Genomics and Careers – Schedule

Northeastern University
Marine Science Center

Day 1

9 - 9:30 am ***Welcome and Introductions***

9:30 - 9:40 am ***What is Genomics? DNA? (Katie)***

9:40-10am ***Icefish presentation (Carmen)***

- Film (13 minutes)
- Discussion about how warming will affect icefish

10 - 10:20 am ***Sea Level Rise (Banafsheh)***

10:20 - 10:40 ***Break***

10:40 - 11 am ***Ocean Acidification (Louise and Elise)***

- Presentation
- 3 minute video Illustrates 2 issues:
  - Will be harder for organisms to make their shells, because the ions they need are in short supply
  - Will make oceans more acidic, which will dissolve shells
  - Another good video

11 - 11:15 am ***Summary and Ocean Optimism (Katie)***

- #OceanOptimism
  - http://www.oceanoptimism.org/
  - Reasons to be cheerful

11:15 - 12:30 ***Tour (David Dawson, Annie at the Ocean Genome Legacy)***

12:30 pm ***Lunch and Team Challenge***

1:30 - 2 pm ***Pipette Activities - Doing Molecular Work (Banafsheh and Brett)***

- Introduction to Micropipetting

2 - 2:45pm ***23 and Me, Personal Genomics and medicine (Jo-Anne)***

- FDA ruling
- Huffington Post Article
- Technology Review Article

2:45 - 3 pm ***Break***

3 - 3:30 pm ***DNA extraction (Jo-Anne)***

3:45 - 4 pm ***Careers and woman (Banafsheh)***

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Day 2

9 - 9:45am ***Icebreakers: who are these women? What does it take to be a strong woman in science?***

9:45-10am ***Review Genotype and Phenotype (Katie)***

10 - 10:45am ***Crabby Activity (Jo-Anne)***

- Measuring shell thickness to green crab predators using calipers
- Collaborative data entry into a data frame in Excel and how to summarize with a pivot table

10:45 - 11 am ***Break***

11:00 - 12:00 ***Evolutionary Processes Simulation Activity, Modeling activity to environmental change (Sara)***

- Watch this, what do you see happening?

12:00 - 1:00 pm ***Lunch and panel with scientists***

- Carmen, Elise, Louise, Sara, Torrie

1:00 - 3:00 pm ***Activity Stations***

- Banafsheh- paper DNA or gene insertion
- OGL - fish barcoding activity and maybe something else
- Sara - fish/cod morphometrics
- Jo-Anne GMO station
- Louise and Elise - OA station - building blocks
- Katie - Oyster dissection
- Rest station

3 - 3:30 pm ***Practical professional skills – TONS of resources saved on your flash drive***

- Different degrees and what they mean
- What classes to take to build skills to work in genomics
- Activity - Pick a university
  - Go to the website
  - How do you find a major? How do you begin to search?
- Applying to college
  - US News and World Report
  - Times Higher Ed
- Scholarships you can apply for
  - https://www.scholarships.com/financial-aid/college-scholarships/scholarships-by-type/first-in-family-scholarships/
  - http://www.aypf.org/resources/first-in-my-family-supporting-first-generation-college-students/
- How financial aid works
- Girls Inc college readiness mentors – anyone can drop into Girls Inc. for help!
- Careers in marine science
  - http://www2.vims.edu/bridge/search/bridge1output_menu.cfm?q=career
  - https://www.marinecareers.net
  - http://ocean.peterbrueggeman.com/career.html
  - https://swfsc.noaa.gov/textblock.aspx?id=54
  - https://marine-conservation.org/who-we-are/jobs/career-resources/

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- http://www.whoi.edu/main/marine-careers

3:30-4 pm ***Reflection, post workshop survey, and closing remarks (Katie and Val)***