

# BIOMOD

November 4<sup>th</sup> 8:00am–5:00pm  
November 5<sup>th</sup> 9:30am–12:00pm  
University of California, San Francisco  
Mission Bay Campus  
Genentech Hall, Byers Auditorium  
1700 4<sup>th</sup> Street, San Francisco CA

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## Schedule

### Friday, November 3<sup>rd</sup>, 2017

2:00 PM to 6:30 PM Team Registration at the University of California  
600 16<sup>th</sup> Street, San Francisco, CA 94058 – Genentech Hall  
Check in at Security on the 1<sup>st</sup> floor. Present your valid ID for a visitor's badge  
Proceed to the Douglas Lab on the 4<sup>th</sup> Floor – Room S472  
Pick up your BIOMOD ID badge and t-shirt!  
Practice your presentation in a UCSF Conference room (by prior arrangement)

### Saturday, November 4<sup>th</sup>, 2017

07:00–07:15 AM	Make your way to UCSF Mission Bay — Genentech Hall.
07:15–08:00	<b>Breakfast will be available to all registered teams.</b>
08:00–08:15	Welcome — Opening Remarks
08:15–08:30	Kansai — DNA Randomizer
08:30–08:45	Oxford — RibOxSwitch
08:45–09:00	YOKABIO — The Transporter
09:00–09:15	NTU-Taiwan — NanoMuscle
09:15–09:30	Crystalline Entity — 3D Molecular Pegboard
09:30–09:45	Nano-JLU — Nanoreactor
09:45–10:00	MultiBrane — Clearing micro pollutants
10:00–10:30	<b>Coffee Break</b>
10:30–10:45	Season — Linked DNA networks
10:45–11:00	Sendai — Self-healing DNA'n'GEL
11:00–11:15	team HANAI — DNA UFO Catcher
11:15–11:30	UC San DNAgo — HSV-loaded Origami
11:30–11:45	Capsid Constructors — Artificial HIV capsid
11:45–12:00	CGUnion — Counting platelets using $\alpha$ IIb $\beta$ 3
12:00–12:15 PM	<b>Group Photo</b>
12:15–13:30	<b>Lunch</b>
13:30–13:45	UsydUfold — Fortune Cookie: viral biosensor
13:45–14:00	Toehold Conga Nanny — Claw Catching Norovirus
14:00–14:15	Molecular Jedis — Lightzaber: sensing miRNA-141
14:15–14:30	UBerCooleculars — Lung cancer miRNA $\phi$ 29 RCAssay
14:30–14:45	NCKU-Taiwan — Competing with HuR
14:45–15:30	<b>Refreshment Break</b>
15:30–15:45	OhioMOD — Therapeutic Stability of Origami
15:45–16:00	BONMED — Precision Smurf1 inhibition
16:00–16:15	HUST-China — Starving cancer cells with SIREN
16:15–16:30	Wrap up
16:30–17:00	Judges submit scores

### Sunday, November 5, 2017

**Reminder: Daylight Saving Time ends in the United States on Sunday, November 5 at 2:00 AM.  
Please remember to set your clocks back by 1 hour before going to sleep on Saturday night.**

08:00–08:15 AM	Make your way to UCSF, Genentech Hall.
08:15–09:30	<b>Breakfast will be available to all registered teams.</b>
09:30–11:00	<b>Awards &amp; Closing Ceremony</b>
11:00–12:00 PM	Socialize + Box lunch (Until check out of hotel at 12)
12:00–13:30	Board of Directors Meeting (Shokat, Rothemund, Murata, Douglas)

## Presentation Details

All team presentations will take place in Byers Auditorium in the Genentech Hall building on the University of California, San Francisco Mission Bay Campus.

The **TOTAL** time allotted to each team is 15 minutes. This includes laptop setup (**1 min**), present slides (**10 min**), audience questions (**~3 min**), and exiting the stage + buffer time (**1 min**). The time limits will be strictly enforced, so rehearsing in advance is strongly recommended to avoid being cut off. The room is equipped with a projector and screen. *Please remember to bring laser pointers, converters, adapters, cables, etc., as these will not be provided by BIOMOD.*

If you haven't already done so, you may sign up for a practice session here: <http://bit.ly/2yDIWdN>. Practice sessions are strictly limited to 30 minutes. Thanks in advance for arriving on time, and finishing in the time allotted.

## Registration/Check-in

**All teams are required** to check-in for BIOMOD on Friday, November 4th between the hours of 13:30–18:30. Registration will be located in the Douglas Lab at the University of California, San Francisco Mission Bay Campus in Genentech Hall. Each individual will be required to check-in with valid ID at the UCSF Security Desk on the 1<sup>st</sup> floor of Genentech Hall. Once you receive a visitor's badge, you may proceed to the 4<sup>th</sup> Floor and office suite S472.

To get to the Douglas Lab office suite, take the elevator directly behind the security desk to the 4<sup>th</sup> floor. When you get off the elevator walk to the carpeted hallway and proceed to the right. Turn left into the 2<sup>nd</sup> corridor marked "S401-484". Walk straight down this corridor and bear toward the right, entering the common area marked S472. Proceed through the common area, through the double glass doors and into the S472 office suite.

All team members should arrive together as a group.

At registration each team will receive:

- BIOMOD ID/Security badges (which must be worn at **all times** while on the UCSF campus)
- Lyft voucher code worth \$50 for transportation to and from the UCSF campus
- Participation certificates\*
- BIOMOD t-shirts.

*\*If there are team members who are not able to attend the Jamboree, but who would like a participation certificate, please email Rebecca ([Rebecca@biomod.net](mailto:Rebecca@biomod.net)) in advance with their names.*

## Hotel

The official hotel of BIOMOD 2017 is Hotel Zelos in downtown San Francisco.

Address: 12 Fourth Street

San Francisco, CA 94103

Telephone: (415) 348-1111

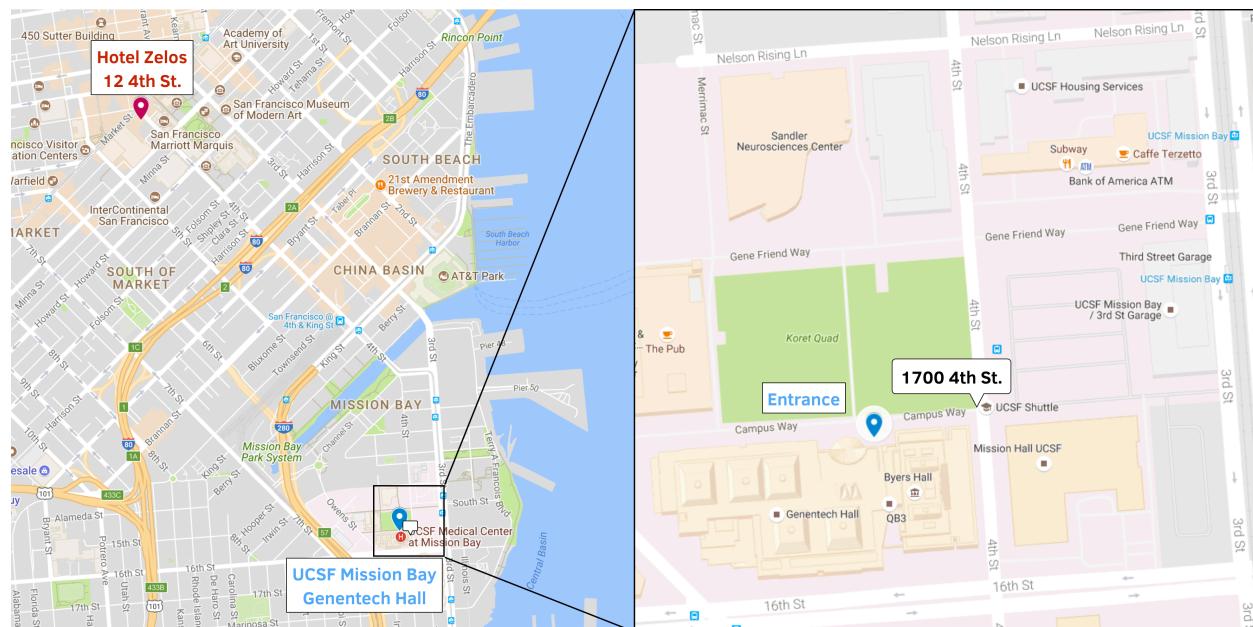
**Check-in time is at 3:00 PM**

**Check-out time is at 12:00 PM**

## Room Credits

Participants staying at the official BIOMOD hotel are eligible for a \$500 per team room credit. To receive this credit, you **MUST** have 1) booked your room through the link provided on the registration system **and** 2) provided your hotel confirmation number(s) on the appropriate section of the registration system. There are no exceptions to this. If you did not report your confirmation numbers before the September 25<sup>th</sup> deadline, you will not be eligible for the room credit. The credit will be split equally among teams depending on how many rooms you booked and will be applied to your final bill at check-out.

**Hotel Zelos Map:** <http://bit.ly/2w6ZXY8>



## Getting to BIOMOD

**Location:** University of California, San Francisco  
Mission Bay Campus  
Genentech Hall, Byers Auditorium



**Address:** Near 1700 4<sup>th</sup> Street, San Francisco CA 94158.  
(Direct taxi or Lyft to this address, and then walk west past Byers Hall to Genentech Hall)

## **Transportation Options**

From: Hotel Zelos (12 Fourth Street, San Francisco, CA 94103)  
To: the UCSF Mission Bay Campus (1700 4<sup>th</sup> Street, San Francisco, CA 94158)

### **Lyft \$8–\$11 (15 min)**

From anywhere in San Francisco and surrounding areas. Download the Lyft app on your smart phone and set up an account. Use your phone to arrange quick car service.

This app uses your smart phone's GPS to detect your location and connect you with the closest available driver. You will receive a text message with a photograph of your background-checked driver and their car, you'll be able to track their approach, and get a text message when they arrive. Payment can be split among passengers and will be securely charged to the credit card on file. No cash will change hands.

Use the street address of 1700 4<sup>th</sup> Street, San Francisco for easiest access to Genentech Hall.

### **Lyft Vouchers**

In an effort to further help offset costs for attending BIOMOD, we are pleased to provide each team a \$50 voucher code for Lyft trips. To use this voucher you must download the Lyft app on your smart phone and set up an account. Note: if you are **new** Lyft user, you may also be eligible for other promotional credits upon setting up a new account. Visit <https://www.lyft.com/promo-coupon-code-free-rides> for details.

You may use the vouchers for any trip picking-up or dropping-off within 0.5 miles of the UCSF campus.

### **Taxi: \$14–16 (15 min)**

Use the taxi stand at the Hotel Zelos and take a taxi to UCSF. Use the street address of 1700 4th Street, San Francisco for easiest access to Genentech Hall.

## **Once at UCSF Campus – Getting to Genentech Hall**

Once you arrive on Campus from the taxi drop off area on 4<sup>th</sup> street, walk west along Campus Way, past Byers Hall, to the entrance of Genentech Hall indicated on the map. Note that Campus Way is a sidewalk path that is just north of Genentech Hall and south of "Koret Quad" (trees and grass).

Enter the building at main Genentech Hall entrance between the circular stone steps and the Byers Hall entrance. Here is a Map of UCSF Mission Bay Campus:

[https://www.dropbox.com/s/579hj3w64twg445/UCSF\\_Mission\\_Bay\\_Map.pdf?dl=0](https://www.dropbox.com/s/579hj3w64twg445/UCSF_Mission_Bay_Map.pdf?dl=0)

## **Building Security**

The Genentech Hall building at UCSF will only be accessible through the main Genentech Hall entrance. You must bring ID for security check-in, and you must wear your BIOMOD ID badge at all times while on campus.

## **Meals**

Saturday: Breakfast, morning snack, lunch, and afternoon refreshments will be provided.

Sunday: Breakfast and a **box lunch** will be available for all attendees.

If you have any food allergies that were not noted on your registration, please let us know immediately.

## **Judging**

Our aim is to maintain an open and fair process for evaluating each team's performance. Teams will be scored by judges using a point system. The judging process will have two stages: online content (worth up to **75 points**) and live presentation (worth up to **25 points**).

### **Online content scoring**

- Maximum combined score for online content is **75 points** (= 50 points for wiki + 25 points for internet video)
- Scores will be determined by a range-voting system.
- Five (5) judges will be randomly assigned to each team.
- Judges will evaluate each project according to a rubric (see below) and assign a point value in each category.
- Highest and lowest judges' total scores are excluded to remove outliers.
- Three remaining judges' scores will each weighted by 1/3 and combined to determine the total scores for each category.

### **Website (up to 50 points)**

#### **Project Idea (20 points)**

- Relevance: Has the team made a strong case that their project idea is scientifically and/or technologically interesting? **(5 points)**
- Specification: Are the project goals well-defined? (i.e. Does the team explicitly state what criteria need to be met in order to consider the project a success?) **(5 points)**
- Feasibility: Was the proposed solution feasible? (i.e. Was it reasonable to expect that the solution could be implemented by a BIOMOD team in one summer?) **(5 points)**
- Merit: Is the proposed solution a good one? Is it particularly elegant or innovative? **(5 points)**

#### **Project Documentation (20 points)**

- Clarity: Is the project description well-written and easy to understand? Does it include the background and motivation of the project, methods, results, and discussion? Are the figures easy to understand? **(10 points)**
- Transparency: Are all of the raw experimental data and source files easily accessible? Would it be straightforward to attempt to reproduce the team's results? **(5 points)**
- Layout: Is the team's project page arranged in a clear and logical fashion? **(5 points)**

### **Project Execution (10 points)**

- Execution: Did the team accomplish what they set out to do? **(10 points)**

### **YouTube video (up to 25 points)**

- Overall impact: Was the video interesting? Did you want to watch more than once? **(10 points)**
- Clarity: Was the project described in a simple and clear manner that could be easily understood by a wide audience? **(10 points)**
- Production: Was the sound and video high quality? Were the images focused and scaled properly? **(5 points)**

### **Presentation scoring (up to 25 points)**

- Content: Were the slides clear and easy to understand? Did the project narrative have a logical flow, with clearly stated goals and results? **(10 points)**
- Delivery: Did the speaker(s) give a well-rehearsed, well-paced presentation? Did the speaker(s) engage with the audience and maintain good eye contact? **(10 points)**
- Impact: Was the presentation interesting? fun? clever? memorable? **(5 points)**

### **Judges**

- Judges were selected from a pool of BIOMOD faculty mentors and outside experts.
- Mentors will not evaluate their own team.
- The 2017 BIOMOD Jamboree Judges are:

Alice Williamson	Kishio Ono
Carlos Castro	LIANG CHAO
Chenxiang Lin	Manish Gupta
Ching-Ping Tseng	Masahiro Takinoue
Christopher Snow	Patrick Yue
Ebbe Andersen	Philip Lukeman
Edward Chern	Philip Tinnefeld
Francesco Ricci	Robert Wang
Grisel Fierros Romero	Saba Nojoumi
Hans-Georg Braun	Satoshi Murata
Henry Hess	Shelley Wickham
Huang Chao	Shinichiro Nomura
Jeng-Shiung Jan	Shizhen Wang
Jorgen Kjems	Shogo Hamada
Joseph Schaeffer	Shuwen Guan
Kalaumari Mayoral Peña	Szecheng J. Lo
Kei Fujiwara	Takashi Nakakuki
Keisuke Morishima	Yonggang Ke
Ken Komiya	Yu-Fon Chen

## Award Categories

The following prizes will be awarded:

### Top Prizes

- Grand prize = 1st highest total combined points from wiki + video + presentation
- 1st runner up = 2nd highest total combined points from wiki + video + presentation
- 2nd runner up = 3rd highest total combined points from wiki + video + presentation

### Category awards

- Best Website = 1st place, 2nd place, 3rd place
- Best YouTube Video = 1st place, 2nd place, 3rd place
- Best Presentation = 1st place, 2nd place, 3rd place
- Audience Favorite = 1st place, 2nd place, 3rd place

### Project awards

- Bronze: Team satisfied all minimum requirements for judging (i.e. Submitted a complete Project wiki and uploaded a YouTube video)
- Silver: Satisfied criteria for Bronze, plus at least one device (part of the system) in the team's design is worked as expected.
- Gold: Satisfied criteria for Silver, and overall point score from Wiki + YouTube + Jamboree presentation are in top 50% of all teams.

### Special Awards

- The 7th Annual Molecular Robotics Award (by MOLBOT, Japan)
- Audience Choice Award – Best Project
- Best Team T-shirt Award
- Best Use of Game Engine

## Survey

We are interested in your feedback for how to improve BIOMOD, especially from students.

Please fill out our survey here: <http://bit.ly/biomod17survey>

## San Francisco - Places to Eat

### Downtown (near the Hotel Zelos)

[Blue Bottle Coffee](#) – (66 Mint Plaza, between Jessie and Mission Street). Trendy cafe chain offering upscale coffee drinks & pastries. Hours are 6:30 AM to 7:30 PM, daily.

[Westfield Center](#) – (865 Market Street). This large, upscale shopping center offers many international dining options in the lower level food court, including Thai, Japanese, Chinese, Mexican, Korean, Italian and American fare. Hours are 10 AM to 8:30 PM Monday – Saturday; 10 AM to 7 PM on Sundays.

[Metreon](#) – (135 Fourth Street @ Mission Street). Large shopping center with many restaurant and entertainment options, including Mexican, Burgers, Filipino, Thai, Vietnamese, Italian, as well as ice cream, dessert and coffee shops. Hours are 10:30 AM to 9:30 PM daily.

[Mel's Drive-In](#) – (801 Mission Street @ 4<sup>th</sup> Street). Old-fashioned, 50s style American diner food served in a retro drive-in setting featuring at-table jukeboxes. Hours are 6 AM to 12 AM daily.

### Potrero Hill (10–15 min walk from UCSF)

[Sunflower](#) (288 Connecticut Street at 18th) — Excellent Vietnamese food \$8–12.

[Pera](#) (1457 18th St) – Mediterranean tapas, good food. \$15–25.

[Live Sushi](#) (2001 17th Street at Kansas) — Sushi \$11–30.

### Dogpatch (10–15 min walk from UCSF)

[Serpentine](#) (2495 3rd Street) — New American. Good burgers. \$12–30.

[Moshi Moshi](#) (2092 3rd Street, near the corner of 18th) — Sushi/Japanese. Standard American Japanese restaurant fare. \$15–20.

### Mission (10 min taxi or Lyft from UCSF, or BART from downtown @ 16<sup>th</sup> and 24th Street)

[Taqueria Vallarta](#) (3033 24th Street, near Harrison) — Excellent street tacos. \$5–10.

[Taquerias El Farolito](#) (2779 Mission Street @ 24th) — Great burritos. \$8–12.

[Limón Rotisserie](#) (1001 South Van Ness or 524 Valencia) — Amazing Peruvian food. \$12–20.

[Yamo](#) (3406 18th Street @ Mission) — Burmese food. Hole in the wall, usually a line. \$8–10.

[Namu Gaji](#) (499 Dolores Street @ 18th) — Korean fusion. Next to Bi-Rite Ice Cream! \$14–20.

[La Taqueria](#) (2889 Mission Street, near 25th) – “[Best Burrito in America](#)” Great tacos; Crowded. \$10–15.

...MANY other great options on Mission Street, Valencia Street, and 24th Street.

## Organizer Contact Info

Rebecca Wheeler

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Shawn Douglas

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**2017 BIOMOD Sponsors**



# BIOMOD

nanoscale design competition  
for college students



Over 1200 students, mentors, and judges have participated since 2011.

## BIOMOD History

The BIOMOD competition was begun at Harvard University by the Wyss Institute for Biologically Inspired Engineering, which conducted the competition during the years 2011 to 2015. The mission of the competition was to inspire a generation of students to learn to engineer biomolecules at the nanometer scale. In 2016, BIOMOD Foundation assumed management of the competition.

From 2011–2015, the lead events coordinator at the Wyss Institute was Jermaine Reid, who was instrumental in making BIOMOD a success. Jermaine worked closely with Mary Tolikas (Director of Operations), along with Alison Reggio, Mary Wozniak, and Caitlin Wells.

The BIOMOD website and Competition Management Software were originally developed by Kristian St.Gabriel and Byron Hinebaugh.

The BIOMOD Foundation is currently run by its board of directors: Shawn Douglas (UCSF), Paul Rothenmund (Caltech), Kevan Shokat (UCSF), Mary Tolikas (Wyss Institute), and Satoshi Murata (Tohoku University), and supported by Rebecca Wheeler (lead organizer), Robert Pierce (legal), and Rachel Dulay (accounting).

This year, 2017, marks the second time that BIOMOD will be hosted in California.