

SGCI Chemie Pharma Schweiz

Abstract Gastreferat GV 2008



Chemie
Pharma
Schweiz

PD Dr. Patrick Hunziker
Chairman European Society for Nanomedicine
Kantonsspital und Universität Basel

"Nanotechnologie und ihre Chancen für die chemisch-pharmazeutische Industrie"

Nanomedicine is a field of applied research - characterized by the application of methods, tools and materials arising from the nanosciences - with the primary goal of benefiting the patient.

This introductory lecture gives an introduction to nanomedicine by sketching the width of topics that make up the field and giving a number of examples of nanomedical applications. A particular focus will be put on the potential of nanostructured pharmaceuticals including designs for drug delivery, for theragnostics, and for targeted delivery of advanced functionality.

Weighting the promise of benefits with new technology versus the potential of unforeseen risk is, as always in the history of pharmaceuticals, also an important topic in nanomedicine.

In few other fields, research is as strongly interdisciplinary as in nanomedicine, involving not only medicine but also physics, chemistry, biology, pharmacology, engineering and many others. This interdisciplinarity creates fascinating new possibilities but requires also a mindset which is determined to cross barriers.

At the same time, nanomedicine has raised significant expectations and it is up to the community of researchers and physicians now to prove that this new approach leads to real advances: which diseases will be cured, alleviated or prevented; which drug side effects can be eliminated, and how can nanomedicine benefit individual patients and be beneficial for the society as such.

While advancing in applied research for medicine, important questions are to be considered: How will such new technologies influence the ethics of medicine, our society's view of disease, suffering and even the nature of man? How to introduce new technologies without overstraining healthcare finances? How can we use nanomedicine to reduce the north-south gap?

The goal of the talk is difficult: introducing a broad new research field, highlighting its large potential for medical application, mentioning the inherent risk and shining some light onto the broader implications of the new technologies. However, the presenter hopes to convey to the assembly at least in part the enthusiasm currently seen in the field, combined with a sound measure of critical observation of the recent developments.