Rutgers University - Newark
Department of Biological Sciences
Epigenetics (21:120:454)
Article Assignments & Guidelines

I. Article Assignments

We will discuss five articles this semester. These articles address current topics in the field of Epigenetics and focus on four main themes such as 1) Epigenetics of stress, 2) epigenetics of neurodegeneration, 3) epigenetics of mental health and 4) epigenetics of cancer. We will spend time explaining the main physiological concepts and the experimental approaches used in investigating the role of epigenetic mechanisms in human health and diseases.

Students are expected to read the assigned articles before coming to class and actively participate in discussions. You will not receive credit for any missed discussion session. You are also required to submit on Blackboard by the due date a copy of each paper summary. Your summary should focus on main points of the assigned article and should be 800 - 1000 words. You will then receive feedback from your instructor on how to improve the structure of your summary writing. You are required to resend a revised final version of your summary by the due date to receive credit. Refer to the **"Summary Rubric"** that I posted on Blackboard under "Assignments" to understand how you will be assessed and graded.

II. Papers Summaries

You are required to submit on Blackboard in a **docx. File** a concise summary **(first draft)** of selected articles by the due date. No late submission is allowed.

The main objectives of these assignments are to: 1) encourage you to read papers and grasp information from outside the textbook, 2) improve your critical thinking and 3) incrementally improve your written and verbal communication styles of what you learn.

Each summary should have the following five sections:

1. **Introduction:** State the essential take home message of the assigned paper and what it is all about. Do not simply restate the abstract.
2. **Key points**: Describe the main points in the paper
3. **Methods/Experiments:** Discuss the experiments or methods used to prove these points (if applicable)
4. **Strengths/Weaknesses**: Discuss the strengths and weaknesses of the paper. Indicate additional points of investigation that you think should be pursued and were not addressed in the paper
5. **Conclusion**

Write 800 - 1000 words, 11 point Ariel Font, double spaced with one inch margin. After you receive the instructor's feedback for improvement, you are required to resubmit a **revised version** of your summary on blackboard.

III. Recitations & Paper Summaries

Useful website: https://learn.genetics.utah.edu/content/epigenetics/

Paper	Reference
1	Felsenfeld, G. A brief history of epigenetics. Cold Spring Harbor perspectives in Biology. 1, 6:1 (2014). https://www.ncbi.nlm.nih.gov/pubmed/24384572
2	Environmental epigenomics and disease susceptibility. Jirtle & Skinner, 2007. https://www.ncbi.nlm.nih.gov/pubmed/17363974 **Pages 1-5, pages 7-8 and conclusion**
3	Histone methylation versus histone acetylation: new insights into epigenetic regulation. Rice & Allis. Current Opinion in Cell Biology 2001, 13:263–273. https://www.ncbi.nlm.nih.gov/pubmed/?term=Histone+methylation+versus+histone+acetylation%3A+new+insights+into+epigenetic+regulation.
4	Reversal of maternal programming of stress responses in adult offspring through methyl supplementation: altering epigenetic marking later in life. Weaver et al., 2005, J. Neuroscience, 25, 11045-11054. https://www.ncbi.nlm.nih.gov/pubmed/?term=Reversal+of+maternal+programming+of+stress+responses+in+adult+offspring+through+methyl+supplementation%3A+altering+epigenetic+marking+later+in+life
5	Epigenetic mechanisms in neurological and neurodegenerative diseases. Landgrave-Gomez et al., 2015. Frontiers in Cellular Neuroscience, 9, 1-11. https://www.ncbi.nlm.nih.gov/pubmed/25774124

Subject to changes with prior notice from the Instructor.