Quantum biology and digital freight documents

The University Society of Oldenburg e. V. (UGO) has awarded its 2020 "Award for Excellent Research" and 5,000 euros in prize money to physicist Prof. Dr. Ilia Solov'yov. The "Outstanding Doctoral Thesis Award", endowed with 2,000 euros, went to early career researcher and jurist Dr. David Saive.

UGO Award for Excellent Research

Prof. Dr. Ilia Solov'yov has held a Lichtenberg Professorship for Quantum Biology and Computational Physics at the University of Oldenburg since last autumn. The professorship is sponsored by the Volkswagen Foundation. In his research, Solov'yov uses theoretical methods and computational techniques to investigate the physical foundations of a variety of processes in complex molecules found in living organisms and intelligent nanomaterials. His focus here is on the quantum mechanical principles of biological processes in which energy, for example light, is converted into a chemically useful form. The biophysical principles underlying magnetoreception in birds are a main topic of this research.

Solov'yov studied physics in St. Petersburg, Russia, and Frankfurt. He earned his PhD from the University of Frankfurt in 2008 with a thesis on magnetoreception in birds. In 2009, he received a second doctorate for a thesis in theoretical physics at the Ioffe Institute of the Russian Academy of Sciences in St. Petersburg. He then held research posts at the University of Frankfurt and the University of Illinois at Urbana-Champaign, USA, before moving to the University of Southern Denmark in Odense to take on a position as assistant professor in 2013. In 2014, he was awarded a lifetime professorship there.

Solov'yov has published extensively in prestigious science journals and received several scholarships and awards for his research.

UGO Outstanding Doctoral Thesis Award

Dr. David Saive completed his doctorate under the supervision of Prof. Dr. Prof. h.c. Jürgen Taeger at the Department of Business Administration, Economics and Law. In his thesis he examines how freight papers can be replaced by digital documents in international maritime trade. Here he focuses in particular on bills of lading, the most important documents in freight traffic.

Although the use of electronic freight documents has been permitted since 2013, due to legal and technical hurdles they are still not widely used. In his paper Saive analyses the relevant paragraphs in the German Commercial Code and sets out the corresponding requirements for digital bills of lading. He demonstrates that a certain form of block chain technology can fulfill all legal requirements for electronic bills of lading.

Saive took his first state examination in law at the University of Hamburg. While writing his doctorate he has been attending the Information Law (LLM) course in Oldenburg and the International Maritime Law (LLM) course at the World Maritime University in Malmö, both of which he will complete in 2021. Saive is currently involved in the Oldenburg consortium project HAPTIK ("Tradability of Physical Goods through Digital Tokens in Consortium Networks"), which is funded by the Federal Ministry of Economics and Technology, and is working with other experts to effectively implement digital bills of lading. He also holds a management position in the financial sector and is a member of an expert group on the worldwide implementation of electronic securities at the UN organization UNCITRAL/UNCEFACT.