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Surfaces and Interfaces at the Nanoscale
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Research outputs

Synthesis and Local Probe Gating of a Monolayer Metal-Organic Framework

Yan, L., Silveira, O. J., Alldritt, B., Krejčí, O., Foster, A. S. & Liljeroth, P., 26 May 2021, In: *Advanced Functional Materials*. 31, 22, p. 2100519 7 p., 2100519.

Biphenylene network: A nonbenzenoid carbon allotrope

Fan, Q., Yan, L., Trip, M. R., Krejci, O., Dimosthenous, S., Kachel, S. R., Chen, M., Foster, A., Liljeroth, P. & Gottfried, J. M., 21 May 2021, In: *Science*. 372, 6544, p. 852-856 44 p.

Integrating Bayesian Inference with Scanning Probe Experiments for Robust Identification of Surface Adsorbate Configurations

Järvi, J., Alldritt, B., Krejčí, O., Todorović, M., Liljeroth, P. & Rinke, P., 13 May 2021, (E-pub ahead of print) In: *Advanced Functional Materials*. 8 p., 2010853.

On-Surface Synthesis of a π -Extended Diaza[8]circulene

Nakamura, K., Li, Q. Q., Krejčí, O., Foster, A. S., Sun, K., Kawai, S. & Ito, S., 15 May 2020, In: *Journal of the American Chemical Society*. 142, 26, p. 11363–11369

Three-dimensional graphene nanoribbons as a framework for molecular assembly and local probe chemistry

Kawai, S., Krejci, O., Nishiuchi, T., Sahara, K., Kodama, T., Pawlak, R., Meyer, E., Kubo, T. & Foster, A., 28 Feb 2020, In: *Science Advances*. 6, 9, 7 p., eaay8913.

Automated structure discovery in atomic force microscopy

Alldritt, B., Hapala, H., Oinonen, N., Urtev, F., Krejci, O., Federici Canova, F., Kannala, J., Schulz, F., Liljeroth, P. & Foster, A., 26 Feb 2020, In: *Science Advances*. 6, 9, 10 p., eaay6913.

Synthesis of Regioisomeric Graphene Nanoribbon Junctions via Heteroprecursors

Sun, K., Krejci, O., Foster, A. S., Okuda, Y., Orita, A. & Kawai, S., 18 Jul 2019, In: *Journal of Physical Chemistry C*. 123, 28, p. 17632-17638 7 p.

Interface dipoles of $\text{Ir}(\text{ppy})_3$ on $\text{Cu}(111)$

Queck, F., Albrecht, F., Mütombo, P., Krejci, O., Jelínek, P., McLean, A. & Repp, J., 14 Jul 2019, In: *Nanoscale*. 11, 26, p. 12695-12703 9 p.

Bonding Motifs in Metal-Organic Compounds on Surfaces

Queck, F., Krejčí, O., Scheuerer, P., Bolland, F., Otyepka, M., Jelínek, P. & Repp, J., 17 Sep 2018, In: *Journal of the American Chemical Society*. 140, p. 12884–12889 40.

Diacetylene Linked Anthracene Oligomers Synthesized by One-Shot Homocoupling of Trimethylsilyl on $\text{Cu}(111)$

Kawai, S., Krejci, O., Foster, A., Pawlak, R., Xu, F., Peng, L., Orita, A. & Meyer, E., 7 Aug 2018, In: *ACS Nano*. 12, 8, p. 8791–8797

Elemental Identification by Combining Atomic Force Microscopy and Kelvin Probe Force Microscopy

Schulz, F., Ritala, J., Krejčí, O., Seitsonen, A. P., Foster, A. S. & Liljeroth, P., 26 Jun 2018, In: *ACS Nano*. 12, 6, p. 5274-5283 10 p.

Added personal information:

Nationality: Czech Republic

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ORCID: 0000-0002-4948-4312

Google Scholar: <https://scholar.google.fi/citations?user=RTmwqccAAAAJ&hl=en>

Professional experience:

Aalto University, Finland: 08/01/2018-ongoing, Postdoc, SIN group, Department of Applied Physics.

Institute of Physics of the AS CR: 01/10/2010-31/12/2017, (Break: 16/09/2013-31/06/2014 - Erasmus), Nanosurf Lab, Department of thin films and nanostructures

Education:

Ph.D. study: 01/10/2013-30/11/2017, Charles University in Prague, Physics of Surfaces and Interfaces

Ph.D. thesis: DFT simulations of interactions between organic molecules and oriented surfaces

Supervisor: doc. RNDR. Pavel Kocán, Ph.D.

Consultant: doc. Ing. Pavel Jelínek, Ph.D.

Master study: 01/10/2011-27/05/2013, Charles University in Prague, Biophysics and Chemical Physics – Theory of Molecular Systems

Master thesis: Theoretical calculation of interaction between adsorbate and oriented Si surfaces

Supervisor: RNDR. Pavel Kocán, Ph.D.

Consultant: Ing. Pavel Jelínek, Ph.D.

Bachelor study: 01/10/2008-13/09/2011, Charles University in Prague, General Physics

Bachelor thesis: Theoretical calculation of stability and electronic structure of Si surfaces

Supervisor: RNDR. Pavel Kocán, Ph.D.

Consultant: Ing. Pavel Jelínek, Ph.D.

Exchange scholarships and summer schools:

ERASMUS: 16/09/2013-08/05/2014, Stockholm University, Sweden, Chemical physics, group of L. G. M. Pettersson

Summer Schools: 17-22/08/2014, CAMD Summer School on Electronic Structure Theory and Materials Design, Technical University of Denmark, Lyngby, Denmark

13-23/07/2015, Hands-on workshop density-functional theory and beyond: First-principles simulations of molecules and materials, Fritz-Haber-Institute, Berlin, Germany

Other (pre-Aalto) Research Outputs:

Publications in Journals: citations according to web of science 11th March 2020 (excluding self-citations)

1. P. Kocán, O. Krejčí, O. and H. Tochiyara. *J. Vac. Sci. Technol. A*, 33, 021408 (2015) DOI:

<http://dx.doi.org/10.1116/1.4913199>

citations: 0 (0).

2. J. Sforzini, M. Telychko, O. Krejčí, M. Vondráček, M. Švec, F. C. Bocquet, and F. S. Tautz. *Phys. Rev. B* 93, 041302 (2016) DOI: <http://dx.doi.org/10.1103/PhysRevB.93.041302>

citations: 3 (3).

3. N. Kocić, X. Liu, S. Chen, S. Decurtin, O. Krejčí, P. Jelínek, J. Repp and S.X. Liu. *J. Am. Chem. Soc.*, 138, pp 5585–5593 (2016) DOI: <http://dx.doi.org/10.1021/jacs.5b13461>

citations: 37 (36).

4. O. Krejčí, P. Matvija, P. Zimmermann, P. Sobotík, I. Ošťádal and P. Kocán. *J. Phys. Chem. C*, 120 (17), pp 9200–9206 (2016) DOI: <http://dx.doi.org/10.1021/acs.jpcc.6b00486>

citations: 2 (2).

5. O. Krejčí, P. Hapala, M. Ondráček and P. Jelínek, *Phys. Rev. B* 95, 045407 (2017) DOI:

<http://dx.doi.org/10.1103/PhysRevB.95.045407>

citations: 18 (16).

6. J. LaRue, O. Krejčí, L. Yu, M. Beye, M. L. Ng, H. Öberg, H. Xin, G. Mercurio, S. Moeller, J. J. Turner, D. Nordlund, R. Coffee, M. P. Minitti, W. Wurth, L. G. M. Pettersson, H. Öström, A. Nilsson, F. Abild-Pedersen and H. Ogasawara, *J. Phys. Chem. Lett.*, 8 (16), pp 3820–3825 (2017) DOI: <http://dx.doi.org/10.1021/acs.jpcclett.7b01549>

citations: 3 (3)

7. B. de la Torre, M. Švec, G. Foti, O. Krejčí, P. Hapala, A. Garcia-Lekue, T. Frederiksen, R. Zbořil, A. Arnau, H. Vázquez, and P. Jelínek, *Phys. Rev. Lett.* 119, 166001 (2017) DOI: <http://dx.doi.org/10.1103/PhysRevLett.119.166001> citations: 9 (8)

8. B. de la Torre, M. Švec, P. Hapala, J. Redondo, O. Krejčí, R. Lo, D. Manna, A. Sarmah, D. Nachtigallová, J. Tuček, P. Błoński, M. Otyepka, R. Zbořil, P. Hobza and P. Jelínek, *Nat. Commun.* 9, 2831 (2018) DOI:

<https://doi.org/10.1038/s41467-018-05163-y> citations: 17 (17)

Publications in Conference Proceedings:

1. P. Zimmermann, O. Krejčí, P. Kocán, I. Ošťádal, and P. Sobotík. WDS'13 Proceedings of Contributed Papers, Part III, 116–121 (2013). citations: 0 (0)

Invited presentations:

1. Theory of Hetero-Interfaces and Surfaces Workshop, 06/07/2018, Yonsei University, Seoul, S. South Korea, Invited Tutorial: Imaging mechanism of SPM utilizing flexible tip apexes and simulations of flexible tip apex employing fm-AFM imaging (2D) molecules adsorbed on (metal) surfaces.

2. NANO Korea 20188 symposium, 12/07/2018, Kintex, S. Korea, Invited Talk: Advances in high resolution scanning probe microscopy of molecules on surfaces and its simulations