

Sparkling Science >  
Science linking with School  
School linking with Science

**Final Report, 20<sup>th</sup> August 2012**

**Green Chemistry**

**LEADING INSTITUTION**

Vienna University of Technology  
Institute of Applied Synthetic Chemistry  
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**SCHOOLS INVOLVED**

Gymnasium & Realgymnasium Sachsenbrunn / NÖ  
GRg17 Parhamergymnasium / Wien  
BG/BRG St. Veit an der Glan / Kärnten  
Wiedner Gymnasium – Sir Karl Popper Schule / Wien  
HTL Rosensteingasse / Wien  
BRG Feldkirchen / Kärnten  
BG/BRG Villach / Kärnten  
Technologisches Gewerbemuseum TGM / Wien  
BG/BRG Wenzgasse / Wien  
BG/BRG 11 Geringergasse / Wien  
GrgXI Gottschalkgasse / Wien  
BG/BRG Tulln a.d. Donau / NÖ  
BG/BRG Fichtnergasse / Wien  
BRG Kandlgasse / Wien  
BG/BRG Hagenmüllergasse / Wien  
HTL Dornbirn / Vorarlberg



**BM.W.F<sup>a</sup>**

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Austrian Federal Ministry of  
Science and Research

## GREEN CHEMISTRY @ SPARKLING SCIENCE

Chemistry is fuming and stinking! The project Green Chemistry aimed at clearing this prejudice. Even though the amenities of our modern world are not possible without chemistry, this prejudice is still in the mind of many people. Just think about the materials used in our cell phones or laptop computers, the fibers of our clothing, the coating of our frying pan which makes it easy to clean, or the pill you take to get rid of the headache you just started to get.

Modern chemistry tries to be a “green” one, meaning that renewable resources should be used in a sustainable way and that waste should be avoided as much as possible. To teach this chemistry to high school students was the goal of our project. Within the last 3 years we had more than 60 participants from 17 involved schools who worked within the faculty of technical chemistry at VUT on various projects. The subjects ranged from renewable resources for energy production over the research for new materials for medical application or application in consumer electronics to studies of food safety. The project reports stemming from the green chemistry initiative won many awards documenting the high quality of the research conducted by the students. To see the scientific “spark” jumping over to the students was a great pleasure for us supervisors.

Generally, the experiences the students and the supervisors gained were very positive and to the benefit for both sides. The scientists were very impressed by the enthusiasm of the students and statements such as “both students were excellently integrated in the research group and worked with great enthusiasm at the project” or “the motivation and enthusiasm of the students to work actively in the lab at up to date research problems was really impressive” were frequently obtained.

As already mentioned, also the students were inspired by the project. It was for many of them a great help to decide on taking on studies in natural sciences: “Now that I had the possibility to see scientists at work I am sure to start academic studies in a natural science subject and to pursue a research career afterwards.”



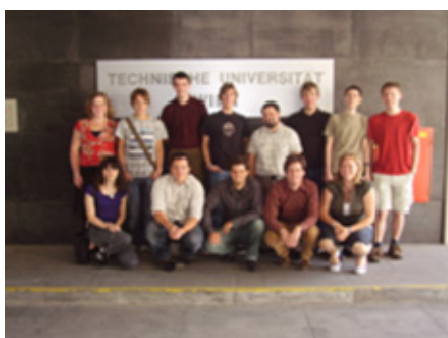
We are also proud that a significant number of fellows found their way to VUT and are now studying chemistry here: “The valuable experiences I got still help me in my studies today. I can only recommend this project to other students!”


Not only scientists and students but also teachers were very positive towards the project. They were involved via the final reports the students wrote being back at school: “For me as a teacher it was a challenge and pleasure at the same time to supervise and judge the final report of Juliane. The high standard and quality also impressed the head of the final school certificate examination commission.”, said Mag. Martina Alfan-Nagl about the final report of Juliane Kampichler.

Generally, the high quality of the final reports was demonstrated by winning a number of awards for high school diploma thesis such as the 1<sup>st</sup> prize of the chemistry teacher association 2009, the Borealis Innovation Award 2009, the 1<sup>st</sup> prize for final reports of the journal “Chemiereport”, the GÖCH/FCI/VCÖ – Max-Perutz-Special Award 2010, the award of the GÖCH/FCI/VCÖ for chemistry high school diploma thesis 2011 as well as the European Chemistry & Chemical Engineering Educational Network – International Open Contest 2011 – Best Artwork.

To our great delight we also got an extremely positive feedback in a survey at the end of the program: 100% of the students would recommend the program, 90% have an increased interest in MINT subjects and again 90% started a FH or university study after participating in the green chemistry program (84% in a MINT subject).

Overall, green chemistry was a great success which not only fulfilled but even surpassed all our expectations. We would like to thank the BMW F for initiating such a great program and we wish it a long life!





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