

Not-So-Simple Stellar Populations in Nearby, Resolved Massive Star Clusters

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Until about a decade ago, star clusters were considered “simple” stellar populations: all stars in a cluster were thought to have similar ages and the same chemical composition. Only the individual stellar masses were thought to vary, in essence conforming to a “universal” initial mass function imprinted by their birth processes. Over the past decade, this situation has changed dramatically. I will discuss my group's exciting recent achievements in this context, with particular emphasis on the properties and the alleged presence of so-called multiple stellar populations in star clusters in the Milky Way and the nearest galaxies across the full age range, from a few tens of millions of years to a few billion years. Our most recent results imply a reverse paradigm shift, back to the old simple stellar population picture for at least some intermediate-age (~ 2 billion-year-old) star clusters, which opens up exciting avenues for future research efforts.

Richard de Grijs obtained his PhD from the University of Groningen (Netherlands) in 1997, and held two postdoctoral positions (at University of Virginia, USA, and University of Cambridge, UK), before being appointed to a permanent post at the University of Sheffield (UK) in 2003. He joined the Kavli Institute for Astronomy and Astrophysics at Peking University in September 2009 as a full professor. He has been one of the scientific editors of The Astrophysical Journal since 2006 and took on the role of deputy Editor of The Astrophysical Journal Letters in September 2012. He is the founding director of the East Asian Regional Office of Astronomy for Development (2012-2016), as well as the international coordinator for China of the Institute of Physics (UK). He was awarded the 2012 Selby Award for excellence in science by the Australian Academy of Science, a 2013 Visiting Academy Professorship at Leiden University by the Royal Netherlands Academy of Arts and Sciences, and a 2017 Erskine award by the University of Canterbury (Christchurch, New Zealand).