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

**Minutes of the Meeting of Wed, 5/12/2021, 12:30pm via Zoom**

Present: Jodie Delsol (PHYS SCI), Craig Hinkley (BIO), Mary Ortiz (BIO)

Meeting began at 12:30pm.

1. Mary welcomed everyone and thanked them for coming.
2. Mary and Craig discussed CSTEP, MACUB and ABRCMS for 2021.
	1. MACUB will probably be remote.
	2. CSTEP and ABRCMS platforms have not been decided yet.
3. Craig shared and showed us how to use the CLUSTAL OMEGA website and application.
	1. This is an easy-to-use website with a Help function.
	2. It will let you do Multiple Sequence alignment of DNA, RNA or Proteins.
	3. Craig loaded several DNA sequences using the FASTA format to compare.
	4. Each sequence entry starts with the greater than sign (>), followed by the name of the sequence, then a return, and then the sequence. The return lets the program know that the actual sequence will now start. At the end of the sequence hit another return to end the sequence.
	5. Once you submit the sequences for analysis, it takes a few minutes (depending on how long the sequences are, up to 4MB worth total) for the program to present the alignment results.
	6. In the DNA results, asterisks indicate where the sequences are the same. Spaces indicate where the sequences are different.
	7. You can use this analysis tool to study evolution trends.
	8. You can use this to compare species, generate phylogenetic trees, and see how related organisms are.
	9. You can input up to 4000 sequences.
	10. Craig showed us a sequence match for a protein. This uses a one letter code for each amino acid (ex. Y = Tyrosine). The example Craig used contained 2 oyster and 3 human sequences.
	11. Craig is using this program to look for sex determination genes in oysters. He explained a comparison between the two oyster species. He is working with students to do research using this as well.
	12. There was Q&A and discussion about CLUSTAL OMEGA.
4. Next meeting: Fall 2021. Day, date, time, platform - TBA.

Meeting adjourned at 1:20pm.

Minutes respectfully submitted by Mary Theresa Ortiz