

Jasmine Patel, Ph.D.
Senior Associate

Professional Profile

Dr. Jasmine Patel is a Senior Associate in Exponent's Biomedical Engineering practice. Her expertise lies in biomaterials, biocompatibility, drug/device combination products, and cardiovascular devices. She has experience with infections associated with medical devices, development of drug-eluting endovascular products including stents and vascular grafts, engineering of biomaterial surfaces, and the mechanics of heart valves.

Dr. Patel has over 14 years of hands-on experience in the field of biomedical engineering conducting research at Harvard Medical School, the Cleveland Clinic and Case Western Reserve University, and leading new product development in the medical device industry. Prior to joining Exponent, Dr. Patel was a postdoctoral fellow at Case where she focused on the origin and control of infection related to implantable medical devices. Before that, she was the Senior Scientist at Icon Interventional Systems, a cardiovascular device startup. Dr. Patel has also served as an advisor to a London-based healthcare consulting firm and has conducted technical and marketing assessments for Indian firms on potential opportunities in the medical device sector.

Academic Credentials and Professional Honors

Ph.D., Biomedical Engineering, Case Western Reserve University, 2005
M.S., Biomedical Engineering, Case Western Reserve University, 2004
B.S., Biomedical Engineering, Boston University (*cum laude*), 1997

Case Prime Fellow Award
Boston University Academic Scholarship
Society for Biomaterials Travel Award

Languages

Gujarati – Fluent
Hindi – Intermediate
Spanish – Intermediate

Publications

Patel JD, Ebert M, Ward R, Anderson JM. *S. epidermidis* biofilm formation: Effects of biomaterial surface chemistry and serum proteins. *J Biomed Mater Res Part A* 2007; 80(3):742–751.

Patel JD, Krupka T, Anderson JM. iNOS mediated generation of nitric oxide and superoxide anion by biomaterial adherent neutrophils. *J Biomed Mater Res Part A* 2007; 80(2):381–390.

MacKintosh EE, Patel JD, Marchant RE, Anderson JM. Effects of biomaterial surface chemistry on the adhesion and biofilm formation of *S. epidermidis* in vitro. *J Biomed Mater Res Part A* 2006; 78(4):836–842.

Patel JD, Iwasaki Y, Ishihara K, Anderson JM. Phospholipid polymer surfaces reduce bacteria and leukocyte adhesion under dynamic flow conditions. *J Biomed Mater Res Part A* 2005; 73(3):359–366.

Chandra J, Patel J, Li J, Mukherjee PK, Anderson JM, Ghannoum MA. Modification of surface properties of biomaterials influences the ability of *C. albicans* to form biofilms. *Appl Environ Microbiol* 2005; 71(12):8795–8801.

Patel JD, Ebert M, Stokes K, Ward R, Anderson JM. Inhibition of bacterial and leukocyte adhesion under shear stress conditions by material surface chemistry. *J Biomater Sci Polym Ed* 2003; 14(3):279–295.

Carew EO, Patel J, Garg A, Houghtaling P, Blackstone E, Vesely I. Effect of specimen size and aspect ratio on the tensile properties of porcine aortic valve tissues. *Ann Biomed Eng* 2003 May; 31(5):526–535.

Brodbeck WG, Patel J, Voskerician G, Christenson E, Shive MS, Nakayama Y, Matsuda T, Ziats NP, Anderson JM. Biomaterial adherent macrophage apoptosis is increased by hydrophilic and anionic substrates in vivo. *PNAS* 2002 99(16):10287–10292.

Presentations

Patel JD, Anderson JM. Inhibition of *Staphylococcus epidermidis* biofilm formation on PEO-modified surfaces. Transactions of the 31st Annual Meeting of the Society for Biomaterials Memphis, TN, 2005.

Patel JD, MacKintosh EE, Anderson JM, Marchant RE. The effects of biomaterial surface chemistry on the adhesion and aggregation of *S. epidermidis* in vitro. Transactions of the 31st Annual Meeting of the Society for Biomaterials, Memphis, TN, 2005.

Patel JD, Chandra J, Li J, Mukherjee PK, Ghannoum M, Anderson JM. Modification of surface properties of biomaterials influences the ability of *C. albicans* to form biofilm. Transactions of the 31st Annual Meeting of the Society for Biomaterials, Memphis, TN, 2005.

Patel JD, Ebert M, Ward R, Anderson JM. Inhibition of bacterial and leukocyte adhesion under shear stress conditions by material surface chemistry. Research ShowCASE, Cleveland, OH, 2002.

Patel JD, Iwasaki Y, Ishihara K, Nakabayashi N, Anderson JM. Phospholipid polymer surfaces yield reduced bacterial and PMN adhesion under dynamic flow condition. Center for Annual Applied Polymer Research Symposium, Cleveland, OH, 2002.

Patel JD, Iwasaki Y, Ishihara K, Nakabayashi N, Anderson JM. Phospholipid polymer surfaces yield reduced bacterial and PMN adhesion under dynamic flow condition. Transactions of the 28th Annual Meeting of the Society for Biomaterials, Tampa, FL, 2002.

Patel JD, Ebert M, Ward R, Anderson JM. Effects of SME surface chemistry and shear stress on bacterial and neutrophil adhesion. Society for Biomaterials, Tampa, FL, 2002.

Patel JD, Vesely I. Effect of absolute specimen size on the tensile properties of porcine aortic valve tissues. Annual Biomedical Engineering Research Day, Case Western Reserve University, Cleveland, OH, 2000.

Patel JD, Carew EO, Vesely I. Effect of absolute specimen size on the tensile properties of porcine aortic valve tissues. Biomedical Engineering Society, Seattle, WA, 2000.

Patel JD, Telleman P, Junghans RP. Development and application of ELISA assay in pharmacokinetic analysis of a human antibody therapy. Annual Boston University Biomedical Engineering Conference, Boston, MA, 1997.

Peer Reviewer

- *Journal of Biomedical Materials Research, Part A*
- *Journal of Biomedical Materials Research, Applied Biomaterials, Part B*

Professional Affiliations

- Engineers Without Borders (2010)
- Society for Biomaterials (2001–2005, 2007)