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Resistive switching in mixed conductors : Ag₂S as a model system

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Curriculum vitae

Monica Morales Masis was born on August 6th 1982 in Cartago, Costa Rica. There, she attended primary and secondary school from 1987 to 1999. In 2000 she started her Bachelor studies in Physics at the University of Costa Rica. She obtained her Bachelor degree in December 2004. During her Bachelor years and later in 2005, she worked as a research assistant at the Center for Materials Science (CICIMA) at the University of Costa Rica. Her main research was on porous silicon.

In December 2005, Monica started her Master's studies in Physics at Wright State University in Dayton, Ohio, USA. There she was working as a research assistant at the Semiconductor Research Center, and worked on the fabrication of ZnO nanostructures. In May 2007 she was awarded the Graduate Student Excellence Award. In June 2007 she received her MSc. degree in Physics.

In July 2007, Monica started working as a PhD student at Leiden University, The Netherlands, under supervision of Prof. dr. J. M. van Ruitenbeek on the subject of resistance switching in mixed conductor materials, using Ag₂S as a model system. During this period she also taught undergraduate physics students in experimental lab courses. Starting April 2010 she spent three months as a visiting scientist at the National Institute of Materials Science (NIMS), in Tsukuba, Japan. There she worked in the group of Dr. T. Hasegawa in STM studies on Ag₂S switches.

List of Publications

- **Bulk and surface nucleation processes in Ag₂S conductance switches**, M. Morales-Masis, S. J. van der Molen, T. Hasegawa and J.M. van Ruitenbeek, Phys. Rev. B **84** 115310 (2011)
- **Observing “Quantized” Conductance Steps in Silver Sulfide: Two Parallel Resistive Switching Mechanisms**, J.J.T. Wagenaar, M. Morales-Masis and J.M. van Ruitenbeek, Accepted for publication in J. Appl.Phys.
- **Towards a Quantitative Description of Solid Electrolyte Switches**, M. Morales-Masis, H.D. Wiemhofer, and J.M. van Ruitenbeek, Nanoscale **2** 2275 (2010)
- **Conductance Switching in Ag₂S devices fabricated by in-situ sulphurization**, M. Morales-Masis, S.J. van der Molen, W.T. Fu, M.B. Hesselberth, and J.M. van Ruitenbeek, Nanotechnology **20** 095710 (2009)