

State Scientific Institution "Institute for Single
Crystals" NASU

60 Nauky Ave.,
Kharkiv, 61001
Ukraine

belikov@isc.kh.ua
Phone: +380573410357
Mobile: [mobile]
Fax: +380573410273
Website: <http://chem.isc.kh.ua/dep10>

Konstantin N. Belikov, PhD

https://www.researchgate.net/profile/Konstantin_Belikov

Education

Nov 1993 – Nov 1996 **Institute for Single Crystals, National Academy of Sciences of Ukraine**
PhD, Analytical Chemistry
Kharkiv, Ukraine

Sep 1988 – Jun 1993 **V. N. Karazin Kharkiv National University**
MS, Chemistry
Kharkiv, Ukraine

Thesis

**Application of X-ray fluorescence analysis for determination of heavy metals in
air and their mobile forms in soils (2002)**

Research Experience

Aug 2014 – present **Deputy General Director**
State Scientific Institution "Institute for Single Crystals" NASU,
Kharkiv, Kharkiv, Ukraine

Sep 2013 – present **Professor (Associate)**
V. N. Karazin Kharkiv National University, Department of Chemical
Metrology
Kharkiv, Ukraine

Sep 2007 – Aug 2014 **Head of Department**
State Scientific Institution "Institute for Single Crystals" NASU,
Kharkiv, Kharkivs'ka Oblast', Ukraine

Jan 2004 – Dec 2004 **PostDoc Position**
University of Antwerp, Department of Chemistry
Antwerpen, Belgium

Jan 2004 – Dec 2004 **PostDoc Position**
University of Antwerp, Department of Chemistry
Antwerpen, Belgium

Skills & Activities

<i>Skills</i>	Environmental Analytical Chemistry, Analytical Method Development, Material Characterization, Pharmaceutical Analysis, Method Validation, Analytical Statistics, Solid Phase Extraction, Elemental Speciation, X-ray Fluorescence, Spectrophotometry, Quality Control of Chemicals, Solvent Extraction, Separation Science, Ultraviolet Spectrophotometry, Analytical Chemistry, Scintillation, Environmental Chemistry, Materials Chemistry, Luminescence, Voltammetry, Spectroscopy, Chromatography, Project Coordination, Project Evaluation
<i>Activities</i>	Development of analytical procedures for quality control of medicines, industrial products, environmental objects; validation of analytical procedures Synthesis and investigation new sorption materials for deactivation of liquid radioactive wastes and separation other hazardous substances Determination of organic compounds in different materials according to RoHS and REACH requirements Voltammetry of organic compounds
<i>Languages</i>	English, Ukrainian
<i>Interests</i>	Computers, Neural Networks, Football, Aquaristics

Selected publications

1. Yesypenko, O. A., Boiko, Y. S., Belikov, et. al. Surface modification of aminopropylated silica gel with tetraphosphorylated bis-methoxycarbonylmethoxycalix[4]arenes for effective europium(III) sorption. Theoretical and Experimental Chemistry, 56(4), 2020, P. 252-260.
2. Bunina Z., Bryleva K., Belikov K. Synthesis and Adsorption Properties of Gadolinium-Imprinted Divinylbenzene-Based Copolymers // ACS Omega. – 2021. – Vol. 6, N. 4. – P. 3336–3344.
3. Shevchenko, V., Bliznyuk, V., Gumenna, M., Klimenko, N., Stryutsky, A., Wang, J., Binek, C., Chernyakova, M. Coordination Polymers Based on Amphiphilic Oligomeric Silsesquioxanes and Transition Metal Ions (Co^{2+} , Ni^{2+}): Structure and Stimuli-Responsive Properties // Macromolecular Materials and Engineering, 2021, 306(5), 2100085.

4. Zinaida Bunina, Victoria Varchenko, Kateryna Bryleva, Vasyl Chornyi, Konstantin Belikov. Determination of Arsenic by ICP-OES after Cloud Point Extraction with Salt Induced Phase Separation: Application to Gadolinium Based MRI Contrast Agent // *ChemistrySelect*. 2022. Vol. 7, No 29. P. e202201457.
5. Yuriy Boiko, Konstantin Belikov, Ekaterina Bryleva, Zinaida Bunina, Victoria Varchenko, Andriy Drapailo, Roman Rodik, Alexander Golub, Alexander Katz Vitaly Kalchenko. Silica gels grafting with upper rim tetraphosphorylated tetrahydroxy(thia)calixarenes. Europium(III) sorption // *Phosphorus, Sulfur, and Silicon and the Related Elements*. 2022. Vol. 197, No 5-6. P. 579-582.
6. T.A.Blank, S.V.Khimchenko, K.N.Belikov, V.A.Chebanov, Removal of the Am-241 from aqueous solutions using different sorbents. *Functional Materials*, 29, No.1, 2022, P. 5–19.
7. O.I.Zbruyev, K.N.Belikov, S.V.Khimchenko, T.A.Blank, V.A.Chebanov. Modified greener procedure for the synthesis of cucurbit[6]uril. *Organic Process Research & Development*, 27(1), 2023, P. 129 - 135.
8. Y.I. Sakhno, I.O. Zinchenko, I.B. Shcherbakov, H.L. Ivashchenko, Yu.M. Stolper, A.M. Liapunova, K.M. Belikov, S.M. Desenko, O.P. Bezugla, V.A. Chebanov. Stress testing of 2,5-dihydro-1H-pyrrol-3-yl substituted acetic acid // *Functional Materials*, 29, No. 4 (2022), P. 1-10.
9. Boiko, Y., Belikov, K., Bryleva, E., та ін. Grafting of phosphorus-containing tetrahydroxy(thia)calixarenes on silica enhances europium(III) adsorption. *Phosphorus, Sulfur and Silicon and the Related Elements*. 2023. Vol. 198, No. 9. P. 715–722.
10. Varchenko, V. V., Bunina, Z. Y., Bryleva, K. Y. & Belikov, K. M. Application of Cloud-Point Extraction for the Determination of Arsenic using Inductively Coupled Plasma Atomic Emission Spectrometry in Several Pharmaceutical Preparations. *Vol. 19, Issue 2, Pages 67 - 72* **19**, 67 (2024).

11. Cherniakova, M. Y. *et al.* New low transition temperature mixture menthol:salicylaldoxime - a designer solvent for extraction of metal species. *Vol. 48, Issue 33, Pages 14527 - 14531* **48**, 14527 (2024).
12. Cherniakova, M., Varchenko, V. & Belikov, K. Menthol-Based (Deep) Eutectic Solvents: A Review on Properties and Application in Extraction. *Chemical Record* at <https://doi.org/10.1002/tcr.202300267> (2023).
13. L. V. Kovalenko, A. P. Paliy, O. M. Kornieikov, K. M. Belikov, K. Y. B. Toxicological properties of mixtures of binary silver-copper, silver-zinc, and copper nanoparticles on cell culture model and laboratory animals. *Regul. Mech. Biosyst.* **15**, 552 (2024).
14. Sofronov, D.S., Belikov, K.N., Rucki, M., Lavrynenko, S.N., Siemiątkowski, Z., Bryleva, E.Y., & Odnovolova, O.M. (2020). Synthetic Sorbent Materials Based on Metal Sulphides and Oxides (1st ed.). Taylor & Francis. <https://doi.org/10.1201/9781003102335>.
15. T.V. Sheina, K.N. Belikov: Flame Spectrometry in Analysis of Refractory Oxide Single Crystals. Atomic Absorption Spectroscopy, 01/2012; , ISBN: 978-953-307-817-5, DOI:10.5772/26156