

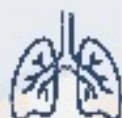


Gargaglioni's
LAB &

LaFiTI
Fisiologia Térmica Integrativa



6th International Course on Comparative Physiology of Respiration



December 9th - 15th, 2023

Venue at UNESP - Jaboticabal, SP, Brazil



Registration and abstract submission contact:

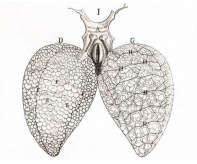
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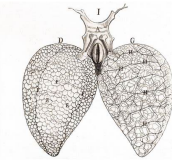


Description

This course is designed to provide a comprehensive and integrative understanding of the essential principals in comparative animal physiology of respiration. Students will be introduced to the fundamental aspects of respiratory function in several animals' models, under the light of regulatory mechanisms and evolution of different breathing modes. Most lectures will be based on current research by the professors, and the practical activities have been designed to provide inspiration for novel studies in the field of comparative respiratory physiology. This course has offering to the students a great opportunity to interact with professors and also to develop collaborative studies among different institutions. In this edition, we will have a mini symposium and poster section, thus the students could present their study for discussion.

Participants: 50 graduated students divided in 5 groups for practical classes





Executive Organizing Comitte:

Dr. Luciane H. Gargaglioni – FCAV/UNESP

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Dr. José Eduardo de Carvalho - UNIFESP (Brazil)

Dr. Wilfried Klein – USP (Brazil)

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Professors:



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William Milsom
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Colin Brauner
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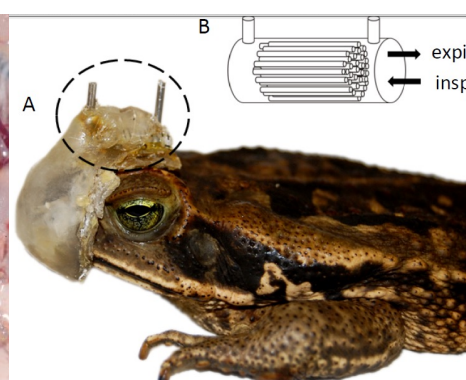
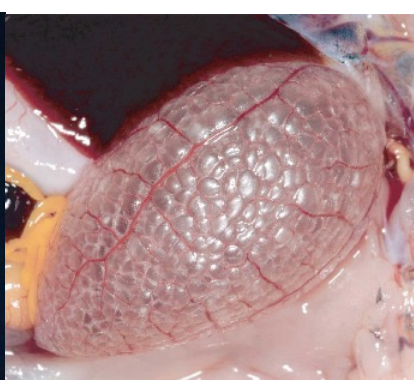


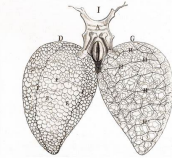
Program:

Time	Sat (12/09)	Sun (12/10)	Mon (12/11)	Tue (12/12)	Wed (12/13)	Thur (12/14)	Fri (12/15)
9-10		Symposium (talks 1-3)	Lecture 1	Lecture 4	Lecture 7	Lecture 10	Lecture 12
10-11		Symposium (talks 4-6)	Lecture 2	Lecture 5	Lecture 8	Lecture 11	Lecture 13
11-12		Symposium (talks 7-9)	Lecture 3	Lecture 6	Lecture 9		
12-13		Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
13-14		Symposium (talks 10-12)					
14-15		Symposium (talks 13)	Practicals	Practicals	Practicals	Practicals	Practicals
15-16		Poster presentation					
16-17		Poster presentation					
17-18		Poster presentation	Discussion	Discussion	Discussion	Discussion	Discussion & Closing remarks
18-19							
19-22	Opening dinner						

Lectures	Title	Speakers
Lecture 1	Metabolic rate control and measurements	Graham Scott
Lecture 2	Mitochondrial oxidative phosphorylation and cellular respiration	Marcos Tulio de Oliveira
Lecture 3	HBO ₂ curve and blood gas transport	Glauber Silva
Lecture 4	Fick equation & oxygen transport cascade	Bill Milsom
Lecture 5	Respiratory rhythm generation	Daniel Zoccal
Lecture 6	Pulmonary mechanics and mechanoreceptors	Wilfried Klein
Lecture 7	Acid-base regulation	Colin Brauner
Lecture 8	Chemoreception and reflex responses	Luciane Gargaglioni
Lecture 9	Respiratory Neuroplasticity	Erica Dale
Lecture 10	Eletrophysiology applied to respiratory control	Joseph Santin
Lecture 11	Integration between respiration and cellular metabolism	José Eduardo de Carvalho
Lecture 12	Thermoregulation and ventilation	Kenia Bicego
Lecture 13	Cardiorespiratory interactions and heart rate variability	Cleo Leite/Daniel Penteadó

Talks	Title	Speakers
Talk 1	Adaptions of deer mice to hypoxia	Graham Scott
Talk 2	Modulating developmental metabolism with the alternative oxidase	Marcos Tulio de Oliveira
Talk 3	Brain circuits related to breathing rhythm and pattern generation	Daniel Zoccal
Talk 4	Form and function relations associated with the respiratory system	Wilfried Klein
Talk 5	Control of breathing and adaptation to high altitude in the bar-headed goose	Bill Milsom
Talk 6	Breathing control and seizures in adult and neonatal rodents	Glauber Silva
Talk 7	Acid-base regulation	Colin Brauner
Talk 8	Chemoreception and reflex responses	Luciane Gargaglioni
Talk 9	Respiratory Neuroplasticity	Erica Dale
Talk 10	Eletrophysiology applied to respiratory control	Joseph Santin
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Practical Classes

5 groups for practical classes in rotation

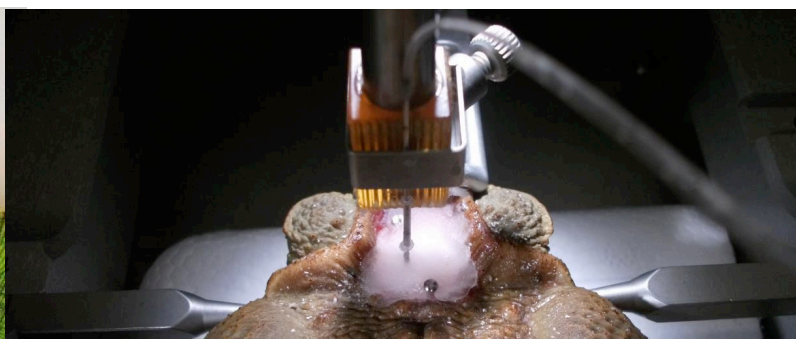
Practical 1: Measuring blood gases and acid-base status. Calibrating blood gas electrodes, proper handling of blood samples, use of iSTAT (pros and cons), Hemoscan and [Hb], Hct, MCHC, red and white cell counts

Practical 2: Pneumotachography in adult and neonate and plethysmography in ectothermic vertebrates and cardiorespiratory interactions. The practical class aims to demonstrate tools for analyzing cardiorespiratory interaction (respiratory sinus arrhythmia) and cardiocirculatory adjustments (baroreflex) in vertebrates.

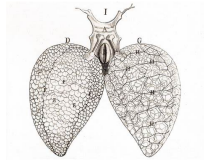
Practical 3: Measurement of metabolism (aquatic and terrestrial systems – with and without a desiccant – with and without CO₂ measurement. Calorimetry and direct versus indirect measurements (VO₂ and V_E in different temperatures and hypoxia in neonates; air convection requirement). Measurement of mitochondrial respiration.

Practical 4: Principles of electrophysiology. In vitro brain stem preparation in neonates

Practical 5: Measurement of respiratory mechanics – static mechanics, dynamic mechanics, work of breathing, mechanical versus metabolic cost of breathing in rat, turtle, frog, lizard



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ICCPR 2019 5th International Course on Comparative Physiology of Respiration



08 - 12 JULY, 2019
UNESP JABOTICABAL
SÃO PAULO, BRAZIL