

Cathie J. Clarke · Robert D. Mathieu · I. Neill Reid

Dynamics of Young Star Clusters and Associations

Where do most stars (and the planetary systems that surround them) in the Milky Way form? What determines whether a young star cluster remains bound (such as an open or globular cluster), or disperses to join the field stars in the disc of the Galaxy? These questions not only impact understanding of the origins of stars and planetary systems like our own (and the potential for life to emerge that they represent), but also galaxy formation and evolution, and ultimately the story of star formation over cosmic time in the Universe.

This volume will help readers understand our current views concerning the answers to these questions as well as frame new questions that will be answered by the European Space Agency's *Gaia* satellite that was launched in late 2013. The book contains the elaborated notes of lectures given at the 42nd Saas-Fee Advanced Course "Dynamics of Young Star Clusters & Associations" by **Cathie J. Clarke** (University of Cambridge) who presents the theory of star formation and dynamical evolution of stellar systems, **Robert D. Mathieu** (University of Wisconsin) who discusses the kinematics of star clusters and associations, and **I. Neill Reid** (Space Telescope Science Institute) who provides an overview of the stellar populations in the Milky Way and speculates on from whence came the Sun. As part of the Saas-Fee Advanced Course Series, the book offers an in-depth introduction to the field serving as a starting point for Ph.D. research and as a reference work for professional astrophysicists.

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