

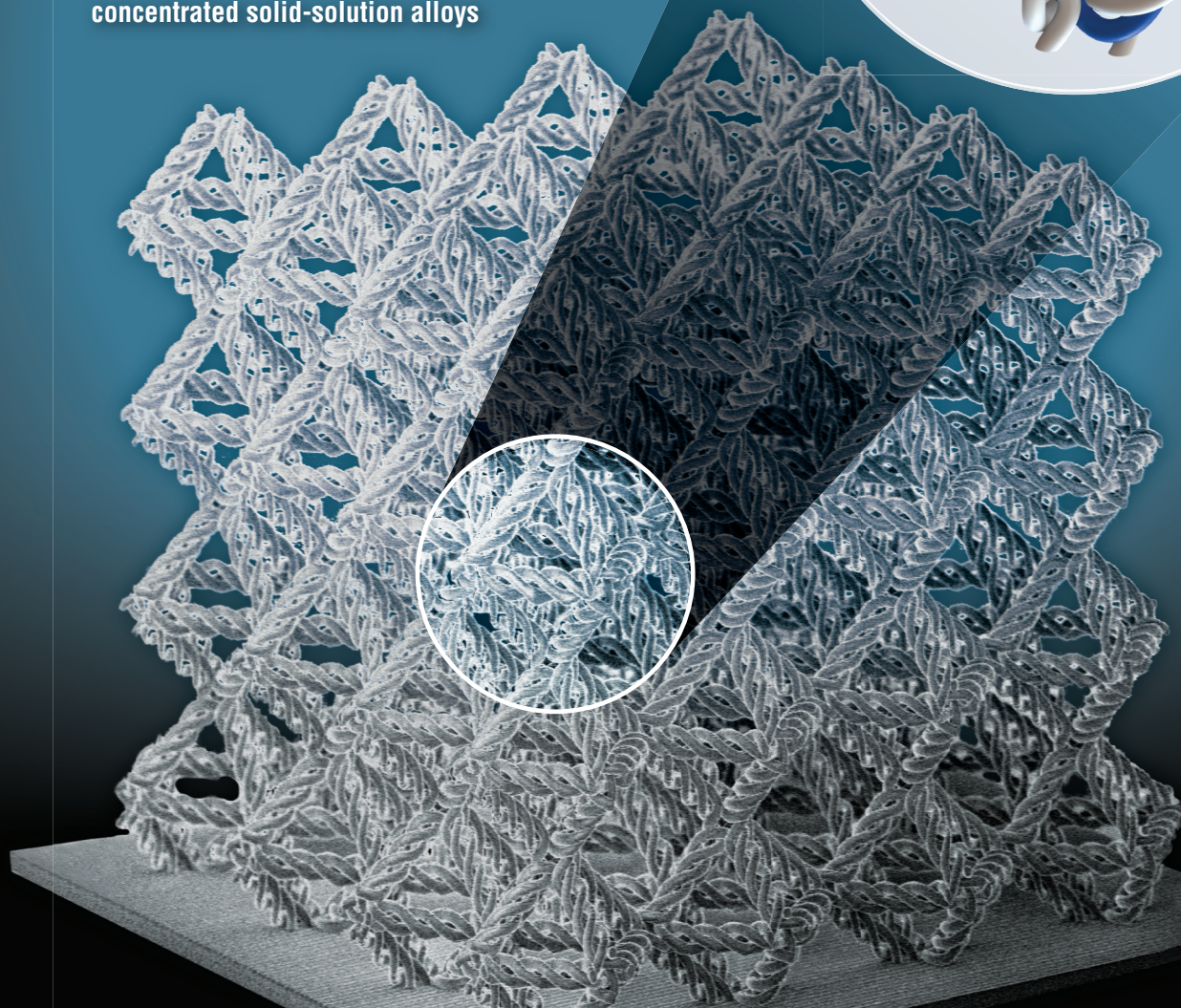
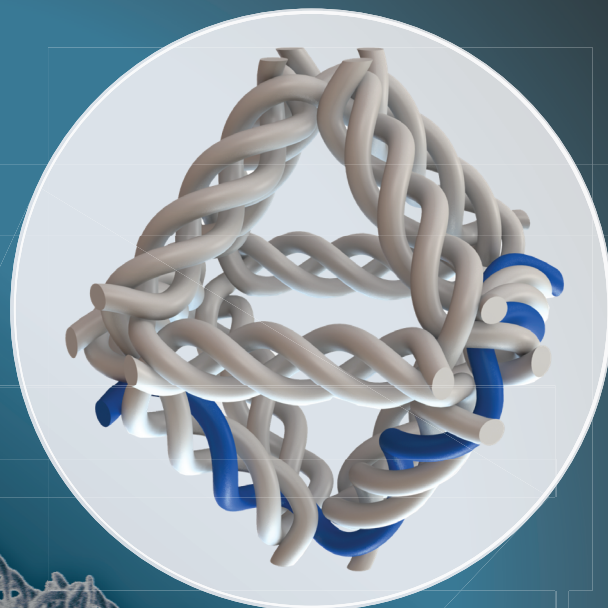
# MRS Bulletin

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## Three-dimensional architected materials and structures

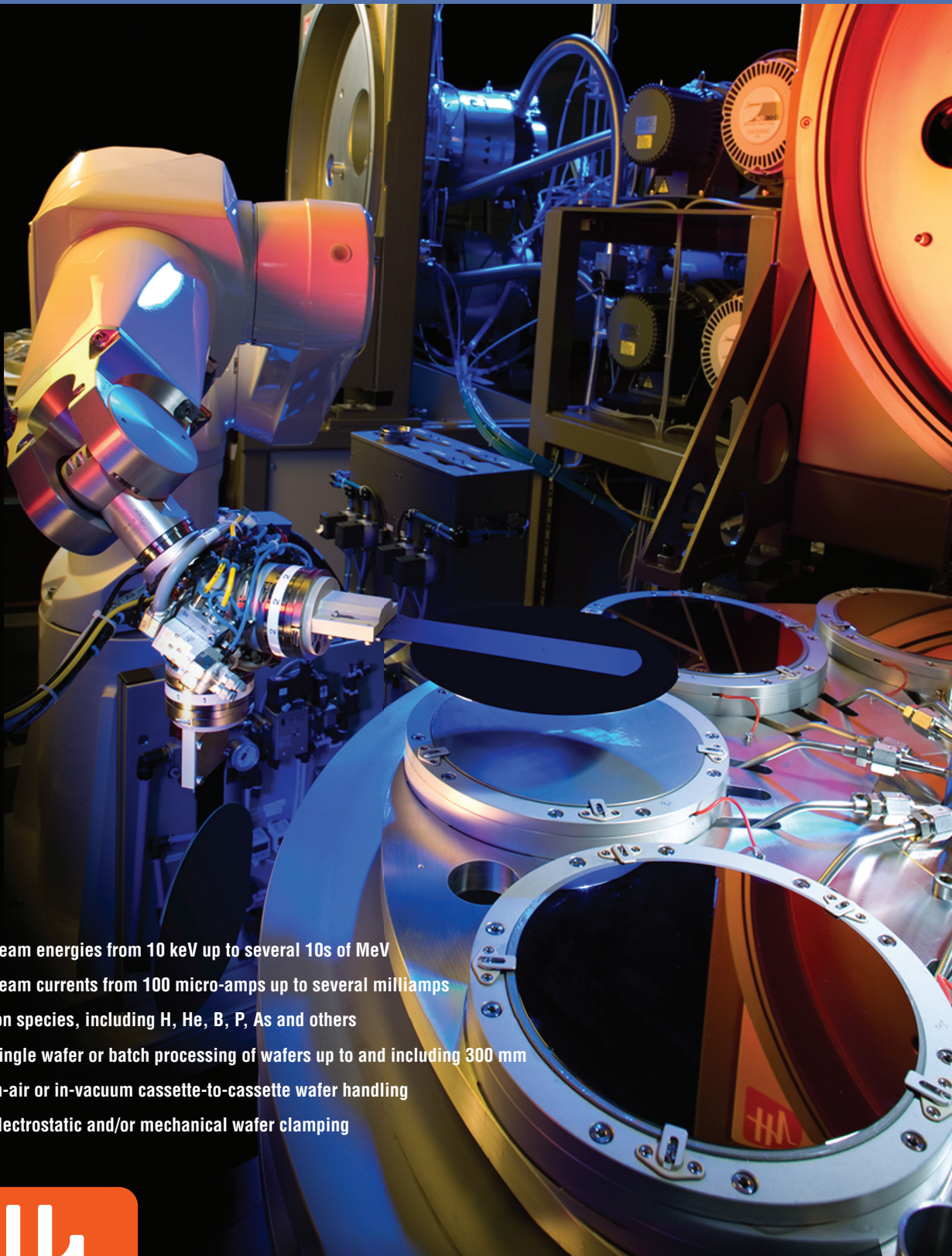
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Dissipation of radiation energy in  
concentrated solid-solution alloys



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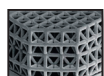
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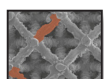
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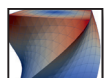
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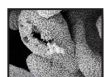
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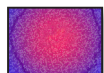
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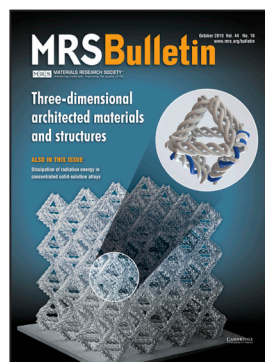
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**Three-dimensional architected materials and structures.** Three-dimensional architected materials are a new class of materials culminating from the confluence of new technologies. These materials show promise for multifunctional applications, combining a mechanical function (such as stiffness and strength) with some other property (such as thermal or electrical conductivity), thereby allowing for interesting applications such as structural batteries, structural armor, and deployable materials. These materials embody the characteristics of both the constituent material as well as the structure. The “woven”

architectures on the cover were fabricated out of IP-Dip photoresist via two-photon lithography direct laser writing. Each strut is comprised of three interwoven spirals formed into a classical lattice shape. These materials exhibit superior tensile ductility in excess of 60%, after which they fully recover and can then be immediately compressed by more than 50% and recover fully. Image courtesy of Widiyanto P. Moestopo, California Institute of Technology, and inspired by Ritchie Fuller. See the technical theme that begins on p. 750.



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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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