



**Joint Press Release**

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## **Heidelberg Team Sweeps Prizes**

### **"Ecolicence to Kill" project to win most prizes at the international iGEM competition in Boston**

**The labors of the past few months have been rewarded: The Heidelberg team performed extremely well at the internationally renowned iGEM competition held by the Massachusetts Institute of Technology (MIT) in Boston, USA. The team, a first-time participant at iGEM, was awarded three special prizes and a gold medal for their scientific work. For the past four months, the team of 16 undergraduate students under supervision of Professor Dr. Roland Eils and Dr. Victor Sourjik had been working on their project called "Ecolicence to Kill". Their goal was to genetically reengineer bacteria to make them detect and specifically kill pathogens or cancer cells.**

This year the international Genetically Engineered Machines (iGEM) competition, which was first held in January 1995, brought together 84 highly competitive teams including participants from premier universities such as Harvard, the California Institute of Technology, Cambridge and Tokyo. All teams presented their project results at the grand final on November 8-9 at the MIT in Boston.

The team of the University of Heidelberg and the German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) was extraordinarily successful at the competition, winning three special prizes: Best Project Presentation, Best Scientific Poster, and Best Human Practices Advance for special achievements in the dialog with the public. In addition, as one of only 16 teams, the Heidelberg undergraduate students were even awarded a gold medal for their scientific work.

Supervised by Professor Roland Eils (DKFZ and Heidelberg University) and Dr. Victor Sourjik (Center for Molecular Biology (ZMBH) at the University of Heidelberg), the young researchers had been working for the past four months on their project named "Ecolicence to Kill".

Synthetic biology is a nascent field of science which combines findings from molecular life sciences with engineering approaches in order to modify organisms into biological machines performing novel tasks. Since July 2008, the team consisting of 15 students of the University of Heidelberg and one student of the TU Darmstadt has been working to reengineer common *E. coli* intestinal bacteria into a killer-prey system. They were able to create killer strains that are able to specifically kill prey bacteria. The prey bacteria were also modified to release a specific attractant that is recognized by the killer bacteria. This artificial killer-prey system may serve as a basis for developing medical applications which use killer bacteria to specifically detect and eliminate pathogens or even cancer cells. First positive results have already been achieved in attacking tumor cells.

The judges paid particular attention to the dialog with the public. In order to eliminate reservations about synthetic biology and genetic engineering, the students carried out a number of activities such as surveys and information events in the old town center of Heidelberg. In addition, the team held a practical presentation of the project in a school class.

These efforts were rewarded with the Human Practices prize. The public relations work of the Heidelberg team was praised as a model for all future iGEM projects.

All results of the team and a presentation of the numerous sponsors who were essential in making participation possible can be found at <http://2008.igem.org/Team:Heidelberg>.

Picture: The Heidelberg team after the award ceremony in Boston  
More pictures can be obtained from: Dr. Jan Eufinger ([j.eufinger@dkfz.de](mailto:j.eufinger@dkfz.de)).

The German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) is the largest biomedical research institute in Germany and is a member of the Helmholtz Association of National Research Centers. More than 2,000 staff members, including 850 scientists, are investigating the mechanisms of cancer and are working to identify cancer risk factors. They provide the foundations for developing novel approaches in the prevention, diagnosis, and treatment of cancer. In addition, the staff of the Cancer Information Service (KID) offers information about the widespread disease of cancer for patients, their families, and the general public. The Center is funded by the German Federal Ministry of Education and Research (90%) and the State of Baden-Württemberg (10%).

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