**KCC FIG – Undergraduate Research as a High Impact Practice**

**Minutes of the Meeting of Wed, 4/7/2021, 12:40pm via Zoom**

Present: Grace Axler-DiPerte (BIO), Christina Colon (BIO), Craig Hinkley (BIO), Mary Ortiz (BIO),

Jennifer Porcheddu (BIO, College Now)

Meeting began at 12:40pm.

1. Mary welcomed everyone and thanked them for coming.
2. Mary shared several students used the research experience they had last semester to apply for and get summer 2021 research internships. We discussed how important these in class research experiences are for the students.
3. There was discussion about how students often do not understand directions/instructions. Communication can be an issue.
4. Mary shared the computer research project her Biostatistics students are engaged in this semester using our BOP data. Instead of having the students do two independent computer labs, she gave them a semester-long computer research project using the BOP data we have in the Bio Dept. The project includes creating a hypothesis, getting references, descriptive statistics, inferential statistics, discussion, and conclusion. Discussion followed. Mary will post/share the two original computer labs and the computer research project.
5. Christina shared her work with students with Citizen Science. Students use Zooverse to get 100 photos of organisms. Here is the Citizen Science Zooniverse project. I just think it’s awesome that students can spy on nature thousands of miles away.

<https://www.zooniverse.org/projects/zooniverse/snapshot-serengeti/classify>

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|  | www.zooniverse.org  The Zooniverse is the world’s largest and most popular platform for people-powered research. |

1. We discussed asking students, “What do you think you are going to get?”, when doing research. Often students ask what they should get, and we must explain that this is research and we do not know what the results will be. That’s why it is research. It has never been done before.
2. Grace shared her work with Winogradsky columns with her General Microbiology class. We do not know how the column will turn out each time we do it. She shared plans for a Biofuel Project with her General Microbiology class, involving creativity, conciseness, simple language.
3. We discussed how we need to be clear on what we want the students to do. Even when we think we are, there may still be confusion among the students understanding.
4. Christina gives her students PPT slides for how to use Excel with data.
5. Craig shared using the Oyster Genome for student research experiences. You can look for different genes in animals, such as *Crassostrea virginica* (oyster). You can study sex determination in oysters. Craig said he may do something with transcription factors with his class. You can also use this to study COVID. You can compare population studies (ex. horseshoe crabs – are they different populations?) MEC is using this to look at dopamine receptors. Craig will send helpful material for using this.
6. Grace discussed iGEN. She may have students use sequence data publicly available. We discussed using bacterial and viral genomes to compare their sequences and the multiple sequence aligner. Craig mentioned Clustal web version to look at mutations. Plasmid design was also discussed.
7. Grace will use Flu View. You can track antigenic drift to study flu rate. You can also look at DNA and RNA viruses and ask the students, “Which do you think will mutate?”. Have students answer questions posed. For example, “Will RNA or DNA viruses mutate more? Why?”.
8. Mary will re-send the beginning of semester survey for this FIG (complete and return to Mary).
9. Next meeting: Wed, 4/28/2021, 12:40pm via Zoom. Log on info will be sent out. We will continue discussion/bring new ideas.

Meeting adjourned at 1:45pm.

Minutes respectfully submitted by Mary Theresa Ortiz