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MRS Bulletin

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Materials for biological modulation, sensing, and imaging

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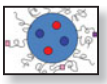

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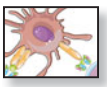

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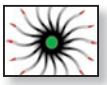

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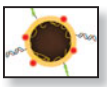

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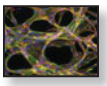

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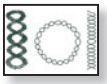

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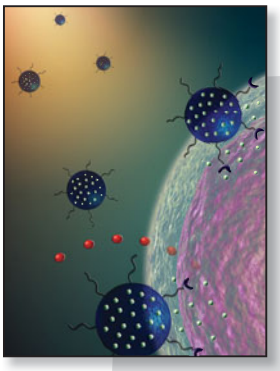

ON THE COVER

Materials for biological modulation, sensing, and imaging. This issue of *MRS Bulletin* explores the design of materials that have proved capable of reporting biological activities in cells and identifies current challenges. The articles also focus on future developments of multifunctional materials for sensing applications and therapies. A variety of bioactive materials are being designed to sense and modulate diverse cellular activities and function, while being monitored by various imaging modalities. The cover image depicts nanoparticles devised as a vehicle to deliver signaling molecules to target cells via specific receptor-ligand binding. The molecules released from the materials activate cellular expression and secretion of proteins crucial for the development, regeneration, and pathogenesis of tissues and organs. See the technical theme that begins on page **12**.

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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 over 16,000 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 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 Materials Research Society Foundation helps the Society advance its mission by supporting various projects and initiatives.

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