

CORNELL iGEM



2014 Sponsorship Packet

Team Letter

Thank you for sponsoring the 2013 Cornell Genetically Engineered Machines Team. Each year, our team competes in the iGEM (International Genetically Engineered Machines) competition. iGEM is the world's premier synthetic biology competition where high school, collegiate, and entrepreneurial teams design and implement novel genetic circuits to help solve the many needs of the environment, medicine, and the economy.

Last season was a very successful year for Cornell iGEM. With your support, our entirely student run team advanced to the international competition at MIT where we won the Best Human Practices Advance Award—an award given to the team that best considers and acts to minimize the ethical and biosafety issues pertaining to their project. We also achieved Gold Medal status based on our novel biological and genetic work, human practices, and collaboration with other iGEM teams.

This year, your company reached an audience of 64 North American teams, 73 international teams, as well as numerous judges and visitors from leaders of academia and industry at the regional and international competitions. We have featured your sponsorship prominently in our presentations, poster, and website. Our presentation along with a video is available online at <http://igem.org/Results>, under Cornell in North America. The report below contains a more extensive breakdown of our team, budget, and accomplishments for the 2013 Cornell iGEM team.

Our sponsors play a pivotal role in our success each season. Without the generous monetary support and necessary supplies provided by our sponsors, we would no longer be able to contribute to the scientific community through iGEM's parts registry or help develop the next generation of biological researchers. Each year, our ideas grow through the support of our sponsors, and we hope to further develop our ideas and skills by partnering with your business.

With a young, experienced team returning, the 2014 season promises to be one of our most successful yet. We are very proud to represent Cornell University, the iGEM competition, and all of our sponsors, and we hope that you will join us in our efforts to continue solving the world's problems via synthetic biology for years to come. We greatly appreciate your support, and we hope to see you once more in 2014!

Sincerely,



Eric Holmes
Team Leader, 2014



What is iGEM?

The Competition:

iGEM began in 2003 at Massachusetts Institute of Technology, and has since grown into the world's largest synthetic biology competition, hosting 215 teams from around the world in 2013. At the beginning of the season, each team receives a kit plate of synthetic DNA parts from the iGEM headquarters. Using these and parts of their own design, teams integrate synthetic DNA components to create novel, engineered organisms to solve various engineering problems. Teams participate each year at regional competitions and the top teams from each region advance to compete at the international level. Teams are judged at the regional and international competitions on the quality of their biological work, the significance and applicability of their project, human practices and safety components, and the presentation of the work on their website, poster, and formal oral presentation.



The Parts Registry:

One of the iGEM competition's greatest goals is the development and cultivation of the Standard Registry of Biological Parts. This parts registry contains thousands of synthetic DNA components designed to be modular. That is, every part in the registry can be interchanged within common DNA backbones, allowing researchers to easily create novel genetic circuits for important engineering purposes. After every competition season, iGEM teams submit their genetic parts (called "BioBricks") to the parts registry for future teams and researchers to use. This collaboration is essential to the iGEM competition and research in synthetic biology in general, and it ensures that any research done by our team can be utilized by the scientific community.





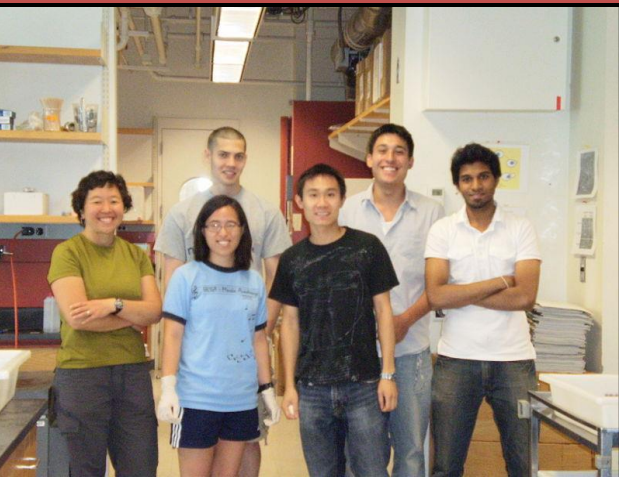
The Team

Cornell iGEM is a student-run undergraduate biology team and has solidified itself as a perennial contender at iGEM competitions. The team is still relatively new, but recent successes have helped the team gain a prominence and reputation at both the university and the iGEM competition.

Our team is composed of 30 undergraduate students from five colleges across the university (Engineering, Arts & Sciences, Agriculture & Life Sciences, Human Ecology, and Architecture). This diverse group of students uses their manifold expertise to complete a complex and novel project each year.

Cornell iGEM provides dedicated students with an interest in biological research and engineering an opportunity to gain experience in a diverse, professional work environment, hone their practical engineering skills, and pursue their own research goals. As evidenced by our recent human practices accomplishments, our team in particular prides ourselves on sharing our research and promoting safety when it comes to the controversial field of synthetic biology. In doing so, we are developing the next generation of responsible scientists with the potential to bring synthetic biology to the forefront of modern engineering solutions.

Team History & Accomplishments



2009-
2010

A small group of Cornell undergraduates comes together to compete in the iGEM competition for the first time, presenting their projects on a cadmium biosensor and outer membrane vesicles.



2011

Cornell iGEM wins the best manufacturing project at the international competition for their cell-free method for synthesizing complex biomolecules.



2012

At the America's East regional competition, Cornell iGEM is a top 4 finalist, gains gold medal classification, and wins both the best wiki and best human practices advance awards.

At the international competition, Cornell iGEM is a top 16 finalist and wins "Best Solution to an Oil Sands Problem" from the Oil Sands Leadership Initiative.



2013

At the North American competition, Cornell iGEM gains gold medal classification and wins best human practices advance.

At the international competition, Cornell iGEM wins best human practices advance.

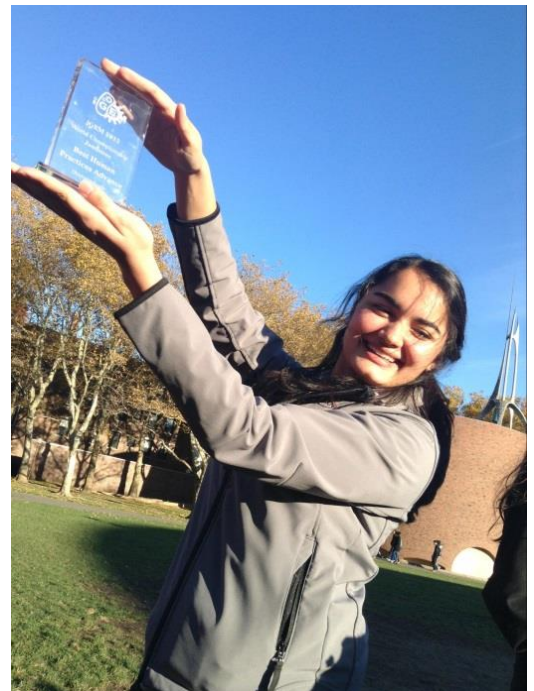
2013: Organofoam

In 2013, our project was Organofoam, where we developed a toolkit of genetic parts to increase the accessibility of fungal genetic engineering to academia and industry. We were inspired to work with fungi by Ecovative Design, a company that grows a biodegradable Styrofoam substitute from fungal mycelium. When we sought to improve their material, we discovered that very little research has been done to utilize basidiomycete fungi for genetic engineering applications; so before we could help Ecovative, we first had to develop our toolkit of genetic parts. Our work this year was particularly far reaching because we helped open the door to the genetic engineering of basidiomycetes—organisms that could be utilized for possible biomaterials, bioremediation, and pharmaceutical applications. More info on our work in 2013 can be found at <http://2013.igem.org/Team:Cornell>

Human Practices and Outreach

Human Practices is broadly defined as the incorporation of any economic, ethical, legal or social dimensions into an iGEM project. The iGEM organization has a strong history of developing synthetic biology tools to solve needs of industry and the economy; however, most of these results are lost post-competition due to the yearlong competition cycle and a lack of funding and awareness. We tackled this issue through a direct collaboration with Ecovative Design. We tailored our scientific project to the needs and goals of a client. Through our collaboration, Organofoam can continue to help solve a pressing environmental issue for years to come.

Every year, our team makes an effort to better understand the public opinion of synthetic biology and to educate the community on our research. We participated at research symposiums in order to incite constructive discussions regarding the specifications of our project. We also used a wide array of open panel discussions on campus to introduce other students to iGEM and synthetic biology and the possibilities they hold as scientific pursuits. Finally, we raised public awareness beyond students and the scientific community by conducting local events and presenting directly to educators.



Project Budget

Expenses	Amount	Description
Primers	\$1250	Primers were used to create and verify our constructs.
DNA Vectors	\$200	Genetic parts used for cloning.
DNA Sequencing	\$800	Sequencing was used to verify our genetic constructs.
Molecular Biology Chemicals and Reagents	\$7650	Some examples are antibiotics, media components, and various enzymes.
Miscellaneous Lab Supplies	\$1000	Includes materials such as desalting membranes and electroporation cuvettes.
Drylab Supplies	\$1350	Includes mechanical and electrical equipment for drylab team
Outreach Supplies and Travel	\$200	Materials such as foam balls and pipe cleaners were used for fun science demonstrations and activities.
Total Expenses	\$12,450	

Outreach and Competition Budget

Expenses	Amount	Description
iGEM Team Registration Fee	\$2750	Cost for DNA kit place and to register in iGEM competition.
Regionals Lodging	\$2500	Cost to stay in hotel near University of Toronto.
Regionals Registration	\$1550	Cost to compete in the regional North American competition.
Regionals Travel	\$1450	Cost to travel to University of Toronto.
Worlds Lodging	\$2100	Cost to stay in hotel near MIT.
Worlds Registration	\$1850	Cost to compete in the international competition.
Worlds Travel	\$1350	Cost to travel to MIT.
Total Expenses	\$13,550	

2013 Accomplishments

1. We have created a comprehensive toolkit of 30 novel genetic constructs to standardize fungal genetic engineering.
2. We have demonstrated functionality of several aforementioned components, such as our Hygromycin resistance gene under control of the T7 promoter in *E.coli* and our Geneticin resistance gene in the fungus *Cochliobolus heterostrophus*.
3. Our collaboration with Ecovative Design helped bridge the gap between synthetic biology and the consumer marketplace.

What people are saying:

"BioSS recognizes this kind of research as practical, responsible and progressive. Congratulations for a job well-done Cornell!"

-BioSS



"We at GSL Biotech are proud to have been able to provide you with SnapGene, and we're inspired by your passion and accomplishments."

-Aline Glick at SnapGene



"What a great achievement!"

-Lori Tonello from NEB

"Go Big Red!!"

-Daniel Frank at VWR International

Benefits of Sponsorship

Competition Visibility:

Each year, Cornell iGEM competes at the largest synthetic biology competition in the world at both the regional and international level. All of our sponsors are featured prominently on our competition poster, competition presentation, and project Wiki. Being featured on our materials is a great way to be exposed to the hundreds of current and thousands of future biological researchers who participate in iGEM every year.

Due to our success the past couple seasons, our team has been featured in various publications including the Cornell Chronicle, the Cornell Daily Sun, IDT's Decoded, and Popular Science. We have also been featured in newsletters from our past and current sponsors.

In addition, our team website and competition Wiki from this past competition season (on which all of our sponsors are featured) both receive around 500 hits per month.



University Networking:

Cornell University is a highly respected and well regarded research university. At the university, sponsors can gain exposure through team interactions with other students and members of their other research endeavors. As a relatively new team, we have a very young and active alumni network with whom we communicate our sponsors, and each year we have graduating members who are eager to pursue careers in biology and engineering—quite possibly with a sponsor.

Gifts in Kind

As a biological research team, we utilize many different supplies and graciously accept gifts in kind. Some of the most common items we use every year include:

- Centrifuge Tubes (2 mL, 15 mL, 50 mL) and micropipette tips
- PCR Reagents (DNA polymerase, dNTPs, etc.)
- Cloning Enzymes (EcoRI, SpeI, PstI, XbaI, NotI, DNA Ligase)
- Antibiotics (Chloramphenicol, Kanamycin, Ampicillin)
- Gel Electrophoresis Materials (Agarose, TAE Buffer, DNA Ladder, Ethidium Bromide)
- Molecular Biology Kits (Plasmid miniprep, DNA clean and concentration)
- Electroporation Cuvettes
- Media Components (LB Broth, Yeast Extract, Tryptone, various salts)

Monetary Support

In addition to gifts in kind, we also accept any monetary support. There are many items we cannot receive in kind, so monetary support is vital to the success of our team. In addition to purchasing those items listed above, contributions will be put towards custom primers, DNA sequencing, iGEM registration fees, travel and lodging for competition, and savings funds for future Cornell iGEM teams.

Intellectual Partnership

In 2013, Cornell iGEM made great strides in bridging the gap between the iGEM competition and industry. Our collaboration with Ecovative proved to be the most meaningful and in-depth partnership between an iGEM team and a corporation to date. Such partnerships depend greatly upon our project each year, but as a team we are open to working with businesses to solve problems with synthetic biology.

Donation Form

Cornell iGEM provides promising undergraduate scientists and engineers the opportunity to pursue their own research interests in a supportive team environment. While Cornell does provide our team with laboratory space, access to some of its outstanding facilities, and funding for competition fees and travel, funding for individual components of our project must come from generous, outside sponsors.

If you are interested in supporting our efforts this year and becoming a part of an exciting and successful synthetic biology team, please fill out the following form and return it to the provided address. Checks can be made payable to “Cornell iGEM” and attached to this form. If you have any questions about our team or specific support we could use, please don’t hesitate to contact us. We greatly appreciate support of any kind. Thank you for your time!

Mailing Address:

Cornell iGEM
Attn: Eric Holmes
B07 Weill Hall
Ithaca, NY. 14853

Contact Information:

Team Leader: Eric Holmes
(503)-747-9393
cornelligem@gmail.com
igem.engineering.cornell.edu

General Information:

Name of Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Contact Information:

Contact Name: _____ Contact Title: _____

Phone Number: _____ Email Address: _____

Donation Information:**Gift in Kind:**

What is the gift in kind? _____

What is the market value of the gift in kind? _____

Monetary Donation:

What is the donation amount? _____

Donor Signature: _____ Date: _____



Thanks to our 2013 Sponsors!



Corning Incorporated, New England Biolabs, Geneious, SnapGene, Ecovative Design, VWR, Gold Biotechnology, Integrated DNA Technologies, NeoBioLab, MathWorks, Dan Simpkins of Hillcrest Labs, Nanocs Incorporated, Growth Curves USA, Bioss Incorporated, Cornell David A. Atkinson Center for a Sustainable Future, Cornell Institute for Biotechnology and Life Science Technology, Weill Institute, Cornell Office of Academic Diversity Initiatives, Cornell College of Engineering, Cornell Engineering Alumni Association, and all our individual supporters who donated on our crowdfunding platform, we thank you!