

Saša Antonijević

(Pronounced as: Sasha Anto-nee-ye-vitch)

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Education

- May, 2004 **Ph.D. in Physical Chemistry**, University of Exeter, United Kingdom
- September, 1999 **B.S. in Chemistry**, University of Belgrade, Serbia

Professional Experience

- July, 2007 – present **Postdoctoral Fellow**, University of California, Berkeley
- Supervised by Professor Jeffrey Reimer and Professor Rachel Segalman
 - Research area: Optically Pumped Nuclear Magnetic Resonance (NMR) Spectroscopy
- Jan., 2007 – Jun, 2007 **Postdoctoral Fellow**, E. O. Lawrence Berkeley National Laboratory
- Supervised by Professor Alexander Pines
 - Research area: Solid-State NMR Spectroscopy
- Oct., 2004 – Jan., 2007 **NMR Facility Coordinator**, École Polytechnique Fédérale de Lausanne, Switzerland
- Responsibilities:*
- Coordination of scientific and day-to-day activities of the facility
- Achievements:*
- Established successful collaboration network to facilitate research efforts
 - Expanded capabilities of the facility with minimal investments
 - Increased the efficiency of equipment utilization
- Dec., 2003 – Jan., 2007 **Postdoctoral Fellow**, École Polytechnique Fédérale de Lausanne, Switzerland
- Supervised by Professor Geoffrey Bodenhausen
 - Development of novel NMR spectroscopy methods to study biological solids
- Nov., 2000 – Dec., 2003 **Ph.D. Studies in Physical Chemistry**, University of Exeter, United Kingdom
- Supervised by Professor Stephen Wimperis
 - Title: "NMR of Quadrupolar Nuclei in Solids: Novel Methods and Applications"
- Oct., 1999 – Nov., 2000 **Scientific Assistant in Research and Development Center**
Hemofarm - Pharmaceutical Company, Serbia
- Responsibilities:*
- Development of analytical methods to study drug stability

Grants and Awards

- March, 2004 **EPFL internal funding scheme** – 142 kCHF
- December, 2000 **'Special Award for Outstanding Undergraduate Performance at the University of Belgrade'**
Given by Serbian Chemical Society, Serbia
- August, 1999 **'Award for Contribution in Environmental Protection'**
Given by the Vršac City Council, Serbia

Teaching Experience

- September, 2005 **A Short Course on Solid-State NMR for PhD Students in Chemistry, Physical Chemistry and Physics**
University of Belgrade, Serbia
- Nov., 2000 – Dec., 2003 **Teaching Assistant in Physical Chemistry Laboratory**
University of Exeter, United Kingdom

Lectures and Seminars

- January, 2008 **Seminar at the Nuclear Engineering Department, Universities of California, Berkeley**
• Probing Structure and Dynamics of Molecules in Solids by NMR Spectroscopy: A Spin I = 1 Journey
- November, 2007 **Seminars at the Universities of Caen, Versailles and Lille - "Tour de France"**
• Probing Structure and Dynamics of Molecules in Solids by NMR Spectroscopy: A Spin I = 1 Journey
- October, 2007 **Lecture at the 16th ISMAR meeting, Kenting, Taiwan**
• Probing Amide Bond Nitrogens in Solids using ¹⁴N NMR Spectroscopy
- July, 2006 **Lecture at the EUROMAR meeting, York, United Kingdom**
• Nitrogen-14 Excitation via Residual Dipolar Splittings (NERDS) in Solids
- May, 2006 **Seminar at the Laboratorium für Physikalische Chemie, ETH Zürich, Switzerland**
• Solid-State NMR Spectroscopy of Quadrupolar Nuclei: Concepts and Advances
- March., 2006 **Seminar at Laboratoire de Cristallographie et Physicochimie du Solide, University of Lille, France**
• Solid-State NMR Spectroscopy of Quadrupolar Nuclei: Concepts and Advances
- April, 2005 **Lecture at the 46th Experimental NMR Conference (ENC), Rhode Island, USA**
• Determination of quadrupolar and paramagnetic shift anisotropy interactions for ²H nuclei in solids by two-dimensional ²H NMR spectroscopy
- December, 2004 **Seminar at Centre de RMN Très Hauts Champs à Lyon, France**
• Two-dimensional correlation NMR spectroscopy
- July, 2004 **Lecture at the 'Cross-Correlation Research Training Network', Ecole Normale Supérieure, Paris, France**
• High-resolution NMR of spin 1/2 nuclei in solids by truly-magic angle spinning
- May, 2003 **Seminar at the School of Chemistry, University of Exeter, United Kingdom**
• Structure and dynamics by solid-state NMR of quadrupolar nuclei

Patents

[1] A. Lupulescu, **S. Antonijevec**, and G. Bodenhausen, Quadrupolar nuclei NMR using residual dipolar splittings in solids, Filed in Europe and USA-7276903.

Publication List

- [23] **S. Antonijevec** and N. Halpern-Manners, Probing amide bond nitrogens in solids using ^{14}N NMR spectroscopy, *SSNMR* (2008) in press.
- [22] F. Verpillat, M. P. Ledbetter, S. Xu, D. J. Michalak, C. Hilty, L.-S. Bouchard, **S. Antonijevec**, D. Budker, and A. Pines, Remote detection of nuclear magnetic resonance with an anisotropic magnetoresistive sensor, *PNAS* **105** (2008) 2271.
- [21] J. Yun Suk, A. J. van der Vlies, J. Gantz, **S. Antonijevec**, D. Demurtas, D. Velluto, J. A. Hubbell, RAFT homo- and co-polymerization of N-acryloyl-morpholine, piperidine and azocane and their self-assembled structures, *Macromolecules* **41** (2008) 1140.
- [20] S. Cavadini, **S. Antonijevec**, A. Lupulescu, and G. Bodenhausen, Indirect detection of nitrogen-14 in solid-state NMR Spectroscopy, *Chem. Phys. Chem.* **8** (2007) 1363.
- [19] I. Raabe, **S. Antonijevec**, and I. Krossing, Dynamics and counterion-dependence of the structures of weakly bound $\text{Ag}^+\text{-P}_4\text{S}_3$ complexes, *Chem. Eur. J.* **13** (2007) 7510.
- [18] **S. Antonijevec** and E. Persson, Study of water dynamics and distances in paramagnetic solids by variable-temperature two-dimensional ^2H NMR spectroscopy, *J. Chem. Phys.* **126** (2007) 014504.
- [17] E. Solari, **S. Antonijevec**, S. Gauthier, R. Scopelliti, and K. Severin, Formation of a ruthenium μ -carbide complex with acetylene as the carbon source, *Eur. J. Inorg. Chem.* **3** (2007) 367.
- [16] S. Cavadini, **S. Antonijevec**, A. Lupulescu, and G. Bodenhausen, Indirect Detection of Nitrogen-14 in Solids via Protons by Nuclear Magnetic Resonance Spectroscopy, *J. Magn. Reson.* **182** (2006) 168.
- [15] S. Cavadini, A. Lupulescu, **S. Antonijevec**, and G. Bodenhausen, Nitrogen-14 NMR Spectroscopy using Residual Dipolar Splittings in Solids, *J. Am. Chem. Soc.* **128** (2006) 7706.
- [14] **S. Antonijevec**, S. E. Ashbrook, S. Biedasek, R. I. Walton, S. Wimperis, H. Yang, Dynamics on the microsecond time-scale in microporous aluminophosphate ALPO-14 as evidenced by ^{27}Al MQMAS and STMAS NMR spectroscopy, *J. Am. Chem. Soc.* **128** (2006) 8054.
- [13] **S. Antonijevec** and G. Bodenhausen, Quadrupolar Transfer Pathways, *J. Magn. Reson.* **180** (2006) 297.
- [12] M. Gonsior, **S. Antonijevec**, and I. Krossing, Silver complexes of cyclic hexachlorophosphazene, *Chem. Eur. J.* **12** (2006) 1997.
- [11] S. Cavadini, J. Dittmer, **S. Antonijevec** and G. Bodenhausen, Slow diffusion by singlet state NMR, *J. Am. Chem. Soc.* **127** (2005) 15744.
- [10] Z. Fei, D. Zhao, T. J. Geldbach, R. Scopelliti, P. J. Dyson, **S. Antonijevec**, and G. Bodenhausen, A synthetic zwitterionic water channel: characterisation in the solid state by X-ray crystallography and NMR spectroscopy, *Angew. Chem. Int. Ed.* **44** (2005) 5720.
- [9] H. Yang, R. I. Walton, S. Biedasek, **S. Antonijevec**, S. Wimperis, A. J. Ramirez-Cuesta, J. Li, and A. I. Kolesnikov, Experimental observations of water-framework interactions in a hydrated microporous aluminium phosphate, *J. Phys. Chem. B* **109** (2005) 4464.
- [8] **S. Antonijevec** and G. Bodenhausen, High-resolution NMR in solids by truly-magic angle spinning, *Angew. Chem. Int. Ed.* **44** (2005) 2935.
- [7] **S. Antonijevec** and S. Wimperis, Separation of quadrupolar and chemical/paramagnetic shift interactions in two-dimensional ^2H NMR spectroscopy, *J. Chem. Phys.* **122** (2005) 044312.
- [6] H. Yang, R. I. Walton, **S. Antonijevec**, S. Wimperis, and A. C. Hannon, Local order of amorphous zeolite precursors from $^{29}\text{Si}\{^1\text{H}\}$ CPMAS ^{27}Al and ^{23}Na MQMAS NMR and evidence for the nature of medium range order from neutron diffraction, *J. Phys. Chem.* **108** (2004) 8208.

- [5] **S. Antonijevic** and S. Wimperis, Refocusing of chemical and paramagnetic shift anisotropies in ^2H NMR using the quadrupolar-echo experiment, *J. Magn. Reson.* **164** (2003) 343.
- [4] **S. Antonijevic** and S. Wimperis, High-resolution NMR spectroscopy in inhomogeneous B_0 and B_1 fields by two-dimensional correlation, *Chem. Phys. Lett.* **381** (2003) 634.
- [3] S. E. Ashbrook, **S. Antonijevic**, A. J. Berry, and S. Wimperis, Motional broadening: an important distinction between multiple-quantum and satellite-transition MAS NMR of quadrupolar nuclei, *Chem. Phys. Lett.* **364** (2002) 634.
- [2] **S. Antonijevic**, S. E. Ashbrook, R. I. Walton, and S. Wimperis, A multiple-quantum ^{23}Na MAS NMR study of amorphous sodium gallium silicate zeolite precursors, *J. Mater. Chem.* **12** (2002) 1469.
- [1] Z. Todorovic, P. Polic, D. Djordjevic, and **S. Antonijevic**, Lead distribution in water and its association with sediment constituents of the "Barje" lake (Leskovac, Yugoslavia), *J. Serb. Chem. Soc.* **66** (2001) 697.