



universität  
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Fakultät für Physik

Isotopenforschung und Kernphysik

EINLADUNG

zum

VERA - SEMINAR

von

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## **Harnessing Quantum Paradoxes**

I will first discuss the foundations of quantum mechanics introducing Bell's theorem and the Kochen-Specker paradox. I will then show why exactly these most surprising and counter-intuitive features of quantum mechanics turned out to be the key resource in communication complexity problems. These problems arise whenever remote partners need to jointly perform a task that none of them can perform individually due to lack of the input data of the other partners. Advanced solutions of these problems can have a huge impact on future attempts to further minimize microchip areas or optimize computer networks.

**Donnerstag, 14. Oktober 2010, 16:30 Uhr**

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",  
1. Stock, Victor-Franz-Hess Hörsaal**

R. Golser

W. Kutschera

E.M. Wild