



## Editorial

# Pharmaceutical Nanotechnology: a new section in *IJP*

In a recent editorial, Prof. A. T. Florence, announced the formation of a new section in the *International Journal of Pharmaceutics*, entitled “Pharmaceutical Nanotechnology”. This marks a new approach by the Journal to have a specialized subsection of the Journal that highlights a specific area of research and interest. Although the Journal will continue to provide an outlet for publishing original research in all areas germane to the field of Pharmaceutics and we do not anticipate reducing our emphasis on other areas of Pharmaceutics, the considerable interest and potential for future growth and development of the use of nanotechnology in many aspects of Pharmaceutics suggest the value of developing a specialized section on “Pharmaceutical Nanotechnology”.

The rationale for the creation of this section of the Journal has been well addressed in Prof. Florence’s editorial. A few additional comments may be appropriate. Aspects of nanotechnology have been utilized by pharmaceutical scientists for many years and perhaps have their beginnings in colloidal science that has been applied in drug product formulation and delivery (e.g. colloidal gold and silver). The great increase in interest in nanotechnology may be an outgrowth of the use of miniaturization in many areas of product development. In the pharmaceutical sciences, nanotechnology is being used in such diverse areas as:

1. drug discovery (including combinatorial chemistry and synthesis on the molecular and macromolecular scale),
  2. nanoanalysis including bioanalysis using miniaturized probes, microarrays and lab-on-a-chip approaches,
  3. utilizing approaches used by the body in fluid flow and targeting,
  4. drug delivery systems having sizes in the nanometer range (e.g. liposomes, nanoparticles, micro-emulsions, dendrimers, etc.)
  5. implantable devices that can sense blood levels and automatically administer drugs
  6. nanoscale biomaterials including biomimetics
  7. biological macromolecules (e.g. proteins, enzymes, DNA and RNA based nanostructures, molecular assemblies, biomolecules, cells, biochips, etc.)
  8. molecular sensors and biosensors, clinical diagnostic techniques.
  9. gene delivery and expression
- as well as many other areas.

When pharmaceutical products are manipulated on the nanoparticle size scale many characteristics, such as optical, electrical, magnetic as well as other characteristics such as structural and performance characteristics may change markedly. The use of nanotechnology in modifying drug delivery will be emphasized in this new section of the Journal. We encourage authors to indicate during the submission process their desire to have a manuscript considered for this section. The editors will also assign appropriate papers to the “Pharmaceutical Nanotechnology” section. It is anticipated that a section focused on nanotechnology will provide a convenient resource for our readers and authors to obtain current information on the applications of nanotechnology to Pharmaceutics as well as maintaining our overall goal of publishing innovative papers and reviews dealing with Pharmaceutics and drug delivery in their broadest sense.

Howard Rytting  
Editor-in-Chief  
The Americas and Australia