	Wednesday June 12		Thursday June 13		Friday June 14	
8:30 - 9 AM	**Coffee & danish**		**Coffee & danish**		**Coffee & danish**	
9 AM - Noon (Coffee break 10:20-10:40 AM)	**Stellar formation**		**Stellar evolution**		**Massive stars and stellar winds**	
	Topics	**Instructor**	**Topics**	**Instructor**	**Topics**	**Instructor**
	• Fluid instabilities as the origin of gas fragmentation and collapse • Hydrostatic cores • The Core Mass Function and the stellar Initial Mass Function: is there a relation? • Turbulence in the ISM • The origin of the mass of stars • The late time evolution of proto-stellar objects • Open questions in star formation theory	Romain Teyssier (U. Zürich)	• What is a star ? The HR diagram and parameters that determine how a star evolves • Equations of stellar structure: hydrostatic balance, energy transport, nuclear burning, stellar evolution timescales • Introduction to the MESA code • Basic ideas in stellar evolution: central density/temperature diagram and mapping to the HR diagram; core vs shell burning and giants • Using MESA to run a 1 solar mass model from PMS to white dwarf	Andrew Cumming (McGill)	• **Massive stars** - The massive stars zoo; evolution in the upper HR diagram; extra-galactic massive stars; starbursts; population III stars • **Stellar Winds** - Observational signatures; isothermal winds; line driven winds; dust driven winds	Laurent Drissen (U. Laval) & Nicole St-Louis (UdeM)
Noon - 1:30 PM	**Lunch**		**Lunch**		**Lunch**	
1:30 - 4:30 PM (Coffee break 3:00 - 3:20 PM)	**Bottom of the main sequence**		**From solar to stellar astrophysics**		**Stellar death**	
	Topics	**Instructor**	**Topics**	**Instructor**	**Topics**	**Instructor**
	• Solar neighborhood • Young associations and stellar dynamics • Very low-mass stars • Brown dwarfs • Planetary-mass objects	Jonathan Gagné (UdeM)	• The sun as a star • Corona and wind • Magnetism and dynamo • Activity cycle, eruptive events, and radiative variability	Paul Charbonneau (UdeM)	• **White dwarfs** - Basic properties; white dwarf atmospheres; the cooling problem; spectral evolution • **Neutron stars** - Core-collapse Supernovae; TOV equation and equation of state; pulsars; binary neutron star mergers and their GWs • **Black holes** - Early history; the Schwarzschild solution: basic properties and implications; how are BH detected: the basics of accretion; bringing in rotation: the Kerr solution, the most general BH; esoteric topics	Pierre Bergeron (UdeM), Vanessa Graber (McGill) & Serge Pinault (U. Laval)