin, -Linnaeus, initiative (Public understanding of science and health, 2001), meeting of European Science and Technology Week (Florence, Italy)
- Since 1993 – Leader, The educational Program “Light is a language of life (Bioluminescence as an educational tool)” Supervisor: more than 50 students of high schools whose scientific works were prepared for school science conferences
- Advisor, more 25 graduate students, 14 post-graduate students (seven students have defended their Ph.D. in Biophysics)
- Deliver popular lectures and publish articles in the mass media on the problems of biology, ecology, genetics, biochemistry and bioluminescence as educational tools for Krasnoyarsk teachers
- Visiting Lecturer – Far East State University (Vladivostok, Russia, 2007), University of Florida (USA, 2004-2005), University of North Dakota (USA, 2005), Wageningen Agriculture University (the Netherlands, 1999, 2000), Institute of Antioxidant Therapy (Germany, Berlin, 1994, 1995), University of Utah (USA, 1993), University of Wroclaw (Poland, 1989).

Basic Results in Education

- 2006 - Certificate for author’s publication in Educational Program «Mutual window» (manual Kudryasheva N.S., Kratasyuk V.A., Esimbekova E.N. The physico-chemical basis for bioluminescent analysis, - Krasnoyarsk : Krasnoyarsk state university, 2002).
- 2005-2007 – Supervisor and author, Educational Program “The innovations in Education”, Department of raising the level of lecturer's skills”, Siberian Federal University, Krasnoyarsk, Russia
- 2005 - Supervisor and author, Educational Program “Fundamentals of modern medicine”, Department of raising the level of lecturer's skills”, Siberian Federal University, Krasnoyarsk, Russia
- 2004 - Supervisor, Doctor of Sciences thesis has been defended in Biophysics (Nadezhda S.Kudryasheva)
- 2002-2007 -Development of the scientific foundation and structure for a new type of University education based on scientific researches.
- 2000-2007 - Supervisor, Ph.D.-students have defended their Ph.D. in Biophysics and Ecology: Irina G. Torgashina (2007), Ludmila V. Stepanova (2005), Natalia N. Rimmel (2003), Elena V. Nemtceva (2002), Elena V. Vetrova (2002), Elena N. Esimbekova (2000)
- 2000-2003 – Development of kernel of an educational and scientific network in Krasnoyarsk

- 1999-2007 - Development of new speciality “Biochemical physics”, specializations “Physics of biological systems”, “Physical bioecology”, Physical Faculty, Krasnoyarsk state university, Krasnoyarsk, Russia
- 1995-2000 - Development of new specialization “Educational theories and methodology of biology teaching” Faculty of Psychology and Pedagogic, Krasnoyarsk state university, Krasnoyarsk, Russia
- 1993-2007 – Development of basic principles of scientific education using luminous organisms and other biophysical objects.

Research

Research Interests

Mechanisms of bioluminescence, bioluminescent enzymatic biosensors, bioluminescent toxicity bioassays, bioluminescent analysis, biotechnological design, biochemistry, science education, education based on bioluminescence, history of sciences, immobilization of enzymes. bioluminescence, biotechnological design, biosensors, enzymatic toxicity bioassays, laboratory diagnostics, plant stress, storekeeping, ecological monitoring, luciferase, biotesting, soil, multicomponent immobilized reagent, coupled enzyme system

Research Projects

- Indication of redox processes by bioluminescent method. Development of bioluminescent assays to monitor the aquatic ecosystems marked by redox properties
- Bioluminescent Signal System (BSS) for early anti-terrorism application
- Molecular mechanisms of emitter’s formation in bioluminescent reactions of various luminous organisms
- Bioluminescent analysis: biosensors and biocatalytic technologies. Bioluminescent biosensors for toxicity analysis in biological systems
- Gel modelling of luciferase surrounding inside cell of marine luminous bacteria
- Enzyme-substrate interactions in immobilized multicomponent reagent for bioluminescent tests
- The reactive oxygen species in bacterial bioluminescence
- Experimental verification of the hypothesis on activity of upper electron excited states for different bioluminescent organisms
- Effect of micro environmental change on kinetic parameters of steady-state and non-steady-state enzyme-induced bioluminescent reactions
- The investigation of stress in plants by bioluminescent methods

Basic Results in Scientific Activities

Development of technology commercialization of bioluminescent assays and biosensors using enzymes of marine luminous bacteria.

Development of new bioluminescent enzymatic biosensors using luminous bacteria enzymes based on nanobiotechnology

Development of new bioluminescent enzymatic bioassays using enzymes of marine and recombinant luminous bacteria for ecological monitoring of water in natural and artificial water ecosystems, air and water in closed ecosystems for ecology, Space biotechnology, medicine and biotechnology.

- Development of new bioluminescent assays for medicine.
- Development of immobilized multicomponent reagents for bioluminescent assays. The experimental model of *in vivo* bacterial bioluminescence based on immobilized bioluminescent enzymes.
- Bio-alarm Laboratory has been designed for bioluminescent monitoring of the “health” of water ecosystems and to provide early warnings about anomalies arising due to anthropogenic and natural factors. Taking part in a series of ecological expeditions to the salt lake Shira, river Yenisei, Japanese sea.
- Development and implementation of bioluminescent toxicity bioassays based on enzymatic reactions catalyzed by bacterial luciferases (from marine luminous bacteria). Designing of biophysical biosensors for xenobiotic assays in ecology, medicine and agriculture.
- Development of biophysical and biochemical mechanisms of inhibition of bacterial bioluminescence.

Other Professional Activities

- 2006 – 2014 Agreement between Siberian Federal University (former Krasnoyarsk state university) and University of Florida: educational and scientific programs
- Since 1999 Project Co-Director on External Connections, Project Co-Director on Education, Supervisor of scientific direction “Biophysical methods of contact monitoring”, Research Educational Center ‘Yenisei’, Krasnoyarsk State University“
- Since 1999 Project Director, Center for Science in Biophysical Educational, Krasnoyarsk State University
- 2001-2005 Project Co-Director, Research Group including researchers of Institute of Biophysics (Krasnoyarsk, Russia), Krasnoyarsk State University (Russia), University of Bologna (Italy), Wageningen Agriculture University (the Netherlands), Moscow State University (Russia), supported by grant INTAS 2000-0562
- 2000-2005 Project Co-Director, NATO Networking Computer Grant CN.NIG 977221 “Kernel of an Educational and Scientific Network in Krasnoyarsk”
- 2006 Organisation of session “Bioluminescent assays for ecological monitoring” in “School on environmental monitoring”, Krasnoyarsk state university, 2006, Krasnoyarsk
- 1994 Organization of International Workshop “Bioluminescence in ecology and education”, Krasnoyarsk, Russia, 7-17 August 1994

Experience in the area of technology commercialization and technology transfer

- 2007 The participation in the International Marketplace and Conference for Technology Transfer Professionals, IPTEC, 1-3 March 2007, Cannes, France
- 2006 The participation in Eurasian Innovation and Investment Forum: Cleveland, Ohio, June 2006
- 2006 Eurasian Innovation and Investment Forum, Cleveland, Ohio, June 2006: Training Course in Cleaveland (Ohio) in 5HiTech, LLC, USA
- 2006 Eurasian Innovation and Investment Forum, Cleveland, Ohio, June 2006: The

- preliminary training session in April 24 -26, 2006 in Moscow, Russia by 5HiTech, LLC, USA.
- Since 2006 The foundation of new company “Prickladnie biosistemi (Applied BioSystems) Rus Ltd.” by Prof. Valentina Kratasyuk and Dr. Sergey Sirotinin. Company utilizes its proprietary Bioluminescence Enzyme System Technology (BEST™) to deliver a significant advance in screening for toxicity and detecting lethal agents in biological systems. Prof. Valentina Kratasyuk is Director of Research,
- 2006 The participation in different scientific conference with report about commercialization: The Ninth World Congress on Biosensors, Toronto, Canada, 10-12 May, 2006; 14th International Symposium on Bio- and Chemiluminescence, San Diego, CA, November 2006; XIII International Symposium «Complicated systems and extremal environmental», Krasnoyarsk, 4-10 September 2006;
- Since 2005 Cooperation with dbaza.Inc in the field of commercialization of bioluminescent technologies
- Since 2004 Cooperation with Agricultural and Biological Engineering Department, Institute of Food and Agricultural Sciences, University of Florida and in developing of bioluminescent biosensors for space biotechnology
- 2005 Participation in the German-Russian Workshop “Biotechnology: Transfer of Research & Development”, Frankfurt/Main, 6th - 11th of December 2005.
- 2003 -2005 Partnerships with “Applied Nanotech, Inc” in developing of bioluminescent biosensors based on nanotechnology
- 2003 Participation in Exhibition & Conference Sponsored by the U.S. Department of Energy (November 4-6, 2003, Philadelphia, Pennsylvania) “Partnerships for Prosperity & Security: Accessing Innovative Technologies from Russia”
- 2003 Training Seminar “Elevator Pitch” conducted by International Scientific Technical Centre in Moscow.
- Since 1975 The development of technologies for commercialization: bioluminescent assays, bioluminescent enzymatic toxicity biotests

Publications: more 250: 88 Referred Journal Articles, 3 Book Coauthored, 2 Books Edited, 3 Book Chapters, 16 Patents, more 100 Abstracts, 43 Meeting Papers, more 30 Education Publications, 3 Education Software Packages Developed and Other Publications

Selected publications include:

Sutormin O.S., Sukovataya I.E., Kratasyuk V.A. The effect of viscosity on the kinetic parameters of coupled bioluminescent enzyme system NADH:FMN-oxidoreductase – luciferase//Izvestiya of Altay state university. Biology. Earth sciences. Chemistry. 2013, 3/2(79), pp. 47-51.

Esimbekova E., Kondik A., Kratasyuk V. Bioluminescent enzymatic rapid assay of water integral toxicity // Environmental Monitoring and Assessment, 2013. V.185, Issue 7. P. 5909-5916. (IF WoS 1,592)

Nemtseva E.V., Gulnov D.V., Gerasimova M.A. and Kratasyuk V.A. Thermal transitions of bacterial bioluminescence enzymes in viscous media by means of their intrinsic fluorescence// FEBS Journal, V. 280, P. 161, 2013 (IF WoS 4,250)

Gulnov D.V., Nemtseva E.V., Gerasimova M.A., Kratasyuk V.A. Fluorescent analysis of viscous microenvironment impact upon bioluminescent reaction of bacteria // Eur. Biophys. J., V. 42, P. S100, 2013 (IF WoS 2,274).

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Ministry of Education and Science of the Russian Federation, Civilian Research and Development Foundation (CRDF), № REC002, No. RUX0-002-KR-06 program "Basic Research and Higher Education", project Research and Education Center "Yenisei: the greening of technology and education," 1999-2011, (Director of External Relations, director of education, scientific themes chief).

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Institute of International Education, ФKM-09-34, the project "Participation in the V Conference of Russian Fulbright Alumni in Moscow (March 23-24, 2009.)", 2009.

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Cooperative Grant Program CRDF RB1-2495-KR03, 2004-2005; Special Antiterrorism Competition Workshop 12117, 2002; CRDF Travel grant IV.1, TG1113, 2003; CRDF Travel Grant , grant № UST2-6129-XX-06-06, OH0565, 2006; CRDF Travel Grant № NBT7M02, 2007

“Participation in 15th International Biotechnology Symposium and Exhibition, Dalian, October 12-17, 2008, China”, Grants Russian Foundation for Basic Research (RFBR), grant № 08-04-08501-3, 2008

“Participation in 12th Congress of the European Society for Photobiology, September 1-6, 2007”, Grants Russian Foundation for Basic Research (RFBR), grant № 07-04-08456-3, 2007

“Bioluminescent analysis: biosensors and biocatalitic technologies”, Russian program on priority lines of development in science and technologies in 2007-2012, grant № 02.512.11.2008, 2007

“Development of Department of phisico-chemical biology and basic ecology”, Competition of

innovation educational program of Siberian Federal University, grant № 013, 2007-2009

“Biosensors for finding toxicity in biological systems”, The Foundation for Assistance to Small Innovative Enterprises (FASIE), grant № 07-6-H5.4-0087/7360, 2007-2009

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«Insect pheromone’ communications: analysis of physico-chemical and ecological mechanisms to develop the monitoring methods of forest pest’s behavior”, Russian Foundation for Basic Research (RFBR), grant № 07-04-96802-p_yenisey_a, 2007-2009

“Participation in XIV International Symposium on Bio- and Chemiluminescence, October 15-19, 2006”, Grants Russian Foundation for Basic Research (RFBR), grant № 06-04-59023-3, 2006

"Eurasian Innovation and Investment Forum: Cleveland, Ohio, June 2006", CRDF Travel Grant , grant № UST2-6129-XX-06-06, OH0565, 2006

“Comparative analysis of increasing of science significance as a basis for education at the universities of Russia and USA”, Russian Humanitarian Science Foundation, grant № N06-06-00229a, 2006-2008

"Krasnoyarsk state university. The development of educational institutions having the correspondence high school, Grant of British Development Bank, grant № ELSP/B3/Gr/001/011, 2006-2008

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"Bioluminescent Signal System (BSS) for early anti-terrorism application", Grant Antiterrorism program CRDF, grant № RB1-2495-KR-03, 2004-2005

"Comparative analysis of significance of science as a basis for education at the universities of USA and Russia", Grant of Fulbright Scholar Program (Institute of Open Education), 2004-2005

“Participation in 13 International Symposium on Bio- and Chemiluminescence, Yokohama, Japan, 4-6 August 2004”, Grants Russian Foundation for Basic Research (RFBR), grant № N04-04-58668-3, 2004

“Molecular mechanisms of emitter’s formation in bioluminescent reactions of various luminous organisms”, Siberian Branch, Russian Academy of Sciences: program on physico-chemical biology, grant № 10-7, 2003-2006

Participation in Exhibition and Workshop “Partnerships for Prosperity & Security: Accessing Innovative Technologies from Russia, Ukraine & Kazakhstan”, Philadelphia, 3-7 November, Grant CRDF_IV.1, TG1113, 2003

”Bioluminescent Alarm Signal for Early Detection of a Terrorist Attack with Toxins and Infection Agents, Grant CRDF: Antiterrorism Workshop№ 12117 , September 2002, Washington (USA)”, 2002

“Fusion between science and education in Research Educational Center “Research Biophysical Chair”, Russian Ministry of Education: program “Fusion between education and basic researches in 2002-2006”, grant № N Б0008, 2002-2004

“Studying physical-chemical bases of using immobilized enzymes of luminous bacteria in bioluminescent assay”, Program of Ministry of Education of the Russian Federation for young scientist and their supervisors, grant № PD02-1.4-316, 2002-2004

“Bioluminescence as method of oxidative stress detection”, Russian Ministry of Education: program “University of Russia: basic researches” № YP.11.01.016, , 2002-2003

INTAS- N 2001-562 “Role of upper electron-excited states in bioluminescence”, 2000-2005

“Participation in 4 International conference on biological physics, Kyoto, Japan, 29 July –3 August 2001”, Grants Russian Foundation for Basic Research (RFBR) N 01-04-58732-3, 2001

“Soros Professor”, grant of International Soros Science Education Program for outstanding contributions to world science and to science education, 2001

“High-excited electron – oscillation states in bioluminescence”, Grants Russian Foundation for Basic Research (RFBR) N01-03-32843, , 2001-2003

“Role of upper electron-excited states in bioluminescence”, Grant INTAS, grant № N 2000-0562, 2000-2005

“Development of integral net of Krasnoyarsk Informational Net Center”, Grants Russian Foundation for Basic Research (RFBR) № 00-07-90340-B, , 2000-2001

NATO Networking Computer Grant, CNS N 976230, 1999

“Kernel of an Educational and Scientific Network in Krasnoyarsk”, NATO Science program: NATO Networking Infrastructure, grant № CN.NIG 977221, 2000-2004

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“Participation in 13 International biophysical congress, New Deli, India, 19-24 September 1999”, Grants Russian Foundation for Basic Research (RFBR) N99-04-58840-3, 1999

“Ecological biophysics. Scientific and educational manual in 3 books”, Russian Ministry of Education, program “Fusion between education and basic researches N319-04, 1999-2000

“Micro-spectroscopy of proteins in conventional and non-conventional media”, Grant NWO (the Netherlands Organization for Scientific Research), N 047-007-005, 1999-2001

“Micro-spectroscopy of proteins in soft condensed media”, NATO Science program: NATO Linkage Grant LST.CLG 974984, 1999-2000

“Soros Associate Professor”, grant N d98-1219 of International Soros Science Education Program for outstanding contributions to world science and to science education, 1998

“The role of high electron-excited states in bioluminescence”, Grants Russian Foundation for Basic Research (RFBR) N98-02-18054, 1998-2000

“Fusion between science and education in Research Educational Center “Research Biophysical Chair”, Russian Ministry of Education: program “Fusion between education and basic researches in 1997-2000”: NA0021, 1997-2001

“Investigation of redox-oxidative processes in effect of quinines on coupled enzymatic systems with luciferase”, Grants of Krasnoyarsk Regional Scientific Foundation № 5F0104, 1996

“Light is a language of life”, Russian Humanitarian Science Foundation: N96-03-04406, 1996-1999

Travel Grant of Soros open society Fund Inc. (11th International Biophysics Congress, Budapest, Hungary, July 25-Luly30, 1993

Supervisor of young scientists in grants:

"The investigation of stress in plants by bioluminescent methods", Fellowship on Professional Training in University of Florida and 14th International Symposium on Bioluminescence and Chemiluminescence's participation", Russian Ministry of Education and Science, grant № N 02.444.11.7261, 2006

"Host Company: Argonide Corporation, Sanford, Florida, USA", Fellowship on Professional Training in U.S. managerial, research and technology development practices for senior-level Eurasian managers and scientists supported by Special American Business Internship Training Program (SABIT), 2004-2005

“Interchange of liquids in vitreous body of experimental animal's eyes”, Russian Ministry of Education: program “Scientific researches of the post-graduates of Russian Ministry of Education universities”, grant № A03-2.12-360, 2003-2004

Post-doctoral fellowship program: Esimbekova E.N., Rimmel N.N., Vetrova E.V., Nemtceva E.V., Slusaryeva E.A., Kolenchukova O.N., Sukovataya I.E., including:

Enzyme-substrate interactions in immobilized multicomponent reagent for bioluminescent tests”, Grants of Ministry of Education of the Russian Federation and CRDF, BRHE Post-doctoral fellowship program, grant № Y1-B-02-11, 2003-2006

“Development of bioluminescent assays to monitor the aquatic ecosystems marked by redox properties”, Grants of Ministry of Education of the Russian Federation and CRDF, BRHE Post-doctoral fellowship program, grant № Y1-B-02-12 2003-2006

“The reactive oxygen species in bacterial bioluminescence”, Grants of Ministry of Education of the Russian Federation and CRDF, BRHE Post-doctoral fellowship program, grant № Y2-B-02-19, 2003-2006

“Experimental verification of the hypothesis on activity of upper electron excited states for different bioluminescent organisms”, Grants of Ministry of Education of the Russian Federation and CRDF, BRHE Post-doctoral fellowship program, grant № Y1-B-02-13, 2003-2006

“Effect of micro environmental change on kinetic parameters of steady-state and non-steady-state enzyme-induced bioluminescent reactions”, Grants of Ministry of Education of the Russian Federation and CRDF, BRHE Post-doctoral fellowship program, grant № Y1-B-02-17 , 2003-2006

Conferences and Exhibitions: more 100 Russian and International (oral presentations)