

Our ability to make soft materials based on the fundamental principles of self-assembly has led to a rich and varied global interdisciplinary community, particularly in the area of functional supramolecular gels. These gels are formed by the self-assembly of small molecules into one dimensional structures that entangle to form a network. Their applications are broad; gels have been shown to be of value in the life sciences in 3D cell culture, but also have promise as new optoelectronic materials. Exciting new developments are opening up in transient and dynamic gels, and in the techniques used to study these systems – in particular contrast-matched small-angle scattering, cryo-TEM, and super-resolution microscopy.

The inherent interdisciplinarity of the field provides opportunities for chemists, physicists, biologists and engineers to work together, but also raises a number of challenges. This volume brings together leading researchers in this field, including both computational and experimentalists, to discuss and exchange ideas on the physical and chemical principles behind these materials.

Topics covered in this volume include:

- Design of gelling systems
- Characterising supramolecular gels
- Multicomponent systems
- Using supramolecular gels

Front cover image:
Formation of supramolecular peptide-based structure by covalent and non-covalent bonds.
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Faraday Discussions

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Faraday Discussions documents a long-established series of Faraday Discussion meetings which provide a unique international forum for the exchange of views and newly acquired results in developing areas of physical chemistry, biophysical chemistry and chemical physics.

The papers presented are published in the Faraday Discussion volume together with a record of the discussion contributions made at the meeting. Faraday Discussions therefore provide an important record of current international knowledge and views in the field concerned.

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