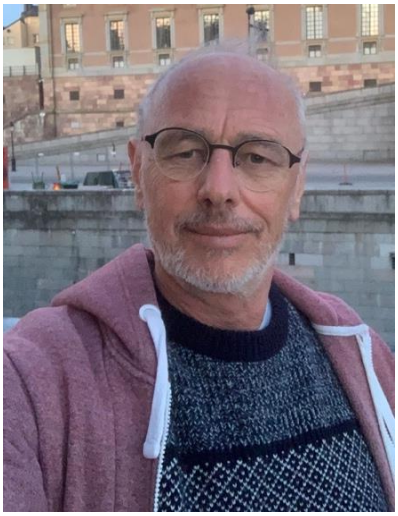


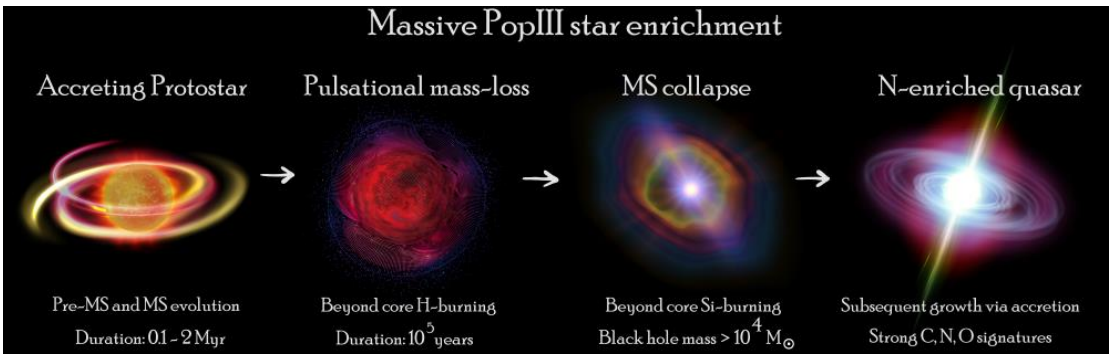
INAF/OAPD High-Profile Colloquium

Georges MEYNET

Observatoire de Genève, Université de Genève, Switzerland

Nucleosynthesis of the first stellar generations

The first stellar generations in the Universe were sources of ionizing radiation and of newly synthesized elements. They played a key role in the reionization process as well as initiating the chemical evolution of the Universe. The talk will begin by recalling the expected main physical properties of the first stellar generations that likely make them evolve significantly differently from stars in the present-day Universe. We will then focus on aspects dealing with the chemical enrichments by the first stellar generations. Comparisons between predictions of models with the observed surface composition of halo stars will be presented.
The special case of the Carbon-Enhanced Metal- Poor Stars (CEMP), especially the most iron-poor ones, provides precious and interesting clues about the early chemical enrichment processes. The talk will end by discussing the exciting cases of nitrogen-rich regions in high redshift galaxies observed by the James Webb Space Telescope.



Short bio:

After a diploma in Physics at Ecole Polytechnique Fédérale of Lausanne and a PhD at Geneva University in 1990, Georges Meynet did a post doc at the Université Libre de Bruxelles. In 2006 he became professor at the Department of Astronomy at the University of Geneva. His research interests are stellar physics, stellar evolution, consequences for stellar populations in galaxies, and nucleosynthesis as well as for the nature of the progenitors of different types of core-collapse supernovae. His research is presently focused on the physics of the first stellar generations in the Universe in connection with the understanding of the origin of Carbon Enhanced Metal Poor stars. He is leading an advanced ERC project called STAREX (Stars at the Extreme) aiming at producing new models for the first generations of stars, investigating their properties and potential indirect and direct observational signatures. He is active in promoting astronomy towards general audience having contributed to the building of a public observatory (the François-Xavier Observatory) and a planetary walk in St-Luc Val d'Anniviers.