Lecture Week No. 2

Experimental Lectures	Power Spectral Density and friends **Danzmann**	Shot Noise, Power Recycling, SR, RSE **Danzmann**	Transfer Functions, Bode diagrams etc. **Willke**	Control systems **Willke**	Gaussian optics, DWS **Heinzel**
General Relativity Lectures	Linearized Gravity, weak GW in vacuum; Generation of GW, leading order binary evolution and quadrupole formula; Basics of PN formalism **Babak**	Interaction of GW with interferometer; Antenna pattern and measurable parameters of GW sources **Babak**	Coalescing binaries; continious waves; Bursts of GWs; Stochasti GW background; detecting GWs with LISA and PTA **Babak**	NS Physics and Astrophysics **Pannarale**	Coalescing Compact Binaries **Pannarale**
Data Analysis	TDI as noise cancelling techniques, null stream; Bayesian methods: genetic algorithm, particle swarm optimization, amoeba, grid based and adaptive grid based searches (las Vegas) **Babak**	Multimadality of the likelihood and ist use; Examples: MLDC, PTA **Babak**	Signal vetoes, chi-square, significance of signal **Prix**	Gaussian and non-Gaussian noise and statistics **Prix**	Multiple detector burst searches **Prix**