The Valencia International Meetings on Bayesian Statistics – established in 1979 and held every four years – have been the forum for a definitive overview of current concerns and activities in Bayesian statistics. These are the edited Proceedings of the Ninth meeting, and contain the invited papers each followed by their discussion and a rejoinder by the author(s). In the tradition of the earlier editions, this encompasses an enormous range of theoretical and applied research, highlighting the breadth, vitality and impact of Bayesian thinking in interdisciplinary research across many fields as well as the corresponding growth and vitality of core theory and methodology. The Valencia 9 invited papers cover a broad range of topics, including foundational and core theoretical issues in statistics, the continued development of new and refined computational methods for complex Bayesian modelling, substantive applications of flexible Bayesian modelling, and new developments in the theory and methodology of graphical modelling. They also describe advances in methodology for specific applied fields, including financial econometrics and portfolio decision making, public policy applications for drug surveillance, studies in the physical and environmental sciences, astronomy and astrophysics, climate change studies, molecular biosciences, statistical genetics or stochastic dynamic networks in systems biology.