Mansoor Amiji, Ph.D.

Publications (Please Note- Co-Authors are not listed. Full listing available upon request)

Books:

Applied Physical Pharmacy. McGraw-Hill Medical Publishing Division. New York, NY. 2002.

Polymeric Gene Delivery: Principles and Applications. CRC Press, LLC (a subsidiary of Taylor and Francis). Boca Raton, FL. 2004.

Nanotechnology for Cancer Therapy. CRC Press, LLC (a subsidiary of Taylor and Francis). Boca Raton, FL. 2007.

Biomedical Nanotechnology, (10 Volumes Book Series). Volumes 1 and 2, "*Handbook of Materials for Nanomedicine*" Pan Stanford Publishing, Hackensack, NJ. (In press).

Book Chapters:

Surface modification of polymeric biomaterials with poly(ethylene oxide): a steric repulsion approach. In Shalaby, S.W., Ikada, Y., Langer, R., and Williams, J. (Eds.) *Polymers of Biological and Biomedical Significance*. American Chemical Society Symposium Series Publication, Volume 540. American Chemical Society, Washington, DC. 1994, pp 135-146.

Surface modification of polymeric biomaterials with poly(ethylene oxide), albumin, and heparin for reduced thrombogenicity. In Cooper, S.L., Bamford, C.H., and Tsuruta, T. (Eds.) *Polymer Biomaterials: In Solution, as Interfaces, and as Solids.* VSP, The Netherlands. 1995, pp 535-552.

. Albumin-modified biomaterial surfaces for reduced thrombogenicity. In Wise, D.L., Altobelli, D.E., Grasser, J.D., Shwartz, E.R., Trantolo, D.J., and Yaszemski, M. (Eds.) *Encyclopedic Handbook of Biomaterials and Bioengineering - Part B Applications*. *Volume II*. Marcel Dekker, Inc., New York, NY. 1995, pp 1057-1070.

Surface modification of chitosan to improve blood compatibility. In Pandalai, S.G. (Eds.). *Recent Research Developments in Polymer Science, Volume III*. Transworld Research Network, Trivandrum, India. 1999, pp 31-39.

Chitosan-based delivery systems: physicochemical properties and pharmaceutical applications. In Dumitriu, S. (Eds.). *Polymeric Biomaterials. Second Edition, Revised and Expanded*. Marcel Dekker, Inc., New York, NY. 2001, Chapter 10, pp 213-238.

Polymeric gene delivery systems. In. Wise, D.L., Hasirci, V., Lewandrowski, K.-U., Yaszemski, M.J., Altobelli, D.W., and Trantolo, D.J. (Eds.). *Tissue Engineering and Novel Delivery Systems*. Marcel Dekker, Inc., New York, NY. 2004, Chapter 16, pp 333-367.

Targeted drug delivery to tumor cells using colloidal carriers. In Lu, D.R. and Oie, S. (Eds.). *Cellular Drug Delivery: Principles and Practice*. Humana Press, Inc., Totowa, NJ. 2004, Chapter 10, pp 181-215.

Protein nanospheres for gene delivery. In Amiji, M.M. (Ed.) *Polymeric Gene Delivery: Principles and Applications*. CRC Press, LLC. Boca Raton, FL. 2004, Chapter 27, pp. 429-447.

Gelatin nanoparticles and their biofunctionalization. In Kumar, C. (Ed.). *Nanotechnologies for the Life Sciences, Volume 2: Biological and Pharmaceutical Nanomaterials*. Wiley-VCH, Berlin, Germany. 2005, Chapter 11, pp. 330-353.

Nanoparticles for delivery in the gastrointestinal tract. In Torchilin, V.P. (Ed.). *Nanoparticulates as Drug Carriers*. Imperial College Press, London, United Kingdom, 2006, Chapter 26, pp 609-648.

An overview of condensing and non-condensing polymeric systems for gene delivery. In Friedmann, T. and Rossi, J (eds.). *Gene Transfer: Delivery and Expression of DNA and RNA – A Laboratory Manual*. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY. 2007, Chapter 34, pp 395-403.

Protein nanospheres for gene delivery: preparation and *in vitro* **transfection studies with gelatin nanoparticles**. In Friedmann, T. and Rossi, J. (Ed.). *Gene Transfer: Delivery and Expression of DNA and RNA – A Laboratory Manual*. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY. 2007, Chapter 52, pp 527-540.

Long-circulating polymeric nanocarriers for drug and gene delivery in cancer. In Amiji, M.M. (Ed.). *Nanotechnology for Cancer Therapy*. CRC Press, Boca Raton, FL. 2007, Chapter 13, pp 231-242.

Nanoemulsions for tumor targeted drug delivery. In Amiji, M.M. (Ed.). *Nanotechnology for Cancer Therapy*. CRC Press, Boca Raton, FL. 2007, Chapter 35, pp 723-739.

Nanotechnology applications in cancer diagnosis and therapy. In Yih, T.C. and Talpasanu, I. (Ed.). *Micro and Nano Manipulations for Biomedical Applications*. Springer Publishing, New York, NY, 2008, Chapter 2, pp 13-41.

Multifunctional polymeric nanosystems for tumor-targeted delivery. In Torchilin, V.P. (Ed.). *Multifunctional Pharmaceutical Nanocarriers*. Springer Publishing, New York, NY 2008, Chapter 2, pp 33-64.

Multifunctional magnetic nanosystems for tumor imaging, targeted delivery, and thermal therapy. In Torchilin, V.P. (Ed.). *Multifunctional Pharmaceutical Nanocarriers*. Springer Publishing, New York, NY 2008, Chapter 14, pp 381-408.

Nanotechnology in oral drug delivery. In Xu, J. J. and Ekins, S. (Eds.). *Drug Efficacy, Safety, and Biologics Discovery: Emerging Technologies and Tools*. Wiley Publishing, New York, NY (In press).

Micro-spectral Imaging of Cells, and Applications Monitoring the Uptake of Drug Delivery Systems. In Hollrichter, O. and Dieing, T. (Eds.). *Confocal Raman Imaging*, Springer Verlag, Heidelberg, Germany. (In press).

Nanotechnology for targeted delivery of drugs and genes. In Nalwa, H.S. (Ed.). *Encyclopedia of Nanoscience and Nanotechnology*, 2nd Edition, American Scientific Publishers, New York, NY. (In press).

Polymeric nanoparticles as target-specific delivery systems. In Amiji, M.M. and Torchilin, V.P. (Eds.). *Handbook of Materials for Nanomedicine: Volume 1*. Pan Stanford Publishing, Hackensack, NJ. (In press).

Multifunctional stimuli-responsive nanoparticles for delivery of small and macromolecular therapeutics. In Narang, A.S. and Mahato, R.I. (Eds.). *Targeted Delivery of Small and Macromolecular Drugs*. CRC Press, Inc., Boca Raton, FL (In press).

Non-condensing type B gelatin-based delivery systems for systemic and local gene therapy. In Morishita, M. and Park, K. (Eds.). *Biodrug Delivery Systems: Fundamentals, Applications, and Clinical Developments*". Informa Healthcare Group, New York, NY (In press).

Nanotechnology approaches for contrast enhancement in optical imaging and disease targeted therapy. In Iftimia, N., Brugge, W., and Hammer, D.X (Eds.). *Advances in Optical Imaging for Clinical Medicine*, Chapter 16. Artec House Publishing, New York, NY (Submitted).

Peer-Reviewed Articles:

Study on the prevention of surface-induced platelet activation by albumin coating. Journal of Biomaterials Science, Polymer Edition, **3:** 375-388 (1992).

Prevention of protein adsorption and platelet adhesion on surfaces by PEO/PPO/PEO triblock copolymers. *Biomaterials* 13: 682-692 (1992).

Surface modification by radiation-induced grafting of PEO/PPO/PEO triblock copolymers. *Journal of Colloid and Interface Science*, **155:** 251-255 (1993).

Surface modification of polymeric biomaterials with poly(ethylene oxide), albumin, and heparin for reduced thrombogenicity. *Journal of Biomaterials Science, Polymer Edition*, **4:** 217-234 (1993).

Hydrogel delivery system for vaginal and oral applications: formulation and biological considerations. *Advances in Drug Delivery Reviews*, **11**: 137-167 (1993).

Analysis on the surface adsorption of PEO/PPO/PEO triblock copolymers by radiolabelling and fluorescence techniques. *Journal of Applied Polymer Science*, **52**: 539-544 (1994).

Permeability and blood compatibility properties of chitosan-poly(ethylene oxide) blend membranes for hemodialysis. *Biomaterials*, **16:** 593-599 (1995).

Pyrene fluorescence study of chitosan self-association in aqueous solution. *Carbohydrate Polymers* **26**: 211-213 (1995).

Photophysical characterization of insulin denaturation and aggregation at hydrophobic interfaces. *Drug Development and Industrial Pharmacy*, **21:** 1661-1669 (1995).

pH-sensitive swelling and drug release properties of chitosan-poly(ethylene oxide) semiinterpenetrating polymer network. In R. Ottenbrite, S. Huang, and K. Park (eds.) *Hydrogels and Biodegradable Polymers for Bioapplications*. American Chemical Society Symposium Series Publication. Volume 627. American Chemical Society, Washington, DC. 1996, pp 209-220.

Preparation and characterization of freeze-dried chitosan-poly(ethylene oxide) hydrogels for sitespecific antibiotic delivery in the stomach. *Pharmaceutical Research* **13:** 588-593 (1996).

Surface modification of chitosan membranes by complexation-interpenetration of anionic polysaccharides for improved blood compatibility in hemodialysis. *Journal of Biomaterials Science*, *Polymer Edition*, **8:** 281-298 (1996).

Gelatin-poly(ethylene oxide) semi-interpenetrating polymer network with pH-sensitive swelling and enzyme-degradable properties for oral drug delivery. *Drug Development and Industrial Pharmacy*, 23: 575-582 (1997).

Synthesis of anionic poly(ethylene glycol) derivative for chitosan surface modification in bloodcontacting applications. *Carbohydrate Polymers*, **32:** 193-199 (1997).

Platelet adhesion and activation on an amphoteric chitosan derivative bearing sulfonate groups. *Colloids and Surfaces. Part B: Biointerfaces*, **10:** 263-271 (1998).

Synthesis of fluorescent chitosan derivative and its application for the study of chitosan-mucin interactions. *Carbohydrate Polymers* **38:** 99-107 (1999).

Evaluation of the factors influencing stomach-specific delivery of antibacterial agents for *Helicobacter pylori* infection. *Journal of Pharmacy and Pharmacology*, **51:** 667-672 (1999).

Chitosan-Pluronic[®] **physical interpenetrating network: membrane fabrication and protein permeability studies.** In M. El-Nokaly and H. Soini (eds.). *Polysaccharides in Pharmaceutical and Cosmetic Applications*. American Chemical Society Symposium Series Publication, Volume 737. American Chemical Society, Washington, DC 1999, pp 178-186.

Surface and blood interaction properties of poly(ethylene oxide)-modified chitosan microspheres. *S.T.P Pharma Sciences*. **10:** 95-100 (2000). [Year 2000 thematic issue on "*Chitosan in Drug Delivery Systems*"]

Evaluation of the permeability and blood-compatibility properties of membranes formed by physical interpenetration of chitosan with PEO/PPO/PEO triblock copolymers. *Journal of Applied Polymer Science*, **80:** 1274-1284 (2001).

Preparation and evaluation of sustained drug release from Pluronic[®] **polyol rectal suppositories**. *International Journal of Pharmaceutical Compounding*, **5:** 234-237 (2001).

pH-responsive biodegradable polymer microspheres: rapid release of encapsulated material within the range of intracellular pH. Angewandte Chemie, International Edition, **40(9)**: 1707-1710 (2001).

Intratumoral administration of paclitaxel in an *in situ* **gelling poloxamer 407 formulation.** *Pharmaceutical Development and Technology*, **7(2):** 195-202 (2002).

Stomach-specific anti-*H. pylori* **therapy. I: Preparation and characterization of tetracycline-loaded chitosan microspheres.** *International Journal of Pharmaceutics*, **235(1-2):** 87-94 (2002).

Localized delivery of paclitaxel in solid tumors from biodegradable chitin microparticle formulations. *Biomaterials*, **23(13):** 2723-2731 (2002).

Long-circulating poly(ethylene glycol)-modified gelatin nanoparticles for intracellular delivery. *Pharmaceutical Research*, **19** (7): 1062-1068 (2002).

Surface-modified polymeric nanoparticles for tumor-targeted delivery. *surFACTS – Official Newsletter of Surfaces in Biomaterials Foundation*. **7(2):** 1-6 (2002).

Biodegradable poly(epsilon-caprolactone) nanoparticles for tumor-targeted delivery of tamoxifen. *International Journal of Pharmaceutics*, **249 (1-2):** 127-138 (2002).

Perm-selective chitosan-alginate hybrid microcapsules for enzyme immobilization technology. *Pharmaceutical Engineers – Journal of the International Society of Pharmaceutical Engineers*. **22 (6):** 112-114 (2002). **Poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles as pH-sensitive biodegradable system for paclitaxel delivery**. *Journal of Controlled Release*, **86:** 223-234 (2003).

Cellular uptake and concentrations of tamoxifen upon administration in poly(epsilon-caprolactone) nanoparticles. *AAPS PharmSci*, **5** (1): Article 3 (2003). (available online at http://www.aapspharmaceutica.org).

Chitosan-based gastrointestinal delivery systems *Journal of Controlled Release*, **89:** 151-165 (2003). – Invited review.

Stomach-specific anti-*H. pylori* **therapy. II: Gastric residence studies of tetracycline-loaded chitosan microspheres in gerbils.** *Pharmaceutical Development and Technology*, **8:** 253-262 (2003).

Poly(ethylene glycol)-modified gelatin nanoparticles for intracellular delivery. *Pharmaceutical Engineers – Journal of the International Society of Pharmaceutical Engineers*. **23 (5):** 108-114 (2003).

Enzyme immobilization in novel alginate-chitosan core-shell microcapsules. *Biomaterials*, **25 (10):** 1937-1945 (2004).

Stomach-specific anti-*H. pylori* therapy. III: Effect of chitosan microsphere crosslinking on the gastric residence and local tetracycline concentrations in fasted gerbils. *International Journal of Pharmaceutics*, **272** (1-2): 99-108 (2004).

Poly(N-acetyl-glucosamine)-mediated red blood cell interactions. Journal of Trauma – Injury Infection and Critical Care, 57(1): Supplement: S7-S12 (2004).

Biodistribution and targeting potential of poly(ethylene glycol) modified gelatin nanoparticles in subcutaneous murine tumor model. *Journal of Drug Targeting*, **12(9-10):** 585-591 (2004).

Cellular interactions and *in vitro* **DNA transfection studies with poly(ethylene glycol)-modified gelatin nanoparticles.** *Journal of Pharmaceutical Sciences* **94** (1): 184-198 (2005).

Poly(ethylene oxide)-modified poly(epsilon-caprolactone) nanoparticles for targeted tamoxifen delivery in breast cancer. *International Journal of Pharmaceutics*, **293:** 261-270 (2005). [This publication was recognized with a **Certificate of Most Cited Publication** by the International Journal of Pharmaceutics publishing team].

Tumor-targeted delivery of plasmid DNA using poly(ethylene glycol)-modified gelatin nanoparticles: *In vitro* and *in vivo* studies. *Pharmaceutical Research*, **22(6):** 951-961 (2005). [This publication was recognized for the **2007 Meritorious Manuscript Award** from the American Association of Pharmaceutical Scientists].

Poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles as a pH-sensitive system for tumor-targeted delivery of hydrophobic drugs: Part I. *In vitro* evaluations. *Molecular Pharmaceutics*, **2(5):** 357 -366 (2005).

Preparation and evaluation of thiol-modified gelatin nanoparticles for intracellular DNA delivery in response to glutathione. *Bioconjugate Chemistry*, **16** (6):1423-1432 (2005).

Poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles as a pH-sensitive system for tumor-targeted delivery of hydrophobic drugs: Part II. *In vivo* biodistribution and tumor localization studies. *Pharmaceutical Research*, **22(12):** 2107-2114 (2005).

Long-circulating nanovectors for tumor-specific gene delivery. *Technology in Cancer Research and Treatment*, **4(6):** 615-625 (2005). (**Invited review** in the special issue on "*Nanotechnology in Cancer Detection and Treatment*").

An approach to heterobifunctional poly(ethylene glycol) bioconjugates. *Bioorganic and Medicinal Chemistry Letters*, **15:** 5558-5561 (2005).

Bhavsar, M.D., Tiwari, S.B., and Amiji, M.M. Formulation optimization for the nanoparticles-inmicrosphere hybrid oral delivery system using factorial design. *Journal of Controlled Release*, **110(2):** 422-430 (2006). [This publication was **One of 25 Most Cited Publications** in the Journal of Controlled Release website,

http://top25.sciencedirect.com/index.php?cat_id=7&subject_area_id=20&journal_id=01683659].

Surface functionalization of gold nanoparticles using hetero-bifunctional poly(ethylene glycol) spacer for intracellular tracking and delivery. *International Journal of Nanomedicine*, **1(1):** 51-57 (2006).

Multifunctional polymeric nanoparticles for tumor-targeted drug delivery. *Expert Opinion on Drug Delivery*, **3(2):** 205-216 (2006).

Current Drug Delivery, 3: 219-232 (2006). Invited review.

Improved oral delivery of paclitaxel following administration in nanoemulsion formulations. *Journal of Nanoscience and Nanotechnology*, **6(9-10):** 3215-3221 (2006). (**Invited publication** for the special issue on "*Nanotechnology in Advanced Drug Delivery*").

Engineered nanosystems for targeted delivery of drugs and genes – *Future Drug Delivery 2006*, Touch Briefings(2006). (Invited review available online at http://www.touchbriefings.com/cdps/cditem.cfm?cid=5&nid=1859). **Invited review**.

Nanoparticulate drug carriers for delivery of HIV/AIDS therapy to viral reservoir sites. *Expert Opinion on Drug Delivery*, **3(5):** 613-628 (2006).

Intracellular delivery of saquinavir in biodegradable polymeric nanoparticles for HIV/AIDS. *Pharmaceutical Research*, 23(11): 2638-2645 (2006).

Preparation and *in vitro* characterization of multifunctional nanoemulsions for simultaneous MR imaging and targeted drug delivery. *Journal of Biomedical Nanotechnology*, **2(3-4):** 217–224 (2006).

Formulation and physiological factors influencing CNS delivery upon intranasal administration. *Critical Reviews in Therapeutic Drug Carrier Systems*, **23(4): 3**19-347 (2006).

Role of nanotechnology in the treatment of HIV/AIDS: potential to overcome viral reservoir challenge. *Discovery Medicine*, **6(34):** 157-162 (2006). **Invited review.**

Poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles as a pH-sensitive system for tumor-targeted delivery of hydrophobic drugs: Part III. Therapeutic efficacy and safety studies in ovarian cancer xenograft model. *Cancer Chemotherapy and Pharmacology*, **59 (4):** 477-484 (2007).

Tetracycline-containing chitosan microspheres for localized treatment of *Helicobacter pylori* **infection**. *Cellulose*, **14:** 3-14 (2007) (**Invited review** for "*Special Issue on Polysaccharides in Drug Delivery*").

Biodistribution and pharmacokinetic analysis of long-circulating thiolated gelatin nanoparticles following systemic administration in breast cancer-bearing mice. *Journal of Pharmaceutical Sciences*, **96(2):** 397-407 (2007).

Nanocarriers for systemic and mucosal vaccine delivery. *Recent Patents on Drug Delivery and Formulation*, **1(1):** 1-9 (2007). **Invited review.**

Poly(ethylene glycol)-modified thiolated gelatin nanoparticles for glutathione-responsive intracellular DNA delivery. *Nanomedicine: Nanotechnology, Biology and Medicine*, **3(1):** 32-42 (2007).

Antiangiogenic gene therapy with systemically-administered *sFlt-1* plasmid DNA in engineered gelatin-based nanovectors. *Cancer Gene Therapy*, **14(5):** 488-498 (2007).

Nanotechnology-based delivery systems in HIV/AIDS therapy. *Future Medicine – Future HIV Therapy*, **1(1):** 49-59 (2007). **Invited review**.

Polymeric nano- and microparticle technologies for oral gene therapy. *Expert Opinion on Drug Delivery*, **4(3):** 197-213 (2007).

Modulation of intracellular ceramide with polymeric nanoparticles to overcome multi-drug resistance in cancer. *Cancer Research*, **67(10):** 4843-4850 (2007).

Gastrointestinal distribution and *in vivo* gene transfection studies with nanoparticles-in-microsphere oral system (NiMOS). *Journal of Controlled Release*, **119(3)**: 339-348 (2007).

A multifunctional polymeric nanoparticle strategy for modulation of drug resistance in cancer. *Pharmaceutical Engineers – Journal of the International Society of Pharmaceutical Engineers*. **27(3):** 1-7 (2007).

Poly(ethylene glycol)-modified polymeric nanocarriers for tumor-targeted and intracellular delivery. *Pharmaceutical Research*, **24(8):** 1407-1414 (2007). **Invited expert review**.

Synthesis and evaluations of tripodal peptide analogues for cellular delivery of phosphopeptides. *Journal of Medicinal Chemistry*, **50:** 3604-3617 (2007).

A review of nanoparticulate carriers for the treatment of coronary restenosis. *International Journal of Nanomedicine*, **2(2):** 1-19 (2007).

The role of nanotechnology in pharmaceutical product development. *Journal of Pharmaceutical Sciences*, 96(10): 2547 – 2565 (2007). Invited review.

Paclitaxel and ceramide co-administration in biodegradable polymeric nanoparticulate delivery system to overcome multidrug resistance in ovarian cancer. *International Journal of Cancer*, **121(8)**: 1830-1838 (2007).

Nanotechnology: Improving targeted delivery – *Touch Briefing's Future Drug Delivery 2007.* (Invited review available online at <u>http://www.touchbriefings.com/cdps/cditem.cfm?cid=5&nid=2514</u>). Invited review.

Improved oral bioavailability and brain transport of saquinavir upon administration in nanoemulsion formulations. *International Journal of Pharmaceutics*, **347**: 93–101 (2008).

A review of stimuli responsive nanocarriers for drug and gene delivery. *Journal of Controlled Release*. 126(3): 187-204 (2008).

Development of novel biodegradable polymeric nanoparticles-in-microsphere formulation for local plasmid DNA delivery in the gastrointestinal tract. *AAPS PharmSciTech*, **9(1):** 288-294 (2008).

Enhanced mucosal and systemic immune response with squalane oil-containing multiple emulsions upon intranasal and oral administration in mice. *Journal of Drug Targeting*, **16(4):** 302-310 (2008).

Modulation of drug resistance in ovarian adenocarcinoma by enhancing intracellular ceramide using tamoxifen-loaded biodegradable polymeric nanoparticles. *Clinical Cancer Research* **14(10):** 3193-3203 (2008).

Polymeric nanosystems for site-specific drug and gene delivery. *European Journal of Nanomedicine*, **1(1):** 6-14 (2008). (Invited review publication in the inaugural journal issue based on "2008 European Conference on Clinical Nanomedicine").

Microfluidic preparation of chlorambucil nanoemulsion formulations and evaluation of cytotoxicity and pro-apoptotic activity in cancer cells. *Journal of Biomedical Nanotechnology*, **4:** 165–173 (2008).

Cytotoxicity and apoptosis enhancement in brain tumor cells upon co-administration of paclitaxel and ceramide in nanoemulsion formulations. *Journal of Pharmaceutical Sciences*. **97(7):** 2745-2756 (2008).

Poly(beta-amino ester) and cationic phospholipid-based lipopolyplexes for gene delivery and transfection in human aortic endothelial and smooth muscle cells. *Biomacromolecules*, **9(4):** 1179-1187 (2008).

Enhancement in anti-proliferative effect of paclitaxel in aortic smooth muscle cells upon coadministration with ceramide using biodegradable polymeric nanoparticles. *Pharmaceutical Research*, **25(8):** 1936-1947 (2008).

Oral IL-10 gene delivery in a microsphere-based formulation for local transfection and therapeutic efficacy in inflammatory bowel disease. *Gene Therapy*, **15(17):** 1200-1209 (2008).

Biodistribution and pharmacokinetic analysis of paclitaxel and ceramide administered in multifunctional polymer blend nanoparticles in drug resistant breast cancer model. *Molecular Pharmaceutics*, **5(4):** 516-526 (2008). (Invited publication in the Special issue on "*Biodistribution of Nanomedicines*").

Multi-functional nanocarriers for targeted delivery of drugs and genes. Journal of Controlled Release, 130(2): 121-128 (2008). (Invited publication in the Special issue on "2007 Nano-Drug Delivery Systems Conference").

A model predicting delivery of saquinavir in nanoparticles to human monocytes/macrophage (Mo/Mac) cells. *Biotechnology and Bioengineering*, **101(5):** 1072-1082 (2008).

Multi-functional nanocarriers to overcome tumor drug resistance. *Cancer Treatment Reviews*, **34(7):** 592-602 (2008).

Epidermal growth factor receptor-targeted gelatin-based engineered nanocarrier systems for DNA delivery and transfection in human pancreatic cancer cells. *The AAPS Journal*, **10(4):** 565-576 (2008).

Evaluations of combination *mdr-1* gene silencing and paclitaxel administration in biodegradable polymeric nanoparticle formulations to overcome multidrug resistance in cancer cells. *Cancer Chemotherapy and Pharmacology*, **63**(4): 711-722 (2009).

Challenges and opportunities in CNS delivery of therapeutics for neurodegenerative diseases. *Expert Opinion on Drug Delivery*, (In press).

Co-administration of paclitaxel and curcumin in nanoemulsion formulations to overcome multidrug resistance in tumor cells. *Molecular Pharmaceutics*, (In press).

In vitro and in vivo studies of local arterial gene delivery and transfection using lipopolyplexesembedded stents. Journal of Biomedical Materials Research, Part A., (Submitted).

Nanoparticle-based photodynamic treatment of *Enterococcus faecalis* in planktonic phase versus endodontic biofilms. *Antimicrobial Agents and Chemotherapy*. (Submitted).

Overcoming tumor multidrug resistance using ceramide co-therapy in temporal-controlled polymer blend nanoparticle delivery systems. *Molecular Cancer Therapeutics*, (Submitted).

Nanoporous inorganic membranes or coatings for sustained drug delivery from implantable devices. *Advanced Drug Delivery Reviews*, (Submitted).

Delivery strategies to enhance mucosal vaccination. *Expert Opinion on Biological Therapy*, (Submitted).

Non-viral eNOS gene delivery and transfection with stents for the treatment of restenosis. *Molecular Therapy*, (Submitted).

Brain delivery of proteins by the intranasal route of administration using cationic liposomes. *Journal of Controlled Release*, (Submitted).

Conference Abstracts:

Adsorption isotherms of doxorubicin on oxidized dextran. Pharmaceutical Research 5: S-143 (1988).

Mucoadhesive hydrogels effective at neutral pH. Proceedings of the International Symposium on the Controlled Release of Bioactive Materials **16:** 217-218 (1989).

The minimum amount of biologically active fibrinogen necessary for surface-induced platelet activation. *Transactions of the Society for Biomaterials* **13:** 137 (1990).

Mechanism of surface passivation by albumin. *Proceedings of the Cardiovascular Science and Technology Conference: Basic and Applied* **5:** 245-247 (1990).

Mechanism study on the prevention of surface-induced platelet activation by adsorbed albumin. *Transactions of the Surfaces in Biomaterials '91 Symposium* **1:** 1-5 (1991).

Prevention of protein adsorption and platelet adhesion by steric repulsion. *Transactions of the Society for Biomaterials* **14:** 41 (1991).

Surface passivating effect of PEO/PPO/PEO triblock copolymers. *Polymer Preprints* **33:** 501-502 (1992).

Analysis on the surface adsorption of PEO/PPO/PEO triblock copolymers. *Proceedings of the American Chemical Society: Division of Polymeric Materials, Science, and Engineering* **67:** 211 (1992).

Prevention of protein adsorption on surfaces by PEO/PPO/PEO triblock copolymers. *Pharmaceutical Research* **9:** S-115 (1992).

Adsorption behavior of PEO/PPO/PEO triblock copolymers on DDS-glass. Transactions of the Society for Biomaterials 17: 137 (1994).

Development of poly(ethylene oxide)-chitosan blend membranes for hemodialysis. *Transactions of the Society for Biomaterials* **17:** 108 (1994).

Chitosan-poly(ethylene oxide) semi-IPN as a pH-sensitive drug delivery system. *Polymer Preprints* **35:** 403-404 (1994).

Pyrene fluorescence study of insulin denaturation and aggregation at hydrophobic interfaces. *Pharmaceutical Research* **11:** S-81(1994).

Chitosan-poly(ethylene oxide) hydrogels for pH-sensitive oral drug delivery. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials.* **22:** 330-331 (1995).

Site-specific oral delivery of antibiotics using pH-sensitive hydrogels. *Proceedings of the American Chemical Society's Conference on Formulations and Drug Delivery* **1:** 38 (1995).

Surface modification of chitosan hemodialysis membranes with anionic polysaccharides. *Transactions of the Fifth World Biomaterials Congress*. **1:** 879 (1996).

Modification of chitosan membrane surfaces by the complexation-interpenetration of anionic polysaccharides. *Transactions of the Surfaces in Biomaterials '96 Symposium* **6:** 108-112 (1996).

Amiji, M.M. Chitosan surface modification with anionic poly(ethylene glycol) derivative for improved blood compatibility. *Proceedings of the First International Symposium on Advanced Biomaterials* **1:** 73 (1997).

The role of gastric pH and mucin permeability on localized antibiotic delivery for *H. pylori* **infection.** *Pharmaceutical Research* **14:** S-707 (1997).

Mucoadhesive chitosan microspheres for stomach-specific antibiotic delivery. *Pharmaceutical Research* **14:** S-711 (1997).

Surface modification of chitosan by polyelectrolyte complexation-interpenetration to improve biocompatibility. *Pharmaceutical Research* **14:** S-151 (1997).

Surface modification of chitosan microspheres to improve biocompatibility. *Transactions of the Society for Biomaterials*. **22:** 239 (1999).

Novel thermogelling paclitaxel formulation for localized delivery. *Transactions of the Society for Biomaterials*. **22:** 321 (1999).

Membranes formed by physical interpenetration of chitosan with PEO/PPO/PEO triblock copolymers. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* **26:** 320 (1999).

Preparation and characterization of cross-linked chitosan microspheres for delivery of tetracycline locally in the stomach. *AAPS PharmSci Supplement* **2:** (2000).

Permselective membranes prepared by physical interpenetration of chitosan with PEO/PPO/PEO triblock copolymers. *Proceedings of the American Association of Pharmaceutical Scientists – Pharmaceutical Congress of the Americas.* **1:** 114 (2001).

Intratumoral administration of paclitaxel in a thermogelling Pluronic[®] **F-127 formulation**. Proceedings of the American Association of Pharmaceutical Scientists – Pharmaceutical Congress of the Americas. **1:** 129 (2001).

Biodegradable chitin-paclitaxel microparticle formulations for localized drug delivery. *Proceedings of the American Association of Pharmaceutical Scientists – Pharmaceutical Congress of the Americas*. **1:** 129 (2001).

Poly(epsilon-caprolactone) nanoparticles for intracellular delivery of tamoxifen. *AAPS PharmSci Supplement* **3:** (2001).

Perm-selective alginate-chitosan hybrid microcapsules for enzyme immobilization. *AAPS PharmSci Supplement* **3:** (2001).

Design and *in vitro* evaluation of colon specific delivery system for budesonide, a novel glucocorticoid. *AAPS PharmSci Supplement* **3**: (2001).

Cellular uptake, trafficking, and DNA transfection studies with poly(ethylene glycol)-modified gelatin nanoparticles. *AAPS PharmSci Supplement* **4:** (2002).

Polymeric nanoparticles for targeted and controlled tamoxifen delivery in breast cancer: *in-vitro* **and** *in-vivo* **investigations.** *AAPS PharmSci Supplement* **6:** (2004).

Preparation of thiolated gelatin nanoparticles for rapid intracellular delivery in response to glutathione. *AAPS PharmSci Supplement* **6:** (2004).

Biodistribution and targeting potential of poly(ethylene glycol)-modified gelatin nanoparticles in tumor-bearing mice. *AAPS PharmSci Supplement* **6:** (2004).

Nanoparticles-in-microsphere hybrid systems for oral DNA vaccine delivery. *AAPS PharmSci Supplement* **6:** (2004).

Biomedical applications of gold nanoparticles functionalized using hetero-bifunctional poly(ethylene glycol) spacer. *Materials Research Society Symposium Proceedings (Nanoscale Materials Science in Biology and Medicine)*, **845:** 223-228 (2005).

Biodistribution and tumor-targeting potential of poly(ethylene glycol)-modified gelatin nanoparticles. *Materials Research Society Symposium Proceedings, (Nanoscale Materials Science in Biology and Medicine)*, **845:** 229-235 (2005). **Biodegradable polymeric nanoparticles for tumor-selective tamoxifen delivery: In vitro and In vivo studies.** *Materials Research Society Symposium Proceedings (Nanoscale Materials Science in Biology and Medicine)*, **845:** 369-373 (2005).

Gold and iron-gold nanoparticles for intracellular tracking and *in vivo* medical applications. *Proceedings of the American Physical Society Meeting* (2005).

Hetero-bifunctional poly(ethylene glycol) modified gold nanoparticles as an intracellular tracking and delivery agent. *Proceedings of the NSTI Nanotech 2005, NSTI Nanotechnology Conference and Trade Show*, Anaheim, CA, May 8-12, (2005).

Superparamagnetic iron oxide-gold core-shell nanoparticles for biomedical applications. *Proceedings of the NSTI Nanotech 2005, NSTI Nanotechnology Conference and Trade Show*, Anaheim, CA, May 8-12, (2005).

Formulation optimization for the nanoparticles-in-microsphere hybrid oral delivery system using factorial design. *The AAPS Journal*, **7:** No. S2, Abstract W4128 (2005).

Formulation development and *in vivo* biodistribution studies of poly(ethylene glycol)-modified thiolated gelatin nanoparticles. *The AAPS Journal*, **7: S2**, Abstract W5088 (2005).

Novel nanoemulsions for improved oral delivery of hydrophobic drugs. *The AAPS Journal*, **7: S2**, Abstract M1184 (2005).

Application of statistical factorial design for the preparation of poly(styrene-b-isobutylene-b-styrene) triblock copolymer microspheres. *The AAPS Journal*, **7: S2**, Abstract R6151 (2005).

Nanomedicine: a new paradigm in diagnosis and therapy. *Proceedings of SPIE-The International Society for Optical Engineering* **6008:** 247-254 (2005).

Modulation of intracellular ceramide using polymeric nanoparticles to overcome multidrug resistance in tumor cells. *Transactions of the Society for Biomaterials*, (2006).

Development of the nanoparticles-in-microsphere hybrid formulations for oral delivery of plasmid DNA. *Transactions of the Society for Biomaterials*, (2006).

Novel nanoemulsions for improved oral delivery of hydrophobic drugs. *Transactions of the Society for Biomaterials*, (2006).

Modulation of intracellular ceramide using polymeric nanoparticles to overcome multidrug resistance in tumor cells. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, MA May 8-12, (2006).

Formulation optimization for the nanoparticles-in-microsphere hybrid oral delivery systems using factorial design. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, MA May 8-12, (2006).

Novel nanoemulsions for improved oral delivery of poorly soluble drugs. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, MA May 8-12, (2006).

Characterization and in vivo biodistribution studies with poly(ethylene glycol)-modified thiolated gelatin nanoparticles. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, MA May 8-12, (2006).

Nanotechnology for drug delivery: an overview. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, MA May 8-12, (2006).

Poly(styrene-b-isobutylene-b-styrene) triblock copolymer microspheres for sustained release drug delivery. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* **33:** (2006).

Multifunctional nanosystems to overcome drug resistance in cancer. *Proceedings of the First National Cancer Institute's Alliance in Nanotechnology Meeting*. San Diego, CA October 24-26, pp 17 (2006).

Modulation of multidrug resistance in cancer with polymer blend nanoparticles. *Proceedings of the First National Cancer Institute's Alliance in Nanotechnology Meeting*. San Diego, CA October 24-26, pp 30 (2006).

Brain delivery of proteins by the intranasal route of administration using cationic liposomes. *Proceedings of the Society of Neuroscience Meeting*, Atlanta, GA (2006).

Tumor-targeted delivery of hydrophobic drugs in pH-sensitive poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles. *The AAPS Journal*, **8:** S2, (2006).

Development and characterization of nanoemulsion formulations containing multimodal therapeutics for brain tumor. *The AAPS Journal*, **8:** S2, (2006).

Biodegradable polymeric nanoparticles for intracellular saquinavir delivery in HIV/AIDS. *The AAPS Journal*, 8: S2, (2006).

Oral plasmid DNA administration and transfection using nanoparticles-in-microsphere formulations. *The AAPS Journal*, **8:** S2, (2006).

Modulation of multidrug resistance in cancer with polymer blend nanoparticles. *The AAPS Journal*, **8:** S2, (2006).

Tumor-targeted *sFlt-1* gene delivery using long-circulating thiolated gelatin nanoparticles. *The AAPS Journal*, 8: S2, (2006).

Improved oral delivery of saquinavir in nanoemulsion formulations for HIV/AIDS. *The AAPS Journal*, 8: S2, (2006).

Nanotechnology for targeted drug and gene delivery. <u>Nanomedicine: Nanotechnology, Biology and</u> <u>Medicine</u>, **2(4):** 299-300 (2006).

Nanotechnology in cancer diagnosis, imaging, and therapy. *Proceedings of the American College of Veterinary Pathologists* 57th *Annual Meeting and the American Society for Veterinary Clinical Pathology* 41st *Annual Meeting*, pp 4-7 (2006).

Gastrointestinal gene delivery in mice using polymeric nanoparticles-in-microsphere oral system. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2007). **Design and development of a polymer-blend nanoparticle drug delivery system to overcome multidrug resistance in cancer.** *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2007).

Paclitaxel and ceramide combination therapy in biodegradable polymeric nanoparticles to overcome multidrug resistance in cancer. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2007).

<u>Modulation of intracellular ceramide metabolism with biodegradable polymeric nanoparticle-</u> <u>encapsulated tamoxifen to overcome multidrug resistance in cancer</u>. *The AAPS Journal*, **9:** S2, (2007).

Multifunctional polymer blend nanoparticles for temporal-controlled release of combination therapeutics to overcome multidrug resistance of cancer. *The AAPS Journal*, **9:** S2, (2007).

Development of novel biodegradable polymeric nanoparticles-in-microsphere formulation for local plasmid DNA delivery in the gastrointestinal tract. *The AAPS Journal*, **9:** S2, (2007).

HER2/neu receptor-targeted engineered gelatin nanovectors for gene delivery and transfection in pancreatic cancer cells. *The AAPS Journal*, 9: S2, (2007).

Gene delivery and transfection studies with lipopolyplexes in human endothelial and smooth muscle cells. *Proceedings of the American Chemical Society: Division of Polymeric Materials, Science, and Engineering* **78**: (2008).

Gene delivery and transfection studies with lipopolyplexes in human endothelial and smooth muscle cells. *Proceedings of the NSTI Nanotech 2008, NSTI Nanotechnology Conference and Trade Show*, Boston, MA June 1-5, (2008).

Epidermal growth factor receptor-targeted engineered gelatin nanovectors for gene delivery and transfection in pancreatic cancer cells. *Proceedings of the NSTI Nanotech 2008, NSTI Nanotechnology Conference and Trade Show*, Boston, MA June 1-5, (2008).

Non-condensing calcium alginate microspheres for macrophage-selective gene delivery and transfection. *Proceedings of the NSTI Nanotech 2008, NSTI Nanotechnology Conference and Trade Show,* Boston, MA June 1-5, (2008).

Multifunctional nanoparticulate system for simultaneous *EGFR* gene silencing and enhancement of apoptosis in pancreatic cancer cells. *Proceedings of the NSTI Nanotech 2008, NSTI Nanotechnology Conference and Trade Show*, Boston, MA June 1-5, (2008).

Gene delivery and transfection studies in smooth muscle cells with lipopolyplexes immobilized in gelatin-coated stainless steel substrates. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2008).

Cellular trafficking studies of ceramide-loaded poly(ethylene oxide)-modified poly(epsiloncaprolactone) nanoparticles with Raman spectroscopy. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2008).

<u>Epidermal</u> growth factor receptor-targeted gelatin-based nanoparticles for reporter and therapeutic gene delivery in human pancreatic cancer cells. *The AAPS Journal*, **10:** S2, (2008).