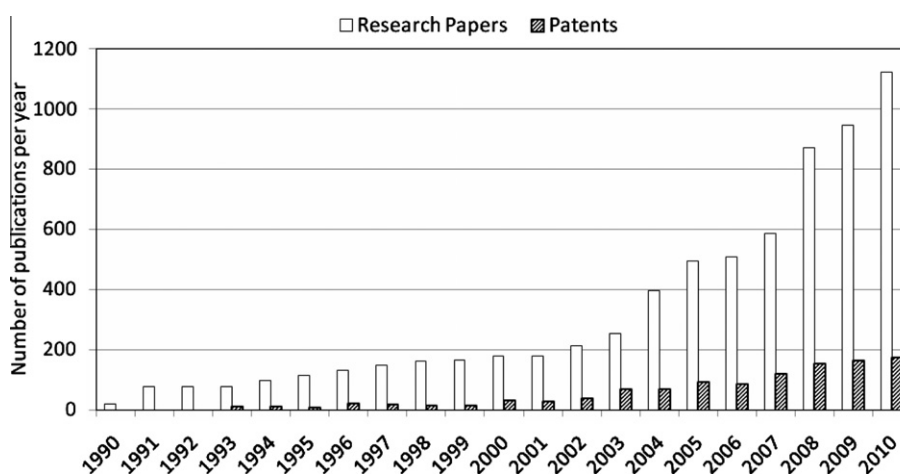




Editorial

More than 15 years ago, the European Journal of Pharmaceutics and Biopharmaceutics (EJPB) published a special issue on the use of nanoparticles for pharmaceutical dosage forms, and at that time, only few scientists were interested in the field. As illustrated in the figure below, the number of scientific publications and patents dealing with nanotechnologies in pharmaceutical dosage forms has increased by a factor of 6 over the last decade.

tics (liposomes, macromolecular drugs, nanocrystals) have reached the market and met undeniable success, a large proportion of vectors failed to demonstrate sufficient benefits during the pre-clinical and clinical development stages, revealing our insufficient understanding of their interactions with the biological milieu under the normal and disease states. With the emergence of novel “intelligent” materials and complex supramolecular structures, it



Numerous highly specialized journals and discussion groups have also been created over the last few years and many symposia and workshops are held worldwide each month.

EJPB has always been at the forefront in the field of nanostructured delivery systems and has published early work from pioneers such as Professor Peter Speiser from the ETH in Zurich, Professor Patrick Couvreur from the University of Paris, Professor Jorge Kreuter from the University of Frankfurt, and many others.

In the area of pharmaceutical sciences, nanotechnologies have been mainly applied in cancer chemotherapy and imaging. In most cases, the naturally occurring “enhanced permeation and retention” (EPR) effect, which characterizes the leaky vasculature and impaired lymphatic drainage of tumoral sites, has been exploited to improve the distribution of anticancer drugs to tumours [1]. This paradigm still largely dominates research in this field although it becomes nowadays clear that this approach bears some limitations in humans. While in recent years, a number nanosized pharmaceu-

tics can be expected that, in the near future, more effective targeting strategies will be devised [2], and exciting new therapeutic uses of nanosized carriers will be explored [3].

This special issue of EJPB on pharmaceutical nanosystems assembles a collection of high quality manuscripts which essentially deviate from the classical intravenous delivery of anticancer drugs. A large proportion of contributions deal indeed with transdermal drug delivery. While the passage of pollutant nanoparticles across the skin and mucosa is raising some concern from a toxicological viewpoint [4], the controlled transdermal delivery of drugs remains an important and exciting challenge in pharmaceutics since it may allow the administration of a variety of fragile pharmacological agents in a non-invasive fashion. Among the other topics that are covered in this special issue, one can cite the use of nanocarriers in gene delivery, as vaccine adjuvants, and for the oral and ocular administration of poorly bioavailable drugs. We wish to express our gratitude to all the participating authors for

their remarkable contributions, and we hope that this theme issue will be of interest to all scientists actively involved in applied nanosciences.

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