**CURRICULUM VITAE**

**Biographical Sketch:** Srikant Gir

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**Education:** Ph.D. Biomedical Engineering University of Strathclyde 1992   
M.S. Chemical Engineering Oklahoma State University 1977  
B.Tech. Chemical Engineering Osmania University 1976

**Academic Experience:** Engineering Faculty Mechanical Engineering Univ. of Memphis 1984 - presentCurrent: Co-Director of Biofuel Energy & Sustainable Technologies (BEST**)**

**Other Experience:** Research Engineer Kerr-McGee Corp. 1978 – 1984  
Water Resources Engineer Oklahoma Water Resources Board 1977-1978

**Funded Research:**

* 2012-2015 – $500,000, Development of a Continuous Micro-Biodiesel Refinery for Local Sustainability, DOE, Srikant Gir (PI).
* 2012- $250,000, Design & Build Organic Rankin Cycle Fueled by Landfill Gas, TDEC, Srikant Gir, (PI).
* 2011 - $100,000, Study the Performance and Durability of diesel engines fueled with biodiesel. IFTI, Srikant Gir, (PI).
* 2011 – $50,000, Design & Build a Biomass Gasification facility to produce electricity from waste landscape materials, Green Fee Initiative U of M, Srikant Gir (PI).
* 2009 - $100,000, Develop a biofuel quality assurance laboratory, Green Fee Initiative U of M, Srikant Gir (PI).
* 2008 - $100,000, Design & Build a Micro-Biodiesel Refinery, TDEC, Srikant Gir (PI).
* 1995- $15,000, Planning Meeting for NSF I/UCRC, NSF, Srikant Gir (PI).
* 1994-1995- $25,000, Computational Fluid Dynamics Feasibility Studies, Rockwell Aerospace, Srikant Gir (PI).
* 1994- $56,000, Testing of Novel Biomaterials, Sims Deltec, Srikant Gir (PI).
* 1992-1997- $590,970, Tissue Factor in Blood Coagulation, NIH, Srikant Gir (Co-PI).
* 1991-1992, $166,908, Tissue Factor in Blood Coagulation, NIH, Srikant Gir (Co-PI).
* 1989- $8000, Real-Time Strain/ Stress Measurements in High Performance Racing Boats, The Alpha Corporation, Srikant Gir (PI).
* 1989- $2000 Process Development for Cleaning Graphite Implants, Dow Corning Wright, Srikant Gir (PI).
* 1989- $10,000 Characterization of Orthopedic Implant Materials, Dow Corning Wright, Srikant Gir (PI).
* 1989-1991 $30,000 Biomedical Research on Orthopedics Implants, Richards Medical Company, (PI).
* 1986-1987 $10,000 Cogeneration System Test & Applications, Total Teledyne Power, Srikant Gir (Co-PI)
* 1986- $1698 Neonatal IWL Studies, University of Tennessee, Srikant Gir (PI).

**Refereed Journal Publications:** [**Selected**]

Davidson, J.A., Gir, S., Paul, J.P., "Heat Transfer Analysis of Frictional Heat Dissipation during Articulation of Femoral Implants," J. Biomed. Mater. Res. Appl. Biomaterial, Vol. 22, No. 3, 281-309, 1988.

Davidson, J.A., Schwartz, G., Lynch, G., Gir, S., "Wear, Creep and Frictional Heating of Femoral Implant Articulating Surfaces and the Effect of Long-Term Performance - Part II Friction, Heating, and Torque," J. Biomed. Mater. Res. Appl. Biomaterial, Vol. 22, 69-91, 1988.

Gir, S., Turitto, V.T., "Influence of Hydrodynamic Imposed Shear Stress on the Activation of Factor X in the presence of Tissue Factor/Factor II a Complex in a Continuous Flow Reactor," Biotechnology Letters, Volume 17, No. 5 (May 1995),.

Gir, S., "Fractal Dimension Analysis of Factor X Activation in the Presence of Tissue Factor/Factor VII a in a Continuous Flow Reactor," Biotechnology Letters, Volume 17, No. 8 (August 1995), pp 853-858.

Gir, S., "Evaluation of Intrinsic Immobilized Kinetic Parameters for Factor X Activation in a Flow Reactor," Biotechnology Letters, Volume 17, No. 11 (November 1995), pp 1257-1260.

Gir, S., Reavis, R., Turitto, V.T., and Gollamudi, R., "Antiplatelet agents affecting the interaction of tissue factor/factor VII a complex with Factor X in a continuous flow reactor," Biotechnology and applied Biochemistry, Volume 23, part 1, (February 1996) pp 63-66.

Clark, M.C. and Gir, S., "Annual Operation Expense for Residential Water Heaters - With and Without a Pollution Penalty Factor," Applied Energy, Volume 54, No. 1 (1996), pp 57-65.

Gir, S., Slack, S., and Turitto, V.T., "A Numerical Analysis of Factor X Activation in the Presence of Tissue Factor-Factor VII a Complex in a Reactor," Annals of Biomedical Engineering, Volume 24, No. 3 (June 1996) pp 394-399.

**Refereed Conference Publications (Selected)**

Gir, S., Davidson, J.A., "Heat Transfer Analysis of Frictional Heating during Hip Joint Articulation: In-Vitro vs In-Vivo," Proceedings Third World Biomaterial Congress, Tokyo, Japan, April 1988.

Davidson, J.A., Lynch, G., Schwartz, G., Gir, S., "Relative Friction Torque, and Heating of Metal and Ceramic Femoral Heads," Proceedings Third World Biomaterial Congress, Tokyo, Japan, April 1988.

Gir, S., Davidson, J.A., "Heat Transfer Analysis of Frictional Heat Dissipation In-vivo Due Excessive Hip Joint Articulation of Femoral Implants," Proceedings of the Seventh Southern Biomedical Engineering Conference, Greenville, SC, October 1988, pp

Perry, E.H., Gir, S., Fitch, C.W., Korones, S.B., "A Psychometric Method for Determining Insensible Water Loss in Premature Infants," Proceedings of the Eighth Southern Biomedical Engineering Conference, Richmond, VA, October 1989, pp 79-99.

Gir, S., "Assessment of Frictional Heating in Total Hip Using Telemetric Temperature Measurements," Workshop on Implantable Telemetry in Orthopedics, Berlin, West Germany, April 1990, pp 241-248.

Anderson, C., Lasserre, A., Bajpai, P.K., and Gir, S., "Mathematical Modeling of Dapsone Diffusion through a Controlled Drug Delivery Device", Fifth Annual Conference of the U.K. Association of Pharmaceutical Scientists, Wales, U.K., July 2-4, 1997.

Anderson, C., Lasserre, A., Bajpai, P.K., and Gir, S., "Effect of Cimetidine on Dapsone Diffusion through a Controlled Drug Delivery Device", Fifth Annual Conference of the U.K. Association of Pharmaceutical Scientists, Wales, U.K., July 2-4, 1997.

Davidson, J.A., Gir, S., Higgs, R., Taylor, S., Bergmann, G., "In-vitro Laboratory Measurements of Temperature Increase during Articulation of the Total Hip Prosthesis and Proposed Telemetry Study," Workshop on Implantable Telemetry in Orthopedics, Berlin, West Germany, April 1990, pp 231-239.

Gir, S., "Finite-Difference Temperature Analysis of Frictional Heat Dissipation During Articulation in Total Reconstructed Hip Joint Systems," Proceedings of the Ninth Southern Biomedical Engineering Conference, Miami, FL, November 1990.

Anderson, K.R., Gir, S., Turitto, V., "Factor X a Adsorption to a Phospholipid Surface Using a Continuous Flow Reactor System," Paper presented at the Cardiovascular Science and Technology Conference, Washington, D.C., December 1993,

Anderson, K.R., Gir, S., Turitto, V., "Effect of Viscosity on Activation of Factor X in the Extrinsic Pathway of Coagulation," Cardiovascular Science and Technology Conference, Washington, D.C., December 1993, pp 209.

Anderson, K.R., Gir, S., Turitto, V.T., "Effect of Viscosity on Activation of Factor X With Extrinsic Pathway of Coagulation," Proceedings of the Second Carolina Biomedical Engineering Conference, NC, February 1994, pp 26.

Gir, S., "Mathematical Modeling of Frictional Heat Dissipation during Articulation of Total Hip Prosthesis," Proceedings of the 13th Southern Biomedical Engineering Conference, Washington, DC, April 1994, pp 14-16.

Gir, S., "A Numerical Simulation of the Activation of Factor X in the Presence of Tissue Factor-Factor VII a Complex in a Flow Reactor," Proceedings of the 13th Southern Biomedical Engineering Conference, Washington, DC, April 1994, pp 34-36.

Rogers, C., Trieu, H., Gir, S., "An Investigation of the Effects of Extrusion Environment on Ultra-High Molecular Weight Polyethylene," Proceedings of the 16th Southern Biomedical Engineering Conference, Biloxi, MS, April 1997, pp 88-89.

Anderson, C., Lassarre, A., Bajpai, P.K., and Gir, S., "Diffusion Model of Dapsone Release Through a Controlled Drug Delivery Device," Proceedings of the 16th Southern Biomedical Engineering Conference, San Antonio, TX, Feb. 1998, pp. 39.

Clark, M.C., Stewart, J.C., Gir, S., "Natural Convection Heat Transfer from Parallel Cylinders," 1998 International Mech. Eng. Congress & Exposition, Anaheim, CA, Nov. 1998, pp. 26.

Sadana, A., Ramakrishanan, A., and Gir, S., " An Analysis of Cell-Ligand, Ligand-Receptor, and Antigen-Antibody Interactions Occurring in Parallel Using Biosensors," 76th ACS Colloid and Surface Science Symposium, University of Michigan, Ann Arbor, Michigan, June 23-26, 2002

Sadana, A., Ramakrishanan, A., and Gir, S., "An Analysis of Cell-Ligand, Ligand-Receptor, and Antigen-Antibody Interactions Occurring in Parallel Using Biosensors," Annual AIChE Meeting, Indianapolis, Indiana, November 3-8, 2002.

**Non-Refereed Publications & PRESENTATIONS:**

Gir, S., Nemerson, Y., Turitto, V., "Increased Viscosity Decreases the Activation of Factor X by Tissue Factor-Factor VIIa in a Tubular Reactor," Program and Abstracts of the XIII Congress of the International Society on Thrombosis and Hemostasis, Amsterdam, The Netherlands, July 1991.

Gir, S., Nemerson, Y., Turitto, V.T., "Increased Viscosity Decreases the Activation of Factor X by Tissue Factor-Factor VIIa in Tubular Reactor," Program and Abstracts of the 1991 Annual Fall Meeting of the Biomedical Engineering Society, Charlottesville, VA, October 1991.

Gir, S., Slack, S., Turitto, V.T., "The Kinetics of Factor X Activation in a Flow Reactor," Program and Abstracts of the 1992.Annual Fall Meeting of the Biomedical Engineering Society, Salt Lake City, UT, October 1992, pp F4.2.

Gir, S., Slack, S., Turitto, V., Nemerson, Y., "Kinetic Modeling of the Activation of Factor X by the Tissue Factor-Factor VIIa Complex in a Tubular Flow Reactor," Program and Abstracts of the XIV Congress of the International Society on Thrombosis and Hemostasis, New York, USA, July 1993.

Gir, S., Turitto, V., Nemerson, Y., "Fractal Analysis of Factor X Activation in the presence of Tissue Factor-Factor VIIa Complex, Program and Abstracts of the First Meeting of the European Hematology Association, Brussels, Belgium, June 1, 1994, pp 79.

Gir, S., "Effect of Shear Rate on Intrinsic Immobilized Kinetic Parameters for Factor Xa Production in Flow Reactor," Program and Abstracts of the Second Meeting of the European Hematology Association, Paris, France, May 29-June 1, 1996.

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