

PRESS RELEASE

Ahrtal talks 2011: Chances and risks of nanomedicine

Bad Neuenahr-Ahrweiler, 18 November 2011. – This year's Ahrtal talks involved chances and risks of "nanomedicine" and the question which new developments nanomedicine may offer to bring forward medical progress. Guido Orthen, mayor and chairman of the sponsors' club of the Europäische Akademie and host of this event, and Professor Dr. Dr. h.c. Carl Friedrich Gethmann welcomed the guests and the two speakers, Professor Dr.-Ing. Heinrich Hofmann and PD Dr. phil. Johann S. Ach, in the city's council hall. Gethmann introduced to the subject, pointing out that nanotechnology already had a certain "history" in the Europäische Akademie as there had already been several projects dealing with this matter. Currently, the Europäische Akademie is co-ordinating the EU-project "NanoDiaRA", a project dealing with nanotechnology based diagnostic systems for Rheumatoid Arthritis and Osteoarthritis.

Heinrich Hofmann (Eidgenössische Technische Hochschule Lausanne) first explained that there were different competing definitions of "nano". According to his explanations, "nano" did not only mean "small" particles (less than 100 nm), but was also supposed to distinguish specific innovative properties of nano-scaled materials: properties which were hoped to be of use for efficient, safe and affordable medical treatments. Nanotechnology was supposed to be applied in diagnostics, therapy and prevention and could foster the trend towards a personalized medicine.

Hofmann also explained that the risk of using nanoparticles in medicine was especially related to their possible toxicity which, however, was not considered as too high: Nanoparticles would be used controllably and for particular purposes only. Other than in clothing or food, for instance, their medical use would be local and controllable. In the test procedures, nanoparticles were examined like drugs, and to test their suitability, highest safety requirements would be implemented. Though he conceded that there were still no long-term studies and that scientists from different faculties repeatedly had communication problems when nanotechnology was concerned.

Johann S. Ach (Westfälische Wilhelms-Universität Münster), second speaker of the evening, approached in particular the ethical assessment of the new technology, stating that there were several ethical problems relating to the use of nanotechnology in medicine, namely matters of data protection,

Contact:

Europäische Akademie zur Erforschung von Folgen
wissenschaftlich-technischer Entwicklungen Bad Neuenahr-Ahrweiler GmbH
Director: Professor Dr. Dr. h.c. C. F. Gethmann
Amtsgericht Koblenz HRB 13717
Wilhelmstraße 56 • 53474 Bad Neuenahr-Ahrweiler
Phone: +49 (0) 2641 973-300 • Telefax: +49 (0) 2641 973-320

Friederike Wütscher / Katharina Mader, M.A.
friederike.wuetscher@ea-aw.de
katharina.mader@ea-aw.de
www.ea-aw.de

possible ensuing discrimination and political issues, because one could not say whether such treatments would be equitably available for all patients. Moreover, one should keep a wary eye on the possible application of nanotechnology-assisted medical developments in non-medical fields such as, for instance, for military purposes. As furthermore exploration of risks of medical use of nanoparticles was still not finished, there was still a lack of formulation of questions and measuring instruments, Ach stated.

Cultural and anthropological aspects such as a new comprehension of disease and health and impacts on human self-conception (for instance in connection with "human enhancement") had also to be taken into account for an assessment. According to Ach, adoption of a consistent terminology would be particularly important to solve these problems. Moreover, an optimum risk assessment and profound ethical reflections regarding any possible application fields should be basic prerequisites.

During the subsequent discussion between the speakers and with the audience, lead by Gethmann, it was stated that nanotechnology was only applicable to a few treatments so far, as its development was still in progress. In this connection, Hofmann underlined that in his opinion it was therefore not yet time for an ethical assessment, whilst Ach would start with ethical assessment right from the beginning. The speakers agreed that debates on medical application of nanotechnology had revealed that all parties concerned had perceived the risks and that outside of actual medical application there was a need of clarification as to human self-conception and the doctor-patient relationship.

The series of events of Ahrtal talks of the sponsors' club of the Europäische Akademie GmbH brings research in the field of ethics and assessment of technical consequences and practice together and discusses controversial topics. This year's Ahrtal talks of 16 November 2011 were in addition sponsored by the EU-project NanoDiaRA (www.nanodiara.eu) which is coordinated by the Europäische Akademie.

Speakers: Professor Dr.-Ing. Heinrich Hofmann, Eidgenössische Technische Hochschule Lausanne (EPFL), Director of laboratory for powder technology, Institut für Materialwissenschaften (institute of materials properties); PD Dr. phil. Johann S. Ach, Westfälische Wilhelms-Universität Münster, Centrum für Bioethik

The Europäische Akademie zur Erforschung von Folgen wissenschaftlich-technischer Entwicklungen Bad Neuenahr-Ahrweiler gGmbH was founded in 1996 by the Bundesland Rheinland-Palatinate (Land Rheinland-Pfalz) and the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt e.V. – DLR). Director of the academy and manager of the company is Professor Dr. phil. Dr. phil.h.c. Carl Friedrich Gethmann, who is a full professor of applied philosophy at the Universität Duisburg-Essen. The Europäische Akademie deals with the scientific study of the consequences of scientific and technological advances for individuals and society, as well as for the natural environment. The main focus is on the examination of foreseeable mid and long-term processes that are especially influenced by the natural and engineering sciences and the medical disciplines. As an independent scientific institution, the Europäische Akademie pursues a dialogue with the world of politics and society at large. Further information: www.ea-aw.de/en.
