



# Liebig-Lectureship

der Liebig-Vereinigung für Organische Chemie  
in der Gesellschaft Deutscher Chemiker



**20.-26. Oktober 2005**

**Prof. Robert Madsen**

(Danmarks Tekniske Universitet, Lyngby, Denmark)

## "Ring-Closing Olefin Metathesis: Method Development and Synthetic Applications"

Carbohydrates are cheap and enantiomerically pure and as such constitute valuable substrates for synthesis and for studying carbohydrate processing enzymes, protein interactions, and for the manufacture of vaccines. Carbohydrates can be converted into carbocyclic ring systems by the use of novel tandem reactions with organometallic reagents. They form ideal substrates for synthesis of natural products with a polyhydroxylated ring system, e.g. glycosidase inhibitors and antitumor agents. Method development, mechanistic and functional studies are in the focus of this research.

Donnerstag, 20. Oktober 2005

Sektion Chemie der Christian-Albrechts-Universität zu Kiel

Freitag, 21. Oktober 2005

Abteilung Natur- und Wirkstoffchemie des Leibniz-Institutes für Pflanzenbiochemie, Halle

Montag, 24. Oktober 2005

Fachbereich Chemie und Pharmazie der Westfälischen Wilhelms-Universität Münster

Mittwoch, 26. Oktober 2005

Institut für Chemie der Humboldt-Universität zu Berlin

The principal research interest in Prof. Madsen's laboratory is stereoselective organic synthesis. The research efforts have three major goals, (i) develop new and more efficient synthetic transformations by the use of organometallic chemistry and catalysis, (ii) improve the use of carbohydrates as a cheap, renewable resource in organic synthesis, and (iii) prepare biologically significant natural products and derivatives that can be used to study enzyme activities and the inhibition of cancer cell growth. The specific research projects can be grouped into three different areas:

**Development of New Synthetic Methods Using Organometallic Chemistry**

**Synthesis of Biologically Active Natural Products from Carbohydrates**

**Oligosaccharide Synthesis**