2015 UBC BIOMOD Team
Detailed Information

Our undergraduate team is looking for graduate students and postdocs to aid in identifying the practicality, goals, and specific design of a project that aims to join ideas with biological significance (e.g. drug delivery, therapeutics) with DNA nanotechnologies.

Deliverables:
The undergraduate team will work towards fulfilling the following project deliverables…
-12 minute presentation at the competition
-Approx. 3 minute Youtube video summary
-A Wiki page documenting project goals, data, and results

Timeline:
All teams are represented by a group of 8 undergraduates to meet October 31 – November 1 at the jamboree hosted at Harvard.

To fulfill the goal of collecting data and results, the team acts throughout May – October to discuss progress, ideas, and conduct and design any necessary experiments.

Examples of BIOMOD Content:
Some previous competition entries are good examples in showcasing the material that BIOMOD projects commonly pursue. We can expect that our project will explore similar concepts, but of course may not use the exact materials.

Such include projects where…

-Lock and Key constructs using DNA origami boxes and aptamer keys assist vesicle fusion via tethering (http://openwetware.org/wiki/Biomod/2012/TU_Dresden/Nanosaurs)
-DNA Origami is used to construct complex sensors for viral pathogens. (http://openwetware.org/wiki/Biomod/2014/VCCRI)
-DNA Self-Assembling properties assist in guiding the assembly of nanoparticles into structures with excellent optical properties (http://openwetware.org/wiki/Biomod/2013/LMU)

UBC Team:
The team is split into two subgroups, namely wet lab and dry lab. The wet lab portion involves collecting data from experiments, while the dry lab involves modelling and experimental design. We are looking for support from graduate students and postdocs in both these areas.

We have a preliminary topic but we are looking for more academic support to evaluate our targeted problems and applications, wetlab design, and the possibility of unforeseen difficulties before committing to it.