

International Summer School
Tree Rings, Climate, Natural Resources and Human Interaction
10 Jun - 25 Jun 2014, Kahramanmaraş, Turkey

Week 1: (10-15 June): Lectures, Field Trip, and Laboratory Sessions

Tuesday 10 June

- 8:00** Breakfast
9:00 Welcome statement and introduction about the course and organization meeting (**Host, R. Touchan, and D. Meko**)
10:00 **Lect. 1** History of dendrochronology (**R. Touchan**)
11:30-11:45 Tea Break
11:45 **Lect. 2** Xylem and how it is formed (**R. Touchan**)
12:30 Lunch
14:00 **Lab 1.** Dating exercise
19:00 Dinner

Wednesday 11 June: Field trip

- 6:00** Leaving to the field
8:00 **Lect. 3** in the field about site and tree selection, sampling strategies, and field techniques (**R. Touchan and D. Meko**)
9:30 Field collections (Remainder of the day)

Thursday 12 June: Lectures and sample preparation

- 8:00** Breakfast
9:00 **Lect. 4** Scientific Basis of Dendrochronology (**R. Touchan**)
10:30-10:45 Tea Break
10:45 **Lect. 5** Introduction to Cross-dating and skeleton plots (**R. Touchan**)
11:30-11:45 Tea Break
11:45 **Lect. 6** Dating – What it is and how it is done (**R. Touchan**)
12:30 Lunch
14:00 **Lab 2.** Sample preparation
18:00 General discussion
18:30 Before dinner talk by one of the participants (30 min)
19:00 Dinner

Friday 13: Lectures and Laboratory

- 8:00** Breakfast
9:00 **Lect. 7** 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**)
9:45-10:00 Tea Break
10:00 **Lect. 8** Introduction to Dendroecology (**R. Touchan**)
11:30 Continue sample preparation and dating the prepared samples
12:30 Lunch
14:00 **Lab 3.** Continue sample preparation and dating the prepared samples
18:00 General discussion

18:30 Before dinner talk by one of the participants (30 min)

19:00 Dinner

Saturday 14: Lectures and Laboratory

8:00 Breakfast

9:00 **Lect. 9** COFECHA (Exercise 1) (**R. Touchan**)

10:30-10:45 Tea Break

10:45 **Lect. 10** Lockdown (**D. Meko**)

11:30 **Lab 4.** Continue dating and measuring the samples

12:30 Lunch

14:00 **Lab 5.** Continue dating and measuring the samples

18:00 General discussion

18:30 Before dinner talk by one of the participants (30 min)

19:00 Dinner

Sunday 15 June: Free Day

Week 2: (16-22 June): Lectures, laboratory, Case Studies

Monday 16 June: Lectures and Laboratory

8:00 Breakfast

9:00 **Lect. 11** Introduction to standardization and time-series properties (**D. Meko**)

10:30-10:45 Tea Break

10:45 **Lab 6.** Continue measuring the samples

12:30 Lunch

14:00 **Lab 7.** Continue measuring the samples

18:00 General discussion

18:30 Before dinner talk by one of the participants (30 min)

19:00 Excursion to Abakan city

Tuesday 17 June: Lectures and Laboratory

8:00 Breakfast

9:00 **Lect. 12** Introduction to ARSTAN (**R. Touchan**)

10:30-10:45 Tea Break

10:45 **Lab. 8.** Introduction to Minitab and micro-project and continue measuring

12:30 Lunch

14:00 **Lab 9.** Finish measuring and COFECHA on the dated samples

18:00 General discussion

18:30 Before dinner talk by one of the participants (30 min)

19:00 Dinner

Wednesday 18 June: Lectures and Laboratory

8:00 Breakfast

9:00 **Lect. 13** Introduction to dendroclimatology (**R. Touchan**)

09:45-10:00 Tea Break

10:00 **Lect. 14** Introduction to dendrohydrology (**D. Meko**)

11:30-11:45 Tea Break

11:45 **Lab 10.** ARSTAN (Exercise 1)

12:30 Lunch

14:00 **Lab 11** Continue micro-project
18:00 General discussion
18:30 Before dinner talk by one of the participants (30 min)
19:00 Dinner

Thursday 19 June : Lectures and Laboratory

8:00 Breakfast
9:00 **Lect. 15** Signal identification: Response functions (**D. Meko**)
10:30-10:45 Tea Break
10:45 **Lect. 16** Transfer functions – basic ideas (**D. Meko**)
11:30 **Lab 12.** Continue micro-project
12:30 Lunch
14:00 **Lab 13.** Continue micro-project
18:00 General discussion
18:30 Before dinner talk by one of the participants (30 min)
19:00 Dinner

Friday 20 June: Case study and micro-project

8:00 Breakfast
9:00 **Lect. 17** Case Study-Streamflow reconstruction of the Colorado River (**D. Meko**)
10:30-10:45 Tea Break
10:45 **Lab 14.** Continue micro-project
12:30 Lunch
14:00 **Lab 15.** Continue micro-project
18:00 General discussion
18:30 Before dinner talk by one of the participants (30 min)
19:00 Dinner

Saturday 21 June: Case study and micro-project

8:00 Breakfast
9:00 Role of Dendrohydrology and Large-Drought Variations and Periodicity of Drought in Collaborative Planning for Water Sustainability in the Middle East, the Mediterranean, and North Africa (**R. Touchan**)
10:30-10:45 Tea Break
10:45 **Lab 16.** Continue micro-project
12:30 Lunch
14:00 **Lab 17.** Continue micro-project
18:00 General discussion
18:30 Before dinner talk by one of the participants (30 min)
19:00 Dinner

Sunday 22 June: Free Day

Monday 23 June: Case study and micro-project

8:00 Breakfast
9:00 Preparation of participant presentations
12:30 Lunch
14:00-18:00 Continue preparation of participant presentations

19:00 Dinner

Monday 24 June:

10:00 Participant presentations

12:00 Course evaluation and wind-up

14:00 End of course

Wednesday June 25 Departure day