

Program Autumn School October 11 – October 15, 2021 in Freising

Start	End	Monday 11.10.2021	Tuesday 12.10.2021	Wednesday 13.10.2021	Thursday 14.10.2021	Friday 15.10.2021
08:30	09:00	Introduction, Overview & Course objectives (Matthias Drösler/Tim Eickenscheidt)	Lecture: Need for standardizing CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O gas flux measurements (Gerald Jurasinski)	Lecture: NEE, R <sub>ECCO</sub> Flux rate calculation; Introduction and methodology (Gerald Jurasinski)	Lecture: CH <sub>4</sub> , N <sub>2</sub> O Flux rate calculation; Introduction and methodology (Roland Fuss)	Lecture: Introduction to spatial and temporal statistic of environmental data (Roland Fuss)
09:00	09:30					
09:30	10:00	Introduction of participants	Coffee Break			Lecture: From t.test to GAMM's: Models and statistical inference (Roland Fuss)
10:00	10:30	Coffee Break	Excursion & Exercise: Study Site Freisinger Moos - Autochamber, manual chamber based measurement of NEE, Reco, N <sub>2</sub> O & CH <sub>4</sub> ; Ultra-Portable Greenhouse Gas Analyzer (Picarro, Gaset, Los Gatos Research, LI-COR Biosciences, GASERA) (Tim Eickenscheidt, Lars Kutzbach, Caroline Buchen)	Coffee Break	Coffee Break	Coffee Break
10:30	11:00	Lecture: Processes and control of CO <sub>2</sub> fluxes (Arne Poyda)		Excercise: Hands-on NEE & R <sub>ECCO</sub> flux rate calculation (Gerald Jurasinski)	Excercise: Hands-on CH <sub>4</sub> , N <sub>2</sub> O flux rate calculation (Roland Fuss, Caoline Buchen)	Continuation: From t.test to GAMM's: Models and statistical inference (Roland Fuss)
11:00	11:30					
11:30	12:00	Lecture: Processes and control of CH <sub>4</sub> fluxes (Christian Knoblauch)	Lunch box	Lunch	Lunch	Wrap-up session
12:00	12:30					
12:30	13:00	Lunch				Lunch
13:00	13:30	Lunch	Excursion & Exercise: Study Site Freisinger Moos - Autochamber, manual chamber based measurement of NEE, Reco, N <sub>2</sub> O & CH <sub>4</sub> ; Ultra-Portable Greenhouse Gas Analyzer (Picarro, Gaset, Los Gatos Research, LI-COR Biosciences, GASERA) (Tim Eickenscheidt, Lars Kutzbach, Caroline Buchen)	Lunch	Lunch	Lunch
13:30	14:00	Lecture: Processes and control of N <sub>2</sub> O fluxes (Ralf Kiese)		Lecture: Methods for data-gap filling (CO <sub>2</sub> ) (Lars Kutzbach/Tim Eickenscheidt)	Lecture: Methods for data-gap filling (CH <sub>4</sub> & N <sub>2</sub> O) (Ralf Kiese)	
14:00	14:30					
14:30	15:00	Lecture: Introduction into methods for quantification of land-atmosphere GHG fluxes (Lars Kutzbach)	Coffee Break	Coffee Break		
15:00	15:30					
15:30	16:00	Coffee Break	Coffee Break			
16:00	16:30	Continuation: Introduction into methods for quantification of land-atmosphere GHG fluxes (Lars Kutzbach)	Lecture: Required ancillary data, data handling & preparation (Gerald Jurasinski)	Excercise: Hands-on gap filling (CO <sub>2</sub> ) (Lars Kutzbach, Tim Eickenscheidt, Gerald Jurasinski)	Excercise: Hands-on gap filling (CH <sub>4</sub> & N <sub>2</sub> O) (Ralf Kiese, Roland Fuss, Caroline Buchen)	
16:30	17:00	Poster, drinks & fingerfood	Excercise: Introduction into R and data preparation (Gerald Jurasinski)			
17:00	17:30					
17:30	18:00					
18:00	....				Joint dinner	