

International course on
Systems Ecology & Ecosystem Theory
taught by **Professor Sven E. Jørgensen**

DATES AND PLACE: 16-19 November 2015 at the IRTA centre of Sant Carles de la Ràpita

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COURSE INSTRUCTOR:

Professor Sven E. Jørgensen is an ecologist and chemist, and Professor Emeritus on environmental chemistry at the University of Copenhagen. He is one of the founders of modern ecological modelling and has authored more than 300 scientific articles and wrote or edited more than 55 books, monographs and compilation of articles.

TEXTBOOK: Introduction to Systems Ecology (Applied Ecology and Environmental Management). Included in the registration fee. One book will be delivered to each attendant.

COURSE DESCRIPTION:

The course will present the up-to-date, consistent ecosystem theory, that is increasingly applied as the theoretical basis in ecological modeling, ecological engineering, as well as the application of ecological indicators, ecological informatics and calculations of ecological services. System ecology is today a prerequisite for the wide use of these sub-disciplines in ecological and environmental management. .

This course will provide students with a grounding in systems ecology theory and a profound understanding of both qualitative and quantitative applications of ecological considerations in environmental management. With a good knowledge to system ecology it is possible to predict of course not yet all, but many ecosystem reactions to changed impacts. Knowledge to ecological modeling and the use of the software STELLA are an advantage, but not required.

Students are encouraged to bring their own data (field, lab or bibliographical) to use and calibrate the models.

The language of the course will be English.

It is assumed students will bring their own computers.

Group Presentation:

Each student will be partnered up with three-four other students to form a group. Each group will have to deliver a 30min presentation on their selected topic. Each student is expected to take an equal turn presenting material.

Presentations will be delivered at the end (Day Four) of the course.

Daily Schedule:

Monday 16th November

9:15-11.15 The basic thermodynamic laws applied on ecosystems, Chapters 1-3

11.15-11.45 Coffee break

11:14-13.15 Growth and Development of Ecosystems, Chapter 4

13.15-14:30 Lunch

14:30-16.00 Presentation of STELLA

16:00-16:45 Coffee break and formation of the groups for the group works. Selection of the group work

16:45-17:30 Presentation of the groups and their group work selection

Tuesday 17th November

9.15-11.15 Biochemistry of ecosystems, Chapter 5 and Ecosystem Growth, Chapter 6

11.15-11.45 Coffee break

11.45-13.15 The Ecological Law of Thermodynamics, Chapter 7

13.15-14:30 Lunch

14.30 -16.00 Ecosystems are open systems, Chapter 8

16.00-18.00 Coffee break and group work

Wednesday 18th November

9:15-11.15_Hierarchy Theory and Ecosystem Diversity, Chapters 9-10

11.15-11.45 Coffee break

11.45-13.15_Ecosystems have high buffer capacity, resistance and resilience, Chapter 11 and Network Theory, Chapter 12

13.15-14.30 Lunch

14.30-18.00 Group work

Thursday 19th November

9:00-11.15 Chapters 13-15 Ecosystem Information and emergent properties, Application of systems ecology in environmental management, ecological engineering and for the assessment of ecosystem health and ecosystem services.

11.15-11.45 Coffee break

11.45-13:15 Group Work

13:15-14:30 Lunch

15.30-16.00 Coffee break

16.00-18.00 Presentation of Group work

18:00 Course wrap-up

REGISTRATION

Maximum number of participants: 25

Registration fees:

195 euros for members of AIL (Asociación Ibérica de Limnología)

295 euros for non-members

Registration fee includes attendance of the course, the software use during the course, the book "Introduction to Systems Ecology", as well as lunches and coffee breaks. Accommodation is not included.

Registration procedure:

A number of places will be reserved for members of AIL. If you want to attend please fill in the application (pre-registration) form and send it to Maria Jesús Belvis (mjesus.belvis@irta.cat) before 23th of October 2015, indicating as subject of email 'preregistration-courseSE'. You will receive a confirmation of the receipt of your pre-registration form and (provided places are available) confirmation of acceptance, after which you can quickly proceed with the payment of the registration for ensuring registration. The provisional admissions will be in strict order of receipt of application.

With the acceptance message from the organization, the bank details for making the payment will be also sent to you. Payment of the registration should be completed by 26th of October and a scanned copy of the bank transfer sent to us (mjesus.belvis@irta.cat) with email subject 'receipt-banktransfer-courseSE'. After we have received it, we will confirm your registration by email. Without payment the registration cannot be confirmed. Final admissions will be in strict order of receipt of payment until the maximum number of participants has been completed.

If you fail to attend the course after making the payment we cannot guarantee the return of the fees unless your place can be taken by another student.

TRAVEL ARRANGEMENTS

We will send directions about how to get to IRTA centre for those travelling by car.

For those arriving by train, the nearest station is 'L'Aldea-Amposta-Tortosa'. From here you can reach the town of Sant Carles de la Ràpita by HIFE bus <http://www.hife.es/es-ES> [origen: ALDEA,L'(E.FFCC:CN)]. Alternatively, you can get a taxi 689 505798, although this is much more expensive (ca 25 €).

We will organize transport between Sant Carles de la Ràpita and IRTA centre (5.5km).