

CURRICULUM VITAE

Dr. Silvia Tacchi

Date of birth: 01.11.1974

Istituto Officina dei Materiali (IOM) del Consiglio Nazionale delle Ricerche (CNR), Sede Secondaria di Perugia

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Current position

From 2012: Researcher of the Perugia Institute Officina dei Materiali (IOM) of the National Research Council (CNR).

Previous positions

2008 – 2012: Fixed-term Researcher at the Consorzio Nazionale Interuniversitario per le Scienze Fisiche della Materia (CNISM), Section of Perugia
2002 – 2007 : Post Doc Grant, Perugia University, Department of Physics

Education and training

2013: Habilitation in Experimental Condensed Matter Physics- Associate Professor from Italian Ministry of University and Research (MIUR)

2002: PhD in Physics, Perugia University.
Thesis title: "*In-situ study of structural and magnetic properties of epitaxial Fe/Cu ultrathin films*"

1993-1999: Master Diploma in Physics at the University of Perugia, Final mark: summa cum laude, Thesis title: "*Studio delle proprietà strutturali e magnetiche di eterostrutture epitassiali del tipo Cu/Fe/Cu/Si(111)*".

Main research interests

Spin dynamics in nanostructured materials (films, multilayers and laterally confined structure): magnetic anisotropy, interlayer exchange coupling, exchange-spring systems, spin-torque and spin Hall effect, Dzyaloshinskii-Moriya interaction, domain structures, magnonic crystals. Brillouin Light Scattering (BLS), Magneto-optical Kerr effect magnetometry (MOKE), Atomic/Magnetic Force Microscopy (AFM/MFM).

Publications and Presentations

- **7 book chapter**
- **130 peer-reviewed articles**, including 2 Nature Nanotechnology, 1 Advanced Materials, 1 Communications Physics, 6 Phys. Rev. Lett., 3 Scientific Reports and 5 Appl. Phys. Lett., **h-index = 30**
- **40 contributions** to international academic conferences, workshops and research centers as presenting author.

Organization of Scientific Conferences

- 2018 Member of the Local Organizing Committee of the International Workshop “Advances in Brillouin Light Scattering & BioBrillouin Meeting“, September 12-14, 2018, Perugia Italy.
- 2017 Member of the Local Organizing Committee of the 5th Italian Conference of Magnetism, September 13-15, 2017, Assisi Italy.
- 2013 Member of the Local Organizing Committee di 6th IEEE Magnetics Society Summer School, June 9-14, 2013, Assisi, Italy.
- 2012 Member of the Publication Committee del Joint European Magnetic Symposia 2012 (JEMS 2012) 9-14 September 2012, Parma, Italy.

Recent publications

1. Weinan Lin, Baishun Yang, Andy Paul Chen, Xiaohan Wu, Rui Guo, Shaohai Chen, Liang Liu, Qidong Xie, Xinyu Shu, Yajuan Hui, Gan Moog Chow, Yuanping Feng, Giovanni Carlotti, Silvia Tacchi, Hongxin Yang, and Jingsheng Chen, "*Perpendicular Magnetic Anisotropy and Dzyaloshinskii-Moriya Interaction at an Oxide/Ferromagnetic Metal Interface*", Phys. Rev. Lett **124**, 217202 (2020).
2. E. Albisetti, S. Tacchi, R. Silvani, G. Scaramuzzi, S. Finizio, S. Wintz, C. Rinaldi, M. Cantoni, J. Raabe, G. Carlotti, R. Bertacco, E. Riedo, and D. Petti, "*Optically Inspired Nanomagnonics with Nonreciprocal Spin Waves in Synthetic Antiferromagnets*", Adv. Mater. **32**, 1906439 (2020).
3. V. Karakas, A. Gokce, A. T. Habiboglu, S. Arpaci, K. Ozbozduman, I. Cinar, C. Yanik, R. Tomasello, S. Tacchi, G. Siracusano, M. Carpentieri, G. Finocchio, T. Hauet, O. Ozatay, "*Observation of Magnetic Radial Vortex Nucleation in a Multilayer Stack with Tunable Anisotropy*“, Sci. Rep. **8**, 7180 (2018).
4. E. Albisetti, D. Petti, G. Sala, R. Silvani, S. Tacchi, S. Finizio, S. Wintz, A. Calò , X. Zheng, J. Raabe, E. Riedo and R. Bertacco, "Nanoscale spin-wave circuits based on engineered reconfigurable spin-textures", Communications Physics **1**, 56 (2018).
5. **S. Tacchi**, R. E. Troncoso, M. Ahlberg, G. Gubbiotti, M. Madami, J. Åkerman, and P. Landeros "*Interfacial Dzyaloshinskii-Moriya interaction in Pt/CoFeB films: effect of the heavy-metal thickness*" Phys Rev. Lett. **118**, 147201 (2017).

6. E. Albisetti, D. Petti, M. Pancaldi, M. Madami, **S. Tacchi**, J. Curtis, W.P. King, A. Papp, G. Csaba, W.Porod, P. Vavassori, E. Riedo, R. Bertacco, "*Nanopatterning reconfigurable magnetic landscapes via thermally assisted scanning probe lithography*" Nature Nanotech. **11**, 545 (2016).