

Persbericht RUG, iGEM team

The RUG student iGEM team 2009 has been awarded a Gold medal in the 2009 international Genetically Engineered Machine competition organized at MIT, Boston, October 31st-November 2nd. But that is not all: they made it to the 6 finalists out of 110 teams participating from the USA, Europe, Asia, South America and Australia. Their plenary finals presentation in front of >1200 attendants was excellent and a lot of compliments from other teams and the jury were given on their project: Heavy metal scavengers with a vertical gas drive. Eventually the jury awarded the Cambridge, UK team the first prize and Groningen was classified as 4-6 ex aequo. The idea behind the project was as follows:

Human health and the environment are endangered by heavy metal pollution in water and sediment. To battle this problem, a purification strategy, in which arsenic, zinc and copper are removed from water and sediment, was developed. This strategy encompasses a biological device in which *E. coli* bacteria accumulate metal ions from solutions, after which they produce gas vesicles and start floating. This biological device consists of two integrated systems: one for metal uptake and storage, the other for metal induced buoyancy. The uptake and storage system consists of a metal transporter and metal binding proteins (to reduce toxicity and increase accumulation). The buoyancy system is made up of a metal-induced promoter in front of a gas vesicle gene cluster. The combination of both systems will enable the efficient cleaning of polluted water and sediment in a biological manner.

iGEM is the premiere undergraduate Synthetic Biology competition. Student teams are given a kit of biological parts at the beginning of the summer from the Registry of Standard Biological Parts. Working at their own Universities over the summer, they use these parts and new parts of their own design to build biological systems and operate them in living cells. This project design and competition format is an exceptionally motivating and effective teaching method.

The Groningen team involved 11 students from different backgrounds including Biology, Chemistry, Physics, Informatics, Psychology and Medical Engineering.

Further information on the jamboree, the Groningen team and the awards on : www.igem.org, where you can also find the team's wiki with more detailed information on their project, the members of the team, safety- and societal issues etc.: <http://2009.igem.org/Team:Groningen/Team>.

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