

Curriculum vitae

Nils Börje INGMAR PERSSON

Born March 23, 1953

Education

1. M. Sc. in chemistry, 80 credits, and biology, 40 credits, Lund University, November 14, 1975.
2. Ph.D. in chemistry, especially inorganic chemistry, Lund University, April 2, 1980. Title of thesis "Thermodynamic and Structural Studies of Some Metal Halide and Thiocyanate Complexes in Dimethylsulfoxide Solution".

Positions

1. Professor of Inorganic and Physical Chemistry at the Department of Chemistry, Swedish University of Agricultural Sciences, Uppsala, since January 1, 1989.

Supervision 2010-present

I have been main supervisor for the following persons in their Ph.D. studies.

1. Natallia Torapava, Hydration, solvation and Hydrolysis of Multicharged Metal Ions, Swedish University of Agricultural Sciences, Uppsala 2011.
2. Johan Mähler, The Adsorption of Arsenic Oxyacids to Iron Oxyhydroxide Columns - Including Studies of Weakly Hydrated Ions and Molecules in Aqueous Solution, Swedish University of Agricultural Sciences, Uppsala 2013.
3. Shahin Norbakhsh, Implications of Chemical Deterioration on Mechanical Performance of Wood, Swedish University of Agricultural Sciences, Uppsala 2014.
4. Lars Eklund, Hydration of Oxo Anions - A Combined Computational and Experimental Structure and Dynamics Study in Aqueous Solutions, Swedish University of Agricultural Sciences, Uppsala 2014.

I have been main supervisor for the following persons in their licentiate studies.

5. Lars Eklund, Asymmetric and Symmetric Hydration of Hydrated Anions in aqueous Solution, Swedish University of Agricultural Sciences, Uppsala 2011.
6. Charles Johansson, Deterioration of Recent oak by Iron compounds - a Comparison with *Vasa* oak, Swedish University of Agricultural Sciences, Uppsala 2012.

I have been main supervisor for the following persons in their Masters project.

7. Sofie Orvestedt, management and impact on people's health when cultivating on sites contaminated with heavy metals, Swedish University of Agricultural Sciences, Uppsala 2015.
8. Sabina Braun, The impact of waste handling on small scale farming in Malawi, Swedish University of Agricultural Sciences, Uppsala 2015.

I have been assistant supervisor for the following persons in their Ph.D. studies.

9. Carin Sjöstedt, Iron and aluminium speciation in Swedish freshwaters, Royal Institute of Technology, Stockholm 2012.
10. Maja A. Larsson, Vanadium in soils, Swedish University of Agricultural Sciences, Uppsala 2014.

Evaluation Committees 2010-present

1. I have been faculty opponent on the Ph.D. theses by
 - a/ Debapratin Ghosh, University of North Bengal, Darjeeling, India, Studies on the Behaviour of Polyelectrolytes & their Interaction with Small Ion and Surfactant in Mixed Solvent, 2010.
 - b/ Ivan Calabante, Luleå University of Technology, Arsenic (V) adsorption on iron oxide – Implications for soil remediation and water purification, Luleå, 2012
2. I have been faculty opponent on the licentiate theses by
 - a/ K. Larsson, Characterization and Dissolution of HEV NiMH Batteries, Chalmers University of Technology, Göteborg 2010.
3. I have been member of the evaluation committee for the following Ph.D. theses.
 - a/ J. Gråsjö, Molecular Arrangement, Electronic Structure and Transport Properties in Surfactant Gel- and Related Systems Studied by Soft X-ray and Dielectric Spectroscopy Uppsala University, 2013.
 - b/ Richard Eriksson, Structural Changes in Lithium Battery Materials Induced by Aging and Usage, Uppsala University, 2015.

Scientific appointments 2010-present

1. Chairman of the international steering committee of the conference series "International Conferences of Solution Chemistry", since 2001.
3. Chairman of the user's organization at MAX-lab (FASM), Lund University, October 2007-September 2013.
4. Main responsible and spokesperson for the planned *in-situ* hard X-ray absorption spectroscopy beam-line BALDER at MAX IV, 2010-present
5. Member of infrastructure committee at the Swedish University of Agricultural Sciences, since April 2014.
6. Member of infrastructure division of the Swedish Research Council (RFI) since April 2014.
7. Swedish delegate of NORDSYNC and European Synchrotron Radiation Facility (ESRF) council September 2014-September 2017.
8. Member of hearing committee at the recruiting of new vice-chancellor and deputy vice-chancellor at SLU 2015-2016.
9. Chairman of the committee for the selection of excellent teachers at the Swedish University of Agricultural Sciences since January 2015.
10. Member of the Swedish National Council for Nuclear Waste since April 2015.

Scientific publications in international peer-reviewed journals 2010-2015

1. P. D'Angelo, A. Zitolo, V. Migliorati and I. Persson, Analysis of the Detailed Configuration of Hydrated Lanthanoid(III) Ions in Aqueous Solution and Crystalline Salts by Using K- and L₃-Edge XANES Spectroscopy.
Chem. Eur. J. **16** (2010) 684-692; doi: 10.1002/chem.200900122
2. Ö. Topel, I. Persson, D. Lundberg and A.-S. Ullström, On the Structure of the *N,N'*-Dimethylpropyleneurea and Dimethylsulfoxide Solvated Gallium(III) and Indium(III) Ions and Bromide Complexes in Solution and Solid State, and the Complex Formation of the Gallium(III) and Indium(III) Bromide Systems in *N,N'*-Dimethylpropyleneurea.
Inorg. Chim. Acta **363** (2010) 988-994; doi: 10.1016/j.ica.2009.12.024
3. D. Lundberg, I. Persson, L. Eriksson, P. D'Angelo and S. De Panfilis, Structural Study of the *N,N'*-Dimethylpropyleneurea Solvated Lanthanoid(III) Ions in Solution and Solid State with an Analysis of the Ionic Radii of Lanthanoid(III) Ions.
Inorg. Chem. **49** (2010) 4420-4432; doi: 10.1021/ic100034q
4. Y. A. Fadeeva, L. P. Safonova and I. Persson, Physico-chemical and Structural Characterization of the Binary System Phosphoric Acid–*N,N*-Dimethylformamide.
Phys. Chem. Chem. Phys. **12** (2010) 8977-8984; doi: 10.1039/B926140K
5. G. Almkvist, K. Boye and I. Persson, K Edge XANES Analysis of Sulfur Compounds – An Investigation of the Relative Intensities Using Internal Calibration.
J. Synchrotron Rad. **17** (2010) 683-688; doi: 10.1107/S0909049510022946
6. I. Persson, Hydrated Metal Ions in Aqueous Solution - How Regular are Their Structures.
Pure Appl. Chem. **82** (2010) 1901-1917; doi: 10.1351/PAC-CON-09-10-22
7. Ö. Topel, I. Persson, D. Lundberg and A.-S. Ullström, Reactions and Structures in the Gallium(III)/Indium(III)-*N,N*-dimethylthioformamide Systems.
Inorg. Chim. Acta **365** (2011) 220-224; doi: 10.1016/j.ica.2010.09.011
8. I. Persson, K. Lyczko, D. Lundberg, L. Eriksson and A. Płaczek, A Coordination Chemistry Study of Hydrated and Solvated Lead(II) Ions in Solution and Solid State.
Inorg. Chem. **50** (2011) 1058-1072; doi: 10.1021/ic1017714
9. M. Purgel, M. Maliarik, J. Glaser, Carlos Platas-Iglesias, I. Persson and Imre Toth, Binuclear Pt–Tl Bonded Complex with Square Pyramidal Coordination around Pt: A Combined Multinuclear NMR, EXAFS, UV–Vis, and DFT/TDDFT Study in Dimethylsulfoxide Solution.
Inorg. Chem. **50** (2011) 6163-6173; doi: 10.1021/ic200417q
10. N. Ottosson, E. Wernersson, J. Söderström, W. Pokapanich, S. Kaufmann, S. Svensson, I. Persson, G. Öhrwall and O. Björneholm, The protonation state of small carboxylic acids at the water surface from photoelectron spectroscopy.
Phys. Chem. Chem. Phys. **13** (2011) 12261-12267; doi: 10.1039/C1CP20245F
11. G. Almkvist and I. Persson, Distribution of iron and sulfur and their speciation in relation to degradation processes in wood from the Swedish warship the *Vasa*.
New J. Chem. **35** (2011) 1491-1502; doi: 10.1039/C1NJ20056A
12. N. Torapava, D. Lundberg and I. Persson, A Coordination Chemistry Study of Solvated Thorium(IV) Ions in Two Oxygen-Donor Solvents.
Eur. J. Inorg. Chem. (2011) 5273-5278; doi: 10.1002/ejic.201100823
13. K. Boye, G. Almkvist, S. I. Nilsson, J. Eriksen and I. Persson, Quantification of chemical S species in bulk soil and organic S fractions by K S-edge XANES spectroscopy.
Eur. J. Soil. Sci. **62** (2011) 874-881; doi: 10.1111/j.1365-2389.2011.01391.x

14. B. Sorgho, S. Paré, B. Guel, L. Zerbo, K. Traoré and I. Persson, Study of locale mixed clay from Burkina Faso for the removal of Cu^{2+} , Pb^{2+} and Cr^{3+} (Etude d'une argile locale du Burkina Faso à des fins de décontamination en Cu^{2+} , Pb^{2+} et Cr^{3+}). *J. Soc. Ouest-Afr. Chim.* **31** (2011) 49-59.
15. J. Mähler and I. Persson, A Study of the Hydration of the Alkali Metal Ions in Aqueous Solution. *Inorg. Chem.* **51** (2012) 425-438; doi: 10.1021/ic2018693
16. N. Torapava, A. Radkevich, I. Persson, D. Davydov and L. Eriksson, Formation of a heteronuclear hydrolysis complex in the $\text{Th}^{\text{IV}}/\text{Fe}^{\text{III}}$ system. *Dalton Trans.* **41** (2012) 4451-4459; doi: 10.1039/C2DT30058C
17. L. Eklund, T. S. Hofer, A. Pribil, B. M. Rode and I. Persson, On the Structure and Dynamics of the Hydrated Sulfite Ion in Aqueous Solution – An ab initio QMCF MD Simulation and Large Angle X-ray Scattering Study. *Dalton Trans.* **41** (2012) 5209-5216; doi: 10.1039/C2DT12467J
18. C. Ekberg, S. Englund and I. Persson, The tetrad effect in the lanthanoid series – experiment and explanation. *Global. J. Inorg. Chem.* **3** (2012) 11:1-4.
19. S. Pare, I. Persson, G. Boubié, D. Lundberg, L. Zerbo, S. Kam and K. Traoré, Metal ion removal from aqueous solutions by sorption using natural clays from Burkina Faso. *Afr. J. Biotechnol.* **11** (2012) 10395-10406; doi: 10.5897/AJB11.3735
20. D. Berggren Kleja, J. van Schaik, I. Persson and J. P. Gustafsson, Characterization of Iron in Floting Surface Films of some Natural Waters using EXAFS, *Chem. Geol.* **326-327** (2012) 19-26; doi: 10.1016/j.chemgeo.2012.06.012
21. J. Krakowiak, D. Lundberg and I. Persson, A Coordination Chemistry Study of Hydrated and Solvated Cationic Vanadium Ions in Oxidation States +III, +IV, and +V in Solution and Solid State. *Inorg. Chem.* **51** (2012) 9598-9609; doi: 10.1021/ic300202f
22. D. Lundberg and I. Persson, Crystal Structures of $[\text{Hg}_{10}(\text{dmsO})_{16}](\text{ClO}_4)_{10}$ and $[\text{Hg}_2(\text{H}_2\text{O})_2](\text{ClO}_4)_2$. *Z. Kristallogr.* **227** (2012) 683-687; doi: 10.1524/zkri.2012.1544
23. J. Mähler and I. Persson, Structure and Hydrogen Bonding of Arsenic Oxyacid Species in Aqueous Solution"Structure and Hydrogen Bonding of Arsenic Oxyacid Species in Aqueous Solution. *Dalton Trans.* **42** (2013) 1364-1377; doi: 10.1039/C2DT31906C
24. C. Sjöstedt, I. Persson, D. Hesterberg, D. Berggren Kleja, H. Borg and J. P. Gustafsson, Iron speciation in soft-water lakes and soils as determined by EXAFS spectroscopy and geochemical modeling, *Geochim. Cosmochim. Acta* **105** (2013) 172-186; doi: 10.1016/j.gca.2012.11.035
25. C. Ekberg, K. Larsson, G. Skarnemark, A. Ödegaard-Jensen and I. Persson, The Structure of Plutonium(IV) Oxide as Hydrolysed Clusters in Aqueous Suspensions. *Dalton Trans.* **42** (2013) 2035-2040; doi: 10.1039/C2DT32185H
26. D. Lundberg, I. Persson and C. Ekberg, Crystal Structure of $[\text{Eu}(\text{CyMe}_4\text{-BTBP})_2\text{k}^2\text{O}, \text{O}^- \text{NO}_3](\text{NO}_3)_2 \cdot n\text{-C}_8\text{H}_{17}\text{OH}$ and its Structure in 1-Octanol Solution. *Dalton Trans.* **42** (2013) 3767-3770; doi: 10.1039/C2DT32317F
27. S. Pare Samuel, I. Persson B. Guel and D. Lundberg, Trivalent Chromium removal from Aqueous solution using Raw Natural Mixed Clay from Burkina Faso. *Int. Res. J. Environment Sci.* **2** (2013) 30-37.

28. N. Torapava, L. I. Elding, H. Mändar, K. Roosalu and I. Persson, Structures of Polynuclear Complexes of Palladium(II) and Platinum(II) Formed by Slow Hydrolysis in Acidic Aqueous Solution.
Dalton Trans. **42** (2013) 7755-7760; doi: 10.1039/C3DT32859G
29. P. D'Angelo, V. Migliorati, R. Spezia, S. De Panfilis, I. Persson and A. Zitolo, K-edge XANES investigation of octakis(DMSO)lanthanide(III) complexes in DMSO solution and solid iodides.
Phys. Chem. Chem. Phys. **15** (22) (2013) 8684-8691; doi: 10.1039/C3CP50842K
30. H. Hedström, I. Persson, G. Skarnemark and C. Ekberg, Characterization of Radium Sulphate.
J. Nucl. Chem. (2013), 940701:1-4, doi: 10.1155/2013/940701
31. A. Fuchs, D. Lundberg, D. Warمیńska and I. Persson, On the Structure and Volumetric Properties of Solvated Lanthanoid(III) Ions in Amide Solutions.
J. Phys. Chem. B **117** (2013), 8502–8511; doi: 10.1021/jp310111j
32. C. Tiberg, C. Sjöstedt, I. Persson and J. P. Gustafsson, Phosphate Effects on Copper(II) and Lead(II) Sorption to Ferrihydrite.
Geochim. Cosmochim. Acta **120** (2013) 140-157; doi: 10.1016/j.gca.2013.06.012
33. J. Mähler and I. Persson, Rapid adsorption of arsenic from aqueous solution by ferrihydrite-coated sand and granular ferric hydroxide.
Appl. Geochem. **37** (2013) 179-189; doi: 10.1016/j.apgeochem.2013.07.025
34. C. Bergqvist, R. Herbert, I. Persson and M. Greger, Plants influence on arsenic availability and speciation in the rhizosphere, roots and shoots of three different vegetables.
Environ. Pollution **184** (2014) 540-546; doi: 10.1016/j.envpol.2013.10.003
35. J. P. Gustafsson, I. Persson, A. Geranmayeh Oromieh, J. W. J. van Shaik, C. Sjöstedt and D. Berggren Kleja, Chromium(III) Complexation to Natural Organic Matter: Mechanisms and Modeling.
Environ. Sci. Technol. **48** (2014) 1753-1761; doi: 10.1021/es404557e
36. L. Eklund and I. Persson, Structure and Hydrogen Bonding of the Hydrated Selenite and Selenate Ions in Aqueous Solution.
Dalton Trans. **43** (2014) 6315-6321; doi: 10.1039/C3DT53468E
37. J. Werner, E. Wernersson, V. Ekholm, N. Ottosson, G. Öhrwall, J. Heyda, I. Persson, J. Söderström, P. Jungwirth and O. Björneholm, The Surface Behavior of Aqueous Guanidinium and Ammonium Ions: A Comparative Study by Photoelectron Spectroscopy and Molecular Dynamics.
J. Phys. Chem. B **118** (2014) 7119-7127; doi: 10.1021/jp500867w
38. L. Pettersson, D.-G. Lyxell and I. Persson, A Structural Study of *D*-mannitolatomolybdate(VI) complexes in aqueous solution.
Polyhedron **81** (2014) 308-311; doi: 10.1016/j.poly.2014.06.035
39. L. Eklund, T. S. Hofer, A. K. H. Weiss, A. O. Tirlir, and I. Persson, Detailed structure elucidation of the hydrated thiosulfate ion using QMCF MD simulation and large angle X-ray scattering in aqueous solution.
Dalton Trans. **43** (2014) 12711-12720; doi: 10.1039/C4DT01010H
40. P. D'Angelo, V. Migliorati, I. Persson, G. Mancini, S. Della Longa, Quantitative analysis of deconvolved XANES spectra of lanthanoid containing systems.
Inorg. Chem. **54** (2014) 9778-9784; doi: 10.1021/ic501366d
41. J. Werner, J. Julin, M. Dalirian, N. L. Prisle, G. Öhrwall, I. Persson, O. Björneholm, and I. Riipinen, Succinic acid in aqueous solutions: Connecting microscopic surface composition and macroscopic surface tension.
Phys. Chem. Chem. Phys. **16** (2014) 21486-21495; doi: 10.1039/C4CP02776K

42. E. G. Bajnóczi, I. Pálincó, T. Körtvéleysi, S. Bálint, I. Bakó, P. Sipos and I. Persson, Speciation and structure of lead(II) in hyper-alkaline aqueous solution. *Dalton Trans.* **43** (2014) 17539-17543; doi: 10.1039/C4DT02757D
43. E. G. Bajnóczi, E. Czeglédi, E. Kuzmann, Z. Hamonnay, G. Dombi, P. Forgo, O. Berkesi, I. Pálincó, G. Peintler, P. Sipos and I. Persson, Speciation and structure of tin(II) in hyper-alkaline aqueous solution. *Dalton Trans.* **43** (2014) 17971-17979; doi: 10.1039/C4DT02706J
44. L. Eklund, T. Hofer and I. Persson, Structure and water exchange of hydrated oxo halo ions in aqueous solution using QMCF MD simulation, large angle X-ray scattering and EXAFS. *Dalton Trans.* **44** (2015) 1816-1828; doi: 10.1039/C4DT02580F
45. F. Hentschel, V. V. Vinogradov, A. V. Vinogradov, A. V. Agafonov, V. V. Guliants, I. Persson, G. A. Seisenbaeva and V. G. Kessler, Zirconium(IV) and hafnium(IV) coordination polymers with a tetra-acetyl-ethane (Bisacac) ligand: Synthesis, structure elucidation and gas sorption behavior. *Polyhedron* **89** (2015) 297-303; doi: 10.1016/j.poly.2014.12.041