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Dr. Volker Rose holds an advanced degree in physics (Dipl.-Phys.) and received a doctoral degree (Dr.rer.nat.) from RWTH Aachen, Germany in 2005. After a postdoctoral appointment at the Center for Nanoscale Materials (CNM), he joined the Microscopy Group at the Advanced Photon Source (APS) as Assistant Physicist in 2007. He currently holds an interdivisional appointment between APS and CNM.

Dr. Rose's research focuses on the study of nanoscale materials by means of high-resolution X-ray microscopy techniques. He currently leads a team that develops a novel technique, which combines scanning tunneling microscopy with synchrotron X-rays (SXSTM). The goal is to achieve a fundamental understanding of nanoscale structures with both the ability to resolve nanometer structure and to provide detailed information about chemical, electronic, and magnetic state.

**Book Chapter:**

**V. Rose**, J.W. Freeland, S.K. Streiffer, "New Capabilities at the Interface of X-rays and Scanning Tunneling Microscopy", in *Scanning Probe Microscopy of Functional Materials: Nanoscale Imaging and Spectroscopy*, S.V. Kalinin, A. Gruverman, (Eds.), Springer, New York (2011), pg 405-432. [DOI: 10.1007/978-1-4419-7167-8\_14]

**Selected Recent Publications:**

M.L. Cummings, TeYu Chien, C. Preissner, V. Madhavan, D. Diesing, M. Bode, J.W. Freeland, **V. Rose**, "Combining Scanning Tunneling Microscopy and Synchrotron Radiation for High-Resolution Imaging and Spectroscopy with Chemical, Electronic, and Magnetic Contrast," *Ultramicroscopy* 112 (2012) 22.

**V. Rose**, T.Y. Chien, J. Hiller, D. Rosenmann, R.P. Winarski, "X-ray nanotomography of SiO<sub>2</sub>-coated Pt<sub>90</sub>Ir<sub>10</sub> tips with sub-micron conducting apex" *Appl. Phys. Lett.*, 99 (2011) 173102. [Science Highlight January 2012: [http://www.nano.anl.gov/news/highlights/2012\\_stm\\_tips.html](http://www.nano.anl.gov/news/highlights/2012_stm_tips.html)]