

Personal information

Martin Svec, PhD., born 5. 7. 1980

Permanent address: Africka 671/5, Praha 6, Czech republic

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Publications: **>55** original papers / h-index: **21** / citations ~ **1500** (Google Scholar)

Official webpage: <http://splm.fzu.cz>

Research employment

- since 2019: Institute of Physics / Czech Academy of Sciences (Praha),
Group leader in Scanning Probe Luminescence Microscopy Lab
- since 2022: Institute of Organic Chemistry and Biochemistry Czech Academy of Sciences (Praha),
Coordinator of the Scanning Probe Lab
- 2018 - 2021: Regional Center of Advanced Technologies and Materials / UPOL (Olomouc),
Consultant at the Scanning Probe Microscopy lab
- 2010 - 2018: Institute of Physics / Czech Academy of Sciences (Praha),
Head of experiment in the Scanning Probe microscopy lab
- 2009 - 2010: Center of Astrobiology / National Institute of Aerospace Technology (Madrid, ES),
post-doc, topic: 2D materials, simulation of prebiotic synthesis
- 2001 - 2009: Institute of Physics / Czech Academy of Sciences (Praha),
Master and PhD. study, topic: Pb/Si interfaces

Current research topics

Photophysics at the level of single molecules (since 2019)

- photon spectroscopy techniques, using ultrahigh vacuum cryogenic STM/AFM
- investigation of fundamental excitonic processes in organic and metal-organic molecules
- time-resolved spectroscopy with picosecond resolution via radio-frequency phase fluorometry
- direct photoluminescence and Raman spectroscopy of intramolecular vibrational modes
- conceptual single-photon emitters, single-molecule optoelectronic and optoelectronic devices

Past research topics

- direct mapping of intramolecular electrostatic potential STM/AFM
- graphene growth, functionalization by substitutional doping and interaction with organic molecules
- on-surface chemistry and self-assembly, propagation of chirality in spatially confined reactions
- two-dimensional forms of iron oxides and their elementary structural properties
- tip functionalization for use with STM/AFM and Kelvin probe microscopy
- simulation of prebiotic synthesis

Education

Oct 2003 - Feb 2009: **PhD thesis**, Surface Physics / Charles University (CZ)

Oct 1998 - Jun 2003: **Master thesis**, Faculty of Mathematics and Physics / Charles University (CZ)

Supervision of PhD. theses

2022-now - Amandeep Sagwal / PhD. study at Charles University (Praha, CZ)

2018-now - Jiri Dolezal (CZ) / PhD. study at Charles University (Praha, CZ)

2016-2020 - Jesus Ruben Redondo (ES) / PhD. study at Charles University (Praha, CZ)

co-supervision of 3 PhD. theses

Additional professional service

Synchrotron radiation experiments

photoelectron emission spectroscopy, photoelectron diffraction, X-ray absorption spectroscopy, X-ray magnetic circular dichroism, angle-resolved photoelectron spectroscopy, X-ray standing waves at various 3rd generation light sources: Elettra (Trieste, Italy), PAL (Pohang, South Korea), ESRF (Grenoble, France), Diamond (Didcot, UK), SLS (Villigen, Switzerland)

Committee membership:

2021-now **Czech Science Foundation panel member (P204)**

Opponent role in evaluation committees

PhD. theses: 5

MSc. theses: 3

Refereeing in journals (total >50 reports submitted): Science, Nature, Nature Comm., ACS Nano, JACS, Phys. Rev. Lett., Phys. Rev. B, Carbon, Nanotechnology, Nanoscale, Appl. Phys. Lett., J. Phys. Chem., RSC Advances, Surf. Sci., Appl. Surf. Sci., Science Advances, Phys. Stat. Solidi B, J. Mat. Chem. C

International conference organization

4-5 Oct **2022**: main organizer, **Workshop: Light-Matter Interaction at Nanoscale**

22-23 May **2017**: webmaster, secretary, **Workshop on SPM & on-surface chemistry**

3-8 Jul **2011**: webmaster, **13th Intl. Conference on the Formation of Semiconductor Interfaces**

1-5 Jul **2012**: webmaster, **15th International Conference on non-contact AFM**

Invited talks, seminars and awards

2023 Fuerzas y Túnel FyT 2023 - **Plenary lecture**

2022 XI Workshop on Applications of Scanning Probe Microscopy – STM/AFM - **Invited lecture**

2022 International Workshop on Atomic Physics - **Invited lecture**

2022 International Conference on Porphyrins and Phthalocyanines - **Invited lecture**

2021 756. WE-Heraeus-Seminar "Advances in Scanning Probe Techniques" - **Invited lecture**

2020 Workshop on Low Dimensional Materials at Liblice, 8-11th Sep - **Invited lecture**

"Every photon counts: tip-enhanced electroluminescence of single molecules"

2014 Otto Wichterle Award (10 kEUR), Czech Academy of Sciences, Czech Republic