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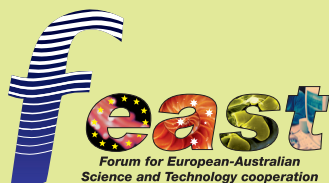
**Forum for European-Australian Science and Technology Cooperation  
and  
Australian Research Council Nanotechnology Network  
present**

**Prof. Heinrich Hofmann**  
Ecole Polytechnique Fédérale Lausanne

5:30pm  
Monday 10<sup>th</sup> July 2006

National Europe Centre  
1 Liversidge Street  
The Australian National University  
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*refreshments provided*



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## Multidisciplinary Research and International Co-operation: a Challenging Combination of Tasks

Scientific collaborations where practitioners work together on a specific research project with a common goal take many forms. The willingness of practitioners to collaborate is influenced by the goals of those providing the funding (e.g., government agency), the needs of researchers for access to knowledge and research tools, the availability of these resources, and the opportunities of practitioners to link together (e.g., conferences, Internet connection). As a result of both the external pressures and the known benefits of collaboration, many higher education institutions are trying to create interdisciplinary research and teaching. However, over 50% of collaborations fail!

There has been virtually no research on how to enable higher education institutions to conduct collaborative work. There are few articles that focus on examining *how* institutions moved from a culture that supports individual work to the ones that facilitate collaborative work. A three-stage model, described by A. Kezar [*Research in Higher Education*, 46/7 (2005) DOI: 10.1007/s11162-004-6227-5], emerged: The first stage, *building commitment*, contains four contextual elements—values, external pressure, learning and networks. Here the institution uses ideas/information from a variety of sources to convince members of the campus of the need to conduct collaborative work. In the second stage, *commitment*, senior executives demonstrate support and re-examine the mission of the campus and leadership emerges within the network. The third phase is called *sustaining* and includes the development of structures, networks, and rewards to support the collaborations.

In all case studies described in the literature, the intent was to have the faculty come together intellectually, not just functionally according to their institutional roles, resulting in the evolution of the group in order to think collectively in generating strategies that used the strengths of their individual disciplinary and paradigmatic expertise in a more genuinely integrated way.

Prof. Hofmann has more than 20 years of experience with cooperation in several European projects. For the past six years, this European collaboration extended to more international cooperation with universities in Asia. But the real challenge is obviously in the combination of international research cooperation combined with interdisciplinary research, encompassing basic physics, material science, biology and clinical research. An overview of the problems as well as the added value of such cooperation will be given, using as an example, Prof. Hofmann's own research in the field of nanoparticles for medical applications.