# EUROPEAN STUDY GROUPS
## *with*
# INDUSTRY

**Study Groups** are meetings where mathematicians work on problems directly related to industry. Workshops of this nature began in Great Britain in 1968 when Prof. Alan Tayler started the Oxford Study Group with Industry. The coordination of Study Groups is now in the hands of European Consortium for Mathematics in Industry (ECMI), and the name is currently European Study Group with Industry (ESGI).

At a meeting in 1997 of the ECMI Council it was decided that Study Groups should also be held outside Great Britain, and the first one of those was ESGI32 at DTU.

The **format** of a Study Group is a week long meeting (Monday - Friday) where a number of companies on the first day of the meeting each present a research problem they believe to be of a mathematical nature. Each problem is taken up by a group of mathematicians who, together with the company representative, work towards the solution of the problem, through Thursday evening. Friday is used to present in a plenary session the results from each of the problem groups. Study Groups in Denmark are conducted in the third week of August each year.

At the latest two months after the meeing, a final **report** on the results of all the groups is sent out to all participants.

The reasons for the continuing success of the Study Groups are simple: The industrial participants get, for a very modest sum, a highly qualified `think tank' of mathematicians to focus on their particular research problem. In addition to a full or partial resolution of the problem, the companies establish useful contacts with international researchers. The academics benefit from new ideas and challenges from the real world, providing inspiration for both education and their own research.

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The success criterion for a Study Group is that participating companies experience the meeting as useful and that it brings them a significant step closer to the resolution of their problem. For the Danish study groups we also have the goal that it will establish closer ties between Danish Industry and Danish mathematicians.

**Study Groups** provides a forum for:

* Exploiting the expertise of leading applied mathematicians to find solutions to industrial problems
* Clarifying and structuring a problem
* Bringing new perspectives and fresh ideas
* Brainstorming on mechanisms and methodologies
* Finding state-of-the-art solution procedures

**Industrial participants** have:
* Found solutions and insights into existing industrial problems
* Established lasting and productive working links with research applied mathematicians
* Raised and investigated research issues of long-term significance
* Expanded employment opportunities and company profiles with students
* Stimulated greater awareness in the wider community of the power of mathematics in providing solution paths to real-world problems

The week-long workshop attracts mathematicians from a wide range of backgrounds to work on the selected industrial problems.

**Cost of Participation:** Each participating company contributes: (1) a 25 k DKK participation fee (2) a participating company representative who will present the problem and who can subsequently be available to the mathematicians during the study group week.

**Dates:** August 18-22, 2008.
**Venue:** (2008): Technical University of Denmark