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MRS Bulletin

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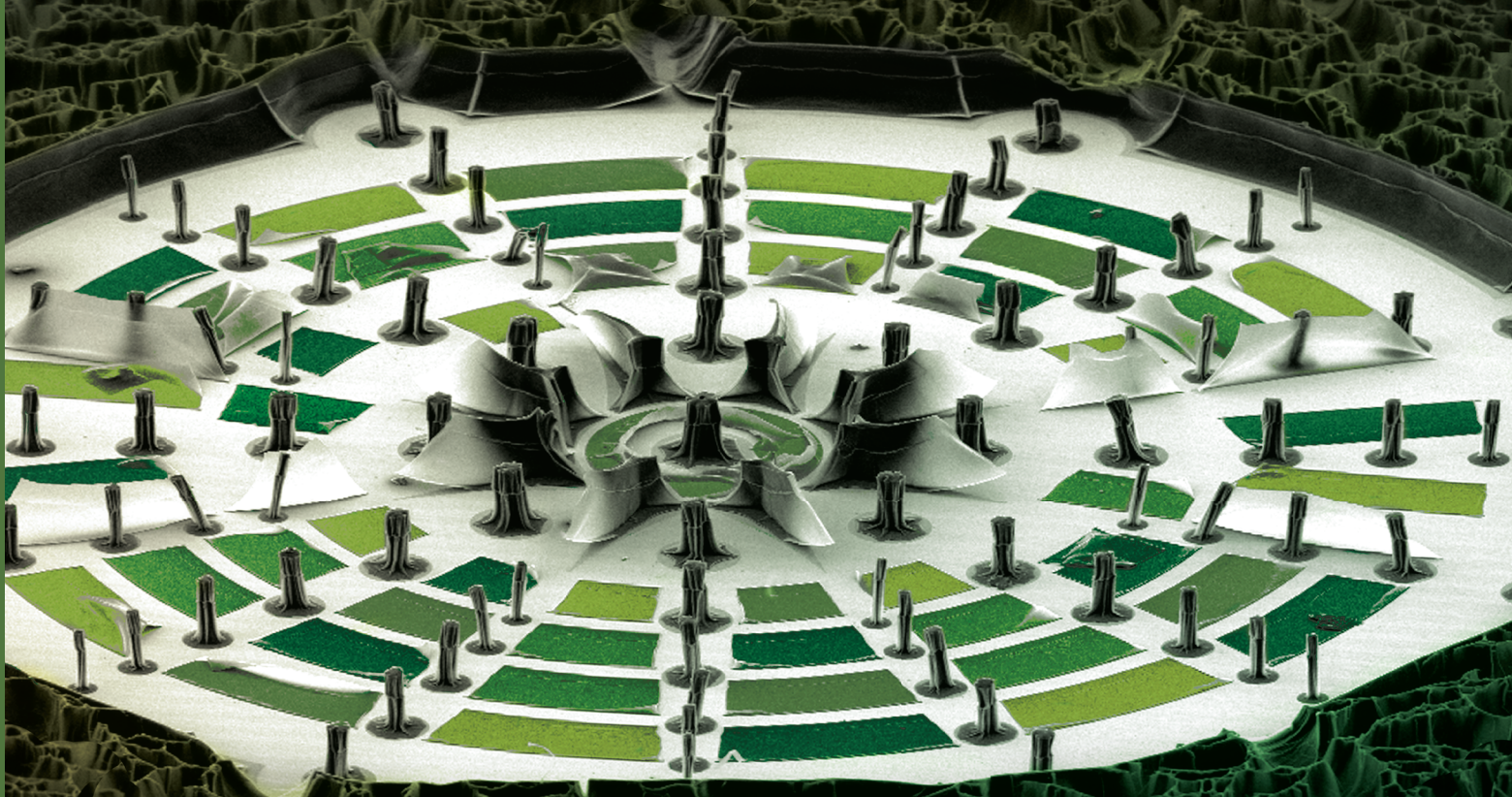
Patterning via self-organization and self-folding



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PATTERNING VIA SELF-ORGANIZATION AND SELF-FOLDING

TECHNICAL FEATURE

ON THE COVER

Patterning via self-organization and self-folding. Pattern formation by self-organization and self-folding provides unique opportunities for the materials community by addressing many of the issues associated with conventional lithography. The articles in this issue of *MRS Bulletin* focus on various methods of patterning using self-organization and self-folding. Most of these methods seek to control and pattern diverse materials across a range of length scales at low cost in a way that gives rise to new functionalities. The cover shows one example of how capillary forces can deform vertical carbon nanotubes (CNTs) to create an arrangement of circular patterns on a sub-millimeter scale, with the same complexity of real crop circles spanning 100 meters or more in diameter. When covered by a liquid droplet, some of the straight CNTs remain vertical, while others self-fold onto the substrate as dictated by their initial geometry, demonstrating the control that can be achieved by elasto-capillary engineering. Image courtesy of S. Tawfick and A. John Hart. See the technical theme that begins on page **93**.

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The Materials Research Society (MRS), a not-for-profit scientific association founded in 1973 and headquartered in Warrendale, Pennsylvania, USA, promotes interdisciplinary materials research. Today, MRS is a growing, vibrant, member-driven organization of over 16,000 materials researchers spanning over 80 countries, from academia, industry, and government, and a recognized leader in the advancement of interdisciplinary materials research.

The Society's interdisciplinary approach differs from that of single-discipline professional societies because it promotes information exchange across many scientific and technical fields touching materials development. MRS conducts three major international annual meetings and also sponsors numerous single-topic scientific meetings. The Society recognizes professional and technical excellence and fosters technical interaction through University Chapters. In the international arena, MRS implements bilateral projects with partner organizations to benefit the worldwide materials community. The Materials Research Society Foundation helps the Society advance its mission by supporting various projects and initiatives.

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