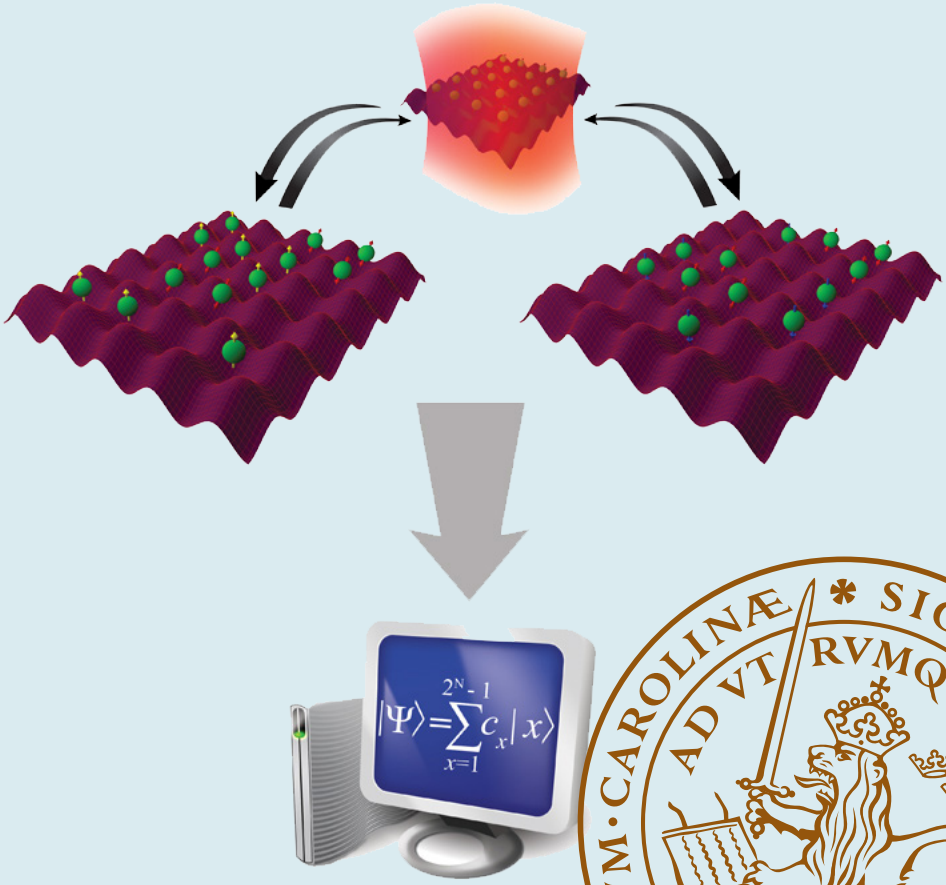
Rydberg Lecture 2022

Prof. Jun Ye
"Tick Atoms in Unison"

TUESDAY, MAY 10, 2022 AT 15:15 | RYDBERG LECTURE HALL | PHYSICS DEPARTMENT | LUND UNIVERSITY



Programme

14.00	The Inauguration of the Old Physics Department as a European Physical Society Historic Site, Biskopsgatan 3
14.50	Transfer to the New Physics Department
15.00	Coffee is being served
15.15	Rydberg Lecture 2022 at 15:15: Prof. Jun Ye, *JILA, National Institute of Standards and Technology (NIST), University of Colorado, Boulder, USA:* "Tick Atoms in Unison"

Johannes Rydberg 1854 -1919

Johannes (Janne) Rydberg was born in 1854. He became a Docent in Mathematics in 1880 at the Lund University. In 1890 he published the article "Über den Bau der Linienspektren der chemischen Grundstoffe". He was a professor of physics at the Lund University during the years 1901-1919.

Jun Ye

Jun Ye is a Fellow of JILA, a Fellow of NIST, and a member of the National Academy of Sciences. His research focuses on the development of new tools for light-matter interactions and their applications in precision measurement, quantum physics, and frequency metrology. He has co-authored 400 scientific papers and has delivered over 600 invited talks. Among his many awards and honors are Breakthrough Prize in Fundamental Physics, N.F. Ramsey Prize (APS), I.I. Rabi Award (IEEE), I.I. Rabi Prize (APS), and W.F. Meggers Award (OSA).

"TICK ATOMS IN UNISON"

The Constant bearing the name of Prof. Rydberg unveiled the discrete nature of quantum states for individual atoms. Today we extend such discreteness to the quantum states of many atoms. Precise engineering of these quantum states of matter and innovative laser technology are revolutionizing atomic clocks and metrology, providing new opportunities to explore emerging phenomena, test fundamental symmetry, and search for new physics. The recent work of measuring gravitational time dilation at the sub-millimeter scale highlights exciting prospects for new discoveries and we may yet again call on Prof. Rydberg's help.

Rydberg Lectures are arranged in Lund with support from the Royal Swedish Academy of Sciences through its Nobel Institute for Physics

The first lecture in the present series was arranged in 2004 on the occasion of the 150th anniversary of Rydberg´s birth:
Daniel Kleppner, MIT, Cambridge, Massachusetts: *Two Legacies of Johannes Rydberg - the Rydberg Constant and Rydberg Atom*

Rydberg Lecture 2006
Theodor W. Hänsch, MPQ Garching and LMU Munich: *A Passion for Precision*

Rydberg Lecture 2008
Serge Haroche, École Normale Supérieure, Paris: *Trapping and Counting Photons without Destroying them: a New Way to Look at Light*

Rydberg Lecture 2010
David Payne, Optoelectronics Research Centre, University of Southampton: *Optical Fibre Technology and the Global Internet – Where to Next?*

Rydberg Lecture 2012
Svante Jonsell, Stockholm University, and ALPHA Collaboration CERN: *Trapped Antihydrogen: a First Glimpse of its Inside*

Rydberg Lecture 2016
Tilman Pfau, University of Stuttgart: *A Single Rydberg Electron in a Bose-Einstein Condensate*

Rydberg Lecture 2018
Klaus Blaum, Max Planck Institute for Nuclar Physics, Heidelberg: *Physics with Penning Traps -Towards the Precision Limit*

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