

EUROPEAN SCIENCE OPEN FORUM - ESOF2006

MUNICH, GERMANY, 15TH-18TH JULY, 2006



GREEN CHEMISTRY: A TOOL FOR SOCIO-ECONOMIC DEVELOPMENT AND ENVIRONMENTAL PROTECTION

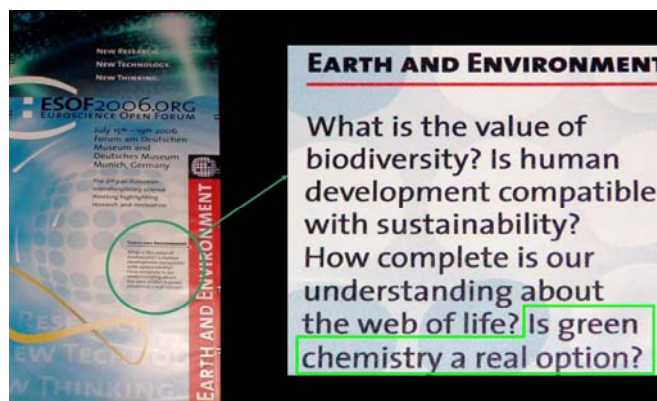
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ESOF2006, the 2nd Pan-European General Science Meeting, was held in Munich at the Forum am Deutschen Museum and the Deutsches Museum from July 15th to 19th, 2006. Its purpose, rather like the British Association, is to promote the public understanding of science, particularly by encouraging dialogue between scientists and the general public. Seven scientific themes were chosen to reflect the sessions:

1. Combining Cultures
2. Dealing with Disasters
3. Earth and its Environment
4. Particles and Planets
5. Science and Society
6. Fabric of Science
7. Workings of Life.



Now, despite being associated with the 2005 Nobel Prize for Chemistry, Green Chemistry has not had widespread public recognition. However, the ESOF meeting featured it on its advertising posters (see inset above). Green Chemistry thus claimed its rightful place, on the same level as other more popular scientific disciplines, and topical issues such as natural disaster prevention, biodiversity, genomics, evolution, medical science, and astronomy. Within the Earth and its Environment theme, green chemistry was put forward as one of the main options for environmental protection. Moreover, the session on Green Chemistry at this meeting was the *only* session on chemistry. The poster provocatively asked: “*Is Green Chemistry a real option?*”. This question was clearly answered by the panellists: Tundo,

Poliakoff, Seddon, Mours, and Sydnes during a 2½ h session held on the Sunday afternoon entitled: “*Green chemistry: a tool for socio-economic development and environmental protection*” (the idea for this session initiated with Italian Interuniversity Consortium (INCA; www.unive.it/inca). It is the latest of a series of initiatives that are placing Europe in the lead in green chemistry. The crowded event (with an audience composed of over 50 % non-scientists) was expertly moderated by freelance science journalist Barbara Schwerdtfeger. Among the participants were Francesco Fedi, President of EU COST Actions, Howard Moore, Consultant of ICSU (International Council for Science) and of the press (*Berliner Zeitung*), and all wanted to know (as became clear in the important question and answers session) why green chemistry is an option, and why they should care. Prof. Martyn Poliakoff (University of Nottingham, UK) gave a clear and entertaining exposition



Barbara Schwerdtfeger

of exactly what is meant by Green Chemistry, and how the chemical industry is now adopting its principles and introducing green production techniques, hand-in-hand with academic researchers. Prof. Pietro Tundo (University of Venice, and Chairman of the G8-sponsored International Green Network, IGN) then stressed the crucial importance of an international effort, including India, China, and the developing nations of Africa and South America.



MEGREC (the Mediterranean Green Chemistry Network), which constitutes a platform for the development of research and training in green chemistry in the countries of the Mediterranean basin (with a focus on water management, exploitation of local natural resources, production and use of fertilisers, monitoring and reducing the presence of toxic compounds in the food chain) has a crucial *role* to play here. Professor Ken Seddon (The Queen’s University of Belfast and Director of QUILL) described the most recent and important truly international network, the International Green Network, founded by the G8 ministers of scientific research (see Figure), which is now about to start, thanks to national government funding of its activities. Marian Mours (CEFIC) offered the industrial perspective on green chemistry, and Leiv Sydnes (IUPAC) demonstrated how green chemistry is needed in order to address some of the major concerns affecting

The primary goals of the IGN are a cleaner and safer environment through:

- ❖ the proliferation of research
- ❖ high-level capacity building in science

The second objective relates to:

- ❖ the improvement of regulatory frameworks and public policy design
- ❖ the enhancement of public outreach and education.

humanity, such as poverty, lack of resources in the developing nations, and widespread pollution. The presentations were followed by an hour-long discussion based on questions from the audience. Both science policy and research issues were addressed, as well as possible actions on how to improve the public understanding of chemistry.

Later, on the same day in the *biergarten*, Quentin Cooper, a BBC radio science journalist, hosted an informal and highly entertaining summary of the day's sessions. Two of the five speakers selected also represented the Green Chemistry session: Ken Seddon and Martyn Poliakoff. They were targeted with numerous questions by the audience and this clearly showed the high level of public interest in Green Chemistry.

At the end of the day, though, what was the answer to the question: "*Is Green Chemistry a real option?*" The answer is no, it is not an option, as option is defined as: The power or freedom to choose. There is no freedom to choose here: Green Chemistry is a necessity, not an option, if we are to achieve a sustainable earth.



The G8 Science Ministers of the Carnegie Group, the sponsors of the International Green Network, meeting in Venice(December 4th, 2004.

From the left: Arthur Carty (Canadian Ministry for Research), Janez Potocnik (European Commission), John Marburger (Scientific Advisor USA President, OSTP), Letizia Moratti (Italian Minister for Research), Edelgard Bulmahn (German Minister for Research), David King (Scientific Advisor, UK Prime Minister), Andrey Fursenko (Russian Minister for Research), William Golden (Founder of the Carneige Group), François D'Aubert (French Vice Minister for Research), Hiroyuki Abè (Council for Science and Technology, Cabinet Office, Japan).