

**SM MOGHIMI; BSc (Man.), PhD (Lond.), FIoN**  
*Department of Pharmaceutics and Analytical  
Chemistry  
University of Copenhagen  
Universitetsparken 2  
DK-2100 Copenhagen Ø  
Denmark*  
☎: +45 35 33 65 28; Fax: +45 35 33 60 30  
E-mail: [momo@farma.ku.dk](mailto:momo@farma.ku.dk)



Moein Moghimi is Professor of Nanomedicine and the Head of Nanomedicine Group at the Department of Pharmaceutics and Analytical Chemistry (Faculty of Pharmaceutical Sciences, University of Copenhagen, Denmark). He further serves as the Director of the Centre for Pharmaceutical Nanotechnology and Nanotoxicology (CPNN) and Group Leader in Pharmaceutical Nanotechnology at the NanoScience Center (University of Copenhagen). He is also the Guest Professor of Nanomedicine at Multidisciplinary Research Center, Shantou University, China, Honorary Professor at the Research Center for Pharmaceutical Nanotechnology, Tabriz University of Medical Sciences (Tabriz, Iran) and the elected Fellow of the Institute of Nanotechnology (FIoN) based in UK. Previously he was Senior Lecturer in Molecular Pharmaceutics at the School of Pharmacy, University of Brighton (UK), and The University Research Fellow in Advanced Drug Delivery Systems at the Department of Pharmaceutical Sciences, University of Nottingham (UK). His research activities are focused on experimental nanomedicines and pharmaceutical nanotechnology. He has pioneered research in design and surface engineering of nanoparticulate delivery vehicles and functional nanosystems for parenteral site-specific targeting and imaging modalities (e.g., splenotropic entities, lymphotropic agents, ‘phagocyte-resistant’ nanoparticles and cancer nanomedicines) as well as the molecular basis of nanomaterial cytotoxicity and adverse immunological reactions. In 2008 Professor Moghimi was honoured with the Faculty of Pharmaceutical Sciences Research Achievement Award (Copenhagen University). His contributions to peer-reviewed high impact international journals include over 75 original full research papers and invited critical reviews (with over 2700 citations, *h*-index of 27, and *m*-index of 1.24) and over 40 book chapters, business reports, editorials, and patents.

Professor Moghimi has previously served as invited Theme Editor for three *Theme Issues* of the prestigious *Advanced Drug Delivery Reviews* (Elsevier) and one issue of each *Current Drug Delivery* (Bentham) and *Journal of Biomedical Nanotechnology* (American Scientific Publishers), and currently is the Associate Editor of the *Journal of Biomedical Nanotechnology* as well as a member of the editorial/advisory board of numerous international journals to include the *Journal of Liposome Research* (Informa Healthcare), *Drug Delivery* (Informa Healthcare), *Nanomedicine-UK* (Future Medicine), *Current Patents in Drug Delivery and Formulation* (Bentham), *Current Drug Discovery Technologies* (Bentham), *International Journal of Clinical Research and Drug Development* (Synconsys), and *Multimedia Distributed Knowledge Network in Nanotechnology*. He further practices in the capacity of a consultant for numerous pharmaceutical, biotechnology, health, and food industries as well as investment banks, management consultancy firms and other entrepreneurial enterprises world-wide and was an invited evaluator for Nanotechnology/Nanomedicine Centres of Excellence in Germany and Austria. Professor Moghimi is also a regular invited assessor and nanomedicine expert for the UK research councils (BBSRC and EPSRC), Wellcome Trust, British Council, Association for International Cancer Research (UK), European Science Foundation (France), Austrian Science Fund, Austrian NANO initiative, Deutsche Forschungsgemeinschaft, Swiss National Science Foundation, the Netherlands Organization for Health Research and Development, The Portuguese Foundation for Science and Technology, Hungarian Biotechnology Association and the Qatar National Research Fund. To date, Professor Moghimi has been an appointed reviewer to over 800 manuscripts for more than 90 international journals and has delivered over 180 invited presentations and keynote lectures in more than 20 countries as well as being conference chairs and organizer. Currently, he is a partner and work package leader in an EU-funded (11 million €) FP-7 large-scale project on “*Nanoparticles for Therapy and Diagnosis of Alzheimer’s Disease*” in a consortium of 19 partners, and the principal investigator in the 3.75 million Euro-funded (28 million DKK)

CPNN (Programkomiteen for Strategiske Vækstteknologier, Denmark) and a 2 million Euro-funded (15 million DKK) polycationic nanomedicine programme (Forskningsrådet for Teknologi og Production, Denmark).

In 1985, he graduated with Honors in biochemistry from The University of Manchester (UK) and in 1989 completed a PhD in biochemistry (liposomes immunobiology) at the Charing Cross Hospital Medical School (Imperial College, University of London, UK). Professor Moghimi is listed in *Marquis Who's Who in the World*, USA, *Marquis Who's Who in Science and Engineering*, USA, and *Marquis Who's Who in Medicine and Healthcare*, USA (by invitation).

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### Selected Recent Representative Peer-Reviewed Publications (post-2000):

1. **Moghimi, S. M.**<sup>✉</sup> and **Andresen, T. L.** (2009) Complement-mediated tumour growth: implications for cancer nanotechnology and nanomedicine. *Mol. Immunol.* **46**: 1571–1572.
2. **Szebeni, J.** and **Moghimi, S. M.**<sup>✉</sup> (2009) Liposome triggering of the innate immune responses: perspective on benefits and adverse reactions. *J. Liposome Res.* **19**: 85–90.
3. **Pillai, S., Hemmersam, A. G., Mukhopadhyay, R., Meyer, R. L., Moghimi, S. M., Besenbacher, F. and Kingshott, P.**<sup>✉</sup> (2008) Tunable 3D and AD polystyrene nanoparticle assemblies using surface wettability, low volume fraction and surfactant effects. *Nanotechnology* **20**: 025604 (doi: 10.1088/0957-4484/20/2/025604).
4. **Hamad, I., Hunter, A. C., Rutt, K. J., Liu, Z., Dai, H. and Moghimi, S. M.**<sup>✉</sup> (2008) Complement activation by PEGylated single-walled carbon nanotubes is independent of C1q and alternative pathway turnover. *Mol. Immunol.* **45**: 3797–3803.
5. **Hamad, I., Hunter, A. C., Szebeni, J. and Moghimi, S. M.**<sup>✉</sup> (2008) Poly(ethylene glycol)s generate complement activation products in human serum through increased alternative pathway turnover and a MASP-2-dependent process. *Mol. Immunol.* **46**: 225–232.
6. **Hamad, I. and Moghimi, S. M.**<sup>✉</sup> (2008) Critical issues in site-specific targeting of solid tumours: the carrier, the tumour barriers and the bioavailable drug. *Exp. Opin. Drug Deliv.* **5**: 205–219.
7. **Moghimi, S. M.**<sup>✉</sup> and **Moghimi, M.** (2008) Enhanced lymph node retention of subcutaneously injected IgG-PEG-liposomes through pentameric IgM antibody-mediated vesicular aggregation. *Biochim. Biophys. Acta-Biomembranes* **1778**: 51–55.
8. **Mukhopadhyay, R., Al-Hanbali, O., Pillai, S., Hemmersam, A. G., Meyer, R. L., Hunter, A. C., Rutt, K. J., Besenbacher, F., Moghimi, S. M. and Kingshott, P.**<sup>✉</sup> (2007) Ordering of binary polymeric nanoparticles on hydrophobic surfaces assembled from low volume fraction dispersions. *J. Am. Chem. Soc.* **129**: 13390–13391.
9. **Al-Hanbali, O., Onwuzo, N. M., Rutt, K. J., Dadswell, C. M., Moghimi, S. M. and Hunter, A. C.**<sup>✉</sup> (2007) Modification of the Stewart biphasic colorimetric assay for stable and accurate quantitative determination of Pluronic<sup>®</sup> and Tetronic<sup>®</sup> block copolymers for application in biological systems. *Anal. Biochem.* **361**: 287–293.
10. **Moghimi, S. M.**<sup>✉</sup>, **Hamad, I. and Hunter, A. C.** (2007) Particulate nanomedicine in the foot-steps of platelet-homing. *Nanomedicine-UK* **2**: 381–384.
11. **Moghimi, S. M.**<sup>✉</sup>, **Hamad, I., Andresen, T. L., Jørgensen, K. and Szebeni, J.** (2006) Methylation of the phosphate oxygen moiety of phospholipid-methoxypoly(ethylene glycol) conjugate prevents PEGylated liposome-mediated complement activation and anaphylatoxin production. *FASEB J.* **20**: 2591–2593 (doi: 10.1096/fj.06-6186fje, electronic pages E2057–E2067).
12. **Moghimi, S. M.**<sup>✉</sup> (2006) Recent developments in polymeric nanoparticle engineering and their applications in experimental and clinical oncology. *Anti-cancer Agent. Med. Chem.* **6**: 553–561.

13. **Moghimi, S. M.** (2006) The effect of methoxyPEG chain length and molecular architecture on lymph node targeting of immuno-PEG-liposomes. *Biomaterials* **27**: 136–144.
14. **Moghimi, S. M. and Kissel, T.** (2006) Particulate nanomedicines. *Adv. Drug Deliv. Rev.* **58**: 1451–1455.
15. **Al-Hanbali, O., Rutt, K. J., Sarker, D., Hunter, A. C. and Moghimi, S. M.** (2006) Concentration dependent structural ordering of poloxamine 908 on polystyrene nanoparticles and their modulatory role on complement consumption. *J. Nanosci. Nanotechnol.* **6**: 3126–3133.
16. **Moghimi, S. M., Symonds, P., Murray, J. C., Hunter, A. C., Debska, G. and Szewczyk, A.** (2005) A two-stage poly(ethylenimine)-mediated cytotoxicity: implications for gene-transfer/therapy. *Mol. Ther. (Am. Soc. Gene Ther.)* **11**: 990–995.
17. **Symonds, P., Murray, J. C., Hunter, A. C., Debska, G., Szewczyk, A. and Moghimi, S. M.** (2005) Low and high molecular weight poly(L-lysine)/poly(L-lysine)-DNA complexes initiate mitochondrial-mediated apoptosis differently. *FEBS Lett.* **579**: 6191–6198.
18. **Moghimi, S. M., Hunter, A. C. and Murray, J. C.** (2005) Nanomedicine: current status and future prospects. *FASEB J.* **19**: 311–330.
19. **Moghimi, S. M., Hunter, A. C., Murray, J. C. and Szewczyk, A.** (2004) Cellular distribution of nonionic micelles. *Science* **303**: 626–627.
20. **Reynolds, A. R., Moghimi, S. M. and Hodivala-Dilke, K.** (2003) Nanoparticle-mediated gene delivery to tumour neovasculature. *Trend. Mol. Medicine* **9**: 2–4.
21. **Moghimi, S. M. and Szebeni, J.** (2003) Stealth liposomes and nanoparticles: critical issues on protein-binding properties, activation of proteolytic blood cascades and intracellular fate. *Prog. Lipid Res.* **42**: 463–478.
22. **Moghimi, S. M.** (2002) Chemical camouflage of nanospheres with a poorly reactive surface: towards development of stealth and target-specific nanocarriers. *Biochim. Biophys. Acta-Mol. Cell Res.* **1590**: 131–139.
23. **Gbadamosi, J. K., Hunter, A. C. and Moghimi, S. M.** (2002) PEGylation of microspheres generates a heterogeneous population of particles with differential surface characteristics and biological performance. *FEBS Lett.* **523**: 338–344.
24. **Hunter, A. C. and Moghimi, S. M.** (2002) Therapeutic synthetic polymers: a game of Russian roulette? *Drug Discov. Today* **7**: 998–1001.
25. **Moghimi, S. M., Hunter, A. C. and Murray, J.C.** (2001) Long circulating and target-specific nanoparticles: theory to practice. *Pharmacol. Rev.* **53**: 283–318.
26. **Moghimi, S. M. and Hunter, A. C.** (2001) Recognition by macrophages and liver cells of opsonized phospholipid vesicles and phospholipid headgroups. *Pharm. Res. (The American Association of Pharmaceutical Scientists)* **18**: 1–8.
27. **Moghimi, S. M. and Hunter, A. C.** (2000) Poloxamers and poloxamines in nanoparticle engineering and experimental medicine. *Trend. Biotechnol.* **18**: 411–420.

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### Selected Representative Peer-Reviewed Publications (pre-2000):

1. **Moghimi, S. M. and Gray, T.** (1997) A single intravenous dose of poloxamine-based long-circulating nanospheres triggers macrophage clearance of subsequent doses in rats. *Clin. Science (Lond.)* **93**: 371–379.
2. **Moghimi, S. M. and Murray, J. C.** (1996) Poloxamer-188 re-visited: a potentially valuable immune modulator? *J. Natl. Cancer Inst.* **88**: 766–768.

3. **Moghimi, S. M.**<sup>✉</sup> (1995) Exploiting bone marrow microvascular structure for drug delivery and future therapy. *Adv. Drug Deliv. Rev.* **17**: 61–73.
4. **Moghimi, S. M.**<sup>✉</sup>, **Hawley, A. E., Christy, N. M., Gray, T., Illum, L. and Davis, S. S.** (1994) Surface engineered nanospheres with enhanced drainage into lymphatics and uptake by macrophages of lymph nodes. *FEBS Lett.* **344**: 25–30.
5. **Moghimi, S. M.**<sup>✉</sup>, **Hedeman, H., Christy, N. M., Illum, L. and Davis, S. S.** (1993) Enhanced hepatic clearance of intravenously administered sterically-stabilized microspheres in zymosan stimulated rats. *J. Leukoc. Biol.* **54**: 513–517.
6. **Moghimi, S. M.**<sup>✉</sup>, **Muir, I. S., Illum, L., Davis, S. S. and Kolb-Bachofen, V.** (1993) Coating particles with a block co-polymer (poloxamine-908) suppresses opsonization but permits the activity of dysopsonins in the serum. *Biochim. Biophys. Acta-(Mol. Cell Res.)* **1179**: 157–165.
7. **Porter, C. J. H., Moghimi, S. M.**<sup>✉</sup>, **Illum, L., Davis, S. S.** (1992) The polyoxyethylene/polyoxypropylene block co-polymer poloxamer-407 selectively redirects intravenously injected microspheres to sinusoidal endothelial cells of rabbit bone marrow. *FEBS Lett.* **68**: 121–126.
8. **Moghimi, S. M.**<sup>✉</sup>, **Porter, C. J. H., Muir, I. S., Illum, L. and Davis, S. S.** (1991) Non-phagocytic uptake of intravenously injected microspheres in rat spleen: Influence of particle size and hydrophilic coating. *Biochem. Biophys. Res. Commun.* **177**: 861–866.
9. **Moghimi, S. M. and Patel, H. M.**<sup>✉</sup> (1990) Calcium as a possible modulator of Kupffer cell phagocytic function by regulating liver-specific opsonic activity. *Biochim. Biophys. Acta-(Biomembranes)* **1028**: 304–308.
10. **Moghimi, S. M. and Patel, H. M.**<sup>✉</sup> (1988) Tissue specific opsonins for phagocytic cells and their different affinity for cholesterol-rich liposomes. *FEBS Lett.* **233**: 143–147.

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### Selected Representative Book Chapters (post-2000):

1. **Moghimi, S. M.**<sup>✉</sup> (2009) The innate immune responses, adjuvants and delivery systems. In: *Delivery Technologies for Biopharmaceuticals: Peptides, Proteins, Nucleic Acids and Vaccines* (L. Jorgensen, H. M. Nielsen, eds.). Wiley & Sons, Chichester (in press).
2. **Moghimi, S. M.**<sup>✉</sup> (2009) Particle nanoengineering for lymphatics and lymph node targeting. In: *Polymer-Based Nanostructures: Medical Applications. Royal Society of Chemistry Nanoscience and Nanotechnology Series* (P. Broz, ed.). Royal Society of Chemistry, London (in press).
3. **Moghimi, S. M.**<sup>✉</sup> and **Hamad, I.** (2009) Hypersensitivity reactions to nanomedicines: Causative factors and optimization of design parameters. In: *Allergy Frontiers: from Epigenetics to Future Perspectives* (R. Pawankar, S. Holdgate, L. J. Rosenwasser, eds.). Springer Japan KK, Tokyo (in press).
4. **Moghimi, S. M.**<sup>✉</sup> (2007) Nanotoxicology of synthetic gene-transfer vectors: poly(ethylenimine)- and polyfectin-mediated membrane damage and apoptosis in human cell lines. In: *Nanotechnologies for Life Sciences: Nanomaterials for Medical Diagnosis and Therapy* (C. S. S. R. Kumar, ed.). Volume 10, Wiley-VCH Verlag. pp. 629–643. [ISBN 978-3-527-31390-7]
5. **Moghimi, S. M.**<sup>✉</sup> (2007) Optimization strategies in lymph node targeting of interstitially injected immunoglobulin G-bearing liposomes. In: *Liposome Technology, 3<sup>rd</sup> Edition, Vol. III, Interaction of Liposomes with the Biological Milieu* (G. Gregoriadis, ed.). Informa Healthcare USA, Inc., New York. pp. 65–77. [ISBN-10: 0-8493-9725-1, ISBN-13: 978-0-8493-9275-7]
6. **Moghimi, S. M.**<sup>✉</sup>, **Vega, E., Garcia, M. L., Al-Hanbali, O. A. R. and Rutt, K. J.** (2006) Polymeric nanoparticles as drug carriers and controlled release implant devices. In: *Nanoparticulates as Drug Carriers* (V. P. Torchilin, ed.). Imperial College Press, London. pp. 29–42. [ISBN 1-86094-630-5]

7. **Moghimi, S. M.**<sup>✉</sup> (2003) Exploitation of macrophage clearance functions in vivo. In: *Hand-Book of Experimental Pharmacology: The Macrophage as Therapeutic Target* (S. Gordon, ed.), Vol. 158, Springer, Berlin, pp. 41–54. [ISBN 3-540-44250-2]