Candidate application to the ISGS Board of Directors

Prof./Dr. Name

Age: 58

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CV with main research interests (no longer than 1/2 page)

Gulaim A. Seisenbaeva received her PhD degree in inorganic chemistry in 1989 from the Moscow State University. She worked in the industries after graduation and was appointed a Senior Researcher at the Moscow State Academy of Fine Chemical Technology in 1993. She made her postdoc work at Stockholm University in 1995-1996. Since 2000 she is Senior Researcher at SLU in Uppsala, Sweden, where she obtained her Habilitation degree in Materials Chemistry in 2004 and was appointed Associate Professor. Her major research focus is on precursor-directed synthesis and characterization of porous nanomaterials with application in production of new energy sources, catalysts and functional inorganic and hybrid adsorbents for environmental protection and hydrometallurgy. She has co-authored over 150 peer-reviewed scientific publications and 7 patents. Gulaim is actively fostering industrial collaborations in Sweden and internationally and has actively participated in organization of symposia and popular scientific events. She has actively contributed to activities of PhD research schools with environmental focus both in Sweden and internationally.

5 representative publications

1) *Unusual seeding mechanism for enhanced performance in solid-phase magnetic extraction of Rare Earth Elements,* E.P. Legaria, J. Rocha, C.W. Tai, V.G. Kessler, **G.A. Seisenbaeva**, Scientific Reports **2017**, 7: 43740.
   Highlighted in Materials Research Bulletin: https://www.cambridge.org/core/journals/mrs-bulletin/news/easy-environmentally-friendly-method-to-unearth-rare-earth-elements?platform=hootsuite

2) *The EURARE Project: Development of a Sustainable Exploitation Scheme for Europe's Rare Earth Ore Deposits,* E. Balomenos, P. Davris, E. Deady, J. Yang, D. Panias, B. Friedrich, K. Binnemans, **G.A. Seisenbaeva**, C. Dittrich, P. Kalvig, I. Paspaliaris, Johnson Matthey Technology Review **2017** 61 (2), 142-153.
3) *Toward molecular recognition of REE: Comparative analysis of hybrid nanoadsorbents with different complexonate ligands – EDTA, DTPA and TTHA,* E. Polido Legaria, M. Samouhos, V.G. Kessler, **G.A. Seisenbaeva**, Inorg. Chem., **2017**, 56, 13938−13948.
4) *DTPA-Functionalized Silica Nano- and Microparticles for Adsorption 2 and Chromatographic Separation of Rare Earth Elements*, R.M. Ashour, M. Samouhos, E. Polido Legaria, M. Svärd, J. Högblom, K. Forsberg, M. Palmlöf, V.G. Kessler, **G.A. Seisenbaeva**, A.C. Rasmuson, ACS Sust. Chem. Eng. **2018**, 6 (5), 6889–6900.
5) *Laccase Based Hybrid Magnetic Adsorbent for Simultaneous Removal of Heavy Metals and Drugs from Drinking Water*, I.V. Pylypchuk, V.G. Kessler, **G.A. Seisenbaeva**, ACS Sust. Chem. Eng., **2018** 6(8), 9979–9989

Statement of interest

I would be happy to work for the growth of our society, both geographically (using my contacts in Eastern Europe and Asia) and in new application fields, helping to foster industrial collaboration. Our branch of materials science has strong potential in bringing new solutions and opportunities in abating climate change and answering to environmental challenges.
I hope also to be able to provide help in organization of research courses, schools and conferences.