

PERSONAL INFORMATION

Svetlana Karstina



📍 28, Universitetskaya street, Karaganda, 100024, Republic of Kazakhstan  
 📧 [skarstina@mail.ru](mailto:skarstina@mail.ru)  
 🔗 <https://buketov.edu.kz/>

Sex Female | Date of birth 26/02/1971 | Nationality Kazakhstan

PLACE OF WORK, POSITION

Professor of the Physics and Nanotechnology Department, Karagandy University of the name of academician E.A. Buketov

SCIENTIFIC DEGREE, SCIENTIFIC TITLE (ACADEMIC DEGREE)

Doctor of Physical and Mathematical Sciences, Associate Professor

WORK EXPERIENCE

09/2021 – until now

**Professor of the Physics and Nanotechnology Department**

- Lectures, seminars, and laboratory work
- Management of theses and master's dissertations at the Faculty of Physics and Technology
- Supervision of the professional practice of master's students of the Faculty of Physics and Technology
- Supervising the research work of undergraduates of the Faculty of Physics and Technology
- Conducting professional development trainings for teachers
- Participation and management of educational projects
- Carrying out scientific researches
- Reviewing scientific articles, textbooks and monographs
- Participation in meetings of collegial bodies of the Faculty

04/2004 – 09/2021

**Head of the Postgraduate Education Department**

- Administrative, teaching, methodological, project and research activities
- Expert work
- Development of internal regulatory documents, strategic and indicative plans and roadmaps in the field of higher and postgraduate education, academic and staff policy, international cooperation and internationalization of education, internal quality management system of education
- Participation in national working groups for development of legislative documents in the field of higher and postgraduate education, quality of education, academic mobility, internationalization of education

12/1996 – 04/2004

**Lecturer, senior lecturer, associate professor of the Department of Optics and Wave Processes, Deputy Dean of the Physics Faculty, Associate Professor of the Department of General and Theoretical Physics.**

- Teaching, research in condensed state physics and mathematical modeling, course development, methodological work
- Administration of the educational process in the Physics Faculty

08/1992 – 11/1993

**Intern researcher**

▪ Research in condensed matter physics and mathematical modeling, project activities  
 Karagandy University of the name of academician E.A. Buketov  
 28, Universitetskaya street, Karaganda, 100024, Republic of Kazakhstan,  
<https://buketov.edu.kz/>

[Higher education](#)

EDUCATION AND TRAINING

2008-2009 **Candidate for the degree of Doctor of Physical and Mathematical Sciences**

L.N. Gumilyov Eurasian National University, 2, Satpayev Street, Nur-Sultan, 010008, Republic of Kazakhstan

- Doctoral thesis on: Dynamics of exchange resonance photoprocesses in fractal environments (specialty 01.04.07).

1993-1996 **Postgraduate study by specialty: 01.04.07 - Physics of condensed state**

Karagandy University of the name of academician E.A. Buketov  
28, Universitetskaya street, Karaganda, 100024, Republic of Kazakhstan

- Candidate's thesis on: Nonlinear processes of deactivation of electron excitation of phosphors in the volume and on the surface of condensed media (specialty: 01.04.07)

1987-1992 **Specialty "Physicist. Teacher"**

Karagandy University of the name of academician E.A. Buketov  
28, Universitetskaya street, Karaganda, 100024, Republic of Kazakhstan

PERSONAL SKILLS

Mother tongue(s) Russian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B1	B2	B1	B2	B1

Communication skills

- good communication skills gained through my experience as teacher, researcher, administrator, project team leader, working group member

Organisational / managerial skills

- leadership gained through my experience as local coordinator of international educational projects, chairman of commissions for the development of regulatory documents of the university, participant in leadership training
- managerial skills gained through my experience as deputy dean, head of department of postgraduate education, local coordinator of international projects

Job-related skills

- good command of quality control processes
- data analysis
- research papers and analytical reports
- development of project proposals
- development of normative documents in the field of higher and postgraduate education

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Basic user	Proficient user

- good command of office suite (word processor, spread sheet, presentation software)
- good command Google tools gained in professional activities

Driving licence B

**Publications** More than 100 publications, including

- Bryukhanov, V.V., Minaev, B.F., Kusenova, A.S. et al. External heavy atom effect on the intersystem crossing from the lower and higher excited states of rhodamine dyes on a silica surface. *J Appl Spectrosc* 56, 146–150 (1992). <https://doi.org/10.1007/BF00662267>
- Bryukhanov, V.V., Samusev, I.G. & Karstina, S.G. Effect of Temperature on the Rate of Triplet–Triplet Annihilation of 1,2-Benzanthracene in a Polymer Matrix. *Journal of Applied Spectroscopy* 71, 54–59 (2004). <https://doi.org/10.1023/B:JAPS.0000025348.05261.e8>
- Karstina, S.G., Baktybekov, K.S. & Vertyagina, E.N. Analysis of the Luminescence Decay on the SiO<sub>2</sub> Surface at Different Temperatures within the Multifractal Formalism. *Russ Phys J* 48, 553–558 (2005). <https://doi.org/10.1007/s11182-005-0169-z>
- Karstina S.G., Baktybekov K.S., Vertyagina E.N. Analysis of luminescence attenuation kinetics on SiO<sub>2</sub> surface at different temperatures based on multifractal formalism // *Russian Physics*. - 2005. - №6(48). - C.3-8.
- Karstina S.G., Baktybekov K.S., Markova M.P. Variation of Fractality of Sorbed Molecule Clusters under Annihilation Processes // *Известия ВУЗов. Физика*. - 2006. - №10(49). Приложение. - C.288-289.
- Certificate of state registration of the object of intellectual property of the Republic of Kazakhstan. №141. *Kinetics / Baktybekov K.S., Karstina S.G., Vertyagina E.N.* - Record in the Register dated 05.05.2006.
- Karstina S.G., Baktybekov K.S., Baratova A.A. Thermodynamic and kinetic conditions of formation of stable fractal structures on the surface // *Nonlinear World*. - 2007. - №3 (5). - C.133-138.
- K.Baktybekov, S.Karstina, E.Vertyagina, M.Myrzakhmet, E.Akimbekov. Dependence of accumulated luminosity of thermostimulated luminescence on type of the electron-hole center distribution in a crystal // *Journal of Luminescence*. - 2007. - Vol. 122-123. - P.374-376.
- Certificate of state registration of the object of intellectual property. RK №234. *Molecular clusters / Baktybekov K.S., Karstina S.G., Baratova A.A.* Record in the registry dated 05.06.2008.
- Karstina S.G. Kinetics of heteroannihilation interactions in matrices with different structural organization // *Russian Physics*. - 2009. - №8/2. - C.58-61.
- Karstina, S.G., Markova, M.P. & Bryukhanov, V.V. Homo- and Heteroannihilation of Triplet-Excited Bengali Rose and Anthracene Molecules on Silica in a Wide Temperature Range. *Journal of Applied Spectroscopy* 70, 733–739 (2003). <https://doi.org/10.1023/B:JAPS.0000008871.70120.d4>
- Karstina S.G. Academic mobility as factor of internalization of educational programs // *High school of Kazakhstan*., 2013. -№1.-P.56-59
- Karstina S.G., Mahabayeva A.T. Competence based education as a factor of increasing of young specialists' competitive ability / «Scientific and creative heritage of academician Y.A.Buketov»: Materials of international scientific and practical conference devoted to 90th year anniversary of Y.A.Buketov. Karaganda: publishing house KarSU, 2015, March 27-28, p.177-179
- Karstina S.G., Competence based education as a factor of increasing of graduate' competitive ability // *Competence based education as a factor of increasing of young specialists' competitive ability*, 2015. -№2.-C.21-23
- Karstina S., Twaróg S., Mobilność Edukacyjna Studentów Polski i Kazachstanu – Studium Porównawcze Wprowadzenie. Uniwersytet w perspektywie kształcenia przez całe życie. red. K. Jędralska, J. Bernais, Uniwersytet Ekonomiczny w Katowicach, Katowice 2015, s. 61 – 77
- Karstina S. Internationalization of the educational process and educational activities: foreign experience and prospects for its use // *High school of Kazakhstan*, 2016. -№1.-P.51-53
- Karstina S., Shkutina L., Kubeyev Y. Development of management education in Kazakhstan at the present stage// *Novosibirsk State Pedagogical University Bulletin (Scopus IF 0,450)*, 2017. - No.4. - PP.171-184 (DOI: <http://dx.doi.org/10.15293/2226-3365.1704.11>)
- Karstina S.G., Makhabayeva A.T., Khamit A.A., Prutko A.S. Modern Approaches to Preparing Engineering Personnel in Kazakhstan in the context of Social, Economic and Technological Trends // *Education and Science without borders*, 2019, -№20. –P.47-50
- L.M. Sugralina, Ye.V. Minayeva, S.G. Karstina, L.K. Salkeeva. Engineering Educators Training in Kazakhstan: Situation and Prospects//*Bulletin of The Karaganda University. Chemistry Series*, №4 (96)6 2019. –P.110-115. DOI: 10.31489/2019Ch4/110-115
- S.G.Karstina, K.M.Makhanov, O.L.Kovalenko. Impact of Digital Transformation on Engineering Training// *Sustainable Development Management*. 2020. No5 (30). -PP.94-99
- S.G. Karstina, O.N. Zechiel, C.Machado. Role of the Kazakhstan-German Cooperation in Improving Scientific Tools for Evaluation of Vocational Education Programs// *Vysshee Obrazovanie v Rossii = Higher Education in Russia*, 2021, Vol. 30, №16 -PP.132-143. <https://doi.org/10.31992/0869-3617-2021-30-1-132-143>
- Karstina S.G. (2021) Educators Training in the Context of Socio-Economic and Technological Trends of Kazakhstan. In: Auer M.E., Rüttnann T. (eds) *Educating Engineers for Future Industrial*

- Revolutions. ICL 2020. Advances in Intelligent Systems and Computing, vol 1329. Springer, Cham. [https://doi.org/10.1007/978-3-030-68201-9\\_7](https://doi.org/10.1007/978-3-030-68201-9_7)
- Karstina S. Development of a toolkit for assessing digital competencies of engineering students // Kazan pedagogical journal. — 2021. — № 5 (148). — P.112-118
  - S.G. Karstina. Modern forms of interaction in the digital environment in the training of engineering students// Managing Sustainable Development. - 2021. №6(37). - P. 98-103;
  - Tasbulatova Sh. U., Karstina S. G. Institutional system of quality assurance in higher education: development and improvement // Higher School of Kazakhstan. -2021. - №3(35). - P. 14-19.
  - K.Jenewein, O. Zechiel, S.Karstina (Hg.) Berufliche Bildung im deutsch-kasachischen Kontext. Duale Ausbildung in Logistik, Mechatronik und nachhaltiger Energieversorgung, 2021, 183 Seiten, Band-Nr.: 62, Reihe: Berufsbildung, Arbeit und Innovation, Artikelnummer: 6004866w
  - Karstina, S. (2022). The Role of Inter-institutional Cooperation in Engineering Training. In: Auer, M.E., Hortsch, H., Michler, O., Köhler, T. (eds) Mobility for Smart Cities and Regional Development - Challenges for Higher Education. ICL 2021. Lecture Notes in Networks and Systems, vol 389. Springer, Cham. [https://doi.org/10.1007/978-3-030-93904-5\\_7](https://doi.org/10.1007/978-3-030-93904-5_7).

### Projects

- Since 2006 - coordinator of 6 projects of the European academic mobility program Erasmus Mundus
- ETF-JP-00276-2008 « Creation of 4 Higher Hospitality Schools (ESHA)» (2009-2011)
- 144976-TEMPUS-1-2008-1-RO-TEMPUS-JPCR Professionalization of educational programs to train social workers (LMTS) (2009-2011);
- 511172-TEMPUS-1-2010-1-DE-TEMPUS-JPCR Curriculum Invoking Bologna-aligned Education Leading to reform in Environmental Studies (CIBELES) (2011-2013);
- 516721-TEMPUS-1-2011-1-RO-TEMPUS-JPCR Licence-Master in Social Psychology professionals to intervene with public migrants in Russia, Ukraine and Kazakhstan (LMPSM) (2011-2014);
- 517504-TEMPUS-1-2011-1-ES-TEMPUS-JPCR Modernization and development of curricula on pedagogy and educational management in the Central Asian countries (EDUCA) (2012-2015);
- 530786-TEMPUS-1-2012-1-NL-TEMPUS-SMHES Towards a Central Asian Higher Education Area: Tuning Structures and Building Quality Culture (TuCAHEA) (2012-2015);
- Since 2016 - coordinator of 8 international projects of Erasmus+ European Academic Mobility Program
- 598506-EPP-1-2018-1- PT-EPPKA2-CBHE-JP EngineeriNg educatoRs pEdagogical tRaining (ENTER) (2018-2021);
- 602681-EPP-1-2018-1-LT-EPPKA2-CBY-ACPALA Social Entrepreneurship Heroes (SEH) (2018-2020)
- EC 618835-EPP-1-2020-1-KZ-EPPKA2-CBHE-SP KazDual - (Implementing dual system in Kazakhstan (2021-2024)
- Peer to Peer: Facebook Global Digital Challenge (USA) (2017)
- Kazakhstan-German project GeKaVoC -Transfer of vocational training in logistics, mechatronics and sustainable energy supply to Kazakhstan (2018 – 2020)

### Honours and awards

- In 2004 and 2006 was twice awarded the State Scientific Scholarship for talented young scientists;
- Letter of Gratitude, Honorary Diploma of the Rector;
- E.A.Buketov Karaganda State University grant for young scientists for scientific research internship;
- Badge of the Ministry of Education and Science "For contribution to the development of science of Kazakhstan";
- Staff Mobility for Training, Erasmus+ scholarship, 2019;
- Honored Worker of the Buketov Karaganda State University.

### Memberships

- Since 2022 - Member of the international register of professional educators ENTER (<https://enterprof.org/ru/enter-registered-educators>)
- Since 2015 - Member of the International Research Group on Problem Research: Educational Management, Hungary, University of West Hungary
- Member of the author's team on the development of experimental PhD training programs in areas: Nanotechnology and nonlinear physics, Pharmaceutical chemistry
- Permanent member of working groups of the Ministry of Education and Science of the Republic of Kazakhstan to develop regulatory documents in the field of higher and postgraduate education
- Participated in the national working group to develop mechanisms for funding academic mobility of the Center for Bologna Process and academic mobility of the Ministry of Education and Science of the Republic of Kazakhstan.

- Courses**
  - System analysis
  - Modern Educational Technologies
  - Virtual laboratory works on physics
  - Innovative educational technologies
  - Educational Management
  - Project and research activities
  
- Seminars**
  - The developer of author's training programs for teachers and practitioners on the issues of competence approach to the development of educational programs, the use of Tuning technologies, the application of e-learning technologies, the application of the principles of the Bologna process.
  
- Certifications**
  - Educational management, 01.10.2014-30.11.2014, Higher School of International and Public Relations (Czech Republic)
  - Internationalization of Higher Education Institutions, 01.05.2015-05.05.2015, Bilbao, Spain
  - ENTER Quality Management System, iPET course development, 18.06.2019 - 21.06.2019, Almaty, Kazakhstan
  - Transfer of German experience from dual training programs in logistics, mechatronics and renewable energy to Kazakhstan", August, 2019, TÜV Akademie, Germany
  - Digital economy in the context of national security, November, 2019, Moscow, Russia
  - Staff Mobility for Training, Erasmus+ scholarship, 16.11.2019 - 30.11.2019, Charles University in Prague, Czech Republic
  - Certified Vocational Trainer (TUV), № 3152520, 18/11/2019
  - Charles University in Prague, Czech Republic/ 16.11.2019 - 30.11.2019/international cooperation in training /Staff Mobility for Training, Erasmus+ scholarship /program participant
  - Silesian University of Technology (PL GLIWICE01)/ 19 October 2020 - 22 October 2020/International Staff Training Week titled: „Internationalisation of Higher Education - Perspectives of International Learning” organized within the ERASMUS+ KA107 & KA103 Programme Scheme/program participant.
  - AML/CFT training (for participants of the International Network Institute in the sphere of AML/CFT)/2020/information security/program participant
  - NRNU MEPhI, Russian Federation/2020/Digital Technology/Organizational Behavior in the Era of Digital Transformation/program participant
  - Digital Platforms and Tools in Education: How to Choose under Conditions of High Transition Speed, 20.05.2020, NRNU MEPhI, Russian Federation;
  - Project Approach Methodology in the Educational Process: Opportunities and Prospects, 10.06.2020, NRNU MEPhI, Russian Federation
  - ENTER Quality Management, 30.06.2020 - 03.07.2020, Rostov-on-Don, Russian Federation
  - Competencies of the Modern Teacher; 30.09.2020, NRNU MEPhI, Russian Federation
  - International Staff Training Week titled: „Internationalisation of Higher Education - Perspectives of International Learning” organized within the ERASMUS+ KA107 & KA103 Programme Scheme at the Silesian University of Technology (PL GLIWICE01), 19 October 2020 - 22 October 2020

ADDITIONAL INFORMATION

- 09/2021 - until now Expert in Educational Programs at the Center of the Bologna Process of the Ministry of Educational Programs of the Republic of Kazakhstan
- 02/2022 - 12/2022 Higher ducation Reform Expert (HERE) in Kazakhstan
- 06/2021 Guest lecturer for the professional development course "System Analysis" on the retraining program "Innovative Pedagogy for Teachers of Engineering Universities", Kazan National Research Technological University
- 01/2022 Guest lecturer for the professional development course "Problem-Based, Practice-Oriented and Project-Based Learning" within the program "Innovative Pedagogy for Teachers of Engineering Institutions", Kazan National Research Technological University
- 09/2016 - 02/2017 Distance work as a professor at the Department of Theoretical and Applied Chemistry of South Ural State University (National Research University), Russia, from 01.09.2016 to 28.02.2017

- 12/2015 Guest lectures on the course: "Mathematical and statistical methods in economic research", Higher School of Economics in Prague (Czech Republic), from 02.12.2015 to 15.12.2015
  
- 2012 Chairman of the Dissertation Council for the awarding of the degree of Doctor of Philosophy (PhD), Doctor of Science in the field of nanomaterials and nanotechnology
  
- 2010-2019 Deputy editor-in-chief of the international scientific journal "Education and Science without Borders"
  
- 2006-2007 Secretary of the Expert Council on Physics, Energy and Methods of Teaching Physics of the Committee for Supervision and Attestation in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan
  
- 2000-2002 Scientific Secretary of Dissertation Council K14.07.03 on defense of Candidate's Dissertations on specialties 01.04.07 Condensed state physics, 01.04.14 - Thermophysics and Theoretical Thermal Engineering

Author ID в Scopus\* 6506303497  
Researcher ID Web of Science\* AAW-5227-2021  
ORCID ID\* 0000-0001-8425-681X