

International Dimensions of NSF Projects

Nano-EHS Science and Engineering

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Alan Tessier – Biological Sciences - DEB





International Science and Engineering (ISE)



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International Science and Engineering (ISE) Section

About International Collaboration & Funding at NSF

NSF highly values international collaboration, as it is critical to keeping the United States globally competitive at the frontiers of knowledge, leading to transformational S&E breakthroughs.

ISE serves as the focal point for international collaborative activities across NSF while working across the Foundation to co-fund awards and supplements in cooperation with NSF's disciplinary directorates.

To fulfill this unique role, ISE hosts three overseas NSF offices. Located in [Paris](#), [Tokyo](#), and [Beijing](#), these offices promote collaboration among U.S. and foreign scientists and engineers, serve as liaison between NSF and its overseas counterparts, and report on developments in the international science and engineering community.

Links to the international offices, the ISE staff directory, and other ISE resources, are on the left side of this page.

Investigators based at a U.S. research institution may include international dimensions in new proposals that they intend to submit to NSF's disciplinary directorates or to ISE, or they may request [supplemental funding](#) for their existing NSF awards. NSF can support the costs associated with participation of U.S.-based researchers (including students) engaged in international collaboration. U.S. investigators are advised to consult early in the application process with both the disciplinary program manager and an [ISE country program manager](#).

Proposals for international collaboration should fully address the first criterion below, as well as one or more of the subsequent criteria:



[NSF-wide](#)

Partnerships for International Research and Education (PIRE)

PIRE Program News

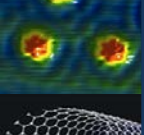
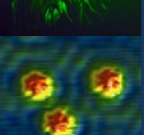
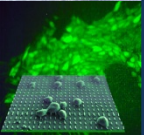
The next PIRE solicitation will be announced in the summer of 2014. The solicitation will be issued in the June, 2014 time period. Awards will be made in the August-September 2015 time period.

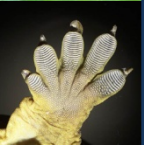
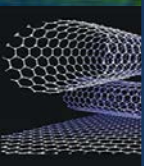
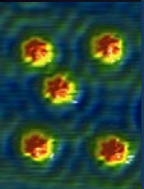
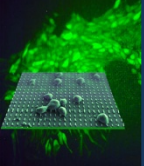
Materials for Renewable Energy Nature's Way (RENEW) 1243313

Partnerships include the University of Pennsylvania, Rochester Institute of Technology, and universities in the U.K., Brazil, Belgium, and Italy.

PIRE: Water and Commerce: Technologies to Enable environmental sustainability in global markets 1243433

Partnerships include Duke University, Michigan State University, and North Carolina Central University, and universities in Turkey, Singapore, and France.





International Research Experiences for Students (IRES)

PROGRAM SOLICITATION
NSF 12-551

Award #1261117

**IRES: International Research Experience for Students in
Computational Nanoscience**

Award #1261154

IRES: Nanofibrous Materials Challenge

Award #1261104

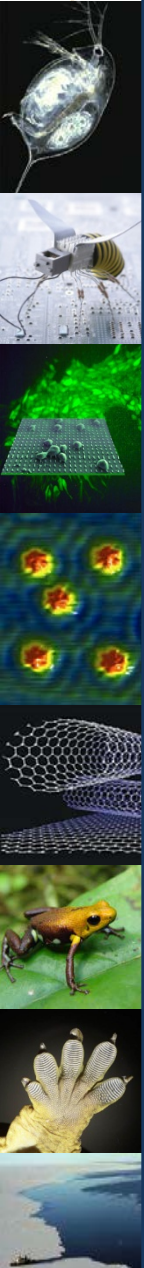
**IRES: Building Networks for U.S. Chemistry Undergraduates
in Germany**



Centers for Environmental Implications of Nanotechnology



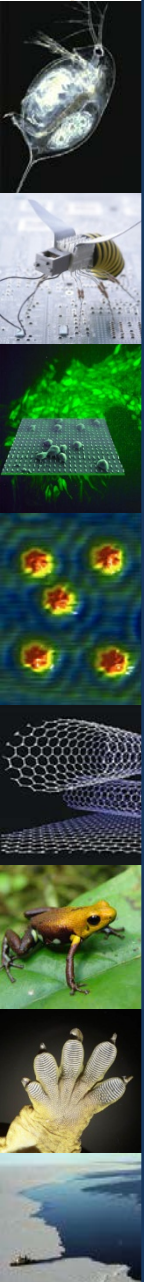
Original awards (2008-2013)
Renewed (2013-2018)



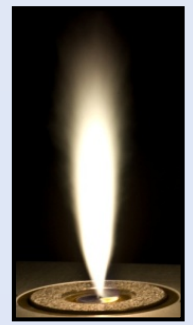
Baylor University - Carnegie Mellon University - Howard University -
Stanford University - University of Kentucky - Virginia Polytechnic Institute
and State University



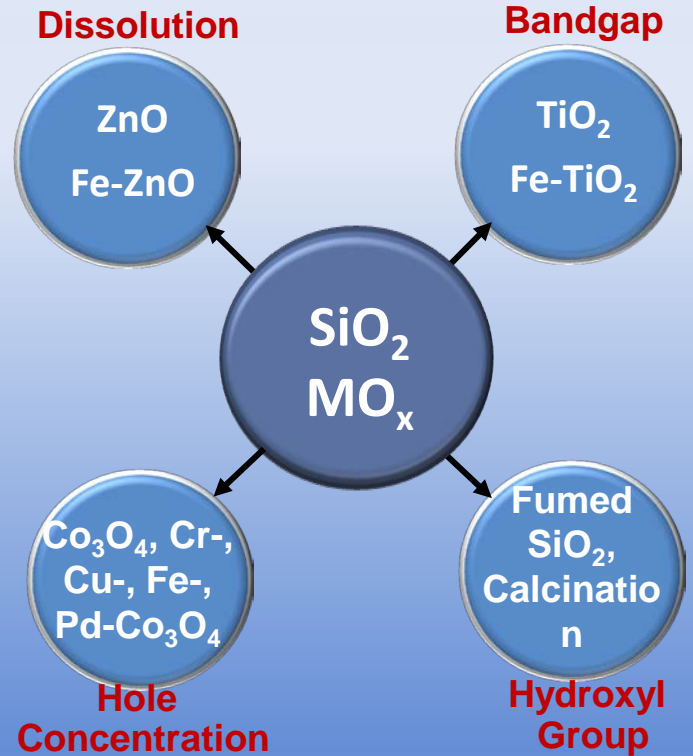
Columbia University - Northwestern University - University of California-Davis
- University of California-Riverside - University of California-Santa Barbara -
University of New Mexico - University of Texas-El Paso - University of Bremen



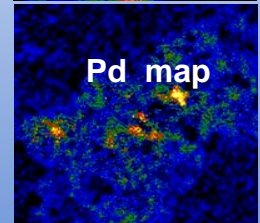
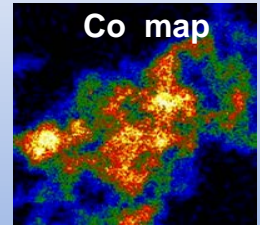
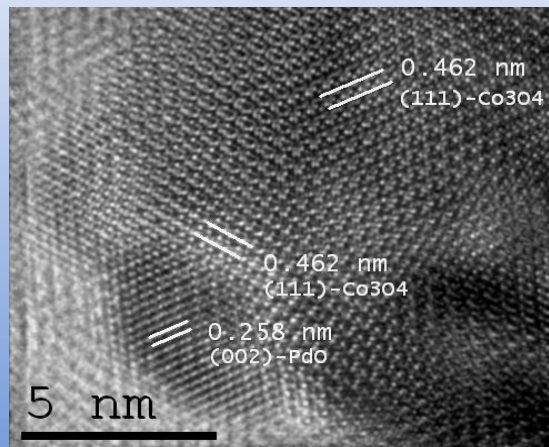
Partnership with:

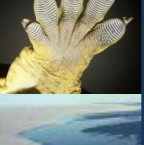
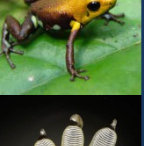
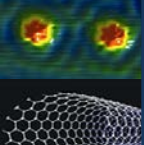
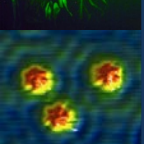
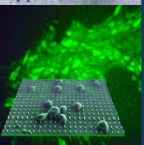


Goal: Synthesis of Compositional and Combinatorial EMN libraries with deliberate characteristics to support the study of relationships between ENM Electronic Structure and Biological Outcomes.



Lutz Mädler





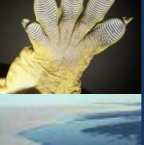
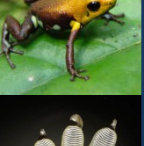
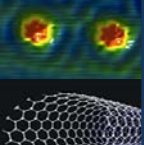
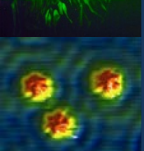
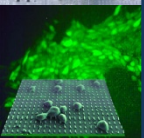
Engineered nanomaterial mechanisms of interactions with living systems and the environment

<http://www.nanomile.eu-vri.eu/>

Goals:

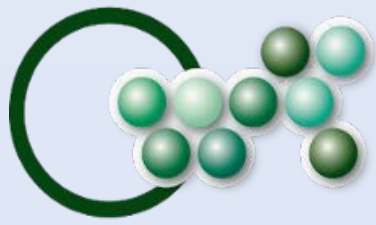
To develop a paradigm for the modes of interaction between manufactured nanomaterials and organisms or the environment, to allow the development of a single framework for the classification of nanomaterial based on their potential toxicity, and to create a universally applicable framework for nanosafety.





U N I V E R S I T Y O F C A L I F O R N I A

UC  CEIN Center for Environmental Implications of Nanotechnology

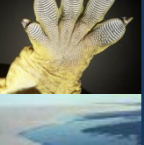
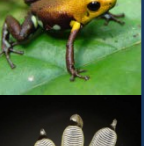
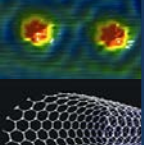
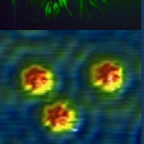
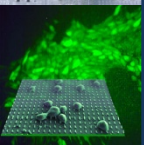


MODern
MODELING NANOTOXICITY

<http://modern-fp7.biocentit.cat/>

Develop new models for environmental and human health effects of engineered nanomaterials





<http://www.enpra.eu/Home.aspx>

Develop and implement a novel integrated approach for engineered nanoparticle risk assessment





Transatlantic Initiative for Nanotechnology and the Environment



•An integrated research approach focused on terrestrial ecosystems and uncertainty related to the fate, transport, and effects of manufactured nano-materials introduced into the environment.

- Specific collaborative focus on:
 - Wastewater treatment
 - Agroecosystem impacts



United Kingdom



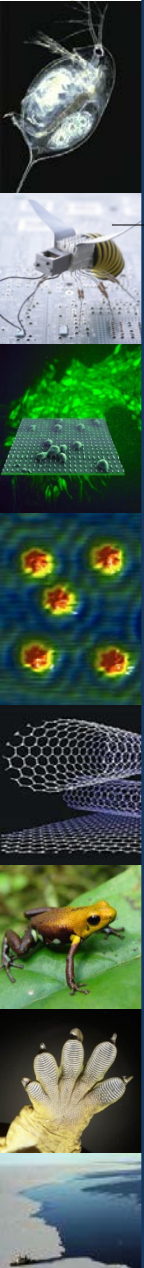
International Consortium for the Environmental Implications of Nanotechnology (ICEINT)

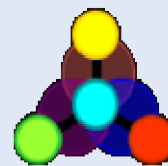


- Headquartered in Aix-en-Provence, France, at the Centre Europeen de Recherche et d'Enseignement des Geosciences de l'Environnement (CEREGE)
- Multiple collaborative projects on nanomaterials in controlled and complex systems
- CEINT Director Mark Wiesner serves as an adjunct professor; Jean-Yves Bottero, Jerome Rose and Melanie Auffan serve as adjunct professors at Duke University



France

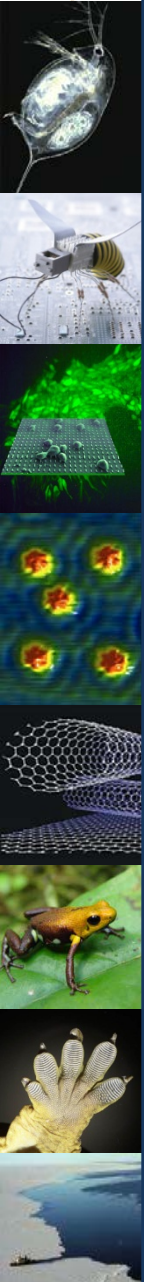




Serenade

SERENADE:

Safe Ecodesign and sustainable Research and Education applied to NAnomaterial Development



- 8 year, €11 international effort focused on safe, sustainable and eco-designed innovative nanomaterials: materials safer by design
- Investigates releases of nanoparticles from products; directly tied into both CEINT, and the CEINT-collaborative EPA LCNano project with Director Paul Westerhoff (also of the CEINT External Advisory Board)



France



United Kingdom



Austria



Switzerland



Australia