# Mathematics Colloquium
# at Jacobs University Bremen

## Konstantin Styrkas

(Jacobs University Bremen)

will speak on

### *Some Representation-Theoretic Constructions and Applications to Integrable Systems*

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| **Date:** | **Monday, March 26, 2007** |
| **Time:** | **17:15** |
| **Place:** | **Lecture Hall Research II, IUB** |

**Abstract:**

We consider the quantum Calogero-Sutherland-Moser integrable system, associated with a semisimple Lie algebra $g$. A proof of its complete integrability is based on the properties of a common eigenfunction $\psi$ of Baker-Akhiezer type, which can be constructed as the trace function of an intertwining operator between certain $g$-modules. The function $\psi$ is also determined by a set of combinatorial axioms, called "resonance relations". We discuss their generalizations (in the simplest sl(2) case) to the multi-point trace functions and relation to the quantum Knizhnik-Zamolodchikov equations.

**Colloquium Tea** at ca. 16:45 in the Tea Room of Research II, close to the lecture hall. Everybody is welcome!

M. Stoll