## BIL2 Pre-Main-Sequence of A stars (exploring both the evolutionary and pulsational aspects)

## M. Marconi<sup>1</sup> and F. Palla<sup>2</sup>

<sup>1</sup>INAF - Osservatorio Astronomico di Capodimonte, Via Moiariello 16 I-80131 Napoli, Italy <sup>2</sup> INAF - Osservatorio Astrofisico di Arcetri, Largo E. Fermi 5 I-50125 Firenze, Italy

Young A-type stars in the PMS evolutionary phase are particularly interesting objects since they cover the mass range ( $\sim 1.5$ -3  $\rm M_{\odot}$ ) which is most sensitive to the internal conditions inherited during the protostellar phase. In particular, they undergo a process of thermal relaxation from which they emerge as fully radiative objects contracting towards the Zero Age Main Sequence (ZAMS). In addition, A-type stars show rather intense surface activity whose origin is still not understood, and infrared excesses related to the presence of circumstellar disks. The latter display significant evolution in the dust properties, likely signalling the occurrence of protoplanetary growth. Finally, they are generally found in isolation or in very small aggregates of lower mass companions. Overall, PMS A-type stars are very similar to their low-mass counterparts, the T Tauri stars.

After the end of the thermal relaxation phase and before the final approach to the ZAMS, A-type stars are expected to cross the pulsation instability strip of  $\delta$  Scuti stars. The study of PMS  $\delta$  Scuti stars has known a renewed observational and theoretical interest in the last few years and a significant sample of such pulsators is known. The main properties found so far are presented, along with a discussion of future prospects.