



ONLINE DISTANCE EDUCATION COURSE FOR PROFESSIONAL DEVELOPMENT

“Ranaviruses: Emerging Pathogens of Ectothermic Vertebrates”

Contributing Instructors: Matthew J. Gray, Ph.D. (Professor, University of Tennessee; Director, Global Ranavirus Consortium [GRC]) will coordinate instruction with >18 additional scientists in the disciplines of veterinary medicine, microbiology, ecology, and mathematics contributing to instruction.

Meeting Location: Online via Zoom (course: <https://utia.zoom.us/j/3644147137>) (download Zoom at: <https://zoom.us/support/download>).

Meeting Time: Wednesdays, 15:05 – 18:05 hrs, León, Spain
09:05 – 12:05 hrs, New York, USA

NOTE: Due to the challenges with instructing across multiple time zones, all lectures will be recorded in real time and available via an iTunes site.

Course Duration: 3 February – 20 April 2016 (twelve 3-hr meetings)

Course Goal: To increase the understanding of ranavirus-host interactions through a series of online lectures and activities led by ranavirus experts around the globe.

Expected Outcomes: Upon completion of the course, participants will have a thorough understanding of the historical and current context of ranavirus die-offs, ranavirus phylogenetics, ecology and pathology of ranaviruses, how ranaviruses replicate and evade the host immune system, diagnostic techniques used to detect ranaviruses, and how to design ranavirus studies.

Required Text: Ranaviruses: Lethal pathogens of ectothermic vertebrates
(Springer eBook: <http://link.springer.com/book/10.1007/978-3-319-13755-1>)

Journal Articles: Occasionally journal articles will be assigned instead of or to supplement the required text, and will be provided on the course website.

Academic Assessment: Two take-home exams (one week completion time) over lecture material and required readings.

Language: This course will be instructed in English, including the exams.

Enrollment:

- (1) Open to all professionals and students.
- (2) Sign-up at GRC Website = <http://www.ranavirus.org>
- (3) Course fee = \$250 for GRC members, \$300 for non-members.
- (4) Suggested continuing education (CE) hours = 45 hours (36 hours class + 9 hours out-of-class activities). If approval for CE credits is required by an organization, it is the participant's responsibility to complete all necessary CE paperwork.
- (5) A certificate of completion will be provided by the GRC. A score of $\geq 70\%$ (on 100% scale) must be earned to acknowledge successful completion.

Tentative Topics and Schedule

Month	Day	Topics ¹	Instructors ²
February	3	Introduction to Course How to Use Zoom History of Ranaviruses Current Status of Ranavirus Die-offs	Gray Gray Chinchar Duffus
	10	Ranavirus Phylogeny & Taxonomy Ranavirus Evolution Captivity Induced Evolution	Waltzek Storfer Gray
	17	CMTV Outbreaks in Europe SGIV in China CGSV in China	Price Qin TBD
	24	EHNV and BIV in Australia ATV in North America FV3 in North America	Ariel Brunner Lesbarreres
March	2	How Ranaviruses Replicate Ranavirus Immune Evasion Host Immune Responses	Jancovich Robert Grayfer
	9	Pathology in Amphibians Pathology in Reptiles Pathology in Fishes	Miller
	16	Ecology of Ranaviruses	Gray
	23		Lesbarreres Brunner
	30	Anthropogenic Stressors Amphibian Farms and Ranavirus Pathogen Pollution and Trade	Kerby Mazzoni Kolby
April	6	OPEN: Current Topics	TBD
	13	Diagnostic Techniques: qPCR, IHC, ELISA	Kerby, Waltzek, Balseiro, Allender
	20	Sampling: Design, Biosecurity, Analyses	Gray Brunner

¹Exam 1 = 3 Feb – 9 Mar material (completion time = 9 – 16 Mar); Exam 2 = 16 Mar – 20 April material (completion time = 20 – 27 April).

²Current List of Contributing Instructors

Instructor	Affiliation	Email
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