iGEM 2013 Basic Safety Form

Team name: iGEM Concordia

Deadline: 30th of August 2013

Submission method: email form to the correct email list for your region:

safety_forms_asia@igem.org
safety_forms_europe@igem.org
safety_forms_north_america@igem.org
safety_forms_latin_america@igem.org

Students can complete this safety form, but it must be read and signed (electronic or hard copy) by your team's faculty advisor. Your advisor must verify the information contained in this form and sign it.

The iGEM Safety Committee must be able to easily reach the advisor with questions or other follow-up communication. If you have made changes to your project (new coding regions or organisms) you must re-submit your safety form before wiki freeze (date TBD).

Key points to remember as you complete the safety assessment process:

- For help in completing questions 1 and 2, you may find it useful to consult the Risk Groups section of the Safety Resources List [2013.igem.org/Safety].
- The iGEM Safety Committee will be reviewing your project. To avoid temporary suspensions, answer these questions completely and accurately.
- The Safety Committee needs to be able to communicate with your faculty advisor about any safety concerns. If we cannot reach your advisor in a reasonable amount of time, you may be subject to restrictions at the Jamboree.
- Your safety page, wiki project page and poster should be consistent with each other. If you change your project, submit an updated Basic Safety Page to the iGEM Safety Committee before the wiki freeze. (Your faculty advisor must also read and sign the updated page.)
- We understand that projects may still be changing at a late date. However, large discrepancies between what you submit on the Basic Safety Page and what you present at the Jamborees may result in restrictions at the Jamboree.

Basic Safety Questions for iGEM 2013

a. Please describe the chassis organism(s) you will be using for this project. If you will be using more than one chassis organism, provide information on each of them:

	Species	Strain no/name	Risk Group	Risk group source link	Disease risk to humans? If so, which disease?
Ex	*E. coli* (K 12)	NEB 10 Beta	1	www.absa.org/riskgroups/bacteriasearch.php?genus=&species=coli	Yes. May cause irritation to skin, eyes, and respiratory tract, may affect kidneys.
1	E. coli (K12)	DH5a	1	absa.org	
2					
3					
4					
5					
6					
7					
8					

*For additional organisms, please include a spreadsheet in your submission.

2. Highest Risk Group Listed:

1 ◉ Greater than 1 ○

If you answered 1+, please also complete the iGEM Biosafety form part 2 for any organisms in this category.

3. List and describe *all* new or modified coding regions you will be using in your project. (If you use parts from the 2013 iGEM Distribution without modifying them, you do not need to list those parts.)

	Part number.	Where did you get the physical DNA for this part (which lab, synthesis company, etc)	What species does this part originally come from?	What is the Risk Group of the species?	What is the function of this part, in its parent species?
Ex	BBa_C0040	Synthesized, Blue Heron	Acinetobacter baumannii	2	Confers tetracycline resistance

	Part Number	Template Origin	Parent Species	Risk Group	Function
1	BBa_K116500	Patrick Gulick Lab & Michelle Harvey, Concordia University	Arabidopsis thaliana Escherichia coli	1	Perceives ethylene gas and induces OmpC promoter
2	BBa_K116501	Ompc Promoter - IDT GFP - Bba_I13522	Aequorea victoria Escherichia coli	1	GFP induced by osmotic pressure
3	BBa_K116502	TetR Promoter - IDT crR12 - IDT CepI - IDT	Escherichia coli Burkholderia cepacia	1	dual repression of CepI expression (TetR and cis-regulator)
4	BBa_K116503	TetR Promoter - IDT crR12 - IDT LuxI - Bba_C0061	Escherichia coli Vibrio fischeri	1	dual repression of CepI expression (TetR and cis-regulator)
5	BBa_K116504	TetR Promoter - IDT crR12 - IDT RhlI - Bba_C0070	Escherichia coli Pseudomonas aeruginosa	1	dual repression of CepI expression (TetR and cis-regulator)
6	BBa_K116505	LuxR - Bba_C0062 RhlR - Bba_C0071 CepR - IDT	Vibrio fischeri Pseudomonas aeruginosa Burkholderia cepacia	1	Expression of three AHL activated transcriptional activators
7	BBa_K116506	CepR - IDT	Burkholderia cepacia	1	Expression of OHL activated transcriptional activator
8	BBa_K116507	Patrick Gulick Lab	Arabidopsis thaliana	1	Ethylene synthesis
9	BBa_K116508	IDT	Synthetic	1	XOR Ribozyme 1 targeting CI434
10	BBa_K116509	IDT	Synthetic	1	XOR Ribozyme 2 targeting CI434
11	BBa_K116510	IDT	Synthetic	1	XOR Ribozyme 1 targeting PenI
12	BBa_K116511	IDT	Synthetic	1	XOR Ribozyme 2 targeting PenI
13	BBa_K116512	BBa_K228003 IDT	Lambda Phage Aequorea victoria	1	Modified bistable memory expressing GFP and trans-activator

1	See Spreadsheet Attached	See Spreadsheet Attached	See Spreadsheet Attached	See Spreadsheet Attached	See Spreadsheet Attached
2					
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5					
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7					
8					

*For additional coding regions, please include a spreadsheet in your submission.

4. Do the biological materials used in your lab work pose any of the following risks? Please describe.

a. Risks to the safety and health of team members or others working in the lab?

No

b. Risks to the safety and health of the general public, if released by design or by accident?

No

c. Risks to the environment, if released by design or by accident?

No

d. Risks to security through malicious misuse by individuals, groups, or countries?

No

5. If your project moved from a small-scale lab study to become widely used as a commercial/industrial product, what new risks might arise? (Consider the different categories of risks that are listed in parts a-d of the previous question.) Also, what risks might arise if the knowledge you generate or the methods you develop became widely available? (Note: This is meant to be a somewhat open-ended discussion question.)

The Project is designed to test the computational potential of cells in a laboratory environment. Large scale dissemination as commercial product would require prior modifications of the genes and gene network to reduce risks, such as removing selection markers.

6. Does your project include any design features to address safety risks? (For example: kill switches, auxotrophic chassis, etc.) Note that including such features is not mandatory to participate in iGEM, but many groups choose to include them.

No

7. What safety training have you received (or plan to receive in the future)? Provide a brief description, and a link to your institution's safety training requirements, if available.

All members of the team have or will receive the biosafety training provided by the Environmental, Health and Safety department of Concordia University

8. Under what biosafety provisions will / do you work?

a. Please provide a link to your institution biosafety guidelines.

ehs.concordia.ca/safety-management

b. Does your institution have an Institutional Biosafety Committee, or an equivalent group? If yes, have you discussed your project with them? Describe any concerns they raised with your project, and any changes you made to your project plan based on their review.

Yes, Concordia University has a Biosafety Committee. Information about its mandate can be found at: ehs.concordia.ca/safety-management/committees. We did not discuss with EHS about our project since all the experiments and organisms used are allowed by the biosafety rating of the laboratory

c. Does your country have national biosafety regulations or guidelines? If so, please provide a link to these regulations or guidelines if possible.

Yes, the Public Health Agency of Canada produced a document that describes the Canadian Biosafety regulations. The document can be retrieved at: canadianbiosafetystandards.collaboration.gc.ca

d. According to the WHO Biosafety Manual, what is the BioSafety Level rating of your lab? (Check the summary table on page 3, and the fuller description that starts on page 9.) If your lab does not fit neatly into category 1, 2, 3, or 4, please describe its safety features [see 2013.igem.org/Safety for help].

Our laboratory has a Biosafety rating 1

e. What is the Risk Group of your chassis organism(s), as you stated in question 1? If it does not match the BSL rating of your laboratory, please explain what additional safety measures you are taking.

E. coli is our chassis organism. It falls into Risk Group 1

Faculty Advisor Name:

Luc Varin

Faculty Advisor Signature: