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EDITORIAL

Dedicated to Professor Sumio Sakka, Founding Editor of Journal of Sol-Gel Science and Technology

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No doubt, the prominent and rich history of "Sol-Gel Research in Japan" owes its origins to the scientific/technological field of glass and ceramic materials, which showed remarkable progress in the preceding decades. In the early years, before 1980, of sol-gel research in Japan, this novel method attracted a limited number of researchers in academia and industry involved in work related to glasses and ceramics. In the "(First) *International Workshop on Glasses and Glass Ceramics from Gels* (Padova, October 1981)", Professors S. Sakka, Kyoto University (Mie University at that time), and M. Yamane, Tokyo Institute of Technology, both of whom were leading active groups on glass science, were among 18 oral presenters. Companies involved in the production of glass/ceramic materials started to launch sol-gel research activities after the workshop. The applications were mainly focused on films, coatings and fibers with inorganic compositions. It is noteworthy that the Japanese company, Sumitomo Chemical Co. Ltd., had already commercialized alumina fibers using metal-organic precursors before 1980. A detailed account of the global dawn of sol-gel research can be found in the recent article of Professor Sakka himself [1].

The *4th International Workshop on Glasses and Glass Ceramics from Gels* held in Kyoto in 1987 was really an eye-opening experience for both of the current guest editors. In 1988, the first book on the sol-gel method in Japanese, "*Science of Sol-Gel Method: Low-temperature synthesis of functional glass and ceramics*", was written by Professor Sakka, and in 1990, "*Sol-Gel Science: The Physics and Chemistry of Sol-Gel Processing*" was co-authored by Drs C.J. Brinker and G.W. Scherer. Almost in parallel, the epoch-making reports on so-called mesoporous materials were published by Professor K. Kuroda et al. (Waseda University) in 1990 [2], and by Dr C. Kresge et al. (Mobil) in 1992 [3]. Toward the 21st century, sol-gel processing became more integrated into the novel concepts of supramolecular and bio-inspired chemistry, i.e., self-assembly, self-organization, bio-crystallization and nano-templating, etc. Over the two decades since then, the broadened concept of organic-inorganic hybrids, including the novel family of metal-organic framework (MOF) materials and that of layered compounds, has been fascinating researchers in the field of organic/polymer synthesis. The present topical collection was made possible by the contributions of authors in such cutting-edge sol-gel related fields all over Japan. Readers will find up-to-date broad coverage of these research topics contained in the total of 32 articles presented in this Topical Collection.

The *Journal of Sol-Gel Science and Technology*, JSST, was established in 1993 with Professor Sakka as sole editor, by Kluwer Academic Publishers. Ten years later, the *International Sol-Gel Society* (ISGS) was established on the occasion of the *12*th *International Workshop on Sol-Gel Science and Technology* in Sydney, August 2003, and the newly-established ISGS chose JSST as its official academic journal. The *Japanese Sol-Gel Society* (JSGS) was established in July of the same year as the ISGS under the presidency of Professor Sakka. The JSGS represents 200–300 individual and 30 company members, offering an annual two-day meeting with lectures and poster presentations, as well as a one-day technology seminar every year. The members of JSGS have contributed significantly to the activities of the ISGS and to authorship of papers in JSST. To date, five past or present JSGS board members have also served as members

Guest Editors: Kazuki Nakanishi and Hiromitsu Kozuka

Topical Collection: Sol-Gel Research in Japan

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of the ISGS board. JSGS currently includes seven Ulrich Awardees, four ISGS Life Achievement Awardees and five ISGS Fellows. For JSST, one co-editor, one assistant editor and seven editorial board members, all from JSGS, are working with numerous anonymous reviewers to maintain and improve the quality of papers published in the journal. We sincerely appreciate the work of all the authors and reviewers who participated in the creation of the *Topical Collection: Sol-Gel Research in Japan*, and do hope an updated collection will be published in the future with many new and unforeseen scientific and technological "surprises".

Compliance with ethical standards

Conflict of interest The authors declare no competing interests.

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