

Heather Gappa-Fahlenkamp, Ph.D.

Associate Professor
School of Chemical Engineering
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Contact Information:

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Office: 423 Engineering North, Oklahoma State University, Stillwater, OK 74078

Education:

1992-1997: B.S., Chemical Engineering, Oklahoma State University, OK

1997-2000: M.S., Bioengineering, University of Utah, UT

2000-2003: Ph.D., Chemical Engineering, Oklahoma State University, OK

Academic Appointments:

1995-1996: Research Assistant, Department of Chemical Engineering, Oklahoma State University

1997-2000: Research Assistant, Department of Bioengineering, University of Utah

2000-2003: Research Assistant, Department of Chemical Engineering, Oklahoma State University

2003-2004: Scientist/Bioengineer, Sciperio, Inc., OK

2004-2006: Scientist/Bioengineer, VaxDesign Corp. (spin-off of Sciperio, Inc), FL

2006-2012: Assistant Professor, Department of Chemical Engineering, Oklahoma State University

2012-present: Associate Professor, Department of Chemical Engineering, Oklahoma State University

Awards and Honors:

2012: National Science Foundation CAREER Award

2000: Oklahoma State University Foundation Distinguished Graduate Fellowship

2000: Yarborough Graduate Fellowship

2000: John H. Erbar Memorial Scholarship

1997: Phi Kappa Phi National Honor Society

1997: Tau Beta Pi National Engineering Honor Society

1997: Omega Chi Epsilon The National Honor Society for Chemical Engineering

1997: Golden Key National Honor Society

1996: National Science Foundation Undergraduate Research Award

1996: Gas Processors Suppliers Association Scholarship Award

1992: Harry and Ethel Palecek Endowed Scholarship

Other Experience and Professional Memberships:

1997-present: Biomedical Engineering Society (BMES)

2000-present: Society of Women Engineers (SWE)

2007-2009: National Defense Science and Engineering Graduate Fellowship Program, Review Panelist

2007-present: American Institute of Chemical Engineers (AIChE)

2007-present : American Society of Engineering Education (ASEE)

2008-2012: AIChE Annual Meeting, Session Chair

2009: NSF SBIR/STTR Phase I, Reviewer
2009-2011: Oklahoma State University Goldwater Scholarship Selection Committee
2009-2011: Oklahoma State University Diversity Advisory Board
2009-2011: Oklahoma State University Academic Affairs Panel
2009-present : Journal of Biomedical Materials Research, Reviewer
2009-present : International Journal of Experimental Pathology, Reviewer
2009-present : Journal of Pathology, Reviewer
2010-present : Journal of Tissue Science and Engineering, Editorial Board Member
2010-present : Journal of Applied Surface Science, Reviewer
2011-present : Journal of Cytotechnology, Reviewer
2011: NSF Biotechnology, Biochemical and Biomass Engineering Program, Reviewer

Research Funding:

Current:

- 2013-present: OSU Interdisciplinary creative Planning Grant Program, "Interdisciplinary Program in Regenerative medicine at OSU", Role: Co-Investigator, Awarded: \$34,900
 - 2013-present: NIH 1P20GM103648-01A1: Oklahoma Center for Respiratory and Infectious Diseases, "A Novel Tissue-Equivalent Respiratory Model to Study Airway Reactivity to Infectious Agents", Role: Principal Investigator, Awarded: \$1,192,425
 - 2012-present: NSF 1150831, "CAREER: An Advanced 3D Tissue Model for the Detection and Study of an Allergic Inflammatory Response", Role: Principal Investigator, Awarded: \$400,738
- Past:

- 2014: OSU Facility Renovation and Core Facility Grant Program, "Acquisition of a BD FACSAria Cell Sorter to Expand the Capabilities of OSU's Flow Cytometry Core Facility", Role: Major User, Awarded: \$316,776
- 2010-2013: NSF, "SELDI ProteinChip Reader", Role: Major User, Awarded: \$178,139
- 2011-2012: OSU Interdisciplinary creative Planning Grant Program, "Interdisciplinary Biomedical Research Initiative – a Joint Program between OSU-Center for Health Sciences, Tulsa, OSU-Stillwater, and OSU-Tulsa", Role: Co-Investigator, Awarded: \$20,926
- 2009-2012: NIH 1R15EB009527-01, "A 3D Vascular Tissue Model for Studying Cell Migration in Atherosclerosis", Role: Principal Investigator, Awarded: \$221,550
- 2010: OSU Facility Renovation and Core Facility Grant Program, "Development of the Biobased Technologies Laboratory", Role: Co-Investigator, Awarded: \$100,000
- 2009-2010: NIH 5P20RR024215-04, "The Effect of AGEs on Cell Behavior within a 3D Vascular Tissue Construct", Role: Principal Investigator, Awarded: \$72,488
- 2008-2009: EN-08-RS-241, "Development of a 3D Human Tissue Model for Screening Potential Diabetic Macular Edema Therapeutics", Role: Principal Investigator, Awarded: \$25,000

Selected Publications:

1. Leemasawatdigul, K., Ghausifam, N. and Gappa-Fahlenkamp, H. (2011) Monocyte chemotactic protein-1 can bind with an extracellular matrix protein and have a haptotactic effect on monocyte migration. Manuscript accepted in Cellular Immunology.
2. Hale, R., Shukla, A., and Gappa-Fahlenkamp, H. (2011) Optimization of a 3D vascular tissue model for the in vitro generation of human dendritic cells. Manuscript accepted in Cytotechnology.
3. Leemasawatdigul, K. and Gappa-Fahlenkamp, H. (2011) Development of a mathematical model to describe the transport of MCP-1 through a three-dimensional collagen matrix. Manuscript in press in Cardiovascular Pathology.
4. Leemasawatdigul, K. and Gappa-Fahlenkamp, H. (2011) Effect of storage conditions on the stability of recombinant human MCP-1/CCL2. *Biologicals: Journal Of The International Association Of Biological Standardization*, ISSN: 1095-8320, 39(1), 29-32; PMID: 20965747.
5. Higbee R.G., Byers A.M., Dhir V., Drake D., Fahlenkamp H.G., Gangur J., Kachurin A., Kachurina O., Leistriz D., Ma Y., Mehta R., Mishkin E., Moser J., Mosquera L., Nguyen M., Parkhill R., Pawar S., Poisson L., Sanchez-Schmitz G., Schanen B., Singh I., Song H., Tapia T., Warren W., and Wittman V. (2009) An immunologic model for rapid vaccine

assessment -- A clinical trial in a test tube. *Alternatives To Laboratory Animals*, ISSN: 0261-1929, 37Suppl 1, 19-27; PMID: 19807200.

6. Gappa-Fahlenkamp, H. and Shukla, A. (2009) The effect of short-term, high glucose concentration on endothelial cells and leukocytes in a 3D in vitro human vascular tissue model. *In Vitro Cellular & Developmental Biology. Animal*, ISSN: 1543-706X, 45(5-6), 234-42; PMID: 19184250.
7. Gappa-Fahlenkamp, H. and Lewis, R. (2005) Improved haemocompatibility of poly(ethylene terephthalate) modified with various thiol-containing groups. *Biomaterials*, ISSN: 0142-9612, 26(17), 3479-85; PMID: 15621237
8. Gappa-Fahlenkamp, H., Duan, X., and Lewis, R. (2004) Analysis of immobilized L-cysteine on polymeric surfaces. *Journal Of Biomedical Materials Research. Part A*, ISSN: 1549-3296, 71(3), 519-27; PMID: 15476256.
9. Gappa, H., Baudys, M., Koh, J. J., Kim, S. W., and Bae, Y. H. (2001) The effect of zinc-crystallized glucagon-like peptide-1 on insulin secretion of macroencapsulated pancreatic islets. *Tissue Engineering*, ISSN: 1076-3279, 7(1), 35-44; PMID: 11224922.