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Functional materials and devices by self-assembly

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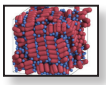

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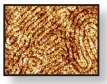

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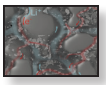

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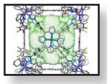

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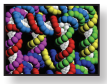

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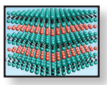

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Functional materials and devices by self-assembly. Self-assembly allows for the development of new paradigms for chemistry and materials science, where various, typically nanometer-sized, objects with precisely engineered sizes, shapes, compositions, and concomitant properties serve as "meta-atoms" or superatomic building blocks for hierarchically assembled materials and devices. The current state of the field reveals that self-assembly is making significant strides toward applications in nanoelectronics, photonics, energy storage, chemical separations, and as a path to form complex structures. The cover shows single-crystal nanoparticle superlattices assembled via DNA hybridization. The cover image relates to US Department of Navy Award No. N00014-19-1-2213 issued by the Office of Naval Research. The United States Government has a royalty-free license throughout the world to the image. See the technical theme that begins on p. **799**.

COMING IN NOVEMBER 2020
Processing metallic materials far from equilibrium

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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 more than 14,000 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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