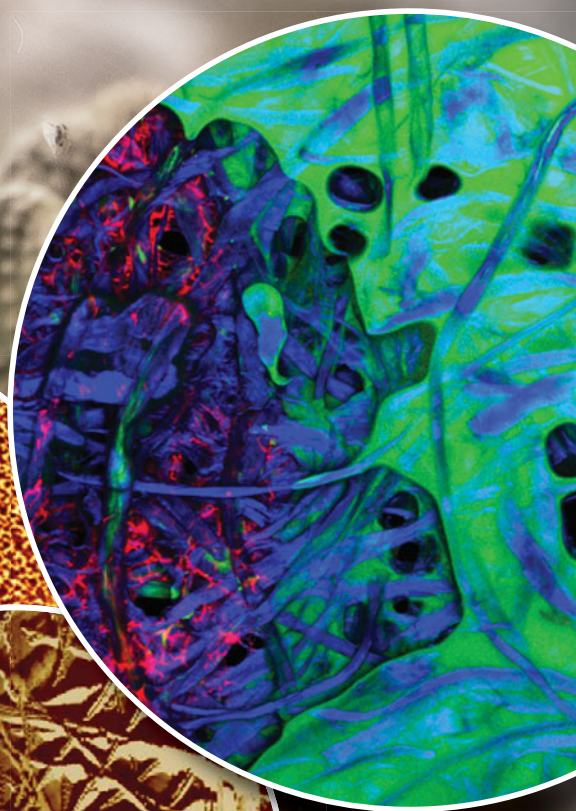
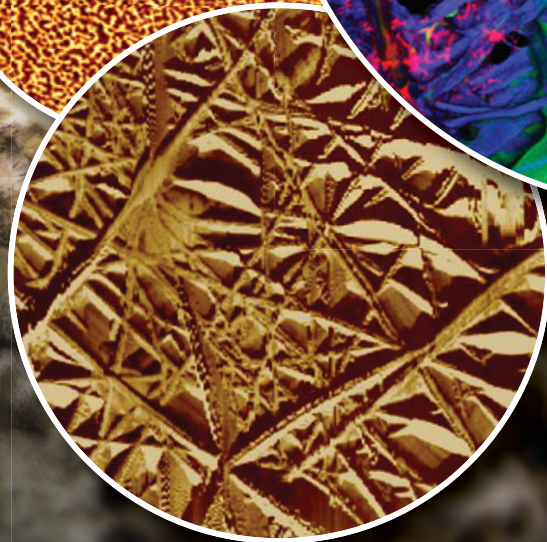
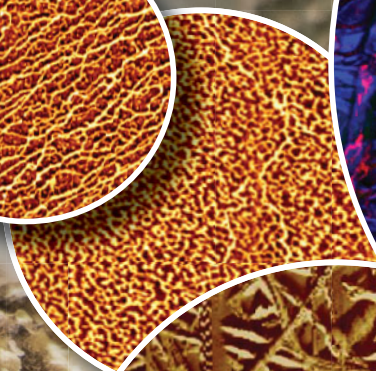


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System integration of functionalized natural materials

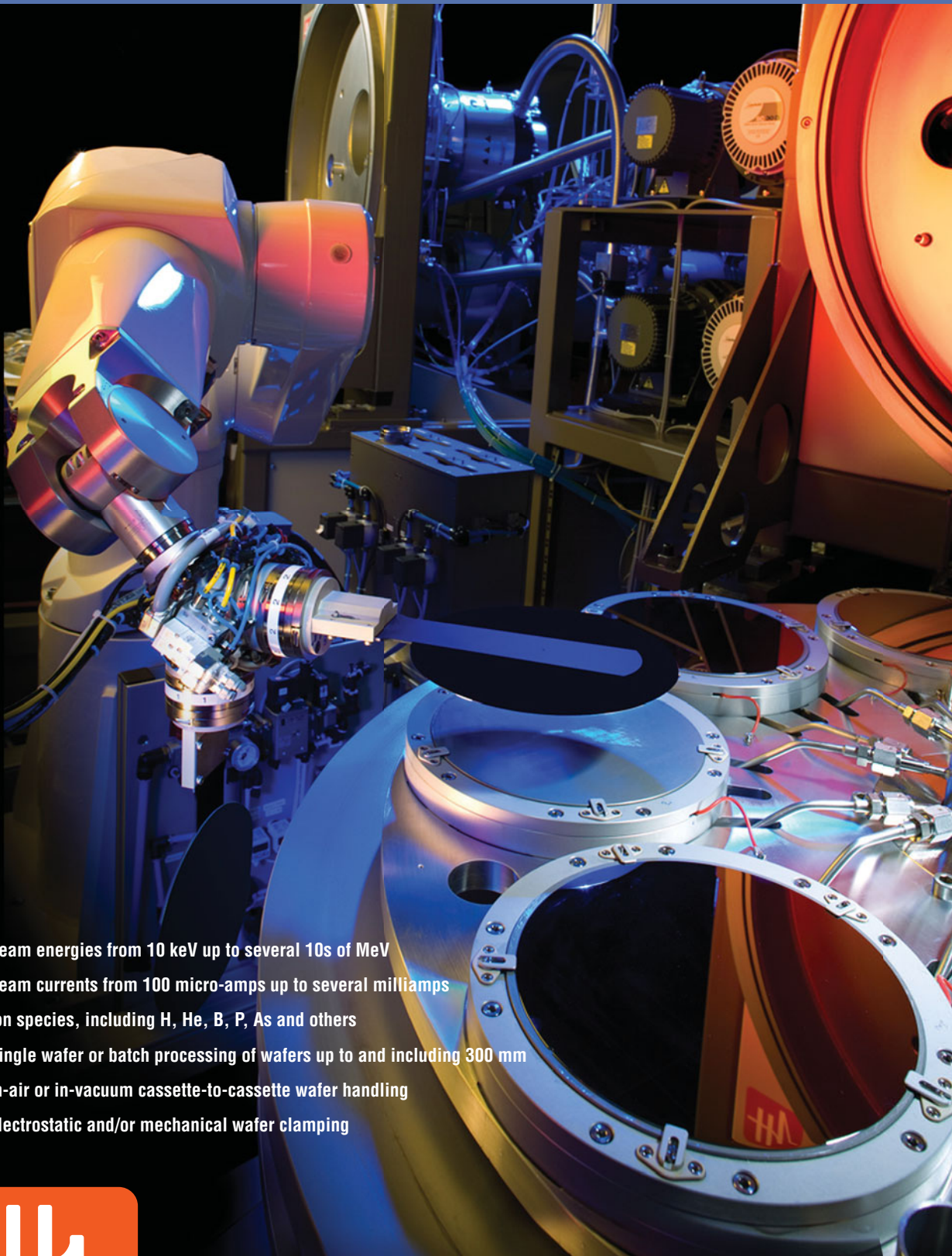


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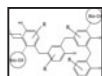
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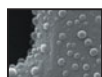
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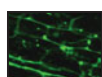
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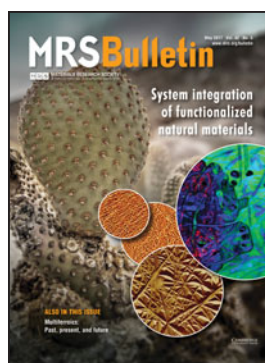
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ON THE COVER

System integration of functionalized natural materials. This issue of *MRS Bulletin* focuses on the importance and benefits of creating new materials and products using natural resources. The inclusion of sustainability in the design of new materials and processes is becoming common practice, and systems integration and natural materials are intrinsically related to produce novel materials that can function as sensors, switches, platforms, and

building blocks in a sustainable fashion. The cover shows an example of the use of cactus mucilage to form fibers for filtration membranes (courtesy of Y. Pais and A. Buttice) and cellulosic fibers that show a functional paper substrate (courtesy of T. Meckel and M. Biesalski). The top image is a proof of concept analysis on a PMMA-modified microfluidic paper substrate showing the distribution of rhodamine-labeled polymer in relation to calcofluor white-labeled cellulose fibers with high selectivity and spatial resolution of hydrophilic and hydrophobic spots analyzed with confocal fluorescence microscopy. See the technical theme that begins on page 343.



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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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