

FAIRSEA SECOND ADVANCED SCHOOL ON QUANTITATIVE METHODS FOR ECOSYSTEM APPROACH TO FISHERIES APPLICATION

21st – 26th June 2021, hotel Ora, Split, Croatia

PROGRAMME:

Day 1 – Monday, 21st June 2021

9:00 - 9:30 Welcome – Opening: Prof. Leandra Vranješ Markić (vice rector for science and innovation at UNIST), Ass. prof. Maja Krželj (head of the Department of Marine Studies), Dr. Simone Libralato (coordinator of FAIRSEA project/organizer of School, OGS), Prof. Svjetlana Krstulović Šifner (organizer of School, UNIST)
Introduction to the Second Advanced School

9:30 - 13:00 Modeling in Ecospace using EwE (lecturer K. de Mutsert)

[0] Overview and introduction - explore student needs
Lecture A: Introduction to Ecopath, Ecosim, and Ecospace
10.30 -11:00 *Coffee break*
Lecture B: Introduction to Ecospace
Lecture C: Ecospace Teaser
Download EwE release version

13:00 - 14:00 *Lunch*

14:00 – 17:00 (continue) Modeling in Ecospace using EwE (lecturer K. de Mutsert)

[1] Exercise: Creating an Ecospace model
15:30–16:00 *Coffee break*
Seminar: Using Ecosystem Modeling to Evaluate Trade-offs in Coastal management: Effects of large-scale river diversions on fish and fisheries.
Look under the hood: The model behind the seminar

Day 2 – Tuesday, 22nd June 2021

9:00 - 13:00 (continue) Modeling in Ecospace using EwE (lecturer K. de Mutsert)

Lecture D: Ecospace Primer
Lecture E: The Spatial-Temporal Framework
10.30 -11:00 *Coffee break*
Download time-limited EwE Pro version
[2] Exercise: Climate change in a coastal bay

13:00-14:00 *Lunch*

14:00 – 17:00 (continue) Modeling in Ecospace using EwE (lecturer K. de Mutsert)

[3] Exercise: Evaluating a Marine Protected Area for shrimp

15:30–16:00 Coffee break

Seminar: Using coupled ecosystem modelling to evaluate effects of nutrient and hypoxia reductions on living marine resources

Look under the hood: The model behind the seminar

Day 3 – Wednesday, 23rd June 2021

Morning: visit Split - guided tour of the Diocletian Palace

13:30-14:30 Lunch

14:30-15:00 Preparing for the class with A. Punt

15:00 - 17:00 Spatial population dynamics modeling (lecturer A. Punt)

[0] Introduction and presentation

Lecture D (part 1): Estimation methods

[1] Including space in assessment models

Lecture D (part 2): Brief history of spatial models

[2] Including space in assessment models

Lecture D (part 3): Assessment and structure with examples

Day 4 – Thursday, 24th June 2021

9:00-13:00 Spatial multispecies model from data to management scenarios (lecturers S. Libralato, N. Serpetti and OGS group)

[0] Introduction and presentation

Lecture 1: Introduction of the multispecies spatial model of the Adriatic Sea

10.30 -11:00 Coffee break

Lecture 2: Fitting and validating a complex ecosystem model

[0] Sharing in 5 groups (NGOs, Fishermen, Policy makers, Scientists, Socio-economic)

[1] Exercise 1: Running and exploring the model; Running the model for the Adriatic: analyzing ecological effects of management choices

Lecture 3: Fisheries Management in the Adriatic Sea

13:00 - 14:00 *Lunch*

14:00-17:00 (continue) **Spatial multispecies model from data to management scenarios**
(lecturers **S. Libralato, N. Serpetti and OGS group**)

Lecture 4: Planning a management action: Working group exercise

[2] Exercise 2 by Working groups: define objectives and run scenario(s) of Group's policy.

15:30 – 16:00 *Coffee break*

[3] Reporting results by WGs

Day 5 – Friday 25th June 2021

09:00 – 13:00 (continue) **Spatial multispecies model from data to management scenarios**
(lecturers **S. Libralato, N. Serpetti and OGS group**)

Lecture 5: Synthesis of multiple simulations by the groups, highlighting differences

[4] Exercise 3 in groups: Reconsidering management choices

15:30 – 16:00 *Coffee break*

[5] Reporting results by WGs

Lecture 6: Considering adaptation of fisheries and multiple additive policies

13:00-14:00 *Lunch*

14:00-17:00 (continue) **Spatial multispecies model from data to management scenarios**
(lecturers **S. Libralato, N. Serpetti and OGS group**)

[6] Exercise 4 in groups: Evaluate management choices and adaptive strategies of fishermen

15:30 – 16:00 *Coffee break*

[7] Reporting results by WGs

Discussion, closure

20:00 *Social dinner* (restaurant Zora bila)

Day 6 – Saturday, 26th June 2021

Day trip on a boat/sailing vessel; cruising and visits to Brač, Hvar and Pakleni islands.