Synthetic Biology
based on standard parts

Team:UCSF_UCB/Judging Form

Team:	UCSF_UCB
iGEM Year:	2014
Track:	Information Processing
Project Name:	Sense and Secrete-ability
Project Abstract:	Cells in a local population have a wide range of responses to a given stimulus, potentially due to differences in extracellular environment or intracellular molecular composition. However, cellular communities often need to resolve this variation to respond in a concerted and robust way. Our project seeks to understand complex intercellular interactions underlying specific community phenotypes by engineering communication motifs with the goal of reaching a community behavior to either converge or diverge in response. To do this, we have engineered novel sense-and-secrete circuits into yeast. To model community signaling, we repurposed endogenous yeast mating factor alpha(MFα) as an extracellular signal. Our designed circuit outputs initial individual responses to stimuli as GFP signal and, after signaling through secreted MFα, a downstream community-coordinated response is reported as RFP signal. By tuning parameters like positive and negative feedback strength and MFα-sensitivity, we hope to develop a circuit capable of analyzing cellular community interactions.

Edit

iGEM Medals for Information Processing Teams

Requirements for a Bronze Medal:

- ☑ Register the team, have a great summer, and plan to have fun at the Giant Jamboree.
- ☑ Successfully complete and submit this iGEM 2014 Judging form.
- ☑ Create and share a Description of the team's project using the iGEM wiki and the team's parts using the Registry of Standard Biological Parts.
- ☑ Plan to present a Poster and Talk at the iGEM Jamboree.
- ☑ The description of each project must clearly attribute work done by the students and distinguish it from work done by others, including host labs, advisors, instructors, sponsors, professional website designers, artists, and commercial services. Please see the iGEM 2011 Imperial College Acknowledgements page for an example.

  Link to page on your team's wiki: Team:UCSF_UCB/team.html Page size: 552983

- ☑ Document at least one new standard BioBrick Part or Device used in your project/central to your project and submit this part to the iGEM Registry (submissions must adhere to the iGEM Registry guidelines). Please note you must submit this new part to the iGEM Parts Registry. Please see the Registry help page on adding new parts. A new application and/or outstanding documentation (quantitative data showing the Part's/ Device's function) of a previously existing BioBrick part also counts. Please see the Registry help page on how to document your contributions. To fulfill this criteria, you will also need to submit the part with its original part name to the Registry, following the submission guidelines.

Part Number(s):

BBa_K1346000	[Received, Accepted][See comments on this sample]
BBa_K1346001	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346002	[Received, Accepted][See comments on this sample]
BBa_K1346003	[Received, Accepted][See comments on this sample]
BBa_K1346004	[Received, Accepted][See comments on this sample]
BBa_K1346005	[Received, Accepted][See comments on this sample]
BBa_K1346006	[Received, Accepted][See comments on this sample]
BBa_K1346007	[Received, Accepted][See comments on this sample]
BBa_K1346008	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346009	[Received, Accepted][See comments on this sample]
BBa_K1346010	[Received, Accepted][See comments on this sample]

BBa_K1346011	[Received, Accepted][See comments on this sample]
BBa_K1346012	[Received, Accepted][See comments on this sample]
BBa_K1346013	[Received, Accepted][See comments on this sample]

Additional Requirements for a Silver Medal:

- [x] Experimentally validate that at least one new BioBrick Part or Device of your own design and construction works as expected.

Part Number(s):

BBa_K1346000	[Received, Accepted][See comments on this sample]
BBa_K1346001	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346002	[Received, Accepted][See comments on this sample]
BBa_K1346003	[Received, Accepted][See comments on this sample]
BBa_K1346004	[Received, Accepted][See comments on this sample]
BBa_K1346005	[Received, Accepted][See comments on this sample]
BBa_K1346006	[Received, Accepted][See comments on this sample]
BBa_K1346007	[Received, Accepted][See comments on this sample]
BBa_K1346008	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346009	[Received, Accepted][See comments on this sample]
BBa_K1346010	[Received, Accepted][See comments on this sample]
BBa_K1346011	[Received, Accepted][See comments on this sample]
BBa_K1346012	[Received, Accepted][See comments on this sample]
BBa_K1346013	[Received, Accepted][See comments on this sample]

- [x] Document the characterization of this part in the Main Page section of that Part's/Device's Registry entry.
- [x] Submit this new part to the iGEM Parts Registry (submissions must adhere to the iGEM Registry guidelines)

Part Number(s):

BBa_K1346000	[Received, Accepted][See comments on this sample]
BBa_K1346001	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346002	[Received, Accepted][See comments on this sample]
BBa_K1346003	[Received, Accepted][See comments on this sample]
BBa_K1346004	[Received, Accepted][See comments on this sample]
BBa_K1346005	[Received, Accepted][See comments on this sample]
BBa_K1346006	[Received, Accepted][See comments on this sample]
BBa_K1346007	[Received, Accepted][See comments on this sample]
BBa_K1346008	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346009	[Received, Accepted][See comments on this sample]
BBa_K1346010	[Received, Accepted][See comments on this sample]
BBa_K1346011	[Received, Accepted][See comments on this sample]
BBa_K1346012	[Received, Accepted][See comments on this sample]
BBa_K1346013	[Received, Accepted][See comments on this sample]

- [x] iGEM projects involve important questions beyond the bench, for example relating to (but not limited to) ethics, sustainability, social justice, safety, security, or intellectual property rights. Articulate at least one question encountered by your team, and describe how your team considered the(se) question(s) within your project. Include attributions to all experts and stakeholders consulted.

Link to page on your team's wiki: Team:UCSF_UCB/judging.html Page size: 193822

Additional Requirements for a Gold Medal: (one OR more)

- [x] Improve the function OR characterization of an existing BioBrick Part or Device (created by another team or your own institution in a previous year), enter this information in the Registry. Please see the Registry help page on how to document a contribution to an existing part.

Part Number(s):

BBa_K431008	[Not submitted] Not this team's part
BBa_K563004	[Not submitted] Not this team's part
BBA_K319003	[Not submitted] Not this team's part

- [x] ~~Help any registered iGEM team from another school or institution by, for example, characterizing a part, debugging a construct, or~~ modeling or simulating their system.

Link to page on your team's wiki: Team:UCSF_UCB/hp.html Page size: 178164

- [ ] iGEM projects involve important questions beyond the bench, for example relating to (but not limited to) ethics, sustainability, social justice, safety, security, or intellectual property rights. Describe an approach that your team used to address at least one of these questions. Evaluate your approach, including whether it allowed you to answer your question(s), how it influenced the team's scientific project, and how it might be adapted for others to use (within and beyond iGEM). We encourage thoughtful and creative approaches, and those that draw on past Policy & Practice (formerly Human Practices) activities.

Link to page on your team's wiki: None

iGEM Prizes

All teams are eligible for special prizes at the Jamborees. (more...) To help the judges, please indicate if you feel you should be evaluated for any of the following special prizes:

- [ ] Best Supporting Art & Design
  - [ ] Our team will present an art installation at the Giant Jamboree

Link to page on your team's wiki: None

Short description of team's accomplishments (500 chars max):

- [ ] Best Policy & Practice Advance

Link to page on your team's wiki: None

Short description of team's accomplishments (500 chars max):

- [ ] Best Measurement Approach

Link to page on your team's wiki: None

Short description of team's accomplishments (500 chars max):

- [ ] Best Supporting Software

Link to page on your team's wiki: None

Short description of team's accomplishments (500 chars max):

Team_Parts

To help the judges evaluate your parts, please identify 3 of your parts that you feel are best documented and are of the highest quality.

- [x] Best New Basic Part

Part Number(s):

BBa_K1346000	[Received, Accepted][See comments on this sample]
BBa_K1346001	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346002	[Received, Accepted][See comments on this sample]
BBa_K1346003	[Received, Accepted][See comments on this sample]

- [ ] Best New Composit Part

Part Number(s): None

Best Part Collection

Link to page on your team's wiki: Team:UCSF_UCB/project.html Page size: 688086

Short description of collection function and Range of Part Numbers

We have characterized 4 constitutive and 10 inducible promoters to be used in yeast, parts BBa_K1346000 - BBa_K1346013

List all of the Parts in this collection (Yes, all 100 of them to impress the judges)

Part Number(s):

BBa_K1346000	[Received, Accepted][See comments on this sample]
BBa_K1346001	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346002	[Received, Accepted][See comments on this sample]
BBa_K1346003	[Received, Accepted][See comments on this sample]
BBa_K1346004	[Received, Accepted][See comments on this sample]
BBa_K1346005	[Received, Accepted][See comments on this sample]
BBa_K1346006	[Received, Accepted][See comments on this sample]
BBa_K1346007	[Received, Accepted][See comments on this sample]
BBa_K1346008	[Received, Accepted][See comments on this sample][Received, Accepted][See comments on this sample]
BBa_K1346009	[Received, Accepted][See comments on this sample]
BBa_K1346010	[Received, Accepted][See comments on this sample]
BBa_K1346011	[Received, Accepted][See comments on this sample]
BBa_K1346012	[Received, Accepted][See comments on this sample]
BBa_K1346013	[Received, Accepted][See comments on this sample]