

Garching, 19 February 2015

Press Release

**Honorary Award of Network for Women in Physics -
The KIF-Prize 2014 for Dr. Anne Ersbak Bang Nielsen**



Dr. Anne Ersbak Bang Nielsen, a young research scientist in the Theory Division of Professor Ignacio Cirac at the Max Planck Institute of Quantum Optics (Garching near Munich), has received the Honorary Award of the Danish “Network for Women in Physics (KIF)”. The KIF-prize is awarded annually to create attention on the significance of women in the field of physics. The prize shall contribute to make women physicists visible as role models at universities, high schools, in society, and in business. KIF is a section under the Danish Physical Society which creates contact between women physicists in Denmark and makes them visible. In addition

KIF tries to contribute to a larger recruitment of women to education and research in physics. The honorary prize 2014 of Network for Women in Physics is presented to Anne Ersbak Bang Nielsen “for her significant research contributions within theoretical condensed matter physics, where she develops new models and composes methods in innovative ways.”

Anne Nielsen studied physics at Aarhus University, Denmark, where she received her Master degree in June 2008. There she also carried out her Ph.D. studies in physics in the group of Professor Klaus Mølmer, completing her thesis “State Preparation and Conditional Dynamics of Quantum Systems” in April 2010. From January to June 2009 she worked as a visiting researcher at Stanford University, California, USA, in the group of Professor Hideo Mabuchi. After her Ph.D. studies, she joined the Theory Division of Professor Ignacio Cirac at the Max Planck Institute of Quantum Optics.

During her Ph.D.-studies, Anne Nielsen has, together with her supervisor Professor Klaus Mølmer, proposed and analysed various protocols for generating interesting quantum states of light and atoms. During her visit at Stanford University she worked with model reduction in measurement based quantum feedback control, and together with Professor Hideo Mabuchi and Dr. Asa Hopkins, she proposed a method to reduce the amount of computations needed in quantum feedback loops. At MPQ, Anne Nielsen investigates the behaviour of quantum many-body systems. In particular she is interested in constructing and analysing spin models involving states that are very close to fractional quantum Hall states, but are defined on lattices.

In 2009 Anne Nielsen was awarded a “Danish Minister of Science, Technology and Innovation Elite Research Scholarship”, and in 2012 she received the

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Danish Lundbeck Foundation Talent Prize. The presentation of the 2014 KIF-prize took place at the annual meeting of the Danish Physical Society at Technical University of Denmark in Copenhagen on the 23rd of January 2015. *Olivia Meyer-Streng*

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