



Biological Engineering  
Electrical Engineering and Computer Science

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Dear Sir/Madam,

I am writing to ask for sponsorship of MIT's 2013 iGEM Team.

This year a team of 12 MIT students (along with a high school RSI student and a CMU team member) will participate in the annual International Genetically Engineered Machine (iGEM) competition, the premiere collegiate Synthetic Biology competition, taking place in the fall. Started in 2003 as a month-long course during MIT's Independent Activities Period, iGEM has since grown to include over 253 teams from around the globe and over 3000 students and instructors, the best of which converge to MIT for the final jamboree each fall. Each iGEM team starts with a 'kit' of biological parts from the competition headquarters (a non-profit startup in Kendall Square), and works full-time over the summer to genetically-engineer biological devices that will advance the field of Synthetic Biology and attempt to win the competition.

This competition gives students a unique experience to design and implement their ideas for engineering biology. While there is a team of a dozen MIT professors and numerous graduate and postdoc instructors guiding the process and helping day-to-day in the lab, students are independent and will complete the project largely on their own; very few other research experiences give students such flexibility and independence. In addition, their accomplishments often lead to significant advances in medicine, energy, biomaterials and the environment.

Example MIT projects from prior years include:

- Mammalian stem cell differentiation and programmable biomaterial formation (2010 Manufacturing Track winner)
- Programmable tissue engineering (2011 Health and Medicine Track winner, 4<sup>th</sup> place / 167 teams)
- RNA computing to greatly increase computational capabilities in a cell (2012 Gold Medal winner and finalist).

These projects have led to publications, patents and potential therapeutic applications. Past students have initiated startups based on their projects, gone on to work for VC-funded startups in synbio, won the MIT \$100K, and been offered Thiel Fellowships in their research area.

This year's project is focused on engineering cellular transportation via exosomes. The goals of our project include transporting microRNA and a series of proteins through exosomes to induce an effect in the receiver cells such as fluorescence, proliferation, or differentiation. Future applications include drug delivery and other medical applications.

Each year we seek support from premier companies like yours in order to enable the team to afford the full complement of biological reagents and supplies to accomplish their goals. This year we will receive funding of the student stipends from internal MIT resources and will seek discounts from many suppliers. We also raise funds from different MIT departments for a portion of our estimated budget of \$200K. We need additional sponsorship to complete our project and pursue the most ambitious options. This funding enables us to buy general lab supplies, order chemically synthesized DNA, RNA, sequencing services, and purchase bio-chemicals such as enzymes, cloning reagents, DNA purification kits, and expensive reagents for mammalian work.

Sponsors will be acknowledged on our website, team T-shirts, and at presentations at both the regional competition (Oct 4-6 for the Americas) and the international Jamboree (Nov. 1-4 at MIT), as well as our online social media tools including Facebook and Twitter.

We thank you for your support of the MIT 2013 iGEM Program.

Sincerely,

Ron Weiss, Ph.D.  
*Associate Professor of Biological Engineering*  
*Director, Synthetic Biology Center at MIT*