MOLECULAR ENTOMOLOGY ENTO 8570

Fall Semester 2005

Faculty:	Mick Adang	Entomology
	Mark Brown	Entomology
	Don Champagne	Entomology
	Judy Willis	Cellular Biology

The course is designed to provide an in depth understanding of the utility and limitations of the molecular techniques that are being used to probe fundamental questions in insect biology. Each class period will have two parts – a critical discussion by the entire class of a paper handed out the preceding week and an introduction to the paper chosen for the next week.

Introductory Component: Faculty or students, working with guidance from a faculty member, will select a current paper on an important topic that has employed state-of-the art molecular techniques. The person in charge will present a lecture giving sufficient background that sets the work in perspective and explains the methodology used. At the end of the presentation the selected paper will be distributed to the class along with a set of questions to guide the reading.

Discussion Component: The following week, the same student who presented the background lecture will lead the class in an in depth discussion of the paper. Emphasis will be placed on understanding and critiquing all of the figures, and learning how the results have advanced the field, i.e. both the nitty-gritty details and the big picture. Strategies will be instituted to assure that everyone in the class participates in these discussions.

Typically each class will consist of an hour-long discussion of the selected paper, followed by a lecture introducing the next topic.

There will also be instruction and opportunities to use Websites that are relevant to the material we discuss.

One or more of the papers may coincide with topics covered by upcoming speakers during the Entomology Department seminars (Mondays at 11-12). Certainly, students are expected to attend the seminars related to Molecular Entomology (see list). We will devote some time during our weekly meeting to a discussion of each seminar.

Grading in this course will be based on the student's participation. Each student will be expected to present a background lecture, lead the discussion of a paper and participate **fully** in each discussion. It is expected that students will earn an "A" in this course. If your participation is inadequate you will be counseled and remedial work may be assigned.

The following Entomology seminars are relevant for this course:

Sept. 12 Judy Willis – Cuticular proteins
Sept. 26. Brian Federici – BT efficacy
Oct. 3. Mike Kanost – Insect immunity
Nov. 4 John Law -- Iron metabolism
Nov. 21 Daniel Promislow – Aging and protein networks (?)

FALL 2005 MOLECULAR ENTOMOLOGY COMPLETE SCHEDULE 101005 version

* These papers are now available on WebCT or have been submitted for posting.

DATE	FIRST HOUR TOPIC/LEADER	SECOND HOUR TOPIC/LEADER
8/22	INTRODUCTION TO COURSE	
8/29	Faculty introduce/Students select topics	Microarrays/ESTs: Champagne
9/7	Champagne: ***Marinotti et al. 2005 and *Ribeiro 2003**	RNAi: Champagne Sclerotization: Willis
9/12 12:20 404A Entomology Seminar Judy Willis	"Why so many cuticular proteins?"	X
9/12	Willis: ***Arakane et al. 2005**	
9/19		BT modifications: Zhang
9/26 12:20 404A Entomology Seminar Brian Federici	BT modifications	X
9/26	*Zhang: ***Park et al. 2005**	Insect Innate Immunity: Tsujimoto
10/3 12:20 404A Entomology Seminar Mike Kanost	"Innate immune responses in a lepidopteran insect, *Manduca sexta"*	X
10/3	Tsujimoto: ***Watson et al. 2005**	micro RNAs: Castillo
10/10	Castillo: ***Nakahara et al. 2005**	Pesticide resistance: Krishna
10/17 12:20 404A Entomology Seminar Fred Gould	"The Paradox of Evolutionary Diversification in Moth Sexual Communication Systems"	X
10/17	Krishna: ***Aminetzach et al. 2005**	Polydnaviruses: Thoetkiattikul
10/24 12:20 404A Entomology Seminar Matt Turnbull	"Characterization of Host and Viral Gap Junctions and Their Possible Roles"	X
10/24	Thoetkiattikul: ***Kroemer and Webb, 2005**	Sugar regulation: Kaufmann
10/31	Kaufmann: ***Lee and Park 2004**	Iron metabolism: Lucimar
11/7	**ESA no class**	**ESA no class**
11/14 12:20 404A Entomology Seminar John Law	-- iron metabolism	X
11/14	Lucimar: ***Harizanova et al.**	Learning and Memory: Lewis
11/21	Lewis: ***Ge et al. 2005**	Molecular systematics: Robertson
11/28	Robertson: ***Whiting et al. 2003**	Tsetse: Nuss
12/5	Nuss: ***Aksoy and Rio 2005**	