

Curriculum vitae



Name and Surname: Pavel Jelínek

Date of birth: 17.11.1972

Nationality: czech

Current position: senior scientist, assistant professor

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<https://scholar.google.com/citations?user=NpvolhIAAAAJ&cstart=0&pagesize=20>

Education

2001 PhD. at the Czech Technical University, Material and Physical Engineering.

Thesis: "*Modelling Influence of the Turbulent Flows in the Crystal Growth of II-VI Semiconductors.*"

1997 Ing. at the Czech Technical University, Material Engineering

Master Thesis: "*Numerical Solution of Diffusive Equation in Two-dimensional Space.*"

Working experience

1999 – Institute of Physics of the AS CR, Department of Thin Films.

2001 – 2005 PostDoc position in group of Prof. F. Flores Sintas UAM, Spain

2008 visiting researcher (Fulbright Scholar) O.F. Sankey ASU, USA

2009 – group leader of NANOSURF Laboratory in the Institute of Physics of the AS CR (nanosurf.fzu.cz)

2014-2015 Visiting Professor Graduate School of Engineering, Osaka University

2015- RCPTM, UPOL Olomouc, Czech Republic

2017- Associated Professor in Physical Chemistry, UPOL Olomouc, Czech Republic

2020- head of the Department of Surfaces and molecular structures

Research interests

He is an expert on scanning probe microscopy, surface science, and computational nanophysics. Among others, he was involved in pioneering works, including single-atom chemical identification (*Nature* 2007, *ACS Nano* 2013, *Nature Comm.* 2017) and manipulation (*Science* 2008, *PRL* 2009, *Nanoscale* 2016) on semiconductor surfaces, high-resolution SPM imaging with a functionalized probe (*PRB* 2014, *PRL* 2014, 2016, 2017, *ACS Nano* 2016, 2017, *Nature Comm.* 2015, 2016, 2018, *Nature* 2018, *Science* 2021) and on-surface chemistry (*JACS* 2016, *Nature Chem.* 2017, *Angewandte Chemie* 2018, 2019) and piezoelectric response of single molecules (*JACS* 2018). He is also co-author of a local orbital DFT simulation package Fireball (e.g. *PRB* 2005, >200 citations). He established research NANOSURF group, which is internationally recognized in field of scanning probe microscopy, surface science and low dimensional materials. The group strongly benefits from the unique synergy between experiment and theory.

Lectures, Education

Associated professor in Physical Chemistry from 2017. Teaching graduate courses Advanced Scanning Microscopy and Selected Chapters from Nanoelectronics at Palacky University and Charles Univeristy. Successfully supervised 8 PhD students and 1 Msc. student in the past 10 years, currently supervising 9 PhD and 1 Msc students. Regular participation in talks for public audiences.

Professional Memberships & Services

1. Member of ERC Advanced (2017,19) and Consolidator (2021) ERC PE3 panel
2. Member of the International Advisory Board J. Phys.: Cond. Mat., IoP publishing (2015-)
3. Member of the International Advisory Board of Advanced Materials Interfaces Journal, Wiley (2013-18)
4. Member of Primus/Progress Review Panel, Charles University, Czech Republic (2016-)
5. Member of Czech Grant Agency Review Panel of Condensed Matter Physics (2013-2016)
6. Member of Programme (2009-2011) and Steering (2013-) Committee of International nc-AFM conference
7. Member of Scientific board of Neuron foundation (2016-2021) <http://www.nfneuron.cz>
8. Member of Czech Learned Society (2019-)

Referee: Science, Nature, Nature Chem., Nature Nano., Nature Comm., Nano Letters, Physical Review Letters, Physical Review (B,E), ACS Nano, JACS, Angew. Chem. etc.

Organization of International conferences

1. Member of Organizing Committee of XI-th Symposium on Surface Physics, July, 2008, Prague.
2. Organizer of two International Workshops “*Simultaneous STM/AFM measurements using tuning fork based sensors*”, Prague, October 2009 & 2010. (40 participants)
3. Co-chairman of ICFS-12 Prague, Czech Republic, July 2011 (more than 250 participants).
4. Co-chairman of dedicated Symposia ECOSS-28 Wroclaw, Poland, Aug-Sept. 2011.
5. Chairman of 15th nc-AFM, Cesky Krumlov, Czech Republic, July 2012 (more than 150 participants).

Prizes, Awards and Scholarships

1. Ministerio de Educación, Cultura y Deporte, „Ayudas para la movilidad de profesores e investigadores españoles y extranjeros“, Spain (2005).
2. Otto Wichterle award for young outstanding researchers, Czech Academy of Science (2007).
3. Fulbright Scholarship (2008).
4. The ASCR Prize for outstanding achievements of great scientific importance, Czech Academy of Sciences (2012).
5. Praemium Academiae, Czech Academy of Sciences (2016)
6. The Rudolf Lukes Prize, Czech Chemical Society (2020)

Publications

In total published ~120 manuscripts in journals with IF

Google Scholar: >7 800 citations, h-index 47

Science (2), Nature (2), Nature Chem (3), Nature Nano (2), Nature Comm (8), Phys. Rev. Lett. (15), ACS Nano (11), Nano Letters (2), JACS (6), Angew. Chem. (10), Science Adv. (3)

Invited presentations to international conferences and schools

In total 3 plenary and > 50 invited contributions on international conferences, workshops and schools

5 selected invited talks

1. EuChems, Lisboa, Portugal, September 2022
2. ICN+T, Vancouver, Canada, July 2021
3. ACS Fall Meeting, San Diego, USA, August 2019
4. DPG Spring meeting, Regensburg, Germany, March 2016, 2019
5. AVS Meeting, Nashville, USA, November 2016

5 selected publications

1. O. Stetsovych, M. Švec, J. Vacek, J. Vacek Chocholoušová, A. Jančařík, J. Rybáček, K. Kosmider, I. G. Stará, P. Jelínek, I. Starý *From helical to planar chirality by on-surface chemistry* Nat. Chem. 9 (2017) 213 - 218.
2. J. Peng, D. Cao, Z. He, J. Guo, P. Hapala, R. Ma, B. Cheng, J. Chen, W. J. Xie, X.-Zh. Li, P. Jelínek, L.-M. Xu, Y. Q. Gao, E.-G. Wang, Y. Jiang *The effect of hydration number on the interfacial transport of sodium ions* Nature 557 (2018) 701 - 705.
3. B. Cirera, A. Sánchez-Grande, B. de la Torre, J. Santos, Sh. Edalatmanesh, E. Rodríguez-Sánchez, K. Lauwaet, B. Mallada, R. Zbořil, R. Miranda, O. Gröning, P. Jelínek, N. Martín, D. Ecija *Tailoring topological order and π -conjugation to engineer quasi-metallic polymers* Nature Nanotech. 15 (2020) 437 - 443.
4. B. Mallada, A. Gallardo, M. Lamanec, B. de la Torre, V. Špirko, P. Hobza, P. Jelinek *Real-space imaging of anisotropic charge of σ -hole by means of Kelvin probe force microscopy* Science 374 (2021) 863 - 867.
5. J.W. Park, E. Do, J.S. Shin, S. K. Song, O. Stetsovych, P. Jelinek, H.W. Yeom *Creation and annihilation of mobile fractional solitons in atomic chains* Nature Nanotech. 17 (2022) 244-249