

Training School
**MODELLING LANDSCAPE INVASION BY NON-NATIVE
TREES: CHALLENGES AND APPLICATIONS**
25-29 September 2017 – Vairão, Portugal

Sponsored by :

COST Action FP1403 – NNEXT - Non-native Tree Species for
European Forests & BioDiv Doctoral Programme – CIBIO/InBIO

25th September | “Invasive Opening”

9:00-10:00 | Registration

10:00-10:15 | Welcome message (CIBIO board)

10:15-11:00 | LECTURE – Expansions by non-native tree species: patterns, processes,
and impacts (by João Honrado)

11:00-11:30 | *Coffee-Break*

11:30-12:15 | LECTURE – Theory, concepts, assumptions and principles of biodiversity
models (by Joana Vicente)

12:15–14:00 | *Lunch*

14:00–14:45 | LECTURE – Down on earth and up in the sky – applications of satellite
and UAV very-high resolution imagery for tree invasion mapping and surveying (by João
Gonçalves & Renato Henriques)

14:45–16:15 | PRACTICALS (PART I) – Aerophotogrammetry using UAV’s for remote
sensing of plant invaded sites - field session (by Renato Henriques & João Gonçalves)

16:15–16:45 | *Coffee-Break*

16:45–18:00 | PRACTICALS (PART II) – Aerophotogrammetry using UAV’s for remote
sensing of plant invaded sites - room session (by Renato Henriques & João Gonçalves)

26th September | “Models – Vol. I”

9:00–9:45 | LECTURE - Habitat Distribution Models (by Antoine Guisan)

9:45–10:30 | LECTURE – A Bayesian hierarchical modelling approach to the Species Distribution Models (by David Conesa)

10:30–11:15 | LECTURE – The Stochastic Dynamic Methodology (StDM) - Towards spatially dynamic tools for local conservation and forest planning (by João Alexandre Cabral & Mário Santos)

11:15–11:45h | *Coffee-Break*

11:45– 13:00 | PRACTICALS (PART I) – HDMs – Introduction into spatial modelling of ecological niches of alien invader trees (by Antoine Guisan & Rui Fernandes)

13:00 – 14:00 | *Lunch*

14:00–15:45 | PRACTICALS (PART II) – HDMs – Introduction into spatial modelling of ecological niches of alien invader trees (by Antoine Guisan & Rui Fernandes)

15:45 – 16:15 | *Coffee Break*

16:15 – 18:00 | 5 min poster presentation by the participants

27th September | “Models – Vol. II”

9:00-10:30 | PRACTICALS (PART I) – The Stochastic Dynamic Methodology (StDM) - StDM fundamentals and description in practice (by João Alexandre Cabral, Mário Santos & Rita Bastos)

10:30-11:00h | Coffee-Break

11:00-12:30 | PRACTICALS (PART II) – The Stochastic Dynamic Methodology (StDM) - Demonstrative StDM modelling applications on the scope of alien tree distribution (by João Alexandre Cabral, Mário Santos & Rita Bastos)

12:30 –14:00 | Lunch

14:00-14:45 | LECTURE – Multivariate statistics in R (by Ana Sofia Vaz)

14:45-16:00 | PRACTICALS (PART I) – Applying multivariate models in tree invasion ecology (by Ana Sofia Vaz & Joana Vicente)

16:00 – 16:30 | Coffee Break

16:30-18:00 | PRACTICALS (PART II) – Applying multivariate models in tree invasion ecology (by Ana Sofia Vaz & Joana Vicente)

18:15 | Welcome “Porto de Honra” and “Aperitivo”

28th September | “Models – Vol. III”

9:00–9:45 | LECTURE – Individual- and Agent Based Models (by Andreas Huth)

9:45–10:15h | *Coffee-Break*

10:15–12:15 | PRACTICALS (PART I) - Bayesian modelling – unravelling the best places for non-native tree species occurrence (by David Conesa)

12:15 –13:30 | *Lunch*

13:30–14:30 | PRACTICALS (PART II) - Bayesian modelling – unravelling the best places for non-native tree species occurrence (by David Conesa)

14:30–16:30 | PRACTICALS (PART I) – ABMs/IBMs models - Identification of dispersal paths of alien tree species and assessing the effect of management methods (by Andreas Huth)

16:30 – 17:00 | *Coffee Break*

17:00–18:00| PRACTICALS (PART II) – ABMs/IBMs models - Identification of dispersal paths of alien tree species and assessing the effect of management methods (by Andreas Huth)

19:30 | *Training school official dinner at Vila do Conde*



**Non-native Tree Species for European Forests -
Experiences, Risks and Opportunities (FP1403)**

29th September “Outside the Models”

9:00-10:30 | Fieldwork at CIBIO campus - the most widespread non-native tree species and invasion patterns in *Eucalyptus globulus* stands

10:30-11:00h | *Coffee-Break*

11:00-12:30 | Hands on - Modelling your own data. Which technique is the best?

12:30 – 14:00 | *Lunch*

14:00-16:00| Brainstorming (PART I) – Is there a need to collect and synthesize information about the use of modelling techniques to study non-native tree species? Key words to perform a revision paper, which ones are the better?

16:00 – 16:30 | *Coffee Break*

16:30-17:00 | Brainstorming (PART II) – Is there a need to collect and synthesize information about the use of modelling techniques to study non-native tree species? Conceptual approach and next steps.

17:00-17:30 | Training school evaluation and closing session