PREFACE

This issue of the *Annals of Glaciology* is dedicated to the theme of recent advances in radioglaciology that have enabled new insights into the structure, mechanisms and changes occurring to glaciers around the world. As the warming trend of the atmosphere and oceans continues, next-generation models of ice masses are necessary to assess environmental impacts of global significance, such as sea-level rise and freshwater availability. These new models require more detailed information on the boundary conditions controlling ice dynamics over entire basins, and radioglaciology can support these model requirements as well as validating model assumptions. Rapid advances in technology that permeate society have led to recent breakthroughs in the application of radioglaciology, and an IGS symposium hosted by the Center for Remote Sensing of Ice Sheets (CReSIS) was held in 2013 to explore the new applications of radar technology along with new scientific opportunities that the new technology enables. The meeting also included a half-day workshop on polar-capable aircraft (both manned and unmanned). Papers for this issue were solicited from all areas and disciplines related to radioglaciology, with a special emphasis on radars and signal-processing techniques, ultra-wideband radar technology, and recent observations and analysis. The resulting collection of 16 papers in this issue addresses a wide range of cryospheric research questions, applying radar systems and algorithms to assess various aspects of ice thickness, bed topography, internal layering, basal conditions and ice structure, as well as the various platforms used to collect the data. The study areas examined in these papers include Antarctica, Greenland, western Canada, Alaska and the Swiss Alps. Collectively, these papers cover a wide range of applications of radioglaciology, and illustrate the importance of radioglaciology in understanding the cryosphere. The scientific editors of this issue were Sridhar Anandakrishnan, Hugh Corr, Dorthe Dahl-Jensen and Prasad Gogineni, and their diligence and expertise were critical in the review process. The time and effort that was selflessly given by numerous reviewers is gratefully acknowledged, and was instrumental to the high quality of the papers published in this issue. IGS Secretary General, Magnús Már Magnússon, IGS Chief Editor Jo Jacka and Craig Baxter in the IGS office provided helpful guidance and support throughout production of this issue of the *Annals of Glaciology*.

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https://doi.org/10.3189/S0260305500267967 Published online by Cambridge University Press