

iGEM 2005: Synthetic Biology's Future



Cambridge, Mass. – Before plunging too deeply into iGEM 2005 – the intercollegiate Genetically Engineered Machine competition, held at MIT last weekend, consider a few of the awards: Best Use of Transmogrified Smiley Faces (Caltech), Best Confession (U Texas), Most Modest Goal (MIT), Best Uniform (University of Cambridge, U.K.) My favorite was Best “Hail Mary” Cloning (Oklahoma).

Teams from 13 colleges, comprised mostly of undergraduates, worked over the summer towards the not-so-modest goal of “designing and building the ‘coolest’ systems from standard, interchangeable biological parts and to operate those systems in living cells.” There were digital decoders, light-controlled gene expression techniques, bacterial relay races, a bacterial sketch pad, and of course, transmogrified smiley faces. Students used genetic engineering to coax bacteria to perform a wide variety of tasks.

2005 iGEM Teams:

Princeton
Oklahoma
ETH Zurich
MIT
Caltech
U. Toronto
U Cambridge
Texas U
Penn State
UC Berkeley
Davidson
Harvard
UCSF

That many projects didn't work quite as planned misses the point, explains iGEM coordinator Randy Rettberg, a principal research engineer in biological engineering division at MIT and director of the Registry of Standard Biological Parts at MIT. Following presentations by all the teams on Saturday, Rettberg told the young bioengineers, “Without your optimism, you'd be stopped early.”

These students, suggests Rettberg, are internalizing the notion that biology can be marshaled to perform almost anything that mechanical or electronic systems can do. They are also building the parts to tackle those tasks. “Most of the parts in the registry have been contributed by students,” he says.

Rettberg is staunch evangelist for synthetic biology, and came to MIT by a somewhat circuitous route. An engineer by training, he worked for years at Internet pioneer BBN (now Genuity), later moved to Sun Microsystems, where he was CTO for storage systems, and came to MIT just a few years ago.

“I believe learning something brand new is entirely refreshing,” says Rettberg. Encouraged by prominent MIT researcher Tom Knight, Rettberg dove into biology and bioengineering. He has big hopes for iGEM.

Last year, just five schools – MIT, Caltech, Boston University (with participation from Harvard), Princeton, and the University of Texas, Austin, competed. Response mushroomed this year. “Fifty students applied for the University of Cambridge team of six. I count that as 44 disappointed students,” he says.

Indeed, rather than rank winners hierarchically, Rettberg and the other judges made 50 or so awards. Student teams worked on their projects throughout the summer, and several are continuing in efforts to complete their projects. Next year Rettberg expects 30 to 50 schools to compete and he's scanning the horizon for funding sources.

Related links:

[iGEM](#)

[Synthetic Biology: The Real Thing](#)

[Real Promise for Synthetic Biology](#)

[It's a Bug's Life](#)

[Click here to login and leave a comment.](#)

 **0 COMMENTS**

 **ADD COMMENT**

Text Only 2000 character limit

Page 1 of 1