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### EDUCATION

- 1997 Ph.D., Chemical Engineering, California Institute of Technology, Pasadena  
1990 B.S. (*summa cum laude*), Chemical Engineering, University of Illinois, Urbana-Champaign

### PROFESSIONAL EXPERIENCE

- 2012-present Ashland Inc. Chair in Chemical Engineering, University of Kentucky  
2012-present Professor of Chemical & Materials Engineering and Pharmaceutical Sciences, University of Kentucky  
2009-2012 Professor of Chemical and Biomolecular Engineering, University of Illinois, Urbana-Champaign  
2005-2009 Associate Professor of Chemical and Biomolecular Engineering, University of Illinois, Urbana-Champaign  
1999-2005 Assistant Professor of Chemical and Biomolecular Engineering, University of Illinois, Urbana-Champaign

### SELECTED AWARDS AND HONORS

- 2018 Fellow, American Institute for Medical and Biological Engineering  
2008 Xerox Award for Faculty Research, College of Engineering, University of Illinois, Urbana-Champaign  
2007 Multi-Year Faculty Achievement Award, College of Engineering, University of Illinois, Urbana-Champaign  
2004-2005 Beckman Fellow, Center for Advanced Study, University of Illinois, Urbana-Champaign  
2004 Controlled Release Society/Genencor Outstanding Consumer & Diversified Products Paper Award  
2003-2006 3M Young Faculty Award  
2000, 2003 Excellence in Teaching Award, School of Chemical Sciences, University of Illinois, Urbana-Champaign

### SELECTED PUBLICATIONS (>70 total, h-index = 40)

<http://scholar.google.com/citations?user=wajSQGcAAAAJ&hl=en>

1. L.W. Warriner, J.R. Duke III, D.W. Pack and J.E. DeRouchey, (2018) "Succinylated polyethylenimine derivatives greatly enhance polyplex serum stability and gene delivery in vitro." *Biomacromolecules*, in press.
2. L. Mott, K. Su and D.W. Pack (2018) "Evaluation of FOXC1 as a therapeutic target for basal-like breast cancer." *Cancer Gene Therapy* **25**, 84-91.
3. M. Lazebnik and D.W. Pack (2017) "Rapid and facile quantitation of polyplex endocytic trafficking." *Journal of Controlled Release* **247**, 19-27.
4. M. Lazebnik, R.K. Keswani and D.W. Pack (2016) "Endocytic transport of polyplex and lipoplex siRNA vectors in HeLa cells." *Pharmaceutical Research* **33**, 2999-3011.
5. R.K. Keswani, M. Lazebnik and D.W. Pack (2015) "Intracellular Trafficking of Hybrid Gene Delivery Vectors." *Journal of Controlled Release* **207**, 120-130.
6. M.E. Hwang, R. Keswani and D.W. Pack (2015) "Dependence of PEI and PAMAM gene delivery on clathrin- and caveolin-dependent trafficking pathways." *Pharmaceutical Research* **32**, 2051-2059.
7. Y. Xia and D.W. Pack (2015) "Uniform biodegradable microparticle systems for controlled release." *Chemical Engineering Science* **125**, 129-143.

8. Y. Xia and D.W. Pack (2014) "Pulsatile protein release from monodisperse liquid-core microcapsules of controllable shell thickness." *Pharmaceutical Research* **31**, 3201-3210.
9. R. Keswani, K. Su and D.W. Pack (2014) "Efficient in vitro gene delivery by hybrid biopolymer/virus nanobiovectors." *Journal of Controlled Release* **192**, 40-46.
10. Y. Xia, P.F. Ribeiro and D.W. Pack (2013) "Controlled protein release from monodisperse biodegradable double-wall microspheres of controllable shell thickness." *Journal of Controlled Release* **172**, 707-714.
11. R. Keswani, I. Pozdol and D.W. Pack (2013) "Design of hybrid lipid/retroviral-like particle gene delivery vectors." *Molecular Pharmaceutics* **10**, 1725-1735.
12. Q. Xu, J. Leong, Q.Y. Chua, Y.T. Chi, P.K.-H. Chow, D.W. Pack and C.-H. Wang (2013) "Combined modality doxorubicin-based chemotherapy and chitosan-mediated p53 gene therapy using double-walled microspheres for treatment of human hepatocellular carcinoma." *Biomaterials* **34**, 5149-5162.
13. Y. Xia, Q. Xu, C.-H. Wang and D.W. Pack (2013) "Protein encapsulation in and release from monodisperse double-wall polymer microspheres." *Journal of Pharmaceutical Sciences* **102**, 1601-1609.
14. Q. Xu, S.E. Chin, C.-H. Wang and D.W. Pack (2013) "Mechanism of drug release from double-walled PDLA(PLGA) microspheres." *Biomaterials* **34**, 3902-3911.
15. Q. Xu, C.-H. Wang and D.W. Pack (2012) "Monodisperse double-walled microspheres loaded with chitosan-p53 nanoparticles and doxorubicin for combined gene therapy and chemotherapy." *Journal of Controlled Release* **163**, 130-135.
16. J.D. Ramsey, H.N. Vu and D.W. Pack (2010) "A top-down approach for construction of hybrid polymer-virus gene delivery vectors." *Journal of Controlled Release* **144**, 39-45.
17. N.P. Gabrielson and D.W. Pack (2009) "Efficient polyethylenimine-mediated gene delivery proceeds via a caveolar pathway in HeLa cells." *Journal of Controlled Release* **136**, 54-61.
18. H. Hosseinkhani, M. Hosseinkhani, N.P. Gabrielson, D.W. Pack, A. Khademhosseini and H. Kobayashi (2008) "DNA nanoparticles encapsulated in 3-D tissue engineered scaffolds enhance osteogenic differentiation of mesenchymal stem cells." *Journal of Biomedical Materials Research Part A* **85A**, 47-60.
19. H.N. Vu, J.D. Ramsey and D.W. Pack (2008) "Engineering of a stable retroviral gene delivery vector by directed evolution." *Molecular Therapy* **16**, 308-314.
20. C. Berkland, E.J. Pollauf, C. Raman, R. Silverman, K. Kim and D.W. Pack (2007) "Macromolecule release from monodisperse PLG microspheres: control of release rates and investigation of release mechanism." *Journal of Pharmaceutical Science* **96**, 1176-1191.
21. N.P. Gabrielson and D.W. Pack (2006) "Acetylation of polyethylenimine enhances gene delivery via weakened polymer/DNA interactions." *Biomacromolecules* **7**, 2427-2435.
22. D.W. Pack, A.S. Hoffman, S. Pun and P. Stayton (2005) "Design and development of polymeric gene delivery vectors." *Nature Reviews Drug Discovery* **4**, 581-593.
23. M.L. Forrest, G.E. Meister, J.T. Koerber and D.W. Pack (2004) "Partial acetylation of polyethylenimine enhances in vitro gene delivery." *Pharmaceutical Research* **21**, 365-371.
24. M.L. Forrest, J.T. Koerber and D.W. Pack (2003) "A degradable, non-toxic polyethylenimine derivative for highly efficient gene delivery." *Bioconjugate Chemistry* **14**, 934-940.
25. M.L. Forrest and D.W. Pack (2002) "On the kinetics of polyplex endocytic trafficking: implications for gene delivery vector design." *Molecular Therapy* **6**, 57-66.
26. C. Berkland, K. Kim and D.W. Pack (2001) "Fabrication of PLG microspheres with precisely controlled and monodisperse size distributions." *Journal of Controlled Release* **73**, 59-74.

## RECENT FUNDING

1. National Institutes of Health (1 U01 CA207946), "Optimizing RNA Nanoparticles Size and Shape for Enhancing Cancer Targeting and Treatment." 09/16 – 08/21, \$78,478 (PI: P. Guo, OSU).
2. National Science Foundation (DMR 1408783), "Novel Microfluidic Assembly of Multifunctional Gene Delivery Vectors." 07/14 – 06/17, \$300,000.

## SERVICE

Editorial Board, <i>Journal of Pharmaceutics &amp; Pharmacology</i>	2012-present
Editorial Board, <i>Journal of Controlled Release</i>	2006-present