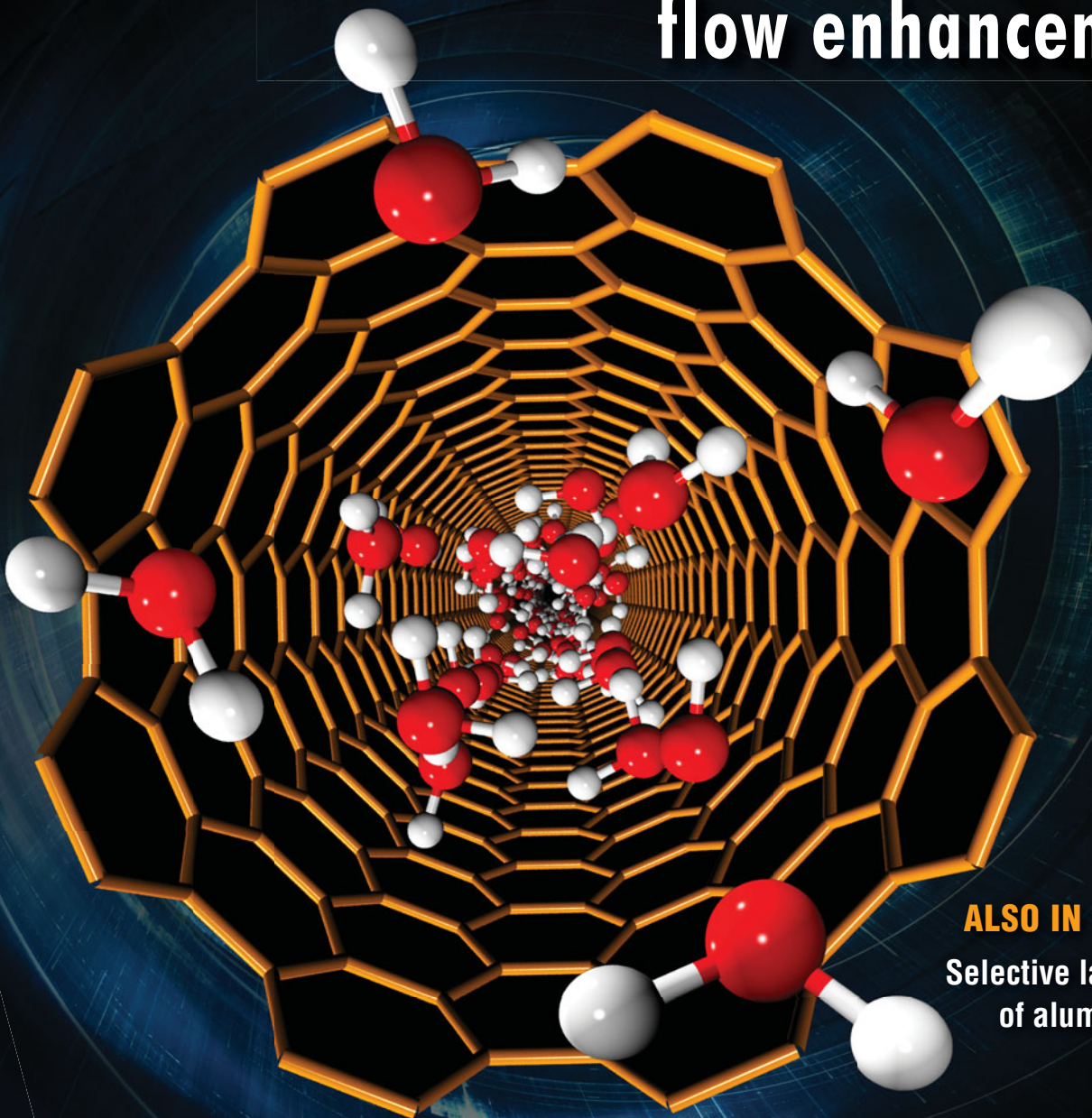


# MRS Bulletin

April 2017 Vol. 42 No. 4  
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## Materials enabling nanofluidic flow enhancement



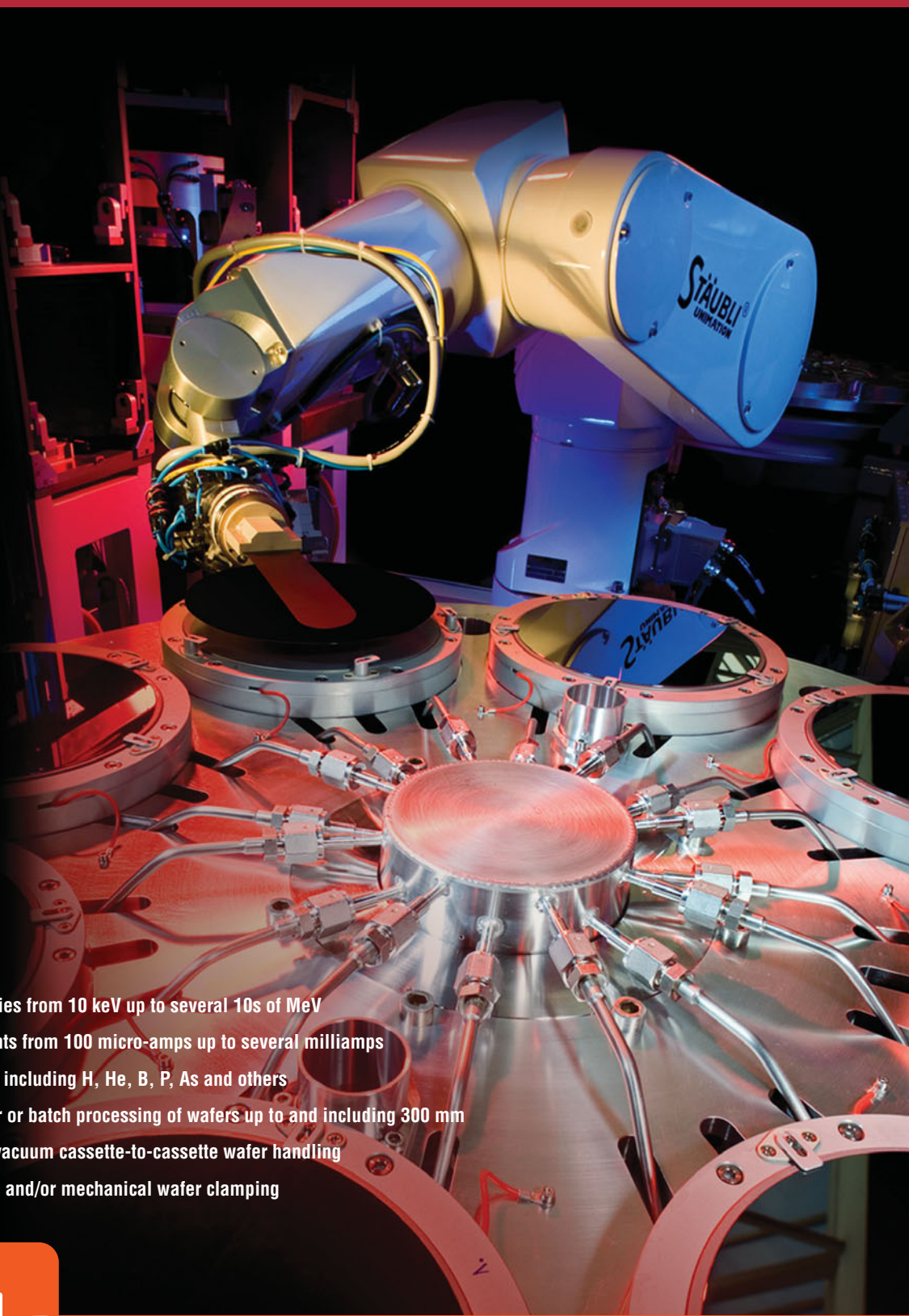
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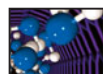


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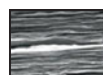
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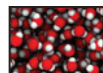
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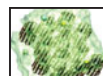
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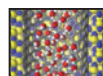
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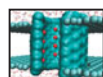
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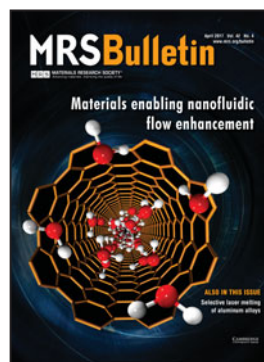


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### ON THE COVER

#### Materials enabling nanofluidic flow enhancement

This issue of *MRS Bulletin* focuses on materials that enable nanofluidic systems to have unusually high mass fluxes, such as water through a carbon nanotube. Ample evidence now shows such flow enhancement in nanochannels. As new one-dimensional and two-dimensional nanomaterials are synthesized, a deeper understanding of the nanoscale transport physics is needed, particularly in the

relationship between material properties and flow behavior. The cover shows a molecular dynamics simulation of water molecules (red for oxygen and white for hydrogen atoms) transported into a carbon nanotube (gold) 1 nm in diameter, which is a component of a separation membrane. Image courtesy of Matthew K. Borg and Jason M. Reese. See the technical theme that begins on page 273.



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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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