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# MRS Bulletin

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## Materials issues for quantum computation

**ALSO IN THIS ISSUE**  
Cell and organ printing turns 15

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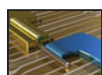
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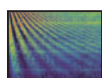
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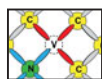


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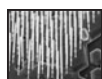
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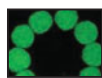


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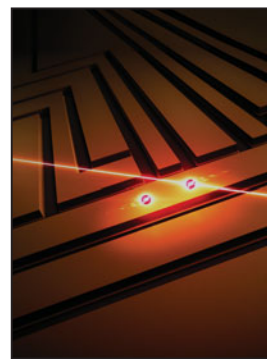
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### ON THE COVER

**Materials issues for quantum computation.** The articles in this issue of *MRS Bulletin* describe different approaches to quantum computing and the special materials issues affecting quantum coherence that arise in each of them. An ion trap is an example of a system that could be used for quantum computing, where the quantum state is a combination of the hyperfine electronic state of the ion and its center-of-mass motional state. The cover illustrates a specific example of an ion-trap geometry, showing a surface-

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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 encompassing approximately 125 topical symposia, 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 MRS Foundation helps the Society advance its mission by supporting various projects and initiatives.

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