

Foreword: surface reactivity of minerals

Mineral surfaces have long been recognized as critical loci for the interactions between minerals and the environment, thereby ultimately controlling several mineral properties, most notably their reactivity. Therefore, mineral surface studies are of increasing interest to the scientific community.

The recognition of this important aspect stimulated the organization of an international workshop on surface reactivity of minerals, held on 10–11 April, 2006 at Gargnano sul Garda, Brescia, Italy. The workshop was intended to be a forum for presenting and discussing recent results as well as possible trends in mineral surface studies. About 40 Italian and 10 non-Italian scientists attended the workshop, with a good proportion of young researchers. Importantly, the audience was composed not only of Earth scientists, but also included a significant number of researchers from other fields such as physics, chemistry, engineering, materials science and biology.

Four major topics were covered during the workshop: the fundamental mechanisms of crystal growth and inhibition, studies and examples of surface reactivity in industrial and natural materials, advances in experimental techniques for in situ surface characterization, and the role of modelling and computing techniques in understanding surface processes.

A total of 30 contributions were presented, including invited lectures given at the opening and end of the workshop by two internationally recognized experts in the field. The results discussed at the workshop are broadly representative of current problems and views at the leading edge of surface studies in Europe. Several of the issues addressed during the conference, and to some extent also reflected by the papers in this issue, explore complex, interdisciplinary, and largely uncharted scientific areas. These ideas frequently proved to be innovative and led to animated discussions, which we consider as fruitful, both at the meeting and during the review process.

In this issue of the European Journal of Mineralogy, we present a selection of the scientific contributions presented at the workshop. Although they cover only a small fraction of the communications, we trust that they give a representative overview of the addressed topics. The review process was handled by us acting as guest editors, supervised by the Chief Editor Bertrand Fritz, with the efficient support of his co-worker Danièle Aunis. A total of 24 reviewers were involved in the process, with several checking the papers a second time. Thanks to their timely input and the prompt response of the authors, we were able to complete the entire review process in about four months.

We hope that the scientists present at the workshop as well as the readers of the present collection of papers will appreciate the prevailing sense of novelty and excitement in the field of mineral surface studies, and that they will transfer this enthusiasm to the whole range of scientific and practical applications involving surface reactions.

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