Editorial

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Physics and Chemistry of Minerals recently marked its 40th anniversary, and to celebrate this milestone we present three invited review papers that provide an overview of past progress in three selected research areas with perspectives for the future. Looking forward more generally, mineral physics and mineral chemistry remain two of the major foundations for deciphering both qualitative and quantitative data from, for example, tectonophysics, geodynamics, seismology, experimental petrology, mineralogy, and geochemistry. Technical developments continue to play an important role as capabilities of intense synchrotron and neutron sources are exploited and enhanced, especially in combination with parallel developments in extreme conditions (including high stress) involving in situ measurements for comparison with geophysical observations. Breakthroughs in computational capabilities are anticipated, for example, with the advent of a new generation of quantum computers that will enable ever more complex problems to be addressed, such as solid state rheology and thermal and electrical conductivity at the core-mantle boundary region.

Editorially we see a number of trends that we expect to continue in coming years. Interdisciplinary articles, for example, that integrate laboratory experiments and computational studies, provide a broader picture of Earth and planetary materials from sub-atomic to macroscopic levels, and enhanced interaction between mineralogy, materials

science, energy and the environment fosters enhanced accessibility of articles to a more general audience. The quality and quantity of papers from traditionally underrepresented countries continue to grow, enhancing geographic diversity. More papers focus on technical developments than in the past, but as always must demonstrate in turn how the science moves forward. The average number of authors per paper has increased over the years, and while this means a higher potential that one or more authors have not read the entire paper, we have noticed a general improvement in the overall appearance, writing and language expression since the early years of the journal.

What about the future? Scientific oversight comes from the editors and Advisory Board, and to maintain our ability to pro-actively adapt to changes in the scientific landscape, we will be renewing the Advisory Board in the coming months with an expanded role. Of course readers' suggestions to the editors or Advisory Board are always welcome. Technical oversight comes from our partnership with Springer, and we value their contribution greatly in navigating the challenges as well as the opportunities in today's scientific publishing world. We thank everyone who has participated to make the journal what it is today, and look forward to an equally challenging, exciting, and rewarding next decade for both the discipline and journal.

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