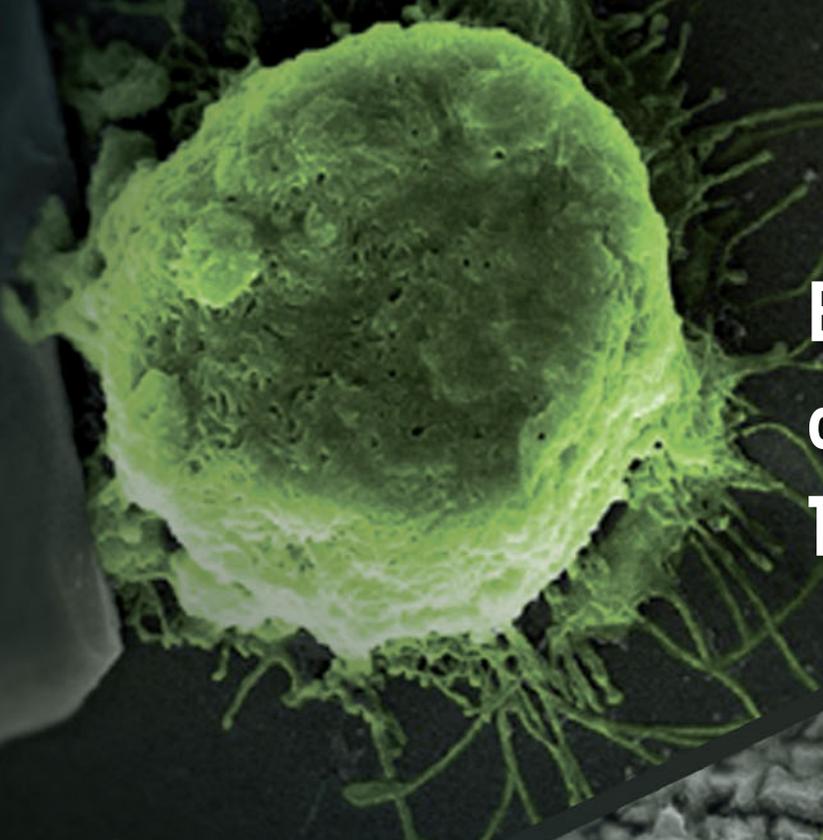


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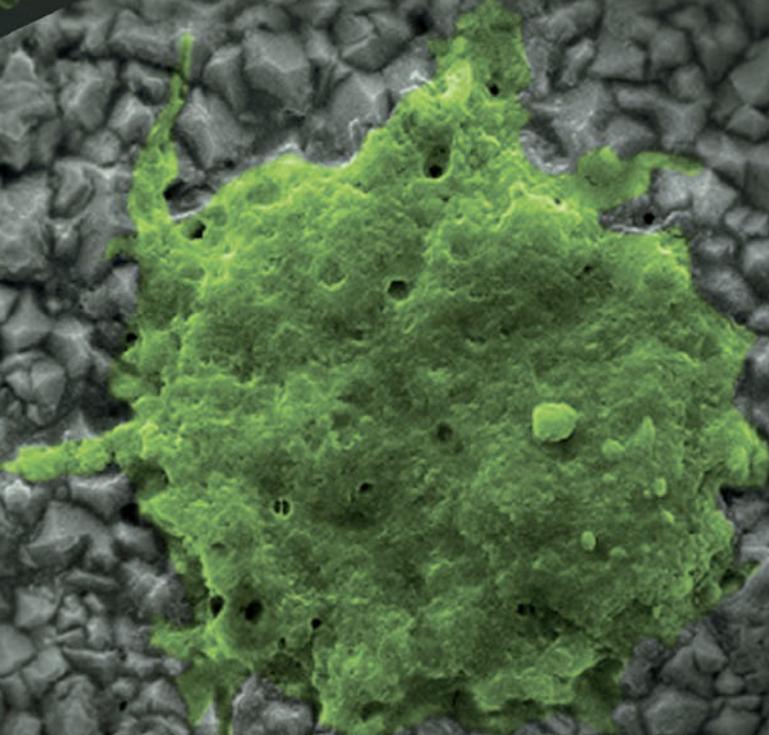
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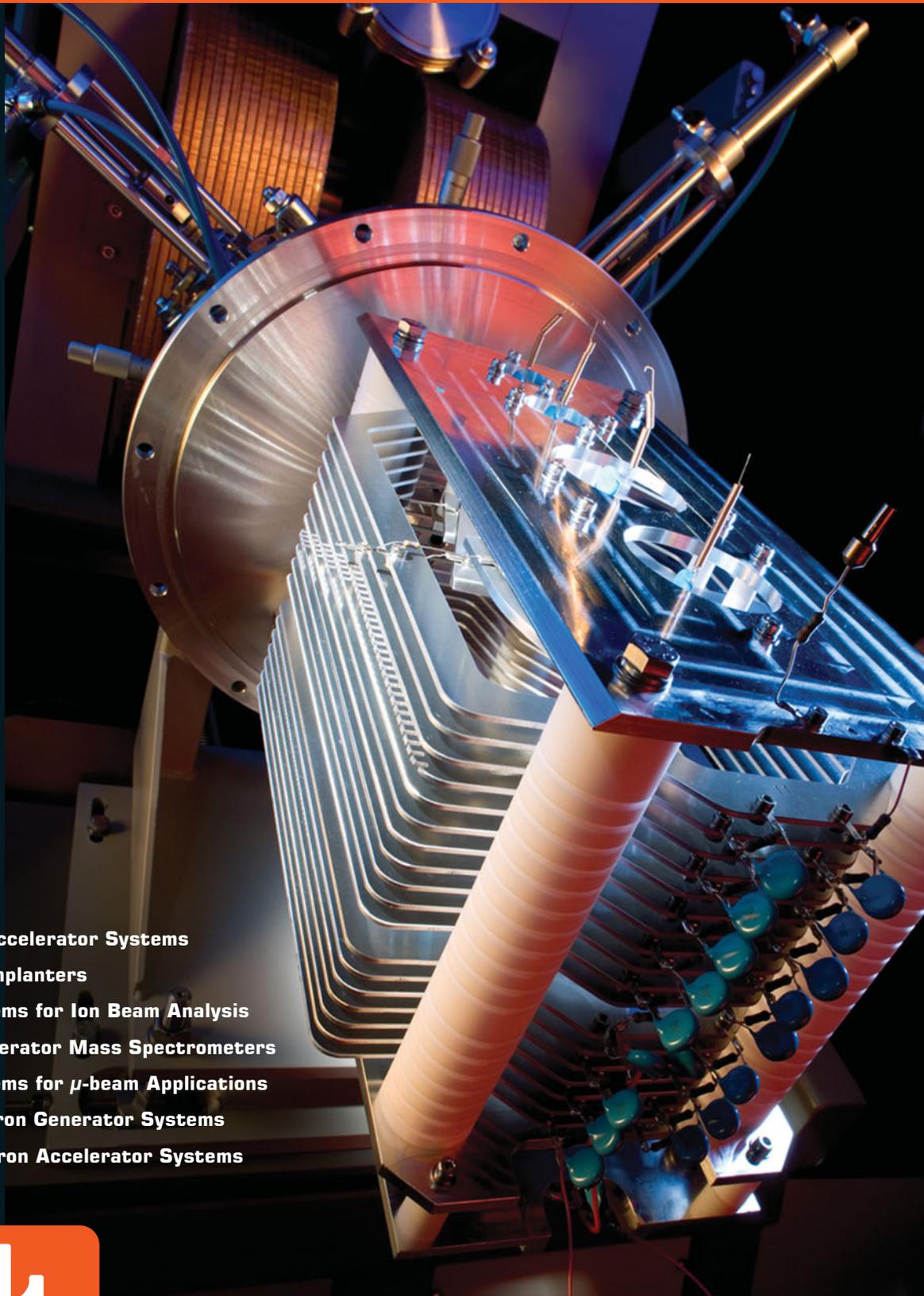
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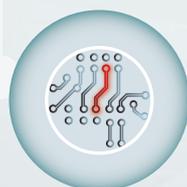
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Tantalum, Tube	OD 0.31 mm, I.D. 0.19 mm	Trace metal purity 99.9%	GF33615716
Niobium, Insulated Wire	0.125 mm diameter	Insulated wire, polyimide insulation	GF76912308

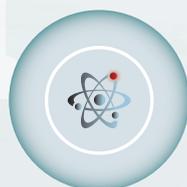
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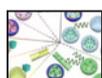
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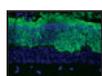
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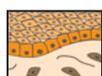
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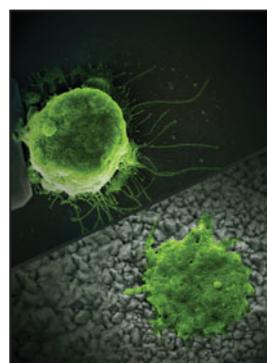
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ON THE COVER

**Biological interactions of oxide
nanoparticles: The good and the evil.**

The biological effects of engineered nanoparticles are of great interest, due to their therapeutic and diagnostic potential for drug delivery and controlled release. However, this also raises unprecedented safety issues. The articles in this issue of *MRS Bulletin* focus on the prospective use of metal oxide nanoparticles in nanomedicine, which promises great advances in anticancer and antioxidant therapies. The potential hazards of the use of these nanoparticles are also discussed. On the cover are examples of titania (TiO₂) films with two different phase compositions and surface topographies that show different bioresponses, as manifested in different cell growth patterns and proliferation behavior. Pure nanocrystalline TiO₂ surfaces (top) were found to be highly bioactive, while TiO₂ films having residual chloride contents significantly inhibited cell growth, leading to apoptosis or cell death (bottom). See the technical theme that begins on page 949.

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