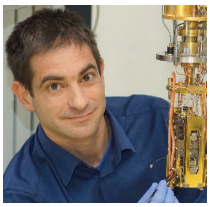
Office: 2.18a
Department of Physics
University of Basel
Klingelbergstrasse 82
4056 Basel
Switzerland

Web: poggiolab.unibas.ch
ORCID: 0000-0002-5327-051X
ResearcherID: B-5821-2008
Google Scholar: Martino Poggio
Email: martino.poggio@unibas.ch
Tel: +41 61 207 37 61



Background

Birth	05 Mar. 1978 in Tübingen, Germany
Citizenship	Italy, USA
Languages	English, Italian, Portuguese, German

Education

10 Dec. 2005	Ph.D. in Physics, University of California, Santa Barbara
11 Dec. 2003	M.A. in Physics, University of California, Santa Barbara
08 Jun. 2000	B.A. *magna cum laude* in Physics, Harvard University
08 Jun. 1996	Diploma *summa cum laude*, Roxbury Latin, West Roxbury, MA, USA

Experience

Jan. 2014 - Present	Associate Professor of Physics, University of Basel
Jan. 2009 - Dec. 2013	Assistant Professor of Physics, University of Basel
Jan. 2006 - Dec. 2008	Post-doctoral Researcher, IBM Almaden / Stanford (manager: Dr. Dan Rugar)
Sep. 2000 - Dec. 2005	Graduate Researcher, UC Santa Barbara (advisor: Prof. David Awschalom)

Selected Awards and Honors

2013	European Research Council (ERC) Starting Grant
2010	Cozzarelli Prize for outstanding PNAS paper
2006 - 2008	Stanford Center for Probing the Nanoscale (CPN) Post-doctoral Fellowship
2000, 2001	UCSB Parsons Graduate Fellowship for outstanding graduate students
2000	UCSB Condensed Matter Graduate Fellowship
1998, 2000	Harvard College Scholarship for academic performance
1997, 1999	John Harvard Scholarship for academic performance
1996	Valedictorian of the Roxbury Latin School

Peer-reviewed Publications

2019

52. *Force sensing with nanowires*
F. R. Braakman and M. Poggio
Nanotechnology **30**, 332001 (2019).

51. *Optimized single-shot laser ablation of concave mirror templates on optical fibers*
T. Ruelle, M. Poggio, and F. R. Braakman
Appl. Opt. **58**, 3784 (2019).

50. *Magnetic force sensing using a self-assembled nanowire*
N. Rossi, B. Gross, F. Dirnberger, D. Bougeard, and M. Poggio
Nano Lett. **19**, 930 (2019).

49. *Classical and quantum dynamics of a trapped ion coupled to a charged nanowire*
P. Fountas, M. Poggio, and S. Willitsch
New J. Phys. **21**, 013030 (2019).

2018

48. *Coherent two-mode dynamics of a nanowire force sensor*
F. R. Braakman, N. Rossi, G. Tütüncüoglu, A. Fontcuberta i Morral, and M. Poggio
Phys. Rev. Appl. **9**, 054045 (2018).

47. *Observation of end-vortex nucleation in individual ferromagnetic nanotubes*
A. Mehlin, B. Gross, M. Wyss, T. Schefer, G. Tütüncüoglu, F. Heimbach, A. Fontcuberta i Morral, D. Grundler, and M. Poggio
Phys. Rev. B **97**, 134422 (2018).

46. *Imaging stray magnetic field of individual ferromagnetic nanotubes*
D. Vasyukov, L. Ceccarelli, M. Wyss, B. Gross, A. Schwarb, A. Mehlin, N. Rossi, G. Tütüncüoglu, F. Heimbach, R. R. Zamani, A. Kovács, A. Fontcuberta i Morral, D. Grundler, and M. Poggio
Nano Lett. **18**, 964 (2018).

2017

45. *Electric field sensing with a scanning fiber-coupled quantum dot*
D. Cadeddu, M. Munsch, N. Rossi, J. Claudon, J.-M. Gérard, R. J. Warburton, and M. Poggio
Phys. Rev. Appl. **8**, 031002 (2017).

44. *Imaging magnetic vortex configurations in ferromagnetic nanotubes*
M. Wyss, A. Mehlin, B. Gross, A. Buchter, A. Farhan, M. Buzzi, A. Kleibert, G. Tütüncüoglu, F. Heimbach, A. Fontcuberta i Morral, D. Grundler, and M. Poggio
Phys. Rev. B **96**, 024423 (2017).

43. *Resonant driving of a single photon emitter embedded in a mechanical resonator*
M. Munsch, A. Kuhlmann, D. Cadeddu, J.-M. Gérard, J. Claudon, M. Poggio, and R. J. Warburton
Nat. Commun. **8**, 76 (2017).
Related articles: *Uni News*, 14 July 2017.

42. *Vectorial scanning force microscopy using a nanowire sensor*
N. Rossi, F. R. Braakman, D. Cadeddu, D. Vasyukov, G. Tütüncüoglu, A. Fontcuberta i Morral, and M. Poggio
Nat. Nanotechnol. **12**, 150 (2017).
Related articles: *Uni News*, 17 October 2016; *Neue Zürcher Zeitung*, 18 October 2016; *Physics* **9**, 124 (2016); *APS News* **25** (10), November 2016.

2016

41. *Role of the electron spin in determining the coherence of the nuclear spins in a quantum dot*
G. Wüst, M. Munsch, F. Maier, A. V. Kuhlmann, A. Ludwig, A. D. Wieck, D. Loss, M. Poggio, and R. J. Warburton
Nat. Nanotechnol. **11**, 885 (2016).
Related article: *Uni News*, 11 July 2016.

40. *Dynamic cantilever magnetometry of individual CoFeB nanotubes*
B. Gross, D. P. Weber, D. Rüffer, A. Buchter, F. Heimbach, A. Fontcuberta i Morral, D. Grundler, and M. Poggio
Phys. Rev. B **93**, 064409 (2016).

39. *Time-resolved nonlinear coupling between orthogonal flexural modes of a pristine GaAs nanowire*
D. Cadeddu, F. R. Braakman, G. Tütüncüoglu, F. Matteini, D. Rüffer, A. Fontcuberta i Morral, and M. Poggio
Nano Lett. **16**, 926 (2016).

38. *A fiber-coupled quantum-dot on a photonic tip*
D. Cadeddu, J. Teissier, F. R. Braakman, J. M. Gérard, J. Claudon, R. J. Warburton, M. Poggio, and M. Munsch
Appl. Phys. Lett. **108**, 011112 (2016).

2015

37. *Magnetization reversal of an individual exchange-biased permalloy nanotube*
A. Buchter, R. Wölbing, M. Wyss, O. F. Kieler, T. Weimann, J. Kohlmann, A. B. Zorin, D. Rüffer, F. Matteini, G. Tütüncüoglu, F. Heimbach, A. Kleibert, A. Fontcuberta i Morral, D. Grundler, R. Kleiner, D. Koelle, and M. Poggio
Phys. Rev. B **92**, 214432 (2015).

36. *Permanent reduction of dissipation in nanomechanical Si resonators by chemical surface protection*
Y. Tao, P. Navaretti, R. Hauert, U. Grob, M. Poggio, and C. L. Degen
Nanotechnology **26**, 465501 (2015).

35. *Stabilized skyrmion phase in MnSi nanowires detected by dynamic cantilever magnetometry*
A. Mehlin, F. Xue, D. Liang, H. Du, M. J. Stolt, S. Jin, M. Tian, and M. Poggio
Nano Lett. **15**, 4839 (2015).

2014

34. *Nonlinear motion and mechanical mixing in as-grown GaAs nanowires*
F. R. Braakman, D. Cadeddu, G. Tütüncüoglu, F. Matteini, D. Rüffer, A. Fontcuberta i Morral, and M. Poggio
Appl. Phys. Lett. **105**, 173111 (2014).

33. *Manipulation of the nuclear spin ensemble in a quantum dot with chirped magnetic resonance pulses*
M. Munsch, G. Wüst, A. Kuhlmann, F. Xue, A. Ludwig, D. Reuter, A. D. Wieck, M. Poggio, and R. J. Warburton
Nat. Nanotechnol. **9**, 671 (2014).
Related article: *Uni News*, 16 September 2014.

32. *Quantum dot opto-mechanics in a fully self-assembled nanowire*
M. Montinaro, G. Wüst, M. Munsch, Y. Fontana, E. Russo-Averchi, M. Heiss, A. Fontcuberta i Morral, R. J. Warburton, and M. Poggio
Nano Lett. **14**, 4454 (2014).

31. *Boundary between the thermal and statistical polarization regimes in a nuclear spin ensemble*
B. E. Herzog, D. Cadeddu, F. Xue, P. Peddibhotla, and M. Poggio
Appl. Phys. Lett. **105**, 043112 (2014).

30. *Vortex lattice melting of a $NbSe_2$ single grain probed by ultrasensitive cantilever magnetometry*
L. Bossoni, P. Carretta, and M. Poggio
Appl. Phys. Lett. **104**, 182601 (2014).

2013

29. *Harnessing nuclear spin polarization fluctuations in a semiconductor nanowire*
P. Peddibhotla, F. Xue, H. I. T. Hauge, S. Assali, E. P. A. M. Bakkers, and M. Poggio
Nat. Phys. **9**, 631 (2013).
Related article: *Uni News*, 26 August 2013.

28. *Charge noise and spin noise in a semiconductor quantum device*
A. Kuhlmann, J. Houel, L. Greuter, A. Ludwig, A. D. Wieck, M. Poggio, and R. J. Warburton
Nat. Phys. **9**, 570 (2013).
Related articles: *Nat. Phys.* **9**, 538 (2013); *Uni News*, 02 October 2013.

27. *Nanoscale multifunctional sensor formed by a Ni nanotube and a scanning Nb nanoSQUID*
J. Nagel, A. Buchter, F. Xue, O. F. Kieler, T. Weimann, J. Kohlmann, A. B. Zorin, D. Rüffer, E. Russo-Averchi, R. Huber, P. Berberich, A. Fontcuberta i Morral, D. Grundler, R. Kleiner, D. Koelle, M. Poggio, and M. Kemmler
Phys. Rev. B **88**, 064425 (2013).

26. *Reversal mechanism of an individual Ni nanotube simultaneously studied by torque and SQUID magnetometry*
A. Buchter, J. Nagel, D. Rüffer, F. Xue, D P. Weber, O. F. Kieler, T. Weimann, J. Kohlmann, A. B. Zorin, E. Russo-Averchi, R. Huber, P. Berberich, A. Fontcuberta i Morral, M. Kemmler, R. Kleiner, D. Koelle, D. Grundler, and M. Poggio
Phys. Rev. Lett. **111**, 067202 (2013).

2012

25. *Cantilever magnetometry of individual Ni nanotubes*
D. P. Weber, D. Rüffer, A. Buchter, F. Xue, E. Russo-Averchi, R. Huber, P. Berberich, J. Arbiol, A. Fontcuberta i Morral, D. Grundler, and M. Poggio
Nano Lett. **12**, 6139 (2012).

24. *Feedback cooling of cantilever motion using a quantum point contact transducer*
M. Montinaro, A. Mehlin, H. S. Solanki, P. Peddibhotla, S. Mack, D. D. Awschalom, and M. Poggio
Appl. Phys. Lett. **101**, 133104 (2012).

23. *Probing single-charge fluctuations at a GaAs/AlAs interface using laser spectroscopy on a nearby InGaAs quantum dot*
J. Houel, A. V. Kuhlmann, L. Greuter, F. Xue, M. Poggio, B. D. Gerardot, P. A. Dalgarno, A. Badolato, P. M. Petroff, A. Ludwig, D. Reuter, A. D. Wieck, and R. J. Warburton
Phys. Rev. Lett. **108**, 107401 (2012).

2011

22. *Measurement of statistical nuclear spin polarization in a nanoscale GaAs sample*
Fei Xue, D. P. Weber, P. Peddibhotla, and M. Poggio
Phys. Rev. B **84**, 205328 (2011).

21. *A geometry for optimizing nanoscale magnetic resonance force microscopy*
Fei Xue, P. Peddibhotla, M. Montinaro, D. P. Weber, and M. Poggio
Appl. Phys. Lett. **98**, 163103 (2011).

2010

20. *Force-detected nuclear magnetic resonance: recent advances and future challenges*
M. Poggio and C. L. Degen
Nanotechnology **21**, 342001 (2010).

19. *Frequency domain multiplexing of force signals with application to magnetic resonance force miscroscopy*
T. H. Oosterkamp, M. Poggio, C. L. Degen, H. J. Mamin, and D. Rugar
Appl. Phys. Lett. **96**, 083107 (2010).

2009

18. *Isotope-selective detection and imaging of organic nanolayers*
H. J. Mamin, T. H. Oosterkamp, M. Poggio, C. L. Degen, C. T. Rettner, and D. Rugar
Nano Lett. **9**, 3020 (2009).

17. *Nuclear double resonance between statistical spin polarizations*
M. Poggio, H. J. Mamin, C. L. Degen, M. H. Sherwood, and D. Rugar
Phys. Rev. Lett. **102**, 087604 (2009).
Related article: *Physics* **16**, March 2009.

16. *Nanoscale magnetic resonance imaging*
C. L. Degen, M. Poggio, H. J. Mamin, C. T. Rettner, and D. Rugar
Proc. Natl. Acad. Sci. U.S.A. **106**, 1313 (2009).
Related articles: *Nature News,* 12 January 2009; *The New York Times,* 13 January 2009, p. D3; *Technology Review,* 13 January 2009; *The Stanford Report,* 28 January 2009; *Nat. Nanotechnol.* **4**, 76 (2009); *Proc. Natl. Acad. Sci. U.S.A.* **106**, 2477 (2009); *Nat. Methods* **6**, 192 (2009); *Nat. Biotechnol.* **27**, 254 (2009); *Nature* **458**, 844 (2009).

2008

15. *An off-board quantum point contact as a sensitive detector of cantilever motion*
M. Poggio, M. P. Jura, C. L. Degen, M. A. Topinka, H. J. Mamin, D. Goldhaber-Gordon, and D. Rugar
Nat. Phys. **4**, 635 (2008).

14. *Nuclear spin relaxation induced by a mechanical resonator*
C. L. Degen, M. Poggio, H. J. Mamin, and D. Rugar
Phys. Rev. Lett. **100**, 137607 (2008).

2007

13. *Role of spin noise in the detection of nanoscale ensembles of nuclear spins*
C. L. Degen, M. Poggio, H. J. Mamin, and D. Rugar
Phys. Rev. Lett. **99**, 250601 (2007).

12. *Feedback cooling of a cantilever's undamental mode below 5 mK*
M. Poggio, C. L. Degen, H. J. Mamin, and D. Rugar
Phys. Rev. Lett. **99**, 017201 (2007).

11. *Nuclear magnetic resonance force microscopy with a microwire rf source*
M. Poggio, C. L. Degen, C. T. Rettner, H. J. Mamin, and D. Rugar
Appl. Phys. Lett. **90**, 263111 (2007).

10. *Nuclear magnetic resonance imaging with 90-nm resolution*
H. J. Mamin, M. Poggio, C. L. Degen, and D. Rugar
Nat. Nanotechnol. **2**, 301 (2007).
Related articles: *Technology Review*, 23 April 2007; *USA Today*, 29 April 2007; *Physics News Update*, Number 824 #1 (2007); *Nat. Nanotechnol.* **2**, 267 (2007); *Nature* **450**, 1130 (2007).

9. *Confinement engineering of s-d exchange interactions in $Ga_{1-x}Mn_xAs/Al_yGa_{1-y}As$ quantum wells*
N. P. Stern, R. C. Myers, M. Poggio, A. C. Gossard, and D. D. Awschalom
Phys. Rev. B **75**, 045329 (2007).

2005

8. *Structural, electrical, and magneto-optical characterization of paramagnetic GaMnAs quantum wells*
M. Poggio, R. C. Myers, N. P. Stern, A. C. Gossard, and D. D. Awschalom
Phys. Rev. B **72**, 235313 (2005).

7. *Spin dynamics in electrochemically charged CdSe quantum dots*
N. P. Stern, M. Poggio, M. H. Bartl, E. L. Hu, G. D. Stucky, and D. D. Awschalom
Phys. Rev. B **72**, 161303 (2005).

6. *Antiferromagnetic s-d exchange coupling in GaMnAs*
R. C. Myers, M. Poggio, N. P. Stern, A. C. Gossard, and D. D. Awschalom
Phys. Rev. Lett. **95**, 017204 (2005).

5. *High-field optically detected nuclear magnetic resonance in GaAs*
M. Poggio and D. D. Awschalom
Appl. Phys. Lett. **86**, 182103 (2005).

2004

4. *Spin transfer and coherence in coupled quantum wells*
M. Poggio, G. M. Steeves, R. C. Myers, N. P. Stern, A. C. Gossard, and D. D. Awschalom
Phys. Rev. B **70**, 121305 (2004).

2003

3. *Local manipulation of nuclear spin in a semiconductor quantum well*
M. Poggio, G. M. Steeves, R. C. Myers, Y. Kato, A. C. Gossard, and D. D. Awschalom
Phys. Rev. Lett. **91**, 207602 (2003).
Related article: *Physics News Update*, Number 622 #2 (2003).

2002

2. *Quantum information processing with large nuclear spins in GaAs semiconductors*
M. N. Leuenberger, D. Loss, M. Poggio, and D. D. Awschalom
Phys. Rev. Lett. **89**, 207601 (2002).

2001

1. *Spin coherence and dephasing in GaN*
B. Beschoten, E. Johnston-Halperin, D. K. Young, M. Poggio, J. E. Grimaldi, S. Keller, S. P. DenBaars, U. K. Mishra, E. L. Hu, and D. D. Awschalom
Phys. Rev. B **63**, 121202 (2001).

News & Opinion

2013

2. *Sensing from the bottom up*
M. Poggio
Nat. Nanotechnol. **8**, 482 (2013).

2004

1. *Francis Harry Compton Crick*
T. Poggio and M. Poggio
Phys. Today **57** (11), 80 (2004).

Book Chapters

2018

3. *Force-detected Nuclear Magnetic Resonance*
M. Poggio and B. E. Herzog
Micro and Nano Scale NMR: Technologies and Systems, J. Anders and J. Korvink, Eds., Wiley (2018), pp. 381-420.

2014

2. *Hybrid Mechanical Systems*
P. Treutlein, C. Genes, K. Hammerer, M. Poggio, P. Rabl
Cavity Optomechanics, M. Aspelmeyer, T. Kippenberg, F. Marquardt, Eds., Springer (2014), pp. 327-351.

2012

1. *Magnetic Resonance Force Microscopy*
   M. Poggio and C. L. Degen
   Encyclopedia of Nanotechnology, B. Bhushan, Ed., Springer-Verlag (2012).

Conference Proceedings

2006

1. *Nuclear and ion spins in semiconductor nanostructures*
   M. Poggio, R. C. Myers, G. M. Steeves, N. P. Stern, A. C. Gossard, and D. D. Awschalom
   Physica E **35**, 264 (2006).

Theses

2019

10. *Force sensing with nanowires*
    N. Rossi
    Ph.D. Thesis in Physics.

2018

9. *Nanoscale magnetic imaging of ferromagnetic nanostructures*
   M. Wyss
   Ph.D. Thesis in Physics.

8. *Nanomechanics and scanning probe microscopy with nanowires*
   D. Cadeddu
   Ph.D. Thesis in Physics.

2017

7. *Nuclear Spin Noise Examined by Magnetic Resonance Force Microscopy*
   B. E. Herzog
   Ph.D. Thesis in Physics.

6. *Dynamic Cantilever Magnetometry of Reversal Processes and Phase Transitions in Individual Nanomagnets*
   A. Mehlin
   Ph.D. Thesis in Physics.

2015

5. *Hybrid torque and SQUID magnetometry of individual magnetic nanotubes*
   A. Buchter
   Ph.D. Thesis in Physics.

2014

4. *Dynamic Cantilever Magnetometry of Ferromagnetic Nanotubes*
   D. P. Weber
   Ph.D. Thesis in Physics.

3. *Coupling of Nanomechanical Resonators to Controllable Quantum Systems*
   M. Montinaro
   Ph.D. Thesis in Physics.

2013

2. *Magnetic Resonance Force Microscopy: Harnessing Nuclear Spin Fluctuations*
   P. Peddibhotla
   Ph.D. Thesis in Physics.

2005

1. *Spin Interactions Between Conduction Electrons and Local Moments in Semiconductor Quantum Wells*
   M. Poggio
   Ph.D. Thesis in Physics.

Other Publications

2018

3. *Force-detected nuclear magnetic resonance*
M. Poggio
De Physicus **2**, 59 (2018).

2010

2. *Taking MRI to the nanoscale by force*
M. Poggio
nanotechweb.org, 26 August 2010.

1994

1. *Cooperative physics of fly swarms: an emergent behavior*
M. Poggio and T. Poggio
M.I.T. A.I. Memo 1512 (1994).

Invited Talks at Conferences and Workshops

Apr. 2019

51. *Magnetization configurations and reversal of individual ferromagnetic nanotubes*
Deutsche Physikalische Gesellschaft Frühjahrstagung, Regensburg, Germany

Aug. 2018

50. *Dynamic cantilever magnetometry on skyrmion-hosting materials*
New Trends in Chiral Magnetism, EPF, Lausanne, Switzerland

Jul. 2018

49. *Magnetization configurations and reversal of individual ferromagnetic nanotubes*
International Conference on Magnetism (ICM), San Francisco, USA

May 2018

48. *Quantum sensing with nano-SQUIDs*
Quantum Systems and Technology, Monte Verità, Switzerland

Feb. 2018

47. *Nanomechanics and nanomagnetism*
Spin mechanics 5 & Nano-MRI 6, École de Physique des Houches, Chamonix, France

Feb. 2018

46. *Scanning probe microscopy with quantum sensors*
QSIT General Meeting, Arosa, Switzerland

Jan. 2018

45. *Mechanical sensing of nanomagnetic systems*
XXII Swiss NMR Symposium, Zürich, Switzerland

Dec. 2017

44. *Mechanical sensing of nanomagnetic systems*
Opto- and Nanomechanics Research Group (MecaQ) Annual Meeting, Paris, France

Sep. 2017

43. *Mechanical sensing of nanomagnetic systems*
Foundations and Applications of Nanomechanics, Trieste, Italy

Jul. 2017

42. *Magnetization configurations and reversal in ferromagnetic nanotubes*
13th International Workshop on Magnetism & Superconductivity at the Nanoscale, Tarragona, Spain

Mar. 2017

41. *Force sensing with nanowires*
Trends in Nanoscience 2017, Kloster Irsee, Germany

Feb. 2017

40. *Mechanical sensing of nanomagnetic systems*
Frontiers of Nanomechanical Systems, La Thuile, Italy

Nov. 2016

39. *Vectorial scanning force microscopy using a nanowire sensor*
German-Japanese Workshop on Hybrid Quantum Systems, Berlin, Germany

Jun. 2016 38. *Vectorial scanning force microscopy using a nanowire sensor*
Swiss Nano Convention, Basel, Switzerland

Oct. 2015 37. *Sensing with multi-functional nanowires*
8th Nanowires Workshop (2015), Barcelona, Spain

Sep. 2015 36. *Scanning nanowire sensors*
Swiss Nanoscience Institute Annual Meeting, Lenzerheide, Switzerland

Aug. 2015 35. *Measuring nanometer-scale spin systems by ultrasensitive cantilever magnetometry*
The 8th International School and Conference on Spintronics and Quantum Information Technology (SpinTech VIII), University of Basel, Switzerland

Jul. 2015 34. *Measuring nanometer-scale spin systems by ultrasensitive cantilever magnetometry*
5th NanoMRI Conference, Institute for Quantum Computing, Waterloo, Canada

Jun. 2015 33. *Measuring nanometer-scale spin systems by ultrasensitive cantilever magnetometry*
Spin Mechanics 3, Munich, Germany

Sep. 2014 32. *Couping nanomechanics to solid-state spin*
School on nano-optomechanics, Strasbourg, France

Sep. 2014 31. *Quantum dot opto-mechanics in a fully self-assembled nanowire*
Quantum Technologies Based on Hybrid Emitter/Solid-state Systems, Strasbourg, France

Jun. 2014 30. *Cantilever magnetometry of individual ferromagnetic nanotubes*
International Seminar of Nanomechanical Systems (NEMS 2014), Paris, France

Mar. 2014 29. Plenary Talk: *Harnessing nuclear spin polarization fluctuations in a semiconductor* nanowire
55th Experimental Nuclear Magnetic Resonance Conference (ENC), Boston, USA

Nov. 2013 28. *Nano-mechanics, nano-magnetometry, and nano-MRI*
544th Wilhelm und Else Heraeus-Seminar: Interactions with the Nanoworld: Local Probes with High Time, Energy and Force Resolution, Bad Honnef, Germany

Oct. 2013 27. *Harnessing nuclear spin polarization fluctuations in a semiconductor nanowire*
Wide-bandgap Semiconductor Nanosctructures, Nice, France

Jul. 2013 26. *Harnessing nuclear spin polarization fluctuations in a semiconductor nanowire*
Quantum Nano- and Micromechanics, Monte Verità, Switzerland

Jul. 2013 25. *Harnessing nuclear spin polarization fluctuations in a semiconductor nanowire*
3rd Workshop on Nanoscale Spin and Charge Dynamics, Cluj, Romania

May 2013 24. *Nano-mechanics, nano-magnetometry, and nano-MRI*
International Workshop on Magnetic Nanowires and Nanotubes 2013, Kaub, Germany

Sep. 2012 23. Plenary Talk: *Recent progress in force-detected MRI*
Advanced Magnetic Resonance for the Study of Dynamics in Biomolecules and Materials, Halle, Germany

Sep. 2011 22. *Recent progress in force-detected MRI*
Recent Advances in Broad-Band Solid-State NMR of Correlated Electronic Systems, Trogir, Croatia

Jul. 2011	21.	*Recent progress in force-detected MRI* Magnetic Resonance Microsystems, Freiburg, Germany
Feb. 2011	20.	*Magnetic resonance imaging with nanomechanics* Advanced Atomic Force Microscopy Techniques, Karlsruhe, Germany
Oct. 2010	19.	*Towards nano-MRI in mesoscopic transport systems* Workshop on Quantum Spintronics, Maratea, Italy
Jul. 2010	18.	*Towards nano-MRI in mesoscopic transport systems* 3rd Nano-MRI Research Conference, Domaine du Tremblay, France
Jun. 2010	17.	Plenary Talk: *Magnetic resonance imaging with nanomechanics* Annual Meeting of the Swiss Physical Society, Basel, Switzerland
Feb. 2010	16.	*Magnetic resonance imaging with nanomechanics* Edgar Lüscher Seminar 2010: Neues aus der Festkörperphysik, Klosters, Switzerland
Nov. 2009	15.	*Magnetic resonance imaging with nanomechanics* National School on the Physics of Matter: Physics of Spin in Materials, Chiavari, Italy
Jul. 2009	14.	*Ultra-sensitive force detection applied to magnetic resonance imaging* International Workshop and School on Solid State Based Quantum Information Processing, Herrsching, Germany
Jun. 2009	13.	*Ultra-sensitive force detection applied to magnetic resonance imaging* Spin and Charge Properties of Low Dimensional Systems, Sibiu, Romania
Jun. 2009	12.	*Ultra-sensitive force detection applied to magnetic resonance imaging* Swiss Nano 2009, Basel, Switzerland
Jan. 2009	11.	*Nanomechanics in the quantum world* Nanoscience in the Snow, Eigergletscher, Switzerland
May 2008	10.	*Ultrasensitive force detection applied to nuclear magnetic resonance* The 3rd Advanced Materials Failure Analysis Workshop, Phoenix, USA
Jul. 2007	9.	*Nuclear magnetic resonance imaging with 90-nm resolution* International Conference on Electronic Properties of Two-dimensional Systems and Modulated Semiconductor Structures, Genoa, Italy
Mar. 2006	8.	*Measurement of the s-d exchange coupling in GaMnAs quantum wells* American Physical Society March Meeting, Baltimore, USA
Feb. 2006	7.	*Manipulation of nuclear and ion spins in semiconductor nanostructures* 14th International Winterschool on New Developments in Solid State Physics – Charges and spins in nanostructures: basics and devices, Mauterndorf, Austria
Jul. 2005	6.	*Local manipulation of nuclear spins in a semiconductor quantum well* International Conference on Quantum Electronics 2005 and the Pacific Rim Conference on Lasers and Electro-Optics 2005 (IQEC/CLEO-PR 2005), Tokyo, Japan
Jun. 2005	5.	*Local manipulation of nuclear spins in semiconductor nanostructures* Gordon Research Conference on Magnetic Resonance, New London, USA

Oct. 2004 4. *Optoelectronic manipulation of spins in quantum wells: harnessing local magnetic interactions*
International Workshop sponsored by the Nanoscale Science and Engineering Center: Frontiers in Nanoscale Science and Technology, Harvard University, USA

Mar. 2004 3. *Local manipulation of nuclear spin in a semiconductor quantum well*
American Physical Society March Meeting, Montreal, Canada

Jan. 2004 2. *Local manipulation of nuclear spin in a semiconductor quantum well*
The 34th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, USA

Jul. 2003 1. *Local manipulation of nuclear spin in a semiconductor quantum well*
International Conference on Magnetism, Rome, Italy

Invited Colloquia and Seminars

Apr. 2019 35. *New scanning probes for nanomagnetic imaging*
Condensed Matter Seminar, Technical University, Munich, Germany

Dec. 2018 34. *Nanomechanics and nanomagnetism*
Physics Seminar, RWTH Aachen University, Aachen, Germany

May 2018 33. *Nanomechanics and nanomagnetism*
Condensed Matter Physics Seminar, EPF, Lausanne, Switzerland

May 2018 32. *Mechanical sensing of nanomagnetic systems*
Seminar, Laboratory for Advanced Microscopies, University of Zaragoza, Spain

Dec. 2017 31. *Mechanical sensing of nanomagnetic systems*
Physics Department Seminar, University of Augsburg, Germany

Jun. 2017 30. *Nanomechanics and nanomagnetism*
Department Seminar, CNRS Grenoble, France

Jun. 2017 29. *Nanomechanics and nanomagnetism*
Physics Department Colloquium, University of Ulm, Germany

Dec. 2015 28. *Nanometer-scale magnetometry*
Seminar of Biomedical Magnetic Resonance, Institute for Biomedical Engineering, ETH, Zürich, Switzerland

Mar. 2015 27. *Nanometer-scale Magnetometry*
Seminar, Leibniz Institute for Solid State and Materials Research (IFW), Dresden, Germany

Feb. 2015 26. *Nanometer-scale Magnetometry*
Seminar of the 3. Physikalisches Institut, University of Stuttgart, Germany

Dec. 2014 25. *Nanometer-scale Magnetometry*
Nanoscale Science Department Seminar, Max-Planck Institute for Solids State Research, Stuttgart, Germany

Apr. 2014 24. *Nano- and opto-mechanics of fully self-assembled nanowires*
Institute for Terahertz Science and Technology Seminar, University of California, Santa Barbara, USA

Jun. 2013 23. *Nano-mechanics, nano-magnetometry, and nano-MRI*
Seminar, Bruker BioSpin AG, Fällenden, Switzerland

Jan. 2013 22. *Nano-mechanics, nano-magnetometry, and nano-MRI*
Physics Department Seminar, Leeds University, UK

Oct. 2012 21. *Nano-mechanics, nano-magnetometry, and nano-MRI*
Quantum Nanoscience Seminar, Delft University of Technology, Netherlands

Jul. 2012 20. *Nano-mechanics, nano-magnetometry, and nano-MRI*
Physics Department Colloquium, University of Stuttgart, Germany

Jun. 2012 19. *Nano-mechanics, nano-magnetometry, and nano-MRI*
Physics Department Colloquium, Technical University of Dresden, Germany

Apr. 2012 18. *Nano-mechanics, nano-magnetometry, and nano-MRI*
Physics Department Colloquium, University of Tübingen, Germany

Jan. 2012 17. *Recent progress in force-detected MRI*
Atomic, Mesoscopic, and Optical Physics Seminar, University of Cambridge, UK

Jul. 2011 16. *Recent progress in force-detected MRI*
Condensed Matter Seminar, Technical University, Munich, Germany

May 2010 15. *Magnetic resonance imaging with nanomechanics*
The Zürich Physics Colloquium, ETH, Zürich, Switzerland

May 2010 14. *Magnetic resonance imaging with nanomechanics*
Physics Department Seminar, University of Pavia, Italy

Apr. 2009 13. *Ultra-sensitive force detection applied to magnetic resonance imaging*
Physics Department Seminar, University of Pisa, Italy

Apr. 2009 12. *Ultra-sensitive force detection applied to magnetic resonance imaging*
Physics Department Seminar, University of Genoa, Italy

Mar. 2009 11. *Ultra-sensitive force detection applied to magnetic resonance imaging*
Science & Technology Seminar, IBM Zürich Research Laboratory, Switzerland

Mar. 2009 10. *Ultra-sensitive force detection applied to magnetic resonance imaging*
Physics Department Seminar, University of Geneva, Switzerland

Mar. 2009 9. *Ultra-sensitive force detection applied to magnetic resonance imaging*
Physics Seminar, CNRS, Grenoble, France

Feb. 2009 8. *Adventures in ultra-sensitive force detection*
Physics Department Colloquium, University of Basel, Switzerland

Feb. 2009 7. *Adventures in ultra-sensitive force detection*
Solid State Physics Seminar, ETH, Zürich, Switzerland

Mar. 2008 6. *Ultrasensitive force detection applied to nuclear magnetic resonance*
Physics Department Seminar, University of Basel, Switzerland

Jan. 2008 5. *Ultrasensitive force detection applied to nuclear magnetic resonance*
Physics Department Seminar, University of Minnesota, Minneapolis, USA

Nov. 2007 4. Ultrasensitive force detection applied to nuclear magnetic resonance
Physics Department Seminar, University of Pittsburgh, USA

Oct. 2007 3. *Ultrasensitive force detection applied to nuclear magnetic resonance*
(with Dr. Christian Degen)
Colloquium, IBM Almaden Research Center, San Jose, USA

Jul. 2007 2. *Ultrasensitive force detection applied to nuclear magnetic resonance*
Condensed Matter Seminar, Ludwig Maximilians University, Munich, Germany

May 2004 1. *Manipulating nuclear spins in semiconductors: a future information storage technology?*
Materials Structures and Devices Focus Center Teleseminar Series, teleconference

Contributed Talks

Aug. 2013 8. *Harnessing Nuclear Spin Polarization Fluctuations in a Semiconductor Nanowire*
The 7th International School and Conference on Spintronics and Quantum Information Technology (SpinTech VII), Chicago, USA

Jan. 2011 7. *Towards nano-MRI in mesoscopic transport systems*
NCCR Quantum Science and Technology: First General Meeting, Arosa, Switzerland

Aug. 2008 6. *Nanometer-scale magnetic resonance imaging*
American Chemical Society National Meeting, Philadelphia, USA

Mar. 2008 5. *Using a quantum point contact as a sensitive detector of cantilever motion*
American Physical Society March Meeting, New Orleans, USA

Mar. 2007 4. *Nuclear magnetic resonance imaging with 90-nm resolution*
American Physical Society March Meeting, Denver, USA

Mar. 2005 3. *Spin transfer and coherence in coupled quantum wells*
American Physical Society March Meeting, Los Angeles, USA

Mar. 2003 2. *Electronic manipulation of nuclear spin in semiconductor quantum wells*
American Physical Society March Meeting, Austin, USA

Mar. 2002 1. *Electron spin dynamics and resonant nuclear depolarization in semiconductor nanostructures*
American Physical Society March Meeting, Indianapolis, USA

Poster Presentations

Feb. 2008 15. *Using a quantum point contact as a sensitive detector of cantilever motion*
Gordon Research Conference on Mechanical Systems in the Quantum Regime, Ventura, USA

Mar. 2007 14. *Feedback damping and magnetic friction in ultra-soft cantilevers*
The 3rd Annual Nanoprobes Workshop Center for Probing the Nanoscale (CPN), Stanford University, USA

Dec. 2006 13. *Feedback damping and magnetic friction in ultra-soft cantilevers*
Workshop on Quantum Electro Mechanical Systems (QEM-2), Morro Bay, USA

Jun. 2006 12. *Nuclear magnetic resonance imaging with 90-nm resolution*
Magnetic Resonance Force Microscopy: Routes to Three-Dimensional Imaging of Single Molecules, The Kavli Institute at Cornell for Nanoscale Science, Cornell University, USA

May 2006 11. *Nuclear magnetic resonance force microscopy*
National Science Foundation (NSF) Site Visit, Center for Probing the Nanoscale (CPN), Stanford University, USA

May 2006 10. Prize Winner: *Nuclear magnetic resonance force microscopy*
The 2nd Annual Nanoprobes Workshop Center for Probing the Nanoscale (CPN), Stanford University, USA

Aug. 2005 9. *Antiferromagnetic s-d exchange coupling in GaMnAs quantum wells*
The 3rd International School and Conference on Spintronics and Quantum Information Technology (SpinTech III), Awaji Island, Hyogo, Japan

Apr. 2005 8. *Antiferromagnetic s-d exchange coupling in GaMnAs quantum wells*
Materials Structures and Devices (MSD) Focus Center Review, MIT, USA

Nov. 2004 7. *Spin transfer and coherence in coupled quantum wells*
DARPA/DMEA Center for Nanoscience Innovation for Defense (CNID) Review Meeting, UCLA, USA

Jul. 2004 6. *Electrical control of carrier spin dynamics in coupled quantum wells*
The 3rd International Conference on Physics and Applications of Spin-related Phenomena in Semiconductors (PASPS III), Santa Barbara, USA

Jun. 2004 5. *Optoelectronic manipulation of nuclear spin in a semiconductor quantum well*
DARPA QuIST Program Review Meeting, Beverly Hills, USA

Mar. 2003 4. *Magnetic and electronic manipulation of nuclear spin in a semiconductor quantum well*
Gordon Research Conference on Quantum Information Science, Ventura, USA

Jul. 2002 3. *Electron spin dynamics and resonant nuclear depolarization in semiconductor nanostructures*
International School of Physics "Enrico Fermi": Course CLI (Quantum Phenomena in Mesoscopic Systems), Villa Monastero, Varenna, Italy

Jul. 2001 2. *Spin coherence and dephasing in GaN*
The 2nd Stig Lundqvist Research Conference on the Advancing Frontiers of Condensed Matter Physics: "Non-Conventional Systems and New Directions", The Abdus Salam International Centre, Trieste, Italy

May 2001 1. *Spin coherence and dephasing in GaN*
The 1st International School and Conference on Spintronics and Quantum Information Technology (SpinTech I), Maui, USA

Proposal Talks

Nov. 2018 6. *Quantum Sensing*
NCCR Quantum Science and Technology: Site Visit, ETH, Zürich, Switzerland

Dec. 2017 5. *Quantum Sensing*
NCCR Quantum Science and Technology: Site Visit, ETH, Zürich, Switzerland

Nov. 2014 4. *Quantum Sensing*
NCCR Quantum Science and Technology: Site Visit, ETH, Zürich, Switzerland

Dec. 2013 3. *Quantum Sensing*
NCCR Quantum Science and Technology: Site Visit, ETH, Zürich, Switzerland

Apr. 2013 2. *Bottom-up Nanowires as Scanning Multifunctional Sensors (NWScan)*
European Research Comission Starting Grant (ERC StG)
2nd stage interview, Brussels, Belgium

Apr. 2010 1. *Coupling nanomechanics with mesoscopic transport*
NCCR Nanoscale Science: Site Visit, University of Basel, Switzerland

Outreach Talks

Mar. 2018 5. *Nanometer-scale magnetic resonance imaging*
Swiss Young Physicists' Tournament, University of Basel, Switzerland

Nov. 2017 4. *Nanotecnologia: come e perché*
TecDay, Liceo Cantonale di Lugano 1, Lugano, Switzerland

Nov. 2015 3. *Nanotecnologia: come e perché*
TecDay, Liceo Cantonale di Lugano 2, Lugano, Switzerland

Jan. 2013 2. *Magnetresonanztomographie auf den Nanometer genau*
Saturday Morning Physics, University of Basel, Switzerland

Feb. 2012 1. *What is nanomechanics?*
The Physics of Everything: From Astrophysics to Biophysics to Nanoscience
In Dialogue Series, International School Basel, Reinach, Switzerland

Courses Taught

Fall 2019 21. Introduction to Nanomechanics (Masters-level, in English)
Spring 2019 20. Physics II for Physicists (Bachelors-level, in English)
Fall 2018 19. Introduction to Nanomechanics (Masters-level, in English)
Spring 2018 18. Physics II for Physicists (Bachelors-level, in English)
Fall 2017 17. Physics I for Biologists (Bachelors-level, in English)
Spring 2017 16. Fundamental Electronics (Masters-level, in English)
Fall 2016 15. Physics I for Biologists (Bachelors-level, in English)
Spring 2016 14. Fundamental Electronics (Masters-level, in English)
Fall 2015 13. Physik I für Studierende der Biologie (Bachelors-level, in German)
Spring 2015 12. Fundamental Electronics (Masters-level, in English)
Fall 2014 11. Physik I für Studierende der Biologie (Bachelors-level, in German)
Spring 2014 10. Fundamental Digital Electronics (Masters-level, in English)
Fall 2013 9. Fundamental Analog Electronics (Masters-level, in English)
Spring 2013 8. Fundamental Digital Electronics (Masters-level, in English)
Fall 2012 7. Fundamental Analog Electronics (Masters-level, in English)
Spring 2012 6. Introduction to Nanomechanics (Masters-level, in English)
Fall 2011 5. Fundamental Electronics (Masters-level, in English)
Spring 2011 4. Optics of Solid-state Nanostructures (Masters-level, in English)
Fall 2010 3. Introduction to Nanomechanics (Masters-level, in English)
Spring 2010 2. Optics of Solid-state Nanostructures (Masters-level, in English)
Fall 2009 1. Introduction to Nanomechanics (Masters-level, in English)

Post-doctoral Researchers Supervised

2019 - Present	8.	Nicola Rossi
2019 - Present	7.	Estefani Marchiori
2019 - Present	6.	Marcus Wyss
2014 - Present	5.	Boris Groβ
2014 - 2018	4.	Denis Vasyukov
2013 - Present	3.	Floris Braakman
2011 - 2014	2.	Hari Shankar Solanki
2009 - 2013	1.	Fei Xue

Ph.D. Students Supervised

2018 - Present	15.	Hinrich Mattiat
2018 - Present	14.	David Jaeger
2017 - Present	13.	Giulio Romagnoli
2017 - Present	12.	Simon Philipp
2016 - Present	11.	Lorenzo Ceccarelli
2016 - Present	10.	Thibaud Ruelle
2014 - 2019	9.	Nicola Rossi
2014 - 2018	8.	Marcus Wyss
2013 - 2018	7.	Davide Cadeddu
2012 - 2017	6.	Benedikt Herzog
2012 - 2017	5.	Andrea Mehlin
2011 - 2015	4.	Arne Buchter
2009 - 2014	3.	Dennis Weber
2009 - 2014	2.	Michele Montinaro
2009 - 2013	1.	Phani Peddibhotla

Masters Students Supervised

2015 - 2016	4.	Alexander Schwarb
2014 - 2015	3.	Kavian Davallou
2011 - 2012	2.	Andrea Mehlin
2011 - 2012	1.	Benedikt Herzog

Membership & Service

2019 - Present	Chair of the Department of Physics, University of Basel
2019 - Present	Founding and management committee member of ANAXAM (Analytics with Neutrons And X-rays for Advanced Manufacturing)
2018 - Present	Member of Board of Directors of the Swiss Nanoscience Institute (SNI)
2018 - Present	Committee member and founder of University of Basel Honors Track for Bachelors in Physics
2016 - Present	Evaluation committee member of INSPIRE Potentials Masters Internship Award within NCCR Quantum Science and Technology (QSIT)
2015 - Present	Scientific Committee member of NCCR Quantum Science and Technology (QSIT)

2009 - Present	Grant reviewer: Swiss National Science Foundation, European Research Council, National Science Foundation (USA), Israel Science Foundation, Chilean National Commission for Scientific and Technological Research, Netherlands Organization for Scientific Research, and Natural Sciences and Engineering Research Council of Canada.
2005 - Present	Journal reviewer: *Physical Review Letters*, *Physical Review A*, *Physical Review B*, *Physical Review Applied*, *Applied Physics Letters*, *APL Materials*, *Nature*, *Nature Physics*, *Nature Nanotechnology*, *Nature Photonics*, *Nature Communications*, *Scientific Reports*, *Nano Letters*, *Small*, *Nanotechnology*, *Journal of Magnetic Resonance*.
2001 - Present	Member of the American Physical Society