

Johannes V. BARTH

(Venia Legendi, EPF Lausanne; Ph.D., Free University Berlin; Physics Diploma, LMU Munich)

Employment History

- since 3/04 **Canada Research Chair**, Departments of Chemistry and Physics & Astronomy, University of British Columbia, Vancouver.
- since 2000 **Project Leader**, Ecole Polytechnique Fédérale de Lausanne (part-time appointment since 2004)
- 2000 - 2004 **Consultant**, Max-Planck-Institut für Festkörperforschung, Stuttgart.
- 1996 - 2000 **Research Associate**, Ecole Polytechnique Fédérale de Lausanne.
- 1995 **Postdoctoral Fellow**, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin.
- 1993 - 1994 **IBM Postdoctoral Fellow**, IBM Almaden Research Center, San Jose.

10 Key Publications over last 5 years (total # in period > 30)

- 1 J.V. Barth, G. Costantini and K. Kern : *Engineering atomic and molecular nanostructures at surfaces*, **Nature** (insight review), in print (2005).
- 2 S. Clair, S. Pons, H. Brune, K. Kern and J.V. Barth : *Mesoscopic metallosupramolecular texturing through hierarchic assembly*, **Angew. Chem. Int. Ed.** in print (2005).
- 3 S. Stepanow, M. Lingenfelder, A. Dmitriev, H. Spillmann, N. Lin, Ch. Cai, J.V. Barth and K. Kern : *Steering molecular organization and sorption using tailor-made two-dimensional nanoporous coordination systems*, **Nature Mat.** **3**, 229 - 233 (2004).
- 4 J.V. Barth, J. Weckesser, N. Lin, A. Dmitriev and K. Kern : *Supramolecular architectures and nanostructures at metal surfaces*, **Appl. Phys. A** **76**, 645 - 652 (2003).
- 5 J.V. Barth, J. Weckesser, G. Trimarchi, M. Vladimirova, A. De Vita, C. Cai, H. Brune, P. Günter and K. Kern : *Stereochemical effects in supramolecular self-assembly at surfaces : 1-D vs. 2-D enantiomorphic ordering for PVBA and PEBA on Ag(111)*, **J. Am. Chem. Soc.** **124**, 7991 - 8000 (2002).
- 6 A. Dmitriev, H. Spillmann, N. Lin, J.V. Barth and K. Kern : *Modular assembly of two-dimensional metal-organic coordination networks at a metal surface*, **Angew. Chem. Int. Ed.** **42**, 2670 - 2673 (2003).
- 7 H. Spillmann, A. Dmitriev, N. Lin, P. Messina, J.V. Barth and K. Kern : *Hierarchical assembly of chiral nanocavity arrays*, **J. Am. Chem. Soc.** **125**, 10725 - 10728 (2003).
- 8 J. Weckesser, A. De Vita, J.V. Barth, C. Cai and K. Kern : *Mesoscopic correlation of supramolecular chirality in one-dimensional hydrogen-bonded assemblies*, **Phys. Rev. Lett.** **87**, 096101-1-4 (2001).
- 9 J.V. Barth : *Transport of adsorbates at metal surfaces : From thermal migration to hot precursors*, **Surf. Sci. Rep.** **40**, 75 - 149 (2000).
- 10 J.V. Barth, J. Weckesser, C. Cai, P. Günter, L. Bürgi, O. Jeandupeux and K. Kern : *Building supramolecular nanostructures at surfaces by hydrogen bonding*, **Angew. Chem. Int. Ed.** **39**, 1230 - 1234 (2000).

Current Grants and Support held over last 5 years

- 1 *Molecular Nanoscience and Engineering*; **J.V. Barth**, 2004 - 2007, NSERC Discovery (Can\$ 165'000.-).
- 2 *Video-STM*; **J.V. Barth**, 2004 - 2006, NSERC Research Tools & Equipment (Can\$ 164'000.-).
- 3 *Molecular Engineering of Functional Nanosystems at Surfaces*; **J.V. Barth**, 2004 - 2006, CFI/BCKDF/UBC - Infrastructure Project (Can\$ 850'000.-).
- 4 *Molecular Nanoscience and Engineering*; **J.V. Barth**, 2004 - 2009, Canada Research Chair (Can\$ 500'000.-).
- 5 *Fabrication and Characterization of Supramolecular Architectures on Nanostructured Template Surfaces* R. Fasel, **J.V. Barth**, H. Brune. *Inter-Institutional Project EMPA-EPFL*, 2004 - 2007 (CHF 240'000.-).
- 6 *BIOMACH : Molecular Machines - Design and Nano-Scale Handling of Biological Antetypes and Artificial Mimics*; V. Balzani, **J.V. Barth**, C. Dekker, K. Kern, E.W. Meijer, M. Parrinello, J. Prost, U. Röthlisberger, M. Ruben, J.-P. Sauvage, S. Tans. EU FP 6 STRP 2004 - 2007 (share CHF 270'000.-).
- 7 *Assembly and Manipulation of Functional Supramolecular Nano-Architectures at Surfaces*; M. Ruben, **J.V. Barth**, J. Veciana, F. Besenbacher, B. Hammer, K. Kern, M.A. Schneider, D.N. Reinhoudt, F. Biscarini, A. De Vita. European Science Foundation, 2003 - 2006 (share CHF 335'000.-).
- 8 *Complex Molecular Species at Surfaces : Dynamics, Self-Assembly and Nanostructuring*; **J.V. Barth**, H. Brune & K. Kern. Swiss National Science Foundation, 2000 - 2004 (CHF 290'000.-).
- 9 *Nanostructures at Surfaces and Interfaces*; K. Kern & **J.V. Barth**. Swiss National Science Foundation, 2000 - 2004 (CHF 200'000.-).
- 10 *Supramolecular Architecture on Surfaces: From Individual Building Blocks to Self-Assembled Nanostructures*; **J.V. Barth**, K. Kern, M. Parrinello. VolkswagenFoundations, 2000 - 2003 (~ CHF 270'000.-).
- 11 *Supramolecular Ordered Films with Nonlinear Optical, Electrooptical and Photoconductive Properties*; P. Günter, I. Biaggio, K. Kern & **J.V. Barth**. Swiss National Science Foundation; NFP 47 : Supramolecular Functional Materials, 1. 4. 2000 - 31. 3. 2003 (share ~ CHF 100'000.-).