

Time:	Wednesdays 9:15-13:00 (whole semester)
Place:	Schweizerisches Tropeninstitut, Socinstrasse 57, Basel
Lecturers:	Prof. Tom Smith (TS), PD Dr Penelope Vounatsou (PV)
Facilitators:	Ms Laura Gosoni (LG)

Rooms (STI): LR1 = Lernraum 1; Comp = Computer room; Sem2 = Seminarraum 3 <sup>rd</sup> floor; Sem1 = Seminarraum 1(ground floor); LR2 = Lernraum 2
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Date	Format	Subject	Faculty	Content	Room
5 Apr	Session 1	Approaches to statistical inferences  The basics of Bayesian statistical modelling	PV	Bayesian vs frequentist based inference  Posterior, prior distributions Posterior inference-basics I	Sem2/ Comp
12 Apr	Session 2	Regression models I	PV	Continuous outcomes.  Posterior inference-basics II	Sem2/ Comp
19 Apr	Session 3	Regression models II	PV	Binary & Polytomous outcomes  MCMC estimation- Gibbs sampling I	Sem2/ Comp
26 Apr	Session 4	Regression models III	PV	Count data & overdispersion  MCMC estimation- Gibbs sampling II	Sem1/ Comp
3 May	Session 5	Analysis of Longitudinal data	PV	Continuous & Discrete outcomes  MCMC estimation-Metropolis algorithm I	Sem2/ Comp
10 May	Session 6	Modelling diagnostic error	PV	Estimating prevalence, sensitivity, specificity. Analysis of multilevel models  MCMC estimation-Metropolis algorithm II	Sem2/ Comp
17 May	Session 7	Models for time series	PV	Autoregressive & moving average models. Dynamic models & time-varying coefficients  MCMC estimation-Assessing convergence	LR1/ Comp
31 May	Session 8	Student project 1	TS	Latent variables and fitting dynamic models	Sem2/ Comp
7 June	Session 9	Student project 2	TS	Latent variables and fitting dynamic models (continued)	LR1/ Comp
14 June	Session 10	Models for areal geographical data	PV	Conditional autoregressive & simultaneous autoregressive models  Bayesian inference – Model comparison	Sem2/ Comp
21 June	Session 11	Models for geostatistical data	PV	Variogram models  Bayesian inference – Predictive distributions	Sem2/ Comp
28 June	Session 12	Student project 3	TS	Latent variables and fitting dynamic models (continued)	Sem2/ Comp
5 July	Session 13	Survival models	TS	Frailty & competing risk models	LR2/ Comp
12 July	Session 14	Meta-analysis of clinical trials	PV	Hierarchical models, Exchangeability	LR2/ Comp