

# 5TH CHEMICAL CONGRESS OF NORTH AMERICA

11-15 November, 1997 - Cancun, Quintana Roo, Mexico

## Symposium: Chemistry, Biochemistry and Therapeutic Applications of Vanadium

Organisers: **Debbie C. Crans** and **Alan S. Tracey**

The chemistry section of the symposium will concentrate on the chemistry of vanadium that has possible relevance to vanadium biochemistry or therapeutic applications. The biochemistry section will cover topics from the essentiality of vanadium to vanadium-dependent haloperoxidases to vanadium bioactivity in cell cultures. The therapeutic section will predominantly address the insulin-mimetic properties of vanadium. The symposium will occur over a time period of 1 1/2 days.

There will be 14 speakers from Europe, Japan, the Americas and the Middle East. In addition there will be contributed talks and an accompanying poster session.

A preliminary programme is given below:

**Alison Butler**, Santa Barbara, California, USA

Vanadium bromoperoxidase: enzyme and functional mimetic studies

**Anna M. Cortizo & Susana B. Etcheverry**, La Plata, Republica Argentina

Vanadium bioactivity on cells in culture.

**Debbie C. Crans**, Fort Collins, Colorado, USA

Phosphatase inhibition by vanadium compounds: consideration of aqueous vanadium chemistry

**C. Ronald Kahn**, Boston, Massachusetts, USA

Mechanisms and role of vanadium treatment in *diabetes mellitus*

**Marvin W. Makinen**, Chicago, Illinois, USA

Structure and coordination environment of vanadyl (VO<sup>2+</sup>) in proteins and enzymes

**Forrest H. Nielsen**, Grand Forks, North Dakota, USA

The nutritional essentiality and physiological metabolism of vanadium in higher animals

**Chris Orvig**, Vancouver, British Columbia, Canada

Coordination chemistry of insulin-mimetic compounds

**Vincent L. Pecoraro**, Ann Arbor, Michigan, USA

Functional models for vanadium haloperoxidases

**Barry I. Posner**, Montreal, Quebec, Canada

The insulin receptor-associated phosphotyrosine phosphatase

**Lage Pettersson**, Umea, Sweden

Studies of H<sub>2</sub>VO<sub>4</sub>/organic ligand systems using potentiometry and NMR spectroscopy

**Dieter Rehder**, Hamburg, Germany

Structural and functional models for biogenic vanadium compounds

**Hiromu Sakurai**, Kyoto, Japan

Structure-activity relationships of the insulin-mimetic vanadyl complexes

**Yoram Shechter**, Rehovot, Israel

On the mechanisms of action of vanadium in facilitating its insulin-like effects: the involvement of protein phosphotyrosine phosphatases and nonreceptor protein tyrosine kinases

**Alan S. Tracey**, Burnaby, British Columbia, Canada

The role of vanadium as a transition-state analogue to phosphate transfer in enzymatic reactions

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