

Siarhei Besarab

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Summary

- Strong management and supervising skills with good interpersonal communication and effective listening skills obtained as the principal investigator of a successful research laboratory
- Experienced at balancing budgets and dividing monies among personnel expenses, instrument maintenance costs, and consumable purchases for a successful chemical research laboratory
- Highly experienced in the development of new nanomaterial chemistries, including synthesis, characterization, and applications in catalytic and adsorptional investigations
- Advanced knowledge of wet laboratory techniques for the synthesis, purification, and characterization of organic, polymer, and inorganic compounds
- Advanced knowledge (design, installation, testing and use) of different vacuum equipment: pumps, gauges, RGAs, valves, etc.
- Understanding of heterogeneous catalysis fundamentals
- Skilled in the characterization of catalysts and porous structures with electron microscopy (STEM, SEM, and TEM), chemisorption and nitrogen physisorption, powder X-ray diffraction, FTIR and DR-UV spectroscopy
- Proficient with additional analytical techniques and computer software/hardware including CADs, MS Office suite and various scientific and programmers software
- Practiced at writing, reviewing, and reporting state funded research grants and peer reviewed scientific publications
- Skilled in biochemistry fundamentals and biological techniques including aseptic laboratory technique, fluorescence confocal microscopy and protein electrophoresis

Experience

Technology Expert in chemical, biological, radiological and nuclear safety and special purpose PPEs

Lab-66

Feb 2021 - Present (3 years 2 months)



Head of Research Project

Belarusian Republican Foundation for Fundamental Research (BRFFR)

Apr 2013 - Present (11 years)

Research project №X13M-042 (16.04.2013-31.03.2015) "Synthesis of sols and fine materials based on manganese oxides (III, IV)"

- Design, synthesize, and test new adsorbent materials for metal and nitrate contaminations from aqueous sources



Senior Research Scientist

The National Academy of Sciences of Belarus

Nov 2013 - Feb 2024 (10 years 4 months)

Неорганические адсорбенты и носители катализаторов, водоочистка

- Design and development nanomaterials with optimal particle size, morphology, pore size and volume, and surface structure and area for tailored synthetic systems. Regulation of porous structure and chemical nature of surface.
- Development of sorption-active materials for sensor technology, porous sorption-active materials for purification of liquid and gaseous mediums
- Application of porous materials for purification of potable water from salts of iron, waste waters of production enterprises from oily impurities, liquid mediums from radionuclides and heavy metals, gaseous mediums from toxic organic components
- Synthesis, characterization and catalytic application of microporous and mesoporous materials
- Characterizing and purifying nanomaterials and their surface functional groups



IEC Expert

IEC (International Electrotechnical Commission)

Oct 2015 - Oct 2015 (1 month)

Expert of Belarus National Committee in 79th IEC General Meeting (October 2015, Belarus, Minsk).

Participation in the following IEC committees:

TC120 - Electrical Energy Storage (EES) Systems

ISO/IEC JPC 2 - Energy efficiency and renewable energy sources

The International Electrotechnical Commission is the international standards and conformity assessment body for all fields of electrotechnology. The IEC enables global trade in electronics and electrical goods. Via the IEC worldwide platform, countries are able to participate in global value chains, and companies can develop the standards and conformity assessment systems they need so that safe, efficient products work anywhere in the world.

Education

Institute of General and Inorganic Chemistry of National Academy of Sciences of Belarus

Doctor of Philosophy (PhD), Surface Science

2010 - 2013

Аспирантура Института общей и неорганической химии НАН Беларуси. Коллоидная химия

Ph.D., Thesis (2013) : "Development of novel methods directed regulation of surface properties of inorganic sorbents"

Courses taken during PhD:

- Surface active materials.
 - Ion exchange resin.
 - Aquatic chemistry.
- PhD Seminar: Water treatment .



Belarusian State University of Informatics and Radioelectronics

Bachelor of Engineering (B.E.), Medical electronics

2009 - 2016

Второе высшее образование, инженер электронщик-программист



Belarusian State University

Bachelor of Applied Science (B.A.Sc.), Chemistry. Pharmaceutical activity

2004 - 2009

Первое высшее образование. Химик. Химик-фармацевт

Subdepartment of Radiochemistry and Chemistry of High Energies

B.A.Sc. diploma thesis (2009) : "The study of processes of obtaining of silicon dioxide with a specified and regulated physical and chemical properties"

Instrumentation & Analytical Skills :

- Liquid Chromatography Mass Spectroscopy(LC-MS)
- High Performance Liquid Chromatography (HPLC)
- UV-Visible Spectrophotometer (UV-Visible)
- Ion Selective Electrode (ISE)

Skills

Colloid Chemistry • Public Safety Technology • Horizon Scanning • Technology Journalism • Science Journalism • Scientific Writing • Research Skills • Technology analytics • Futures Thinking • Science

Honors & Awards

Fellowship of the President of the Republic of Belarus for talented young scientists - Special Fund of The President of the Republic of Belarus

Jan 2015

Monthly Fellowship of the Special Fund of The President of the Republic of Belarus for talented young scientists for excellence in development novel hierarchically porous materials.

First prize in Russian Startup Tour 2016 (Minsk) - Skolkovo Foundation (Russian Skolkovo Innovation Center)

Apr 2016

Startup project "An installation for emergency mercury vapor removal from air"

<http://sk.ru/news/b/news/archive/2016/04/11/v-belorussii-podveli-itogi-startaptura.aspx>

Semi-Final of Huawei Innovation Contest 2019 - Project HYPEREYE (SciHackathon 2017)

Oct 2019

Participant in the semi-final of the Huawei Innovation Contest 2019 (Skolkovo)

in the area of "New intelligent materials and technologies - Next-generation sensors", with the project of a multispectral sensor for mobile phones.

Winner of TechnoText-2021 Challenge - HABR.COM

Jun 2022

First prize in nomination Healthcare@TechnoText-2021