

## IMS Public Lecture

# Cold Atoms and Quantized Vortices

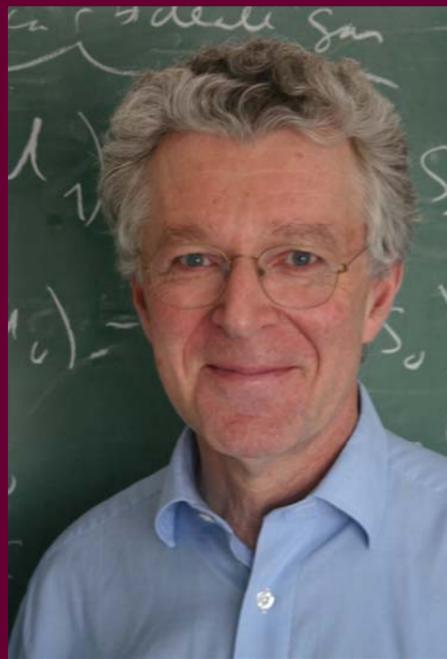
**Speaker:** Professor Jakob Yngvason  
*University of Vienna, Austria*

**Date:** Tuesday, 23 February 2010

**Time:** 6:30pm - 7:30pm

**Venue:** LT31, Block S16, Science Drive 1  
National University of Singapore

Free Admission



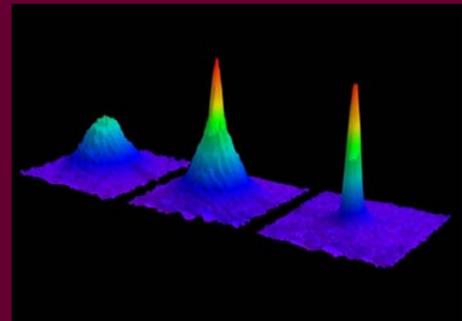
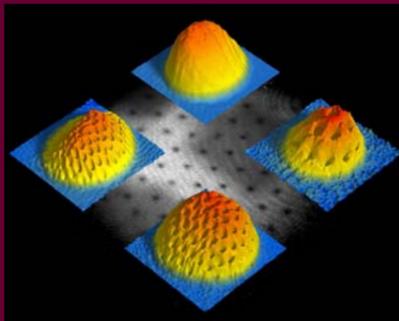
### About the Speaker

Jakob Yngvason is Professor of Mathematical Physics at the University of Vienna and Scientific Director of the Erwin Schrödinger Institute for Mathematical Physics (ESI) in Vienna. His research interests include quantum field theory, thermodynamics, and quantum theory of many-body systems, in particular cold atomic gases and Bose-Einstein condensation. He is co-author, together with E.H. Lieb, J.P. Solovej and R. Seiringer, of the monograph *The Mathematics of the Bose Gas and its Condensation*.

Jakob Yngvason obtained his PhD from the University of Göttingen, Germany, in 1973. He was Professor of Theoretical Physics at the University of Iceland in Reykjavik before taking up his present position in Vienna in 1996 and has held visiting positions at many institutions in Germany, France, Italy and the USA. He was Vice-President of the International Association of Mathematical Physics 2000-2005 and has served on many boards and committees, including the board of the Austrian Science Fund, and the Steering Committee of the Niels Bohr International Academy, Copenhagen. He is Editor-in-Chief of *Reviews in Mathematical Physics* and on the editorial board of *Advances in Theoretical and Mathematical Physics*. Professor Yngvason has received the Levi Conant Prize of the American Mathematical Society, the Erwin Schrödinger Prize of the Austrian Academy of Sciences and is elected Corresponding Member of the Academy of Sciences in Göttingen and the Royal Danish Academy of Science and Letters, Copenhagen.

### Abstract

The experimental realization of Bose-Einstein Condensation (BEC) in ultracold atomic gases in 1995 has created lasting interest in the strange quantum properties exhibited by such systems. These include superfluidity and the appearance of quantized vortices in rotating gases. BEC was predicted by Albert Einstein in 1924 but its full theoretical understanding still poses highly challenging problems. In the lecture a nontechnical introduction to BEC and some of the phenomena associated with it will be given.



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