

European Jamboree 2011
 Oct 1 & 2 in Amsterdam
 at the VU University



Design Project

Fund Raising

Lab Work

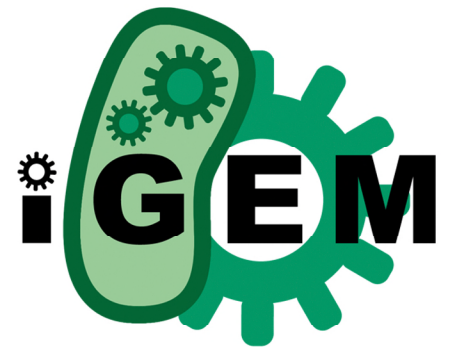
Modeling



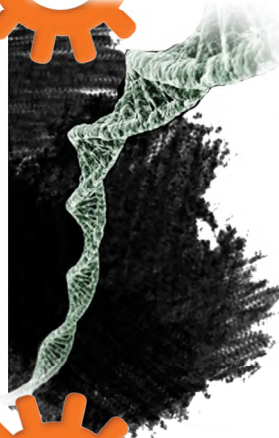
iGEM competition

iGEM is the highly successful yearly international competition for Genetically Engineered Machines annually organized by the Massachusetts Institute of Technology (MIT) in Boston. Interdisciplinary teams of highly motivated and bright undergraduate students design and build biological nanomachines during the summer.

Since 2003, over 400 projects have been presented. To accommodate the spectacular growth in the number of participating teams, iGEM Headquarters (non-profit organization) have initiated regional iGEM competitions for 2011. America, Asia and Europe will select the best teams for the upcoming iGEM world championship in Boston. VU University Amsterdam, Delft, University of Technology and the University of Groningen in the Netherlands were selected to organize the first European Jamboree in Amsterdam in October 2011.



Synthetic Biology



Synthetic Biology is an emerging research area that applies engineering principles to biological systems. Especially the automated synthesis of genetic material (DNA) up to the size of bacterial chromosomes enables the design of new biological functions.


The idea of synthetic biology is to **(1)** design genetic circuits i.e. sets of interacting genes performing some desired task and to **(2)** insert the designed circuit into living cells, thus creating cells with new functions. The iGEM organization standard for DNA parts construction, the so-called 'BioBricks' specification enables an easy exchange of coding DNA fragments. iGEM Headquarters harbor a large collection of BioBricks that are available to the teams (distribution plate).



Jamboree

The iGEM Jamboree attracts a large number of senior and young scientists: the current and future European leaders in the new field of Synthetic Biology. The Europe regional jamboree will be a two-day event where all European iGEM teams will present their work. For this event we expect about 500 students and 100 supervisors. The student projects are evaluated by a broad of independent judges coming from academia and the industry all over Europe. The event will support science and education in a motivation manner.

BioBrick



Biological parts can be well defined and characterized in the same way as electric or mechanical components (standardization). These basic biological building blocks, the 'BioBrick', can then be used to design devices and systems that are more and more complex (hierarchy). A database of BioBricks has been initiated a few years ago and is currently maintained by the iGEM organization (Registry of Standard Biological Parts).

Human Practice

Web Presentation

Regional Jamboree

World Championship

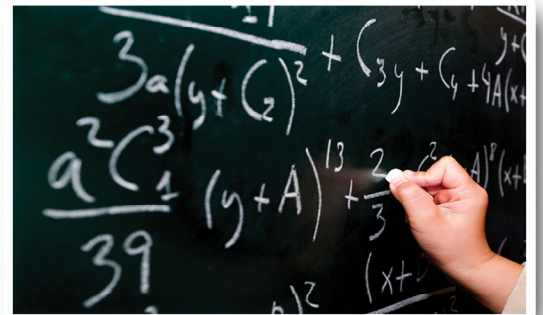
Teams

The iGEM competition stretches over multiple disciplines, the teams work on plasmid construction, assay development and modeling and construction of genetic circuits, metabolic and signal transduction pathways. In addition the teams also evaluate the social, economic and environmental impact of their project and inform the general public about these technologies. The societal value of projects is therefore not solely based on scientific merit, but also on their social, economic and environmental impact.



Education

Students participating in the iGEM competition develop skills in creativity, team spirit, communication and organization. The members of the team commonly have very different backgrounds ranging from molecular biology, (bio-)chemistry, physics, informatics, mathematics, social sciences to medicine and pharmacy. Working in such an interdisciplinary team broadens the knowledge and trains the ability to cooperate, explain and teach each other in a complex organization. For a team to choose an appealing and feasible project, a phase of brainstorming, preparation, analysis, discussions and prioritizing takes place. The students involve specific scientific advisors and instructors from their university. In many universities iGEM has been embedded in the curriculum. Additionally, many of the former iGEM students choose a career in science and start PhD projects. iGEM has a lot to offer to students and has a huge impact on academic research in life sciences.



Cooperation

To strengthen the social and environmental aspect in the European iGEM trajectory, we cooperate with the Rathenau Instituut. The Rathenau Instituut has been established by the Dutch government to promote political and public opinion making on science and technology. We see the 1st European Jamboree as an excellent opportunity to engage iGEM students and the broader public in the ongoing international debate about the future chances and implications of synthetic biology for society.



Rathenau Instituut
www.rathenau.nl



Previous Dutch teams

Since 2008, the Netherlands is represented in the iGEM competition with teams from the Delft, University of Technology and the University of Groningen. And with success, the various projects were rewarded with several awards: Two times finalist, best information processing project prize, best presentation prize, best wiki. On top of that received all Dutch teams a gold medal for the BioBricks they designed and characterized, their human practice program and modeling and software efforts.



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<http://2011.igem.org/Regions/Europe/Jamboree>



iGEM 2011 Regional Jamboree: Holland



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