

Call for proposals for the next DFG-NSF Research Conference "Sustainable Use of Nanomaterials for Novel Engineering Solutions"

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The economies of industrial nations can generally be described as knowledge-based, and a highly valuable asset is investment in intangible, human and social capital. Economic growth, however, still relies on added value based on manufacturing processes in engineering and on the use of enabling technologies that emerge from curiosity-driven research and from development focussed on long-term goals.

At the same time, many industrial nations lack natural resources like raw materials, readily available energy sources and other natural assets that are vital for new, innovative products that are competitive on a global market. During the past decade this has had a serious impact on the cost of production processes and is now regarded as one of the major uncertainties for future economic growth. Today's challenge therefore lies in a thoughtful use of resources to lay the foundations for sustainable growth.

In this context, the role of nanoscale science is widely regarded as pivotal. In recent years nanomaterials attracted unprecedented attention in materials research and reached a maturity that already enabled industry to engage in high volume production.

Nanomaterials can provide unique opportunities to drive innovation. The necessary convergence of nanoscale science with manufacturing processes in engineering calls for an interdisciplinary approach and a new look at innovation processes and life cycle assessment.

This DFG-NSF Research Conference is the fifth in a series of research conferences jointly supported by the Deutsche Forschungsgemeinschaft (DFG) and the National Science Foundation (NSF) which aim to strengthen the research ties between the US and Germany. It is focussed on the topic of nanomaterials-based engineering solutions. It is intended to be the starting point for joint research activities between German and US researchers from academia, industry and national laboratories in the major fields of nanomaterials and production engineering in research and development as well as experts in geological resources, design and production planning. The conference aims at a strong cross-disciplinary approach by taking into account the availability of materials resources and new design opportunities as well as other concepts inherent to the use of nanomaterials and their development for engineering solutions.

The conference is organised in four consecutive sessions:

- Session 1 (focus on natural sciences): Physics and Chemistry of Nanomaterials: Opportunities for Novel Engineering Solutions
- Session 2 (cross-disciplinary): Production Engineering on the Nanoscale: Requirements for High Volume Production
- Session 3 (focus on engineering sciences): Sustainable Use of Nanomaterials: From the Availability of Natural Resources to Recycling Challenges
- Session 4 (cross-disciplinary): Nanomaterials-based Innovation Processes: New Design Strategies for Products and Devices

Detailed information on the topical areas is available on the conference website (<http://www.rpi.edu/~koratn/conf.html>).

The overall objective of the conference will be to explore the advances in the research communities involved with regard to these topics and to bring the communities together across disciplinary boundaries. Participants are expected to have a genuine interest in cross-disciplinary interaction and to take part with the aim of setting up collaborative research projects. The conference will allow for both, focussed scientific discussions and networking between the participants. The funding agencies will consult the participants in

terms of appropriate coordinated funding schemes. Proposals for collaborative projects consistent with the thematic scope are envisaged and stimulated.

The DFG-NSF Research Conference is organised by a Steering Committee of leading researchers in their fields: Pulickel Ajayan (Rice University), Kirsten Bobzin (RWTH Aachen), Beth Dickey (Pennsylvania State University), Nikhil Koratkar (Rensselaer Polytechnic Institute), Armin Reller (University of Augsburg), Frank Vollertsen (BIAS Bremen).

The members of the Scientific Committee invite abstracts. This call is now open. The deadline for submission is 15 April 2009.

The contributions should take into account significant enhancement in product properties or in the applicability of nanomaterials and should provide feasible approaches with regard to the transfer of expertise and innovation from academia to industry and vice versa.

Authors are requested to submit abstracts of up to two pages in length (figures can be included if necessary) at the conference website <http://www.rpi.edu/~koratn/conf.html>.

Weiterführende Informationen

More information about the conference, including the conference programme is available on the website:

- www.rpi.edu/~koratn/conf.html

Important dates:

- 15 April 2009
Deadline for abstract submissions to be considered for conference. Applicants may submit more than one abstract, but only the best of all submissions will be chosen (if any) for any one individual.
- 31 May 2009
Decision will be made by the Steering Committee regarding accepted abstract submissions and notifications sent.
- 14-17 October 2009
Conference.

Venue:

German House, 871 UN Plaza, New York City, USA

For questions regarding the topical scope contact:

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