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# Dynamics of Crustal Magma Transfer, Storage and Differentiation

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## Preface

The contributions in this book are based on a session convened by the editors at the 2006 AGU Fall Meeting in San Francisco, entitled 'Dynamics of crustal magma transfer, storage and differentiation – integrating geochemical and geophysical constraints'. This session focused on magmatic processes within the Earth's crust and therefore formed the bridge between mantle processes and volcanism. It integrated evidence from a variety of disciplines in order to make progress in resolving the following issues regarding magma dynamics and evolution: At what rates and through which mechanisms do magmas ascend through the crust? At what pressures and temperatures

are they stored on their way to the surface? Are magma reservoirs small or large, shallow or deep, ephemeral or long-lasting? Where and how does magmatic differentiation take place? What are the links between magmatic processes at depth and volcanic eruption at the surface? The session combined contributions from igneous and experimental petrology, geochronology, geochemistry, geophysics and a number of other disciplines that could shed light on these and related questions.

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