

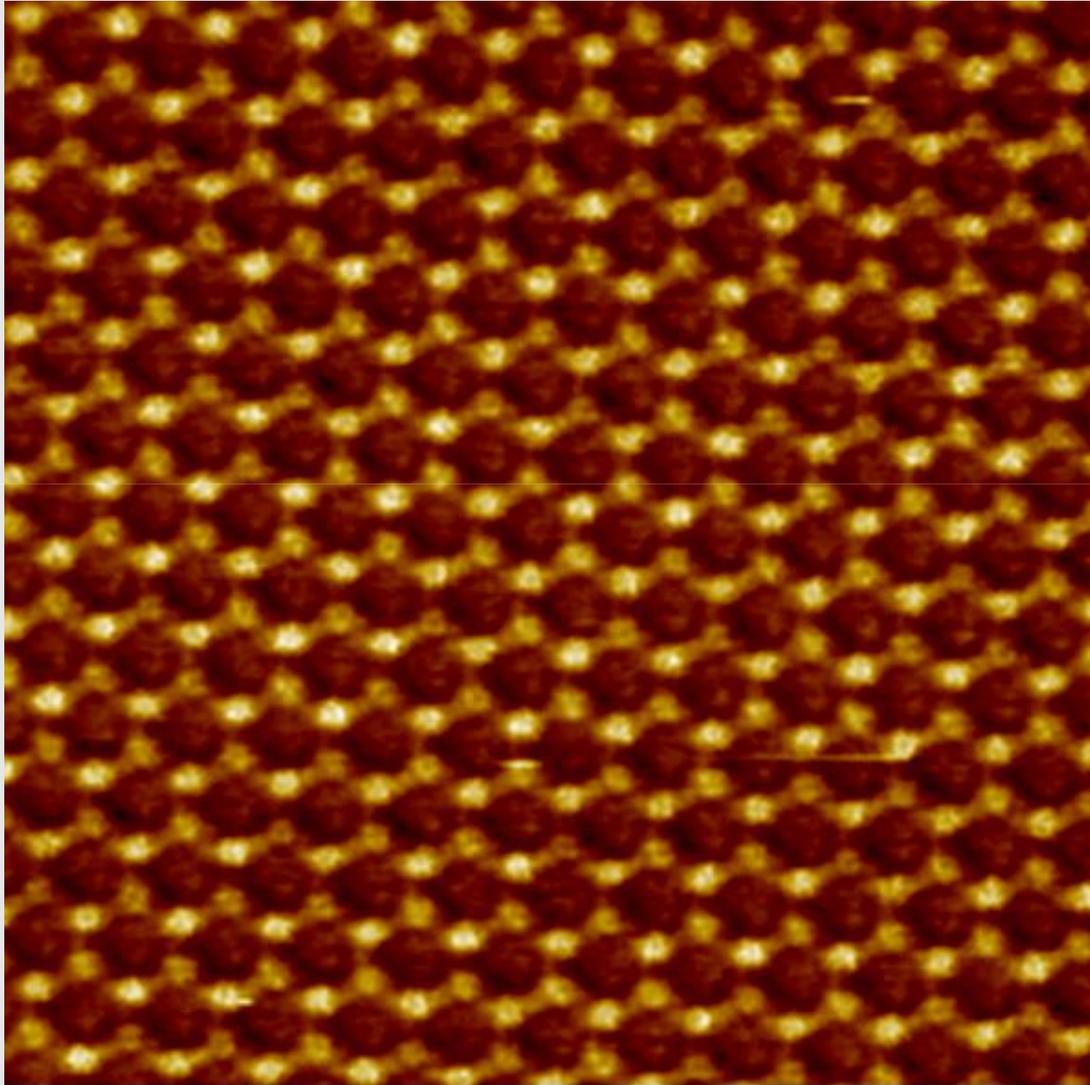
Christoph Heining



## *Out of the Ivory Tower*

3 August 2012

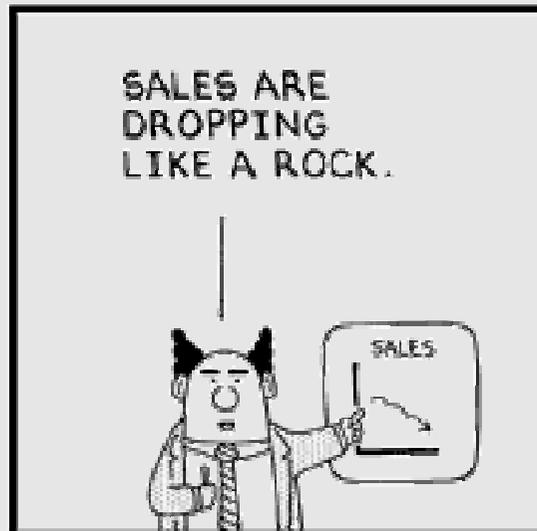
Erice International School of Science Journalism and Communication



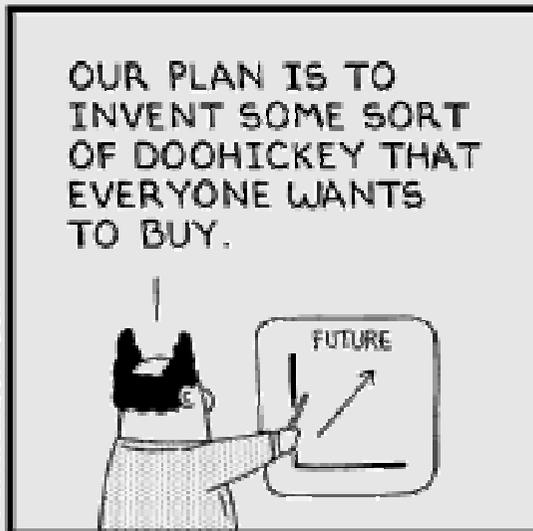
Have you ever seen  
a nanometer?

## What is NanoToTouch ?

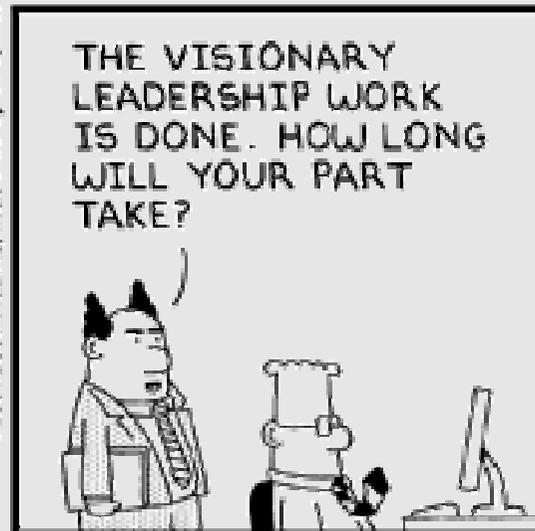
- **nanoscience enters the museum**
  - a recent key technology, which covers several fields of classic sciences, faces the public
- **new, innovative approach to the Public Understanding of Research**
  - relocation of the laboratory environment (and the research work) from enclosed academic campuses into the public forum
  - direct interaction between scientists and public
- **show credible everyday scientific work**
  - show all aspects of scientific work
  - resolve the public concept of science to reality (clarify misconceptions?)
- **encourage a dialogue between science and public**
  - what goes on in the mind of a scientist?
  - what are the ethical, legal and societal implications of research?  
(basis of social and ethical democratic discussion)



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## The beginning: The Open Research Lab in the Deutsches Museum



-lab equipped with an ambient scanning tunneling microscope

-exhibition of nano products

-live research with young scientists from the university



- FP7 European Project
- based on the Open Research Lab of the Deutsches Museum
- tried and tested format (3-year test phase, visitor evaluation)
- direct public dialogue concerning ELSA aspects
- local partnerships between science centres / museums and universities

***Focus:*** *creation of innovative places where the broad public can learn about and discuss nano research by directly involving the scientists*

**Project Details**

*Full Title:* Nanosciences Live in Science Centres and Museums

*Reference:* CSA-SA 233473

*Funding:* € 1,369,974.00

*Duration:* 01.03.2009 - 31.08.2011

## Elements of NanoToTouch Areas

- **Open Nano Lab:**  
fully functional  
nano-research lab



- **Nano Researcher Live:**  
presentation area

- **Nano-Demonstrations**
- **Nano-Products**
- **Info-boards, etc.**



# NanoToTouch – Project Focus

two main elements:

## Open Nano Lab

University



In situ  
research

Museum



Visitors



School Classes

## Nano Researcher Live

Science Centre



Visitors



School Classes

University



scientists present  
their work in the  
science centre  
(bi-weekly)

## NanoToTouch Areas

**Designed according to local requirements**

**University partner:**

- research equipment  
(compatible to equipment used in University)
- location (stable environment, low noise,...)



**Science Centre / Museum partner:**

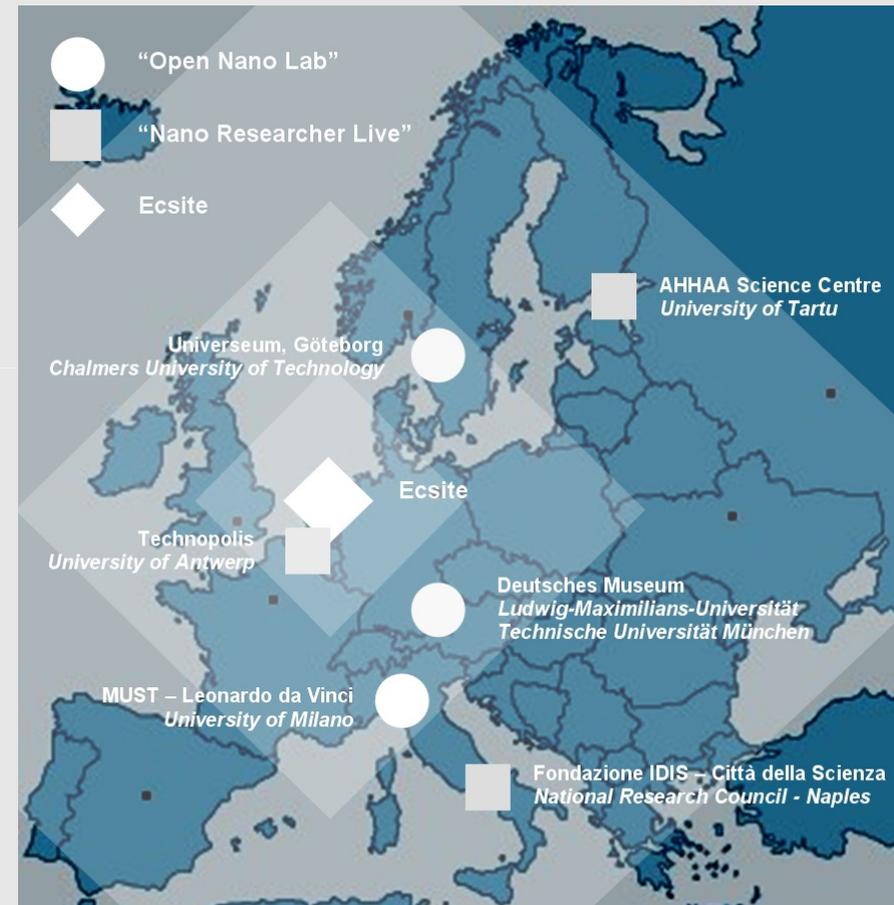
- visitor requirements  
(room for groups, visitor flow,...)
- exhibition context



**➔ each NanoToTouch Area has distinct individual design**

## Framework

- 6 local cooperations between museums / science centers and universities
- Europe-wide evaluation and dissemination programmes
- strong, science-based, balanced and up-to-date system for communicating nanotechnology information
- case study for similar collaborations



# Open Research Lab - Munich

**Deutsches Museum**  
**Technische Universität München**

**Deutsches Museum**



# Open Research Lab - Göteborg

Universeum AB

Chalmers Tekniska Högskola AB



# Nano Researcher Live area - Mechelen

**Technopolis<sup>®</sup>, the Flemish science centre**  
**Universiteit Antwerpen**



# Nano Researcher Live area - Tartu

**AHHAA Science Centre**

**University of Tartu - Institute of Physics**



# Nano Researcher Live area - Napoli



Consiglio Nazionale delle Ricerche

**Fondazione IDIS-Città della Scienza**

**National Research Council - Institute of Cybernetics “E.Caianello”**



# Open Research Lab - Milano

Museo Nazionale della Scienza e della Tecnologia Leonardo da Vinci  
University of Milano – CIMaNa

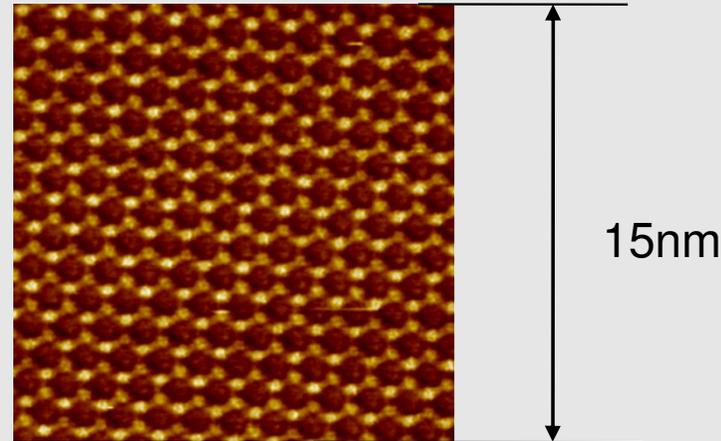
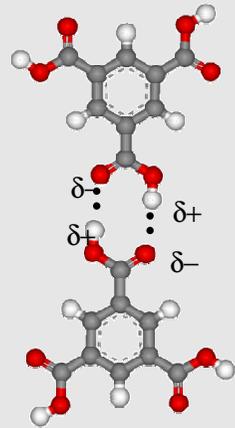


## NanoToTouch - project objectives

- 1 - create a sustainable infrastructure of public sites**  
(Open Nano Labs, Nano Researcher Live areas)
- 2 - let public experience "live" the day-to-day practices of nano research**  
(Public Understanding of and Engagement with Research)
- 3 - peer-to-peer dialogue between lay public and nano researchers**  
(instead of usual "top-down" approach to science communication)
- 4 - discussion of ethical and societal implications of nanotechnology**  
(on the level of everyday problems and questions of the individual people)
- 5 - bring school groups into direct contact with nano researchers**  
(building on strengths of science centres and museums)
- 6 - establishment of new role models for both sides**  
(youth: career choice - scientists: communication part of profession)
- 7 - collaborations between research and educational institutions**  
(precondition for development of similar programme formats)

## Instead of a conclusion

„All in all the concept of the dialogue areas has proved a high value. The visitors were highly satisfied with their visits of the Open Nano Labs / Nano Researcher Live Areas (...). Because of the high financial, personal and infrastructural effort to set up such an Open Nano Lab a longer running period is urgently recommended than was given in the NanoToTouch project.“



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or contact the speaker: [c.a.h@web.de](mailto:c.a.h@web.de)

Deutsches Museum 

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