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Nanowires: Fundamentals and Applications

Submission Deadline-January 28, 2011

Research on nanowires encompasses fundamental issues in crystal growth and the scaling of materials properties to molecular dimensions, and work on possible applications of nano-scale single crystal assemblies in advanced devices. The goal of this *JMR* focus issue is to summarize leading research performed by the broad, multidisciplinary community of nanowire researchers to provide a review of 1) the current state of the field and 2) the opportunities for future high-impact science and technology related to semiconductor nanowires.

Contributed papers are solicited on the following topics:

- Top-down and bottom-up assembly of nanowire arrays
- Catalyzed versus non-catalyzed nanowire growth
- Catalyst materials selection
- Vapor, solution, and template mediated nanowire growth
- Thermodynamics and kinetics of nanowire nucleation and growth
- Crystallographic and topological orientation control
- Axial and core-shell heterostructures synthesis and properties
- Limits to nanowire area and length scaling
- Size-dependent electronic, optical and mechanical properties
- Surface passivation and functionalization of nanowires
- Dopant incorporation and activation
- Metal/semiconductor nanowire contact formation
- Applications of nanowires in future devices

MANUSCRIPT SUBMISSION

To be considered for this issue, new and previously unpublished results significant to the development of this field should be presented. The manuscripts must be submitted via the JMR electronic submission system by January 28, 2011. Manuscripts submitted after this deadline will not be considered for the issue due to time constraints on the review process. Submission instructions may be found at www.mrs.org/jmr instructions. Please select "Focus Issue: Nanowires: Fundamentals and Applications" as the manuscript type. All manuscripts will be reviewed in a normal but expedited fashion. Other manuscripts that are acceptable but cannot be included in the issue will be scheduled for publication in a subsequent issue of JMR.

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