

# Time schedule for annual DECIDE workshop 2022

Day	Hours	Program	Lecturer
	10-10:30	Welcome and introduction of participants	ARK
Monday 26th of September	10:30-12	Course introduction: - Principles of data filtering - Overview of state space models (Dynamic vs static; Univariate vs multivariate; DLM vs DGLM) DLM, basic concepts First order univariate DLMS Transformation of non-normal data	ARK
	12-13	Lunch break	
	13-15	Implementing a first order univariate DLM on own data or on example data	DBJ ARK LVdK
	15-16:30	Estimation of variance components: - EM algorithm - Linear model with repeated measurements - Minimization of forecast errors	ARK
	9-10	Linear algebra, brush up	LVdK
Tuesday 27th of September	10-12	Univariate DLM with linear trend	DBJ
	12-13	Lunch break	
	13-14	Forecasting and forecast errors	ARK
	14-16	Work with own data - Implementing DLM with linear trend - Estimating variance components in model with linear trend - Forecasting	DBJ ARK LVdK
	16-16:30	Questions in plenum	All
Wednesday 28th of September	10-12	Modeling seasonal or diurnal patterns: - One parameter per "season" - Harmonic waves	DBJ
	12-13	Lunch break	
	13-16:00	Work with own data - Defining matrices - Implementation in R - Estimation of variance components - Forecasting	DBJ ARK LVdK
	16:00-16:30	Questions in plenum	All
	Thursday 29th of September	10-12	Multivariate DLMS - First order - Linear trend - Non-linear trends - Correlation structures
12-13		Lunch break	
13-16:00		Work with own data - Defining matrices - Implementation in R - Estimation of variance components - Forecasting	DBJ LVdK
16:00-16:30		Questions in plenum	All
Friday 30th of September		9-10:30	Early warning systems based on DLMS: - Analysis of forecast errors: - Rules of thumb - Shewhart control charts - Cusums (tabular and V-mask)
	10:30-12	Work with own data	DBJ ARK LVdK
	12-13	Lunch break	
	13-14:30	Presentation of use cases	All
	14:30-15	Evaluation	All