



Euro Area Business Cycle Network Training School

"Heterogeneous Agent Models in Continuous Time with Monetary Policy Applications" By Benjamin Moll

(Princeton University, NBER and CEPR)

Venue: Room: EO 150, University of Mannheim, Schloss, D-68131 Mannheim

4-6 June 2018 **Schedule**

MONDAY 4 JUNE	
08.15-09.00	Registration and Welcome Coffee
09.00-10.30	Session 1: Introduction and Overview, Hamilton-Jacobi-Bellman (HJB) equations
10.30-11.00	Coffee break
11.00-12.30	Session 2: numerical solution of HJB equation, continuous-time stochastic processes, Kolmogorov Forward (KF) equations
12.30-14.00	Lunch
14.00-15.30	Tutorial 1: derivation of HJB equation from discrete-time Bellman equation, Matlab codes for the numerical solution of HJB and KF equations
TUESDAY 5 JUNE	
09.00-10.30	Session 3: Continuous-time version of workhorse heterogeneous-agent (Achdou et al)
10.30-11.00	Coffee break
11.00-12.30	Session 4: HANK: Heterogeneous Agent New Keynesian models (Kaplan-Moll-Violante)
12.30-14.00	Lunch
14.00-15.30	Tutorial 2: Newton method for transition dynamics and MIT shocks, numerical solution of advanced problems (e.g. non-convexities, stopping time problems, multiple assets)
20.00 Dinne	r
WEDNESDAY 6 JUNE	
09.00-10.30	Session 5: Perturbation method for heterogeneous-agent models with aggregate shocks (Ahn-Kaplan-Moll-Winberry-Wolf, continuous-time Reiter method)
10.30-11.00	Coffee break
11.00-12.30	Session 6: Application to one-asset HANK model, model reduction
12.30-14.00	Lunch
14.00-15.30	Tutorial 3: Automatic differentiation, Bayesian estimation, discrete-time Reiter method