

Curriculum Vitae of Martin Presselt



Dr. Martin Presselt is currently a group leader in the Department of Functional Interfaces at Leibniz IPHT in Jena, Germany. Dr. Presselt research focuses on interface assembly of dyes and supramolecular structure control to develop layers and interfaces with well-defined energy-landscapes, photonic and electronic properties. This research involves basic Langmuir-Blodgett research and development, photothermal deflection spectroscopic studies self-assembly, self-healing, and weak absorption signatures of supramolecular disorder, charge transfer, polaron and surfaces states in the sub-bandgap spectral region, respectively. His experimental research is supplemented by quantum chemical simulations.

Dr. Martin Presselt obtained his PhD from Friedrich-Schiller-University Jena in 2009, where he focused on predicting molecular electron density distribution characteristics from spectral information. From 2009 to 2011, Dr. Presselt worked as a postdoc with Prof. Gerhard Gobsch (Experimental Physics) and with Prof. Erich Runge (Theoretical Solid State Physics) at the Ilmenau University of Technology, Germany, on sub-bandgap absorption in polymer-fullerene solar cells. In 2011 Dr. Presselt gathered a postdoctoral scholarship of the Carl-Zeiss foundation on quantum chemical modeling of dendrimers for sensing and first stayed in the Runge-group before he moved to the Martínez group at the Stanford University (USA) from 2012 to 2013. In 2013 he became head of an independent junior research group at the Friedrich-Schiller-University in Jena, started his Habilitation, moved as a group leader to Leibniz-IPHT in 2016 and finished his Habilitation in early 2020. Since 2013 he focuses on interface assembly, supramolecular control of optical and electronic properties and quantum chemical modeling. In 2017 he co-founded the startup company SciClus GmbH & Co. KG, devoted to molecular modeling.

Scientific Degrees

2020	Habilitation in Physical Chemistry, Friedrich-Schiller-University, Jena, Germany
2009	PhD in Physical Chemistry, Friedrich-Schiller-University, Jena, Germany
2004	Diploma in Chemistry, Friedrich-Schiller-University, Jena, Germany

Professional Experience

since 2020	Venia Legendi in Physical Chemistry, Friedrich-Schiller-University, Jena, Germany
since 2017	Co-Founder and Chief Scientific officer of the molecular modeling startup SciClus
since 2016-	Tenured group leader at Leibniz-IPHT, Jena, Germany
2013-16	Group leader at Friedrich-Schiller-University, Jena, Germany
2012-13	Postdoc in the Martínez group (quantum chemistry), Stanford University, USA
2011-12	Postdoc in the Runge-group (quantum chemistry and theoretical solid state physics), Ilmenau University of Technology, Ilmenau, Germany
2009-11	Postdoc in the Gobsch-group (experimental physics, organic solar cells), Ilmenau University of Technology, Ilmenau, Germany
2004-09	Teaching Assistant, Friedrich-Schiller-University, Jena, Germany

Activities and Awards

2009	PhD thesis grade „summa cum laude“
2011-13	Postdoc scholarship of the Carl-Zeiss Foundation
2016	2 nd winner of the startup award Jena-Weimar

Selected Publications

1. **M. Presselt** *, F. Herrmann, H. Hoppe, S. Shokhovets, E. Runge and G. Gobsch, "Influence of Phonon Scattering on Exciton and Charge Diffusion in Polymer-Fullerene Solar Cells," *Advanced Energy Materials* **2**, 999-1003 (2012)
2. F. Herrmann, B. Muhsin, C. Singh, S. Shokhovets, G. Gobsch, H. Hoppe, **M. Presselt** *, "Influence of interface-doping on charge carrier mobilities and sub-bandgap absorption in organic solar cells," *Journal of Physical Chemistry C*, **119** (17), 9036-9040 (2015)
3. **M. Presselt** *, W. J. D. Beenken, A. Starukhin, W. Dehaen, W. Maes, A. Klamt, T. Martínez, and M. M. Kruk, "Quantum Chemical Insights into the Dependence of Porphyrin Basicity on the meso-Aryl Substituents: Thermodynamics, Buckling, Reaction Sites and Molecular Flexibility" *Physical Chemistry Chemical Physics*, **17** (21), 14096-14106 (2015)

4. Fischer, S.; Vestfrid, J.; Mahammed, A.; Herrmann-Westendorf, F.; Schulz, M.; Müller, J.; Kiesewetter, O.; Dietzek, B.; Gross, Z.; **Presselt, M. ***,
Photometric Detection of Nitric Oxide Using a Dissolved Iron(III) Corrole as a Sensitizer.
ChemPlusChem **2016**, *81* (7), 594-603.
5. Hupfer, M.; Kaufmann, M.; Herrmann-Westendorf, F.; Sachse, T.; Roussille, L.; Feller, K.-H.; Weiß, D.; Deckert, V.; Beckert, R.; Dietzek, B.; **Presselt, M. ***
On the Control of Chromophore Orientation, Supramolecular Structure and Thermodynamic Stability of an Amphiphilic Pyridyl-Thiazol upon Lateral Compression and Spacer Length Variation
ACS Appl Mater Interfaces **2017**, *9*, 44181-44191
6. Sachse, T.; Martinez, T. J.; Dietzek, B.; **Presselt, M ***.
A Program for Automatically Predicting Supramolecular Aggregates and Its Application to Urea and Porphin. *J. Comput. Chem.* **2018**, *39*(13), 763-772.
7. Das, S. K.; Plentz, J.; Brückner, U.; von der Lühe, M.; Eckhard, O.; Schacher, F. H.; Täuscher, E.; Ritter, U.; Andrä, G.; Dietzek, B., **Presselt, M ***.
Controlling Intermolecular Interactions at Interfaces: Case of Supramolecular Tuning of Fullerene's Electronic Structure.
Advanced Energy Materials **2018**, *8*(32), 1801737.
8. Hupfer, M. L.; Kaufmann, M.; May, S.; Preiss, J.; Weiss, D.; Dietzek, B.; Beckert, R.*; **Presselt, M.***
Enhancing the supramolecular stability of monolayers by combining dipolar with amphiphilic motifs: a case of amphiphilic push-pull-thiazole. *Physical chemistry chemical physics : PCCP* **2019**, *21* (24), 13241-13247.
9. Das, S.; **Presselt, M.***
Progress and Development in Structural and Optoelectronic Tunability of Supramolecular Nonbonded Fullerene Assemblies
Journal of Materials Chemistry C **2019**, *7*(21), 6194-6216.
10. Hupfer, M. L.; Herrmann-Westendorf, F.; Kaufmann, M.; Weiss, D.; Beckert, R.; Dietzek, B.; **Presselt, M.***
Autonomous Supramolecular Interface Self-Healing Monitored by Restoration of UV/Vis Absorption Spectra of Self-Assembled Thiazole Layers. *Chemistry* **2019**, *25* (36), 8630-8634.