PLHL 7080 HOST-PARASITE INTERACTION & DISEASE RESISTANCE

COURSE DESCRIPTION: Genetics, molecular biology, biochemistry and physiology of disease development and resistance in plants; mechanisms of pathogenicity, infectivity, tumorigenesis, metabolic consequences of infection, nature of disease resistance and parasitism.

OBJECTIVES:

1. Understand the concepts and value of genetic analysis of host-parasite interactions as applied to disease specificity. (See attached: Establishing ‘cause and effect’).

2. Become familiar with established model systems and understand how ideas, concepts, approaches and techniques from them may be applied in your own work.

3. Become familiar (who, what, when, where) with the literature on host-parasite interactions from a contemporary and historical perspective so that future offerings may be placed in context.

4. Be able to critically* evaluate a scientific paper as a result of leading and participating in discussions of selected literature. *(See attached: On skepticism and criticism in ornithology).

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TEXT: None, but review, research and discussion papers will be provided.

SCHEDULE: Lectures on Monday and Wednesday 8:00-9:00am LSBA 561
Discussion on Friday 10:00am-12:00 LSBA 561

COURSE OPERATION-ASSIGNMENTS: Topics for lecture and discussion generally follow the sequence in the attached outline. Papers for discussion will be distributed online or as handouts as necessary. Lectures give an introduction and perspective to each topic and serve as background for discussions. Previously designated students will orally present their evaluation of their assigned paper to the class. The student is to state the objective(s), discuss experimental methods with appropriateness or limits, describe and interpret results from the tables, figures, or text, and give an overview of the work before opening it to discussion or questions from the class. This requires that all non-presenting students also critically read and evaluate the papers.

GRADING: There are two written tests: a mid-term over the first half of the course for 40% of the grade and a final over the last half for 40% of the grade. The remaining 20% is determined by discussion leadership (10%) and discussion participation (10%).