PCB6931:

Advances in Cancer Biology Research

(Journal Club)

CRN#: *****, Section 001, 2 Credit Hours

CAS / Molecular Biosciences

COURSE DESCRIPTION

I. University Course Description

Advances in Cancer Research – Participants will read, orally present and discuss current breaking research. They will gain experience in critically evaluating research reports and receive critique on presentation skills.

II. Course Purpose

The main purpose of the course is to learn and master critical evaluation of scientific papers – an essential part of training as a research scientist.

Paper Presentation:

Two presenters, who will coordinate the content and sequence of the presentation, will present one paper each per class. Presenting students will each choose a research paper, which should focus upon either a recent discovery that is relevant to cancer research, or a classical paper that has made a lasting contribution to the field.Research papers can be on any topic (if relevant for cancer research), can be related to the presenters' field of study, but cannot be from presenters' collaborators or from Moffitt researchers. The research papers should focus on either a **discovery that is relevant to cancer research published in the last two years or a classical landmark paper that has made a lasting contribution to the field** (e.g. CRISPR original discovery; reporting the first oncogene, reporting discovery of CAR-T cells, etc). To ensure consistency, the papers should be chosen from high impact journals (e.g. *Nature, Science, Cell, Cancer Cell, Cancer Discovery, Cancer Cell, Nature Cancer, Cell Metabolism, Nature Metabolism, Nature Medicine, Nature Cell Biology, Nature Chemical Biology, Nature Immunology, Molecular Cell, etc).* In addition to choosing the paper, presenters must choose an accompanying review paper which should also be of high quality and high impact (e.g. *Nature Reviews*, *Trends in*, *Annual Reviews*, etc). The review article will not be discussed, but will aid students in better understanding the scientific background. Presentations should include an appropriate amount of background material to set the stage for the paper to be discussed. The relevance of the paper to cancer research *must* be made clear to the audience. The presentations *can* be related to the presenter's field of study, but cannot be from their advisor's lab or from a collaborator's lab. The papers **must be approved** by Dr. Gomes at least one week before the presentation to allow time for distribution to the class. More details will be discussed at the first Organizational Meeting.

Paper discussion:

For each class, 4 students will be assigned as reviewers/challengers of the paper (2 for each paper). Their task is to formulate questions regarding the premise of the study, choice of controls, justification of methods and other issues. The role is not limited to the 4 assigned students, as every student in the class is expected to read the assigned papers, and to participate in the discussion.

III. Course Objectives

This course will provide Cancer Biology graduate students with the opportunity to read and orally present current cancer research literature. The students will learn to critically evaluate research for coherence with respect to the authors' rationale, quality of the methodology employed, justifiability of the conclusions and the place of the paper in the field. The course has the following objectives:

1. Learning and honing skills on dissecting scientific literature
2. Increasing familiarity with wide range of research topics of relevance to cancer research
3. Practicing scientific presentation skills
4. Developing and practicing scientific discussion skills

Students are enrolled in this course from their second year in the program until the scheduling of their dissertation defense the date for which must be communicated to RET office before registration for the semester is completed. Dr. Wright has the discretion to waive the class for senior students (beyond fifth year) on a case-by-case basis. First-year students must also attend if there are no other class conflicts.

IV. Student Learning Outcomes

- Acquiring the skill of dissecting scientific research papers
- Acquiring the skill of presenting, justifying and challenging research