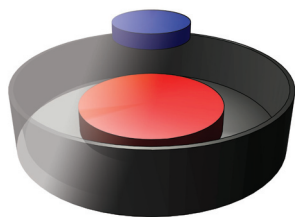


# Minds-On experimental equipment kits in Superconductivity and ElectroMagnetism for the continuing vocational training of upper secondary school physics teachers

## MOSEM



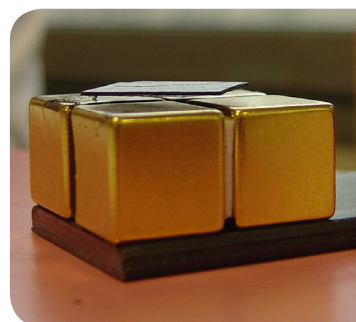
Project logo: Strong magnet levitating above cooled superconductor



Kick-off conference in Torun, Poland



Critical temperature and resistance of a superconductor



Pyrolytic graphite levitating above strong magnets

### Type of project

Multilateral project, Transfer of Innovation

### Contractual year 2007

### The Challenge

A lack of competent science teachers, especially physics teachers, is part of a feedback loop that breeds negative associations to the subject of physics and also hinders recruitment of good candidates who can turn the trend. This situation is ongoing at both national and European levels, as has been documented by several studies and conferences in recent years.

### Short description

The MOSEM project offers participating schools and teachers a collection of simple, thought-provoking tabletop physics experiments. Electronic and printed support materials use text, videos and animations to raise the user's curiosity. Investigating the encountered phenomenon and doing own research with the provided materials and other sources improves motivation and learning. The project builds on many previous Leonardo and other EU projects, most notably the SUPERCOMET 2 project.

### Objectives

The MOSEM project aims to help the crisis in physics and science education in Europe by promoting lifelong learning in physics and pedagogy for science teachers at the upper secondary level. The project will offer teacher seminars promoting pupil-active learning with experimental materials, videos, animations and a printed teacher guide in all project languages.

### Target groups

The primary target group is teachers of science in upper secondary schools and trainee science teachers in universities. Another target group is teacher training departments at universities that will implement the teacher seminars and new materials developed by the project.

### Responsible organisation

Simplicatus AS, Norway

### Contact person

Vegard Engstrøm  
tel: +47 911 88 774  
project@mosem.no

### Participating countries

Austria, Belgium, Czech Republic, France, Italy, Norway, Poland, UK

### Partnership description

A total of 27 partners in 8 countries, of which 10 universities, 10 upper secondary schools, 5 public valorisation partners and 2 companies will develop, test and disseminate project deliverables. The Nicolaus Copernicus University in Torun is Project Coordinator and the Institute of Education at the University of London is Project Evaluator.

### Expected outcomes and when

The main project deliverables are kits with demonstration and experimental materials. Support materials – videos, animations from the previous SUPERCOMET 2 project, a teacher seminar and a printed teacher guide – will also be produced. Development in 2008 will be followed by testing and revisions in 2009, and finished versions will be ready by the end of the project.

### Valorisation

National organizations for teachers and engineers participate as valorisation partners, among them the Union of Education Norway, NITO, Tekna and PSNPP, the Polish Association of Science Teachers. Production partners Simplicatus AS and Soliton Ltd. will market the deliverables commercially after project completion.

### Project website

www.mosem.eu  
www.supercomet.eu