

EUROPEAN **CO**-OPERATION
IN THE FIELD OF **SCIENTIFIC**
AND **TECHNICAL** RESEARCH



Fourth Swiss COST Chemistry Symposium

(http://scs-fallmeeting.epfl.ch/cost_presentation.html)

Wednesday, October 12th, 2005

Ecole Polytechnique Fédérale de Lausanne
'Centre Est'
Room CE1
Lausanne-Dorigny, Switzerland

Organizer:

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State Secretariat for Education and Research SER
<http://www.sbf.admin.ch/htm/index-e.html>

What is COST?

COST was set up in 1971 to stimulate and give an intergovernmental framework for European **CO**-operation in the field of Scientific and Technical Research, allowing the coordination of nationally funded research on a European level. **COST** Actions cover basic and pre-competitive research as well as activities of public utility. **COST** has developed into one of the largest frameworks for research cooperation in Europe and is a valuable mechanism coordinating national research activities. Today it has almost 200 Actions and involves nearly 30,000 scientists from 34 European Member States and more than 80 participating institutions from 11 non-COST Member States and Non Governmental Organizations.

COST activities currently cover the following areas: Agriculture and Biotechnology, Chemistry, Environment, Fluid dynamics, Food Sciences, Forests and Forestry Products, Materials, Medicine and Health, Meteorology, Miscellaneous, Physics, Social Sciences and Humanities, Telecommunications Information Science and Technology, Transport, Urban Civil Engineering.

COST Chemistry

Chemistry is a central science with distinguished history and recent success in Europe (six *Nobel*-prize winners between 1991 and now are European). The chemical industry is one of Europe's most international, competitive and successful industries and contributes to the prosperity and quality of life of modern European society. In order to maintain and even to improve this position, it was decided to use the **COST** forum to elaborate a strategic scientific scheme for basic research in chemistry in Europe. In this respect, a Technical Committee (TC) in chemistry was created in 1990 and has been active ever since. The success of this program is proved by (i) the increasing number of networks: 55 in 1993, 86 in 1994, 113 in 1995, 117 in 1996, 172 in 2002 involving the participation of 1180 research groups corresponding to collaborations between seven research groups on average per project from different European countries; (ii) the number of activities within the networks and the Action: scientific meetings, workshops, seminars, workshops for young scientists, exchanges of students (short-term scientific missions), *etc.*; (iii) the high quality of results and publications obtained.

The **COST** system is characterized by the bottom-up approach (the initiative comes from the researcher) and by the fact that the funding of the research is national. In Switzerland, the main source of funding for **COST CHEMISTRY** is the State Secretariat for Education and Research SER.

Why a Fourth Swiss COST Chemistry Symposium?

The goal of this symposium is to present the chemical research which is taking place in Switzerland and in Europe within the **COST** framework. By inviting nine prominent Swiss and non-Swiss scientists, we intend to present the different research fields covered by **COST** Actions. A poster session will also give the possibility to the Swiss and non-Swiss groups to present their recent results in the fields of **COST** actions D15 to D34.

Registration

Registration is free but necessary in order to get into the symposium. More information is available at the symposium web site (http://scs-fallmeeting.epfl.ch/cost_admission.html).

Scientific Program

'Centre Est', Room CE1

- 9.45 **Welcome** by Prof. *Jérôme Lacour*
Introduction by PD Dr. *Eva Klaper*,
State Secretariat for Education and Research
SER
- Morning Session –**
Chairman: Prof. Philippe Renaud
- 10.00 **Prof. Andreas Pfaltz**
Universität Basel, Switzerland
(Action D24: Sustainable Chemical Processes:
Stereoselective Transition Metal-Catalyzed
Reactions)
'Mass Spectrometric Screening of Chiral
Catalysts'
Abstract 1
- 10.30 **Prof. David Parker**
University of Durham, UK
(Action D31: Organizing Non-Covalent
Chemical Systems with Selected Function)
'Tuning the Properties of Emissive Lanthanide
Probe Complexes'
Abstract 2
- 11.00 **Coffee Break,**
Poster Session, Salle Polyvalente
- 11.30 **Prof. Hans-Peter Lüthi**
ETH Zürich, Switzerland
(Action D26: Integrative Computational
Chemistry)
'"Measuring" Electron Delocalization in
 π -Conjugated Compounds'
Abstract 3
- 12.00 **Prof. Ian Paterson**
Cambridge University, UK
(Action D28: Natural Products as a Source for
Discovery, Synthesis and Application of
Pharmaceuticals)
'Synthesis of Marine Polyketides as Promising
Anticancer Agents'
Abstract 4
- 12.30 **Poster-Sandwich Session, Salle Polyvalente**
- Action D15:** Interfacial Chemistry and Catalysis
Abstract 10
- Action D18:** Lanthanide Chemistry for Diagnosis and
Therapy
Abstracts 11–14
- Action D20:** Metal Compounds in the Treatment of
Cancer and Viral Diseases
Abstracts 15, 16
- Action D21:** Metalloenzymes and Chemical Biomimetics
Abstracts 17–19

Action D24:	Sustainable Chemical Processes: Stereoselective Transition Metal-Catalysed Reactions Abstracts 20, 21	15.30
Action D25:	Applied Biocatalysis: Stereoselective and Environmentally Friendly Reactions catalysed by Enzymes Abstracts 22, 23	16.00
Action D26, 27:	Integrative Computational Chemistry & Prebiotic Chemistry and Early Evolution Abstracts 24, 25	16.30
Action D28:	Natural Products as a Source for Discovery, Synthesis and Application of Pharmaceuticals Abstracts 26–31	
Action D29:	Sustainable/Green Chemistry and Chemical Technology Abstracts 32, 33	
Action D30:	High Pressure Tuning of Chemical and Biochemical Processes Abstract 34	17.00
Action D31:	Organising Non-Covalent Chemical Systems with Selected Functions Abstracts 35–39	
Action D34:	Molecular Targeting and Drug Design in Neurological and Bacterial Diseases Abstracts 40–45	
Miscellaneous:	Abstracts 46–49	

**Afternoon Session –
Chairman: Prof. Alan Williams**

14.00	Prof. Meir Lahav Weizmann Institute of Science, Israel (Action D27: Prebiotic Chemistry and Early Evolution) 'Generation of Homochiral Oligopeptides <i>via</i> "Mirror Symmetry Breaking" in 2-d and 3-d Crystalline Self-Assemblies' Abstract 5
14.30	Prof. Andrea Vasella ETH Zürich, Switzerland (Action D28: Natural Products as a Source for Discovery, Synthesis and Application of Pharmaceuticals) 'Towards Oligoribonucleotide Foldamers' Abstract 6
15.00	Prof. Ferenc Joó University of Debrecen and Hungarian Academy of Sciences, Hungary (Action D29: Sustainable/Green Chemistry and Chemical Technology) 'Biphasic Organometallic Catalysis with Water-Soluble Ruthenium(II) Complexes' Abstract 7

Coffee Break, Poster Session

Prof. Thomas R. Ward
Université de Neuchâtel, Switzerland
(Action D25: Applied Biocatalysis:
Stereoselective and Environmentally Friendly
Reactions catalysed by Enzymes)
'Artificial Metalloenzymes for Enantioselective
Catalysis'
Abstract 8

Prof. André E. Merbach
EPF Lausanne, Switzerland
(Action D18: Lanthanide Chemistry for
Diagnosis and Therapy)
'Gadofullerenes and Gadonanotubes:
Potential High-Performance MRI Contrast
Agents'
Abstract 9

Concluding Remarks