## Controlling Self-Assembly of Solution Processable Semiconductors for Electronic Applications

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The self-organization of solution processable semiconductors plays a critical role in determining the charge transport properties of these materials. This is because the morphology and molecular order of the semiconductor film, which is formed during the solution deposition process, directly influences the efficiency of charge transport within the material. In particular, the self-assembly of semiconducting molecules or polymers into ordered structures, such as crystalline domains or nanofibers, can significantly enhance the charge carrier mobility and reduce the likelihood of charge trapping. The ordered structure provides a continuous pathway for charge transport, while also minimizing the number of defects and disorder within the material.

The self-assembly of solution processable semiconductors can be controlled by the processing conditions. Thereby, it is a challenge to control the organization locally at the scale of few Å as well as macroscopically over several  $\mu$ m in the semiconductor thin film to favor the charge carrier transport between the electrodes in the device. Overall, the role of self-organization in determining the charge transport properties of solution processable semiconductors is a crucial factor in the development of high-performance electronic devices. By understanding and controlling the self-assembly of these materials, it is possible to optimize their performance and enable the development of new and advanced electronic technologies.

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**Wojciech Pisula** holds a PhD in Chemistry, which he obtained in 2005 at the Max Planck Institute for Polymer Research in Mainz, Germany, under the supervision of Prof. Klaus Müllen. In 2015, he received his habilitation in Material Science from the Technical University of Darmstadt in Germany. In the same year, he was appointed as Associate Professor in the Department of Molecular Physics at the Lodz University of Technology in Poland, and later promoted to Full Professor in 2020. Wojciech Pisula has been serving as an Editor for Synthetic Metals since 2016 and as Editor-in-Chief for Electronic Materials since 2020. His research interests primarily focus on the physical and chemical aspects of self-organizing semiconductors and their functionality. He has authored over 230 publications in peer-reviewed journals resulting in an H-Index of 82. In addition to his academic career, Wojciech Pisula also joined Evonik Industries in 2006, where he currently holds the position of Director at the Applied Technology Silicone.