Curriculum Vitae

PERSONAL

Name Valery V. Belousov

EDUCATION

1982 MA in Condensed Matter Physics, Chelyabinsk State University (CSU), Chelyabinsk
1989 PhD in Physical Chemistry and Materials Science, Ural State University (USU), Yekaterinburg
1997 DSc in Physical Chemistry and Materials Science, National University of Science and Technology (NUST MISIS), Moscow

INSTITUTIONAL AFFILIATION

1985 Postgraduate, USU
1989 Senior Research Scientist, CSU
1991 Post-Doc, NUST MISIS
1997 Head of Department, Research Institute of Steel, Moscow
2004 Head of Functional Ceramics Department, Baikov Institute of Metallurgy and Materials Science (IMET RAS), Russian Academy of Sciences (RAS), Moscow

RESEARCH INTERESTS

- molten oxide electrochemistry
- diffusion-bubbling membranes
- molten oxide fuel cells
- high temperature corrosion

PUBLICATIONS

Approximately 150 scientific journal and book publications

SELECTED PUBLICATIONS

1. Fedorov S.V., Klimashin A.A., Belousov, V.V. A core-shell structured diffusion-bubbling membrane for efficient oxygen separation: Formation and transport properties, *J. Am. Ceram. Soc.* 2022, 105, 4532.
2. Belousov, V.V., Fedorov, S.V. Bubble nucleation in core-shell structured molten oxide-based membranes with combined diffusion-bubbling oxygen mass transfer: Experiment and theory, *Phys. Chem. Chem. Phys.*, 2021, 23, 24029.
3. Belousov V.V., Fedorov S.V. Oxygen selective diffusion-bubbling membranes with core-shell structure: Bubble dynamics and unsteady effects, *Langmuir*, 2021, 37, 8370.
4. Belousov, V.V., Fedorov, S.V. Perspective – oxygen separation technology based on liquid-oxide electrochemical membranes, *J. Electrochem. Soc.*, 2020, 167, 103501.
5. Fedorov, S.V., Sedov, M.S., Belousov, V.V. Functionally graded IT-MOFC electrolytes based on highly conductive δ-Bi_2O_3 - 0.2 wt.% B_2O_3 composite with molten grain boundaries, *ACS Appl. Energy Mater.*, 2019, 2, 6860.
6. Belousov, V.V., Fedorov, S.V. An oxygen-permeable bilayer MIEC-Redox membrane concept, *ACS Appl. Mater. Interfaces*, 2018, 10, 21794.
7. Belousov, V.V. Next-generation electrochemical energy materials for intermediate temperature molten oxide fuel cells and ion transport molten oxide membranes, *Acc. Chem. Res.*, 2017, 50, 273.
8. Belousov, V.V. Innovative oxide materials for electrochemical energy conversion and oxygen separation, *Russ. Chem. Rev.*, 2017, 86, 934.
9. Belousov, V.V., Fedorov, S.V. A highly conductive electrolyte for molten oxide fuel cells, *Chem. Commun.*, 2017, 53, 565.
10. Belousov,V.V.,Fedorov,S.V. A novel molten oxide fuel cell concept,*Fuel Cells*,2016,16,401.