

Curriculum Vitae

Anna A. Simanova

Institute of Earth Sciences (ISTE)
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Education

2011 - Doctor of Philosophy (PhD) in Chemistry, Department of Chemistry, Umeå University, Sweden.

Thesis title: Molecular Perspectives on Goethite Dissolution in the Presence of Oxalate and Desferrioxamine-B

2004 - Master of Science (M. Sc.) in Chemistry, Department of Physical chemistry, Saint-Petersburg State University, Russia.

Thesis title: Crown-substituted azaheterocycles as selective compounds for a sensor based on surface enhanced Raman scattering (SERS) spectroscopy

Field of research

- Environmental chemistry
- Aquatic and surface chemistry
- Vibrational Spectroscopy

Postdoctoral Research

2012 – present

Institute of Earth Sciences (ISTE), Faculté des géosciences et de l'environnement, University of Lausanne, Switzerland

Instrumental techniques and data analysis skills

2012-present

- Expertise in XAS spectroscopy and data analysis

2006 - 2011

- Expertise in ATR-FTIR-spectroscopy and data analysis (including two-dimensional correlation spectroscopy)

- Experience in UV-VIS spectroscopy, Inductively Coupled plasma Optical Emission spectrometry (ICP-OES), atomic absorbance spectroscopy (AAS), ion chromatography (IC)
- Potentiometric titrations of aqueous solutions and solid suspensions of metal oxides
- Experience in adsorption and kinetic batch experiments
Department of Chemistry, Umeå University, Sweden

January - May 2006

- HPLC, Chromatographic Evaluation of Molecularly Imprinted Polymers with High Selectivity for Phosphorylated Tyrosine
Analytical Chemistry, Department of Chemistry, Umeå University, Sweden

2004

- Raman- and surface enhanced Raman scattering (SERS) spectroscopy
Russian Center of Laser Physics, Research Institute of Saint-Petersburg State University, Russia

2001 - 2005

- organic synthesis; application of chromatography for separation of reaction products; NMR, IR-spectroscopy; ab initio calculations of equilibrium geometries, IR-, Raman-, SERS-spectra (GAMESS)
Lab. of Ionometry, Department of Physical chemistry, Saint-Petersburg State University, Russia

Publications list

- Simanova A. A., Loring J. S., Persson P. (2011) Formation of Ternary Metal-Oxalate Surface Complexes on α -FeOOH Particles. *J. Phys. Chem. C*, 115(43), 21191-21198.
- Simanova A. A., Persson P., and Loring J. S. (2012) Surface reactions controlling the decomposition of DFOB in the presence of goethite. Manuscript, to be submitted.
- Simanova A.A, Persson P., Loring J.S. Evidence for ligand hydrolysis and Fe(III) reduction in the dissolution of goethite by desferrioxamine-B. (2010) *Geochim. Cosmochim. Acta*, 71, 6706-6720
- Loring, J.S., Simanova A.A., Persson P. (2008) Highly mobile iron pool from a dissolution-readsorption process. *Langmuir*, 24(14), 7054-7057
- Emgenbroich M., Borrelli C., Shinde S., Lazraq I., Vilela F., Hall A.J., Oxelbark J., De Lorenzi E., Courtois J., Simanova A., Verhage J., Irgum K., Karim K., Borje Sellergren. (2008) A Phosphotyrosine-Imprinted Polymer Receptor for the Recognition of Tyrosine Phosphorylated Peptides. *Chem. Eur. J.*, 14, 9516–9529

- Denisova A.S., Dem'yanchuk E.M., Starova G.L., Myund G.L., Makarov A.A., Simanova A.A. (2007) X-ray, IR, Raman and DFT study of new bifunctional ligand – 1,10-phenanthroline-5,6-crown-12-O4. *Journal of Molecular Structure*, 828, 1–9
- Denisova A.S., Degtyareva M.B., Dem'yanchuk E.M., Simanova A.A. (2005) Synthesis of bifunctional ligands based on azaheterocycles and fragments of 12-crown-4. *Rus. J. Org. Chem.*, 41 (11), 1690-1693

Conference presentations

Poster presentations:

- October 2004, III scientific session of Education and Scientific Centre of Chemistry (*Uchebno-Nauchnyj Centr Khimii*), Saint-Petersburg State University, Russia
- August 2007, Goldschmidt Conference, Cologne, Germany (Goldschmidt Conference Abstracts, *Geochim. Cosmochim. Acta.* 2007, 71(15), A939)
- June 2009, Goldschmidt Conference, Davos, Switzerland (Goldschmidt Conference Abstracts, *Geochim. Cosmochim. Acta*, 2009, 73(13), A1226)

Oral presentation:

- June 2010, Goldschmidt Conference, Knoxville, Tennessee, USA (Goldschmidt Conference Abstracts, *Geochim. Cosmochim. Acta*, 2010, 74(11), A963)
- August 2013, Goldschmidt Conference, Florence, Italy (Goldschmidt Conference Abstracts, DOI:10.1180/minmag.2013.077.5.19)

Other:

- Swiss Geoscience meeting 2012
- August 2013, Goldschmidt Conference, Florence, Italy (Goldschmidt Conference Abstracts, DOI:10.1180/minmag.2013.077.5.19)

Reviewer experience

- *Environmental Science and Technology*
- *Geochimica et Cosmochimica Acta*
- *Chemical Geology*

Teaching experience

- Teaching Assistant, Soil Chemistry, spring 2012, University of Lausanne, Switzerland
- Student advisor, Environmental Chemistry, fall 2007, Umea University, Sweden