# Index

In the fast-developing field of nanomedicine, a broad variety of materials have been used for the development of advanced delivery systems for drugs, genes, and diagnostic agents. With the recent breakthroughs in the field, we are witnessing a new age of disease management, which is governed by precise regulation of dosage and delivery.

This book presents the advances in the use of polymeric nanomaterials for medical imaging, diagnosis, theranostics, and drug delivery. Beginning with the combinatorial approach for polymer design, it discusses star-shaped amphiphilic polymers, self-assembling polymer–drug conjugates, amphiphilic dendrimers, dendrimer nanohybrids, sustainable green polymeric nanoconstructs, chitosan-based nanogels, and multifunctional hybrid nanogels. The book provides all available information about these materials and describes in detail their advantages and disadvantages and the areas where they could be utilized successfully.

**Vladimir Torchilin** is University Distinguished Professor of pharmaceutical sciences and the Director of the Center for Pharmaceutical Biotechnology and Nanomedicine at Northeastern University, USA. His research interests include drug delivery and targeting, nanomedicine, multifunctional and stimuli-sensitive pharmaceutical nanocarriers, biomedical polymers, experimental cancer therapy, cancer immunology, and novel imaging agents. He has published more than 450 original papers, more than 150 reviews and book chapters, and 12 books and holds more than 40 patents. Google Scholar gives more than 66,000 citations of his work with H-index of 114. Prof. Torchilin is editor-in-chief of *Drug Delivery* and *Current Drug Discovery Technologies* and is on the editorial boards of several leading journals in the field, including *Journal of Controlled Release* (review editor), *Bioconjugate Chemistry*, *Advanced Drug Delivery Reviews*, *European Journal of Pharmaceutics and Biopharmaceutics*, *Journal of Drug Targeting*, *Molecular Pharmaceutics*, and *Journal of Biomedical Nanotechnology*. He is also a Full Member of the European Academy of Sciences and Fellow of the American Institute of Medical and Biological Engineering, American Association of Pharmaceutical Scientists (AAPS), and the Controlled Release Society. He is a recipient of the 1982 Lenin Prize in Science and Technology (the highest scientific award in the former USSR), the 2005 Research Achievements in Pharmaceutics and Drug Delivery Award from the AAPS, 2007 Research Achievements Award from the Pharmaceutical Sciences World Congress, 2009 *AAPS Journal* Award, *2009 International Journal of Nanomedicine Distinguished Scientist Award*, 2010 Controlled Release Society Founders Award, 2012 Life Time Achievements Award from the *Journal of Drug Targeting*, 2012 Alec Bangham Life Time Award, and 2013 Blaise Pascal Medal for Biomedicine from the European Academy of Sciences.

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