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Molecular Analysis of Trophic Interactions (MATI)

University Course

29th September to 10th October 2014

Class Times	29 th September to 10 th October 2014
Credits	7,5 ECTS credits
Location	Institute of Ecology, University of Innsbruck
Course Tuition	€ 800 (including bench fee, course materials and documentation)

Scientific Chair

Assoc. Prof. Dr. Michael Traugott

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Enrolment

9th June to 1st September 2014

Division of Continuing Education

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Molecular approaches offer exciting possibilities to study trophic interactions. Within the last decade considerable progress has been made in DNA-based methodology to unravel who eats what including predator-prey, host-parasitoid and herbivore-plant interactions across ecosystems. This course provides a hands-on introduction to molecular trophic ecology and offers the opportunity to discuss how to best apply these methods to your own research project.

Qualification Profile

By completing this course module the participant will have achieved a general understanding of the concepts of DNA-based diagnostics. He/she will be able to apply and develop basic molecular assays with the focus on the analysis of trophic interactions.

Target audience

Undergraduate and graduate students as well as postdoctoral researchers who wish to apply DNA-based methods to study trophic interactions.

Coverage and duration

The MATI-University Course, including a lecture and seminar series as well as a practical lab course (Σ 7.5 ECTS-credits), runs from 29th September to 10th October 2014. The practical lab work will be conducted in groups of 3-4 people in a laboratory specifically set up for molecular diagnostics at the Institute of Ecology.



Dr. Daniela Sint

Molecular trophic ecology is the major topic in our research. Since over 10 years we develop molecular assays to investigate feeding interactions of vertebrates and invertebrates in terrestrial and aquatic systems.



Assoc. Prof. Dr. Michael Traugott

For further information visit our webpage

<http://www.uibk.ac.at/ecology/forschung/biodiversitaet.html>

or contact us via email: Daniela.Sint@uibk.ac.at or Michael.Traugott@uibk.ac.at

Lecture series	Molecular Analysis of Trophic Interactions	ECTS-credits
	The lecture series provides an overview of the state-of-the-art in molecular trophic ecology and deals with the concepts and the methodological approaches used in this research field.	1,5
Seminar series	Molecular Analysis of Trophic Interactions	
	The seminar series focuses on the application of molecular methods to analyse trophic interactions. Aside discussing published work, special emphasize is placed on the participants' projects regarding study design and optimal choice of methods.	1,5
Practical course	Molecular Analysis of Trophic Interactions	
	The practical course focuses on the application of techniques used in molecular trophic ecology. The course will cover the complete workflow (i) from the sample to the DNA sequence (extracting DNA from different dietary samples such as faeces, regurgitates and arthropods, determining DNA concentration, singleplex PCR using universal primers, electrophoresis of PCR products on agarose gels, clean-up of PCR products, preparing samples for sequencing) and (ii) from the DNA sequence to a diagnostic assay (editing, aligning and identification of sequences, primer design, PCR assay development, multiplex PCR, automatic capillary electrophoresis).	4,5
Total		7,5

Final Certificate

Certificate of the University of Innsbruck in
Molecular Analysis of Trophic Interactions (MATI)

Participants who wish to obtain the ECTS credits have to generate a protocol on the practical coursework and to pass a final exam.