Address & current position

Michel Calame

Physicist, head of laboratory

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Professional track record

since 10.2016	Head of laboratory Nanoscale Transport Phenomena, Swiss Federal Laboratories for Materials Science and Technology (Empa)
2013-2016	Coordinator of the Swiss Nanoscience Institute (SNI) PhD Program (staff member SNI)
since 2011	*Privat-Docent*, Department of Physics, University of Basel
2001-2011	Scientific collaborator, Department of Physics and Swiss Nanoscience Institute, University of Basel
1999-2000	Postdoctoral researcher at the Rockefeller University (New York) and visiting scientist, NEC Research Institute (Princeton), USA
1998	Scientific collaborator, Federal Office of Metrology metas (Bern)
1993-1998	PhD student in condensed matter physics, Institute of Physics, University of Neuchâtel

Awards & honors

2007-2012	Member of the executive committee, platform MAP (Mathematics, Astronomy and Physics), Swiss Academy of Sciences
1999	Swiss National Science Foundation fellowship for young researchers

Research interests

Nano- and molecular electronics, fundamental (opto-)electrical transport properties of hybrid (organic-inorganic) nano-scale devices, carbon-based electronics, application of Si-based and carbon-based transistors as sensors.

Publications

>70 publications in peer-reviewed journals; 2 book chapters; 3 patents
Web of Science: h-index=23; total citations: >2300; avg. nb. citations/pub.=39
Full list of publications: http://calame.unibas.ch/publications/

Invited talks

> 50 invited oral contributions to international conferences and invited seminars or colloquia at different research institutions.

Academic service & Impact

Reviewer

- for several national and transnational *funding agencies* in various countries including Austria (FWF), Canada (NSERC), Croatia (NZZ), France (ANR, icFRC), Germany (DFG, GIF, Stiftung RPI), Israel (ISF, GIF), the Netherlands (NWO), Switzerland (COST, ETH research commission), USA (DOE).

- for several *journals*: ACS Nano, Accounts of Chemical Research, Advanced Materials, Advanced Functional Materials, Applied Physics Letters (APL), Beilstein Journal of Nanotechnology (BJN), Chemical Physics Letters (CPL), Chemical Reviews (CR), Chemistry - A European Journal, Journal of the American Chemical Society (JACS), Journal of Physical Chemistry (JPC), Microelectronic engineering (MEE), Nano Letters, Nanotechnology, Nature, Nature Chemistry, Nature Communications, Nature Nanotechnology, New Journal of Physics (NJP), Small, Thin Solid Films (TSF), Transactions on electron devices (TEE).

Academic service & Impact

Conference organization

- Co-chair, Swiss Nanoconvention, Basel, June 30th- July 1st, 2016.
- main organizer of the Swiss Nanoscience Institute Winter School (2003- 2016)
- organizer & chair, Joint Workshop between the EC FP7 projects SYMONE and MOLESCO, Engelberg, Switzerland (2015)
- member of the scientific committee, Semiconductor Nanostructures towards Electronic and Optoelectronic Device Applications, E-MRS Spring meeting Symposium (Lille, France, 2015 & Strasbourg, France, 2013)
- topic chair, Micro- and nano-Engineering (MNE) 2014, Lausanne (2014)
- member of the scientific committee, Semiconductor Nanostructures towards Electronic and Optoelectronic Device Applications, E-MRS Spring meeting Symposium, Strasbourg, France (2013)
- member of the Eurosensors international program committee (XXIIIrd, Lausanne, Switzerland, 2009; XXVth, Athens, Greece, 2011; XXVIth Cracow, Poland, 2012; XXVIIIth, Brescia, Italy, 2014)
- vice-chair, International Workshop on Molecular Electronics, Emmeten, Switzerland (2010)
- member of the program committee, International Conference on Nanoscience + Technology (ICN+T), Basel, Switzerland (2006)

Editorial activity

- Guest editor for a special issue on Micro/Nano Devices & Systems in Microelectronic Engineering MEE (2014)

Education & Teaching

Basic lectures Uni Basel (undergrad. students, in German or English)

- Introduction to Physics: Mechanics and Thermodynamics (1 semester, 4h/week)
  2016: shared with M. Poggio
- Introduction to Physics: Electricity and magnetism (1 semester, 4h/week)
  2014, 2015, 2016: shared with P. Maletinsky
  2011-2013: full lecture
  2006 – 2010: deputy lecturer for C. Schönenberger
- Condensed matter physics
  2004 – 2013: deputy lecturer for C. Schönenberger:
  2011: teaching of >40% of the full lecture (1 semester, 4h/week)

Contribution to the following lectures:

- Nano I: Introduction to nanosciences (Nanoelectronics module): 2006 – today
- Nano III: Optical microscopy module: 2005-2012; Nanofabrication module 2005-today
- Proseminar in condensed matter physics: 2005 - 2015
- Fabrication of nanostructures (Block lecture on Carbon materials, 2h): 2013

Advanced (grad. students) **and special lectures Uni Basel** (in English)

- Molecular and carbon-based electronic systems (w T. Glatzel): 2014, 2015, 2017
- Introduction to molecular electronics (w C. Schönenberger): 2006, 2009
- Experimental techniques (with various contributors): 2003, 2006, 2010
- Introduction to biophysics (with M. Hegner): 2001, 2002, 2004 - 2007

Advisor & co-advisor (as of December 2016)

- currently main advisor for 6 PhD students and 2 postdocs
- member of 1 habilitation committee & 28 PhD students committees

Pre-university education

- High school expert (mathematics), Gymnasium Münchenstein (2011- 2015)