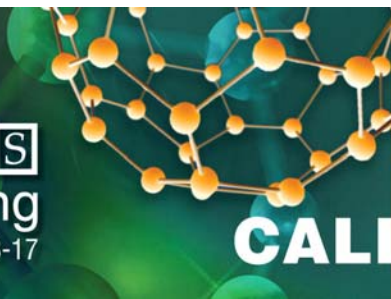




2009 MRS
spring meeting
San Francisco, CA • April 13-17



Abstract Deadline: November 3, 2008

www.mrs.org/spring2009

REMINDER:

In fairness to all potential authors,
late abstracts will not be accepted.

CALL FOR PAPERS

MRS Symposium LL: Architected Multifunctional Materials

Multifunctional requirements are becoming the rule in terms of design. Very often, contradictory requirements *cannot be met by single materials*. Various strategies are possible: *associating different materials* (such as multilayers), *playing with material architectures* (such as foams or truss lattices), or *developing microstructural gradients*. These strategies open a whole new range of materials and properties where structural requirements and functional properties can be associated. They also reveal new challenges, such as implementing new processes, developing appropriate constitutive equations, engineering interfaces, developing and modeling bio-inspired hierarchical structures, and promoting design methods to deal systematically with optimizing this new class of materials. These strategies are especially suited for a "materials by design" approach where materials associations, microstructural gradients, and multiscale architectures are *optimised to meet a complex set of requirements, possibly leading to a combination of properties that is otherwise impossible to reach*.

Topics of interest include:

- Structural materials for weight saving
- Materials and architectures for acoustic absorption, shock absorption, and thermal insulation
- Topologically interlocked materials for damage tolerance
- Bio-inspired architectures
- Architected surfaces for nonwettability
- Internal shape optimization
- Self-organized architectures
- Architecture-controlled magnetic, dielectric, and photonic materials
- Functionalized paper and cardboard architecture, etc.

Invited speakers (tentative) include:

Mike Ashby (Cambridge Univ., United Kingdom), **Olivier Bouaziz** (Arcelor Research Ctr., France), **Regis Bouchet** (ONERA, France), **Yury Estrin** (Univ. of Melbourne, Australia), **Tony Evans** (Univ. of California-Santa Barbara), **Norman Fleck** (Cambridge Univ., United Kingdom), **Huajian Gao** (Brown Univ.), **John Hutchinson** (Harvard Univ.), **Rod Lakes** (Univ. of Wisconsin-Madison), **Amit Misra** (Los Alamos National Lab), **Rob Pelton** (McMaster Univ., Canada), **Frans Spaepen** (Harvard Univ.), **Alan Taub** (General Motors R&D), **Julian Vincent** (Univ. of Bath, United Kingdom), **George Whitesides** (Harvard Univ.), and **Frank Zok** (Univ. of California-Santa Barbara).

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