## ARNOLD SOMMERFELD CENTER FOR THEORETICAL PHYSICS

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## Sommerfeld Theory Colloquium

Wednesday, 20<sup>th</sup> April 2005 at 11.15 h room 349, Theresienstr. 37 / III

Prof. Wilhelm Zwerger
Technische Universität München

## From Fermions to Bosons: Many-Body Physics in Dilute Gases

The crossover from a dilute, superfluid Fermi gas with weakly bound Cooper pairs to a Bose-Einstein condensate of strongly bound, diatomic molecules is discussed qualitatively. Its relevance both for condensed matter and atomic physics is outlined and an exact solution of this longstanding problem is given in the particular case of one dimension.