

PRESS-RELEASE

18 DECEMBER 2017; SAARBRÜCKEN

Niels de Jonge receives an honoris causa from the University of Lyon

Niels de Jonge has received an honoris causa (honorary doctorate) from the University of Lyon for the development of a novel electron microscopy technique. The ceremony took place during the Materials Science Day at the Institut National des Sciences Appliquées in Lyon.

The head of the *Innovative Electron Microscopy* program division was awarded for pioneering the “Liquid-STEM” technique, which allows, for example, proteins in whole cells to be studied in their natural, aqueous environment with nanometre resolution.

The team of de Jonge is currently using this specific method to investigate processes in breast cancer cells, and the effects of therapeutics on breast cancer cells. The scientists showed differences in drug response of specific receptors in the cell membrane of breast cancer cells, and a strong influence of cancer cell heterogeneity. These results were recently published in the journal *Molecular Biology of the Cell*. Future research on this topic will be funded by a grant of the Else Kröner-Fresenius-Stiftung.

STEM stands for “Scanning Transmission Electron Microscopy” and is a microscopy method in which an electron beam “shines through” thin layers (transmission), while these layers are imaged using a scanning electron probe. Liquid-STEM refers to the application of the STEM method to samples in liquid.

De Jonge, a biophysicist, has already received numerous awards for the development of “Liquid-STEM”. Within the last year, he has received the *Innovation in Materials Characterization Award* of the Materials Research Society and the *Life Science Award* of the European Microscopy Society.

Professor de Jonge has led the Innovative Electron Microscopy program division at the INM since January 2012. Since 2013, he has also been an honorary professor for experimental physics at Saarland University. Prior to that, he was an Assistant Professor at the Vanderbilt University School of Medicine, Nashville, Tennessee, USA. He studied experimental physics in Amsterdam, in the Netherlands, and in 1999 was awarded his doctorate in biophysics from the Albert Ludwigs University in Freiburg.

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Original publication

Peckys, Diana B., Korf, Ulrike, Wiemann, Stefan, de Jonge, Niels. Liquid-phase electron microscopy of molecular drug response in breast cancer cells reveals irresponsive cell subpopulations related to lack of HER2 homodimers.

Molecular Biology of the Cell 2017, DOI 10.1091/mbc.E17-06-0381.

INM – Leibniz Institute for New Materials, situated in Saarbrücken, is an internationally leading centre for materials research. INM conducts research and development to create new materials – for today, tomorrow and beyond. Research at INM is performed in three fields: Nanocomposite Technology, Interface Materials, and Bio Interfaces. INM is an institute of the Leibniz Association and has about 240 employees.