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interdisciplinaires

# iGEM 2011

## Paris Bettencourt Team

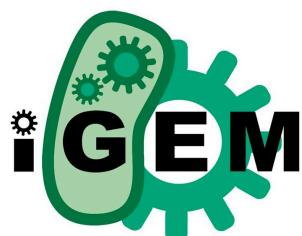


### SPONSOR REQUEST

ACT FOR TOMORROW'S RESEARCH

IMMERSE IN THE SYNTHETIC BIOLOGY  
ERA

SUPPORT THE iGEM PARIS 2011 TEAM



[WWW.IGEM-PARIS.ORG](http://WWW.IGEM-PARIS.ORG)

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# AN INTERNATIONAL SCIENCE PLATFORM

IGEM (International Genetically Engineered Machines) is an international science competition. It is organized **by the prestigious Massachusetts Institute of Technology** (MIT, Boston). With this contest, this leading institution of research and innovation, allows students from all over the world  to create and pursue their very own synthetic biology projects. The research itself is to be carried over the summer.

Since 2004, more than **4300 students** have already taken part of this iGEM competition presenting a wide range of projects. Very **creative** realisations have already put forward such as banana smelling bacteria or synthesis of biofuels. This unique opportunity allows students to become real life researchers. At the heart of iGEM is a passion for the Living and the desire to **take up the challenge**. It brings about people from many horizons: biologists of course but also physicists, mathematicians and even social scientists ! Therefore we are brought together by **the same new view of Science : Interdisciplinarity**. This October more than **1700 students** will compete at preselecting Regional Jamborees; only a third will be able to participate to the final at the M.I.T in November 2011.

Last year a Slovenian team won the Grand Prize. Who will succeed this year? IGEM 2011 is about to start and this year again the **Paris Bettencourt team has taken up the challenge : we are now waiting for you to take off !**

After the biotechnology boom of the last decade, biology is entering into a **new era**. It is becoming synthetic! Unlike what we learned during high school or during our year of undergraduate, **Biology is shifting scope**: not only it includes all previous methods and tools but it also incorporates the notion of systems as well as drawing from the **engineering toolkits**. Now, Synthetic Biology intends to modify or even create novel synthetic systems.

The fundamental as well as **the potential socio-economic repercussion are going to be ever growing**, just think of the J. Craig Venter Institute that recently created a synthetic genome.

The constant concerns, that was most notably raised by our 2009 team, revolve around **ethics** and the **biosafety** of the use and modifications of living systems. Concerns that are most prevalent in our minds.

In this context, iGEM presents itself as an **incontrovertible platform** of this new multi-disciplinary approach to the Living. Gathering such disciplines as biology, mathematics, chemistry and notably engineering, it aims at :



iGEM has had a huge impact on the students that have been part of it, most of them gain the taste of entrepreneurship and of investing themselves in innovative projects. A member of the Paris Bettencourt 2010 team, Xavier Duportet has just co-created a start-up about synthetic biology : Omeecs and been a laureate of the Young Entrepreneurs initiative 2011 organised by the Embassy of France to the United States.

Our teams have already gained a **strong credibility** in the previous years winning awards at this international competition.



2010

## Best Foundational Research Advance Award

Gold medalists

Project : « *Every Bacteria Counts !* »



2009

## Best Human Practices Advance Award

Gold medalists

Project : « *Message in a Bubble* »



2008

Bronze medalist

Project : « *The BacteriO'Clock* »



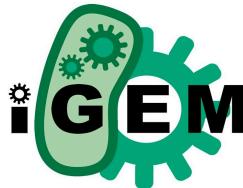
2007

## Grand Prize finalist

## Best Foundational Research Advance Award

Gold medalists

Project : « *The Synthetic Multicellular Bacterium* »



# IGEM, YOUR CONTRIBUTION

Your contribution will go towards a solid team that aims at doing **leading edge and innovative science**. Support us! Thanks to the trust that the Bettencourt-Schueller Foundation grants us with, we have brought our precedent teams up to awards. Here are other sponsors that already have supported us previously :



Institut national de la santé et de la recherche médicale



Your help will **not go unnoticed**. Since it was created, iGEM has systematically been **reported in the media** specialized or not on a global scale. Our previous teams and sponsors have appeared, for example, in the following reknown French media channels, and have given conferences in this institution :



Supporting us, you'll appear on each of our different support of communication : website, press release, communication folder, poster, presentation, T-shirts or our team members. All of which can be **efficient means of communication** in front of the other teams and their student from the best Universities worldwide, the general public and most importantly the jury composed of globally renowned scientists.

Last, helping us will be a mean of strengthening your support for youth and research.

All our research will be performed at the Centre for Research and Interdisciplinarity (CRI). Hosted by the Faculty of Medecine of the University Paris Descartes, the CRI is an ideal place to pursue our project. It really corresponds to the concept of iGEM: a place dedicated to learning and exchange between people and disciplines. It hosts the Frontiers of Life (FdV) doctorate program as well as the Interdisciplinary Approach to Life Sciences (A.I.V) masters program that train student to do research doing research. The next shoolyear this cursus will be completed by a new undergraduate program. The all cursus in supported by the Bettencourt Schueller Foundation.



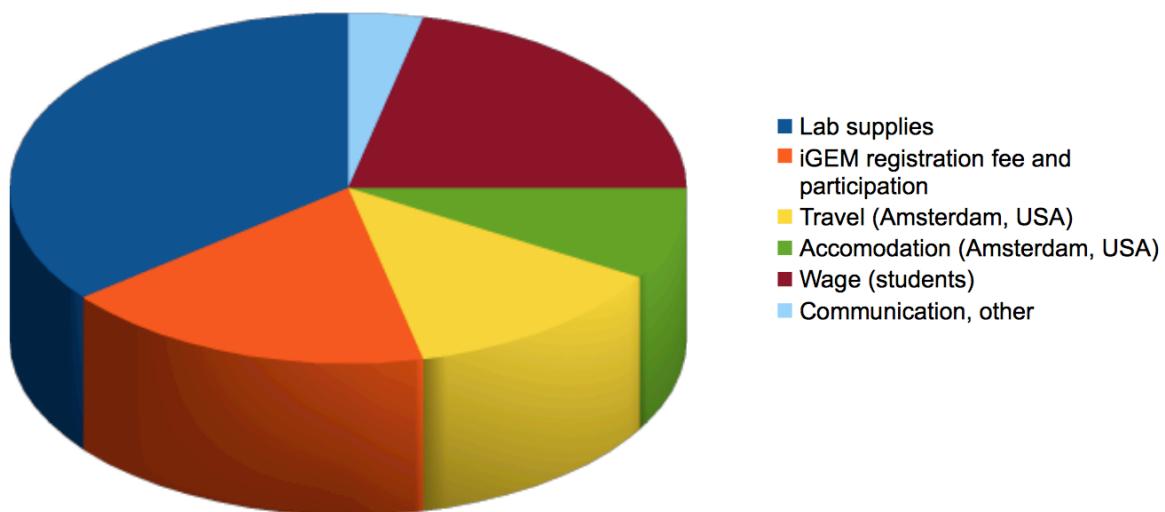
We benefit from a top quality supervision, with internationally renowned scientists such as Ariel Lindner (INSERM) and François Taddei (INSERM) as well as students who participated in previous iGEM competition. For instance, we could cite Yifan Yang (Grand Prize, iGEM 2007 with Peking University) or Antoine Decrulle, Raphaël Pantier and Aleksandra Nivina (who were part of last year's Paris team and win the Best Foundational Research Advance Award).



The whole CRI, its Director François Taddei (INSERM), its faculty members and pedagogical team, are supporting us. Last, the iGEM competition is considered as an academical internship by Universities.

A project such as iGEM can not go towards successful completion without your financial and/or material help. Even a small help is priceless for us. For example a student will need a personal computer, laboratory supplies and also to travel to the different Jamboree's places.

iGEM 2011 Projected budget



Lab supplies	25000
iGEM registration fee and participation	12500
Travel (Amsterdam, USA)	9040
Accommodation (Amsterdam, USA)	5960
Wage (students)	15000
Communication, other	2500
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Total expenditure	70000
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Support from Fondation Bettencourt-Schueller	50000
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Total remaining fund	20000



# 12 STUDENTS FOR AN INTERDISCIPLINARY TEAM



## **Hovannes Agopyan, 1<sup>st</sup> year master student in Bio-mechanic at Paris Descartes University**

An opportunity to work with future researchers in a daring project? A way to get matches in scientifically viable? The opportunity to be the strong link in a chain? To assume our capabilities and know how to cooperate? Take pleasure by advancing? That are the questions that I would like to meet and answer through my participation in iGEM! I want to test my own limits in a group that strives for excellence through powerful synergies. iGEM is probably the missing link that connects youth and dynamism to the particular world of research. Finally, I see in iGEM the opportunity to serve Human being, regardless of the adopted draft.

## **Adrien Basso-Blandin, 2<sup>nd</sup> year master student in Computer Sciences at Evry University**



My internship's subject deals with Synthetic biology and I would like to do my thesis on the same subject. Thus, participating to iGEM allow some practice in synthetic biology. It is also the opportunity to share knowledge with members of other scientific communities (biologist, physicist, engineer). Being computer-scientist, I see iGEM like the creation of RISC processor, an opportunity to search similitudes between different older projects in order to model these. Hopefully, this research will simplify next years' work by proposing better computer-science tools for project development.

## **Ouriel Caen, 1<sup>st</sup> year Master student in Theoretical Physics at Paris Diderot University**



As a Physics student my curiosity and enthusiasm towards life sciences has been the driving force to undertake a research internship in an Israeli laboratory of modern theoretical Biophysics. There, I learned that Biology is an inexhaustible of functions and systems which identification, recombination and adaption will help to better understand life, and open a new era of original and fruitful technologies. Synthetic Biology and iGEM are the best way to implement this teaching. The numerous testimonies of former iGEM participants evoking an invaluable personal gain as much on social, organizational and psychological dimensions, convinced me of my interest to join the Paris iGEM team.

## **Laura Da-Silva, 1<sup>st</sup> year AIV master student at Paris Diderot University**



While having a bachelor's degree in Biology of Lyon 1 University, physics and computer science have always interested me. iGEM meaning interdisciplinarity: the mixture of all basic sciences, represents, in my mind, a unique opportunity. It is an adventure not only from the personal point of view: working and setting up a team with students from different backgrounds and interacting on different views of Life Sciences induced, but also from a professional point of view: to have the possibility at our study level to take part in the creation and in the development by ourselves of our own scientific project, so means a source of intellectual enrichment, at which I am willing to take part.

## **Camille Huet de Froberville, 1<sup>st</sup> year AIV master student at Paris Diderot University**

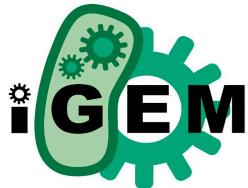


It's in the CRI I discovered and enjoyed really, Synthetic and Systems Biology in a multidisciplinary and international atmosphere that fitted me well. It's also during my master that I heard about iGEM. It's for me, a unique opportunity to work in a lab and to be confronted to its management. Moreover it allows to completely get involved in a project that is ours from the emerging idea to its realisation. Last, iGEM needs us to surpass ourselves. That's something that motivates me a lot : pushing further our limits to accomplish something that we can be proud of.

## **Edward Kwarteng, 1<sup>st</sup> year AIV master student at Paris Descartes University**



iGEM competition is platform for young researchers to develop their talents in such a world competition. Participating in Igem competition will give me the opportunity to think of a scientific problem and design how to solve it autonomously with colleagues from different disciplines. It will enhance my capabilities to work in a group and share ideas with fellows. Synthetic biology is a great tool for future discoveries and i see iGEM as the gateway for me to develop interest and equip myself in this upcoming field of science.



# 12 STUDENTS FOR AN INTERDISCIPLINARY TEAM



## **Danyel Lee, Medecine student (DCEM1) at Paris Descartes University**

I learned about iGEM from a classmate that also wants to participate in the project. A unique project planned and carried out by a interdisciplinary group of students, both creative and innovative, iGEM was clearly not an opportunity that i could pass by. I look forward to learning from the other members, learning through the experience, and contributing my own knowledge and assets to the team.



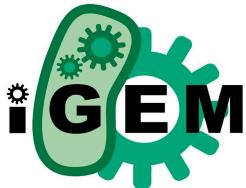
## **Adrien Lhomme-Duchadeuil 1<sup>st</sup> year AIV master student at Paris Diderot**

As far as I can recall I was always immersed in the Sciences and multi-culturalism. Following a bilingual education in France, I obtained an Honours Bachelor of Science in Anthroplogy and in Biology from the University of Toronto. Drawing from such a wide education, I really wish to participate in the iGEM competition so that I can bring to the team my biology skills and my anthropological knowledge. I want to seize the opportunity and contribute to this new adventure that synthetic biology is.



## **Babak Nichabouri, 2<sup>nd</sup> year Pharmacy student at Descartes University**

I am currently following the Pharma.D Phd Program. I have to do a summer internship in the lab of my choice. I chose the CRI for the multi disciplinary aspect and particularly innovating side. It is important for me to not shut myself away into one particular domain, as interesting as it is, and to be always open minded. iGEM is not only a simple lab internship, it is a pedagogic program, with no equal, and we will learn as well about people we work with as ourselves. But iGEM is also a competition, a great team challenge that motivate us to do great thinks and do better still.



## 12 STUDENTS FOR AN INTERDISCIPLINARY TEAM

### **Axel Séguert, 1<sup>st</sup> year AIV master student at Paris Diderot University**



After many talks with some teachers, I had the wish to participate in iGEM competition. The idea of life engineering seems to me very interesting. To create standards could simplify experiments and all shares. We are not yet researchers but we have the ambition to achieve a research project end to end. Finally, iGEM contributes to the development of synthetic biology, while attempting to desecrate the image of science. I think science is accessible to people that get caught into the game.

### **Mathias Toulouze, 1<sup>st</sup> year AIV master student at Paris Diderot University**



I am very impatient thinking about this competition. According to me, it is a special opportunity offered to us. Indeed, in the course of this competition we will have the opportunity to leverage our creativity, our passion for science and our team spirit. Synthetic biology is an emerging discipline that has already led to several innovations, which transforms a little more, each day, our vision of life. iGEM is a unique opportunity for us to learn and to excel.

### **Kevin Yauy, Medicine student (DCEM1) at Paris Descartes University**



I wanted to participate to iGEM for a long time and this year I have finally possibility, motivation and energy do it! The project sounds amazing, work with other peoples, discover new things in biology, do research. Empowering my mind. I'm very interested because I think that I can learn different things with this competition than if I do another classic internship. It will be a special experience to live and this is the moment maybe where with ideas of mine and the team could change our world.

The team is supervised by scientists and advised by students who previously took part of the competition.

### **Antoine Decrulle, 2<sup>nd</sup> year AIV master student at Paris Descartes University**



Currently in Master 2 and preparing a thesis, i was in the team Paris-Lilianne Bettancourt during the last edition of the iGEM competition. For me, it has been a great scientific and human experience. This year I decided to be part of the new team as advisor in order to share my experience and to keep learning from the student and the new project.

### **Aleksandra Nivina, 5<sup>th</sup> year Pharmacy student at Paris Descartes University**



I discovered the iGEM competition one year ago, and committed myself to this scientific adventure by joining the 2010 team. Having learned a lot during this intense and exciting work, I would now like to share my knowledge and experience with the members of the next team. I'm sure this collaboration will be interesting and fruitful for both me and the new iGEMers.

### **Raphaël Pantier, 4<sup>th</sup> year Pharmacy student at Paris-Sud 11 University, INSERM school**



Last year, I participated to the iGEM competition as a student, this experience was incredibly exciting and instructive. However, building a project from its imagination to its design, modeling and achievement at the bench is not an easy task... That's why I would like to share my experience and help the new iGEM team to go as far as they can!

### **Ariel Lindner, chercheur INSERM, co-responsable du Master AIV cohabilité par les Universités Paris Descartes et Paris Diderot,**



Diplômé du programme interdisciplinaire 'Amirim' de l'université Hébraïque de Jérusalem (Israël) avec une spécialisation en chimie, il a obtenu un Master puis un Doctorat en Chimie de l'Immunologie à l'Institut Weizmann des Sciences (Rehovot, Israël) pour son travail sur les anticorps catalytiques comme modèles d'enzymes, les changements conformationnels des anticorps et l'évolution dirigée. Après une période de recherche à l'Institut Scripps en Californie (Etats-Unis), il obtient une bourse EMBO et Marie Curie pour poursuivre un post-doctorat à Paris et un poste de jeune chercheur à l'INSERM, il applique des approches en physique, chimie et biologie à l'étude de la variabilité individuelle entre clones. Il est professeur associé à la Faculté de Médecine de l'Université Paris Descartes (2008/9) et directeur des études du Centre de Recherches Interdisciplinaires (CRI).

### **Thomas Lombès, PhD student at FdV doctoral school of Paris Descartes University**

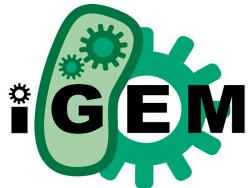


Last year's iGEM competition was for me, as an advisor, a great human and scientific experience. I am already thrilled by the brainstorming sessions we have for the 2011 iGEM edition. I will be glad to share my experience and help the new iGEM team as much as I can.

### **Yifan Yang, PhD student at the FdV doctoral school of Paris Descartes University**



Naturally, I would be glad to contribute my experience in previous iGEMs to the current team. Besides the science side, I'm very interested in teaching science with research, and untraditional mode of scientific research. iGEM is the perfect model of both of these. From the teaching side, I'm really excited by the prospect of getting to know and working with people from different backgrounds. In addition to that, iGEM is an opportunity where interdisciplinary projects got done by undergraduate students, which would never happen in traditional scientific labs. It's exciting to participate in such endeavors year after year.



## CONTACT US

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