

International Summer School
“Tree Rings, Climate, Natural Resources, and Human Interaction”
25 July-06 August 2022, Kastamonu University, Kastamonu, Turkey

24 July: Arrival day

19:00 Icebreaker

Monday 25 July: Lectures and Laboratory

8:00 Breakfast

9:00 Welcome statement: Dean of Forestry and instructors: ¹Ö. KÜÇÜK, ¹R. TOUCHAN, ¹D. MEKO

10:00 Lect. 1: Overview of the forest in Turkey (¹F. SİVRİKAYA)

11:15 Coffee break

11:45 Lect. 2: Scientific basis of dendrochronology: dating: What is it? How is it done? (R. TOUCHAN)

13:00 Lunch

14:00 Lab 1: Exercise

18:00 Dinner

Tuesday 26 July: Field trip

8:00 Breakfast

9:00 Leave for the field

Lect. 3 (in field): Site and tree selection, sampling strategies, and field techniques (R. TOUCHAN)

Lab 2: Field collections: site 1

18:00 Dinner

Wednesday 27 July: Lectures and Laboratory

8:00 Breakfast

9:00 Lect. 4: History of dendrochronology in USA (R. TOUCHAN)

10:15 Coffee break

10:30 Lect. 5: Cambium activity and annual ring formation (²S. ÖZDEN KELEŞ)
Climate change and its impacts on forestry (¹R. S. PACALDO)

12:00 Lunch

14:00 Lab 3: Sample preparation

17:00 General discussion

17:30 Before dinner talk by one of the participants (30 min)

18:00 Dinner

Thursday 28 July: Lectures and sample preparation

8:00 Breakfast

9:00 Lect. 6: What can we measure? – State of tree ring (total width, earlywood width, latewood width, cell sizes, density, isotopes, other chemistry), trauma (scars, anomalous anatomy such as frost rings, light rings, white rings, etc.) (R. TOUCHAN)

10:15 Coffee break

10:30 Lect. 7: Overview of dendroecology (R. TOUCHAN)

13:00 Lunch

14:00 Lab 4: Sample preparation continued

17:00 General discussion

17:30 Before dinner talk by one of the participants (30 min)

18:00 Dinner

Friday 29 July: Lectures and Laboratory

- 8:00** Breakfast
- 9:00** Lect. 8: Resources for dendrochronology and how to access data from the ITRDB
(**R. TOUCHAN**)
- 10:15** Coffee break
- 10:30** Lect. 9: Introduction to dendrohydrology (**D. MEKO**)
- 13:00** Lunch
- 14:00** Lab 5: Continue sample preparation and dating of the prepared samples
- 17:00** General discussion
- 17:30** Before dinner talk by one of the participants (30 min)
- 18:00** Dinner

Saturday 30 July: Lectures and Laboratory

- 8:00** Breakfast
- 9:00** Lect. 10: COFECHA (**R TOUCHAN**)
- 10:15** Coffee break
- 10:30** Lect. 11: xDateR (**D. MEKO**)
- 13:00** Lunch
- 14:00** Lab 6: Continue dating and measuring the samples
- 17:00** General discussion
- 17:30** Before dinner talk by one of the participants (30 min)
- 18:00** Dinner

Sunday 31 July: Excursion

- 09:00** Breakfast
- 10:00** Valla Canyon and Ilca Waterfall

Monday 01 August: Lectures, Laboratory, and Excursion

- 8:00** Breakfast
- 9:00** Lect. 12: Introduction to standardization and time series properties (**D. MEKO & R. TOUCHAN**)
- 10:15** Coffee break
- 10:30** Lect. 13: Introduction to ARSTAN (**R. TOUCHAN & D. MEKO**)
- 13:00** Lunch
- 14:00** Lab 7: Continue measuring the samples
- 17:00** General discussion
- 17:30** Before dinner talk by one of the participants (30 min)
- 18:00** Dinner

Tuesday 02 August: Lectures and Laboratory

- 8:00** Breakfast
- 9:00** Lect. 14: Introduction to dendroclimatology (**R. TOUCHAN**)
- 10:15** Coffee break
- 10:30** Lect. 15: Signal identification with Seascorr (**D. MEKO & R. TOUCHAN**)
- 13:00** Lunch
- 14:00** Lab 8: Introduction to Minitab and micro-project; finish measuring samples and run COFECHA on dated samples
- 17:00** General discussion
- 17:30** Before dinner talk by one of the participants (30 min)
- 18:00** Dinner

Wednesday 03 August: Lectures and Laboratory

- 8:00** Breakfast

9:00 Lect. 16: Watershed Management within the Scope of Climate Change (**Assoc. Dr. Miraç AYDIN**)
10:15 Coffee break
10:30 Lect. 17: Ecological Modelling in Wildlife (³ **Ö. EVCİN**)
13:00 Lunch
14:00 Lab 9: Start micro-project
17:00 General discussion ⁱ
17:30 Before dinner talk by one of the participants (30 min)
18:00 Dinner

Thursday 04 August: Lectures and Laboratory

8:00 Breakfast
9:00 Lect. 18: Reconstruction modelling – basic ideas (**D. MEKO & R. TOUCHAN**)
10:15 Coffee break
10:30 Lect. 19: Reconstruction of Ob River, Russia discharge from ring width of floodplain trees (**D. MEKO**)
13:00 Lunch
14:00 Continue micro-project
17:00 General discussion
17:30 Before dinner talk by one of the participants (30 min)
18:00 Dinner

Friday 05 August: Case study and micro-project

8:00 Breakfast
9:00 Lect. 20: Role of dendrohydrology in collaborative planning for water sustainability (**R. TOUCHAN**)
10:15 Coffee break
10:30 Continue micro-project
13:00 Lunch
14:00 Continue micro-project; preparation of presentations
17:00 General discussion
17:30 Before dinner talk by one of the participants (30 min)
18:00 Dinner

Saturday 06 August: Final presentations

8:00 Breakfast
9:00 Finalize presentations on micro-project (e.g., trial runs)
13:00 Lunch
14:00 Presentations on micro-project
16:00 Course evaluation and wind-up
17:00 End of course (ceremony, party)

Sunday, August 07 Departure day

8:00 Breakfast

¹ Professor Dr. ² Associate Professor Dr. ³ Assistant Professor Dr.