

**EDWARD R. DAMIANO**  
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## EDUCATION —

*Ph.D. Applied Mechanics*, Rensselaer Polytechnic Institute, Troy, NY, December 1993

*M.S. Mechanical Engineering*, Washington University, St. Louis, MO, May 1989

*B.S. Biomedical Engineering*, Rensselaer Polytechnic Institute, Troy, NY, August 1987

## EXPERIENCE —

September 2004 – present	<b>Boston University</b> <i>Associate Professor</i>	Boston, MA Department of Biomedical Engineering
March 2008 – present	<b>Massachusetts General Hospital</b> <i>Associate Biomedical Engineer</i>	Boston, MA Division of Medicine
March 1998 – August 2004	<b>University of Illinois at Urbana-Champaign</b> <i>Assistant Professor</i>	Urbana, IL Bioengineering Program
August 1997 – August 2004	<b>University of Illinois at Urbana-Champaign</b> <i>Assistant Professor</i>	Urbana, IL Department of Mechanical and Industrial Engineering
November 1994 – August 1997	<b>University of Virginia</b> <i>Postdoctoral Fellow</i>	Charlottesville, VA Department of Biomedical Engineering
March 1994 – September 1994	<b>University of Utah</b> <i>Postdoctoral Research Associate</i>	Salt Lake City, UT Department of Bioengineering
September 1990 – December 1993	<b>Rensselaer Polytechnic Institute</b> <i>Teaching Assistant</i>	Troy, NY Mathematical Sciences and Mechanical Engineering Departments
July 1989 – August 1990	<b>Arthur D. Little, Inc.</b> <i>Engineering Consultant</i>	Cambridge, MA Environmental, Health and Safety Practice

## ADMINISTRATIVE POSITIONS —

September 2005 – present	<b>Boston University</b> <i>Director, BME Graduate Admissions</i>	Boston, MA Department of Biomedical Engineering
September 2007 – present	<b>Boston University</b> <i>Director, NIH QBP Training Grant</i>	Boston, MA Department of Biomedical Engineering
September 2004 – present	<b>Boston University</b> <i>Director, Computational Simulation Facility</i>	Boston, MA Department of Biomedical Engineering
September 2005 – present	<b>Boston University</b> <i>Member, BME Executive Committee</i>	Boston, MA Department of Biomedical Engineering

## JOURNAL PUBLICATIONS —

POTTER, D. R., JIANG, J. & DAMIANO, E. R. (2009) The recovery time course of the endothelial-cell glycocalyx *in vivo* and its implications *in vitro*. *Circ. Res.* **104**, 1318–1325 (invited manuscript).

EL-KHATIB, F. H., JIANG, J. & DAMIANO, E. R. (2009) A feasibility study of bihormonal closed-loop blood-glucose control using dual subcutaneous infusion of insulin and glucagon in ambulatory diabetic swine. *J. Diabetes Sci. Technol.* **3**, 789–803 (invited manuscript).

- SAVERY, M. D. & DAMIANO, E. R. (2008) The endothelial glycocalyx is hydrodynamically relevant in arterioles throughout the cardiac cycle. *Biophys. J.* **95**, 1439–1447.
- ROY, B. C. & DAMIANO, E. R. (2008) On the motion of a porous sphere in a Stokes flow parallel to a planar confining boundary. *J. Fluid Mech.* **606**, 75–104.
- POTTER, D. R. & DAMIANO, E. R. (2008) The hydrodynamically relevant endothelial-cell glycocalyx observed *in vivo* is absent *in vitro*. *Circ. Res.* **102**, 770–776.
- WEINBAUM, S., TARBELL, J. M. & DAMIANO, E. R. (2007) The structure and function of the endothelial glycocalyx layer. *Ann. Rev. Biomed. Eng.* **9**, 121–167.
- EL-KHATIB, F. H., JIANG, J., GERRITY, R. G. & DAMIANO, E. R. (2007) Pharmacodynamics and stability of subcutaneously infused glucagon in a type 1 diabetic swine model *in vivo*. *Diabetes Technol. Ther.* **9**, 135–144.
- EL-KHATIB, F. H., JIANG, J. & DAMIANO, E. R. (2007) Adaptive closed-loop control provides blood-glucose regulation using dual subcutaneous insulin and glucagon infusion in diabetic swine. *J. Diabetes Sci. Technol.* **1**, 181–192 (invited manuscript).
- DAMIANO, E. R. & STACE, T. M. (2005) Flow and deformation of the capillary glycocalyx in the wake of a leukocyte. *Phys. Fluids* **17**, 031509-1–031509-17 (invited paper for special section on Biofluid Mechanics).
- LONG, D. S., SMITH, M. L., PRIES, A. R., LEY, K. & DAMIANO, E. R. (2004) Microviscometry reveals reduced blood viscosity and altered shear rate and shear stress profiles in microvessels after hemodilution. *Proc. Natl. Acad. Sci. USA* **101**, 10060–10065.
- DAMIANO, E. R., LONG, D. S. & SMITH, M. L. (2004) Estimation of viscosity profiles using velocimetry data from parallel flows of linearly viscous fluids: Application to microvascular hemodynamics. *J. Fluid Mech.* **512**, 1–19.
- DAMIANO, E. R., LONG, D. S., EL-KHATIB, F. H. & STACE, T. M. (2004) On the motion of a sphere in a Stokes flow parallel to a Brinkman half space. *J. Fluid Mech.* **500**, 75–101.
- SMITH, M. L., LONG, D. S., DAMIANO, E. R. & LEY, K. (2003) Near-wall  $\mu$ -PIV reveals a hydrodynamically relevant endothelial surface layer in venules *in vivo*. *Biophys. J.* **85**, 637–645.
- EL-KHATIB, F. H. & DAMIANO, E. R. (2003) Linear and nonlinear analyses of pulsatile blood flow in a cylindrical tube. *Biorheology* **40**, 503–522.
- DAMIANO, E. R. & STACE, T. M. (2002) A mechano-electrochemical model of radial deformation of the capillary glycocalyx. *Biophys. J.* **82**, 1153–1175.
- STACE, T. M. & DAMIANO, E. R. (2001) An electrochemical model of the transport of charged molecules through the capillary glycocalyx. *Biophys. J.* **80**, 1670–1690.
- DAMIANO, E. R. (1999) A poroelastic continuum model of the cupula partition and the response dynamics of the vestibular semicircular canal. *J. Biomech. Eng.* **121**, 449–461.
- DAMIANO, E. R. (1998) The effect of the endothelial-cell glycocalyx on the motion of red blood cells through capillaries. *Microvasc. Res.* **55**, 77–91.
- DAMIANO, E. R., DULING, B. R., LEY, K. & SKALAK, T. C. (1996) Axisymmetric pressure-driven flow of rigid pellets through a cylindrical tube lined with a deformable porous wall layer. *J. Fluid Mech.* **314**, 163–189.
- DAMIANO, E. R. & RABBITT, R. D. (1996) A singular perturbation model of fluid dynamics in the vestibular semicircular canal and ampulla. *J. Fluid Mech.* **307**, 333–372.
- DAMIANO, E. R., WESTHEIDER, J., TÖZEREN, A. & LEY, K. (1996) Variation in the velocity, deformation, and adhesion energy density of leukocytes rolling within venules. *Circ. Res.* **79**, 1122–1130.
- RABBITT, R. D. & DAMIANO, E. R. A hydroelastic model of the macromechanics in the endolymphatic vestibular canal. *J. Fluid Mech.* **238**, 337–369.

#### INVITED BOOK CHAPTERS —

- RABBITT, R. D., DAMIANO, E. R. & GRANT, J. W. (2004) Biomechanics of the semicircular canals and otolith organs. In *Springer Handbook of Auditory Research, Volume 19: The Vestibular System*. (eds. S. M. Highstein, R. R. Fay & A. N. Popper), pp. 153–201, Springer, New York.

#### PATENTS PENDING —

- EL-KHATIB, F. H. & DAMIANO, E. R. (2005) A fully automated closed-loop control system for type 1 diabetes (first provisional filing, May 13, 2005; second provisional filing, November 10, 2005, fully executed PCT (international) patent application entered national phase of prosecution, November 13, 2007).

## FDA-APPROVED INVESTIGATIONAL DEVICE EXEMPTIONS —

- *Boston University Closed-Loop Glucose Control*. (2008) Investigational Device Exemption Application #G080012, approved February 21, 2008 by the Food and Drug Administration. Indications for Use: Intended to Provide Automated Control of Blood Glucose in Subjects the Type 1 Diabetes. Sponsor: E.R. Damiano.

## GRANTS RECEIVED —

- *In-patient trials of automated glucose control in children with type 1 diabetes*. (2009–2010) Leona M. and Harry B. Helmsley Charitable Trust (Research Grant, PI: E.R. Damiano), \$1,051,196.
- *Closed-loop glucose control for automated management of type 1 diabetes*. (2009–2010) Juvenile Diabetes Research Foundation (Clinical Investigations Research Grant, PI: E.R. Damiano), \$531,126.
- *Development and preclinical testing of a closed-loop control system for blood-glucose regulation in the ICU*. (2009–2010) Wallace H. Coulter Translational Partners Grant (PI: E.R. Damiano), \$100,000.
- *Use of Pramlintide, an amylin analog, in closed-loop blood glucose control*. (2009–2010) Amylin Pharmaceuticals (Investigator Initiated Research Grant, PI: E.R. Damiano), \$262,428.
- *Investigations into the vasoprotective role of combined insulin and free-radical scavenger therapies in the treatment of diabetes*. (2008–09) Dean's Catalyst Award, Boston University (PI: E.R. Damiano), \$10,000.
- *Bridge funding for BU/MGH closed-loop control trial*. (2008–2009) Wallace H. Coulter Translational Partners Grant (PI: E.R. Damiano), \$35,000.
- *Closed-loop glucose control for automated management of type 1 diabetes*. (2007–2009) Juvenile Diabetes Research Foundation (Clinical Investigations Research Grant, PI: E.R. Damiano), \$1,098,201.
- *Closed-loop blood-glucose regulation in type 1 diabetes: A clinical trial*. (2007) Wallace H. Coulter Translational Partners Grant (PI: E.R. Damiano), \$50,000.
- *Automated hemodynamic analysis in microvessels using  $\mu$ -particle image velocimetry*. (2006–09) National Institutes of Health (NHLBI, R21 HL082870, PI: E.R. Damiano), \$437,544.
- *Micro-viscometric studies of the ESL in microvessels*. (2004–09) National Institutes of Health (NHLBI, R01 HL076499, PI: E.R. Damiano), \$1,141,315.
- *Engineering a robust fully automated closed-loop control unit for glucose regulation in type 1 diabetes*. (2006–07) Wallace H. Coulter Translational Partners Grant (PI: E.R. Damiano), \$100,000.
- *The mechano-electrochemical behavior of the capillary glycocalyx*. (2001–07) National Science Foundation CAREER Award (BES-0093985, PI: E.R. Damiano), \$375,000.
- *The development of a semi-empirical basis to study microhemofluidics in post-capillary venules*. (2003–04) Whitaker Foundation Transitional Funding Award (TF-02-0024, PI: E.R. Damiano), \$80,000.
- *The role of the capillary glycocalyx in microvascular permeability, rheology, and exchange*. (1999–2002) Whitaker Foundation Biomedical Engineering Research Grant (RG-98-0524, PI: E.R. Damiano), \$210,000.
- *The application of mixture theory to some fluid–structure interaction problems arising in biomechanics*. (1998–99) UIUC Campus Research Board (PI: E.R. Damiano), \$16,000.
- *The role of the glycocalyx in microvascular rheology*. (1996–98) National Institutes of Health, Individual National Research Service Award (HL-09501, PI: E.R. Damiano, Sponsors: T.C. Skalak & B.R. Duling), \$58,500.

## PROPOSALS PENDING —

- *Microviscometric and electrochemical studies of glycocalyx in vivo*. (2010–15) National Institutes of Health (NHLBI/NIBIB, 2R01 HL076499, PI: E.R. Damiano).
- *Clinical trials of a closed-loop control system for type 1 diabetes management*. (2009–12) National Institutes of Health (NIDDK/NICHD, R01 DK085633, PI: E.R. Damiano).

## COMMITTEE ASSIGNMENTS —

- Chair, Graduate Admissions Committee, Department of Biomedical Engineering, Boston University, 2005–10
- Member, Biomedical Engineering Chair Search Committee, Department of Biomedical Engineering, Boston University, 2007–08
- Member, Executive Committee, Department of Biomedical Engineering, Boston University, 2005–10
- Member, Faculty Search Committee, Department of Biomedical Engineering, Boston University, 2007–08
- Member, Mechanical Engineering Chair Search Committee, Department of Biomedical Engineering, Boston University, 2006–07
- Member, Faculty Search Committee, Department of Biomedical Engineering, Boston University, 2006–07
- Chair, Faculty Search Committee, Department of Biomedical Engineering, Boston University, 2005–06
- Member, Graduate Admissions Committee, Department of Biomedical Engineering, Boston University, 2004–05
- Member, Undergraduate Programs Committee, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign, 1997–2000

## TEACHING HISTORY —

- Boston University – Continuum Mechanics for Biomedical Engineers (AM/BE 521, graduate); Numerical Methods and Modeling in Biomedical Engineering (BE 703, graduate); Biomedical Transport Phenomena (BE 736, graduate); Fundamentals of Fluid Mechanics (BE 436)
- University of Illinois at Urbana-Champaign – Introduction to Biomechanics and Biofluid Dynamics (ME 393, graduate); Fluid Mechanics of Convective Heat Transfer (ME 308, graduate); Introductory Gas Dynamics (ME 211); Senior Mechanical Engineering Design Project (ME 280)
- Rensselaer Polytechnic Institute – Statics and Dynamics; Strength of Materials; Calculus and Analytic Geometry; Introductory Vector Calculus

## INVITED SEMINARS —

- DAMIANO, E. R. The role of the endothelial glycocalyx in cardiovascular health and disease. *Center for Engineering in Medicine, Shriners Hospitals for Children*, Boston, Massachusetts, December 2008.
- DAMIANO, E. R. Closed-loop studies using insulin and glucagon. *FDA/NIH/JDRF Workshop, "Towards An Artificial Pancreas,"* Bethesda, Maryland, July 2008.
- DAMIANO, E. R. Closing in on closed-loop control. *JDRF – New England Chapter Annual Meeting*, Worcester, Massachusetts, June 2008.
- DAMIANO, E. R. Closing in on closed-loop control. *JDRF – North Central Connecticut Chapter Annual Meeting*, Hartford, Connecticut, June 2008.
- DAMIANO, E. R. The role of the endothelial glycocalyx in cardiovascular health and disease. *Vascular Biology and Therapeutics Program, Yale University*, New Haven, Connecticut, April 2008.
- DAMIANO, E. R. Closing in on closed-loop control. *MicroCHIPS, Inc.*, Bedford, Massachusetts, September 2007.
- DAMIANO, E. R. Closing in on closed-loop control. *Endocrinology Grand Rounds, University of Massachusetts Medical School*, Worcester, Massachusetts, June 2007.
- DAMIANO, E. R. Analysis of the microfluidics near vascular endothelium in vivo and in vitro reveals inadequacies of the endothelial-cell culture model. *Division of Engineering, Brown University*, Providence, Rhode Island, April 2006.
- DAMIANO, E. R. Automated adaptive blood-glucose control using dual subcutaneous insulin and glucagon infusion in diabetic swine. *Joslin Diabetes Center*, Boston, Massachusetts, April 2006.
- DAMIANO, E. R. Analyzing particle image velocimetry data using kinematic viscometry: Application to microvascular hemodynamics. *Hatsopoulos Microfluids Laboratory, Massachusetts Institute of Technology*, Cambridge, Massachusetts, March 2005.
- DAMIANO, E. R. Using micro-viscometry to extract physiologically relevant information from microvessels in vivo. *Department of Mechanical and Aerospace Engineering, Rutgers University*, Piscataway, New Jersey, November 2004.

- DAMIANO, E. R. Using micro-viscometry to extract physiologically relevant information from microvessels *in vivo*. *Department of Biomedical Engineering, University of North Carolina at Chapel Hill*, Chapel Hill, North Carolina, May 2004.
- DAMIANO, E. R. Extracting physiologically relevant information from microhemofluidic studies in microvessels *in vivo*. *Department of Biomedical Engineering, University of Minnesota*, Minneapolis, Minnesota, May 2004.
- DAMIANO, E. R. Extracting physiologically relevant information from microhemofluidic studies in microvessels *in vivo*. *Department of Biomedical Engineering, Boston University*, Boston, Massachusetts, April 2004.
- DAMIANO, E. R. Extracting physiologically relevant information from microhemofluidic studies in microvessels *in vivo*. *Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University*, Blacksburg, Virginia, September 2003.
- DAMIANO, E. R. Toward a new understanding of the interface between blood and the vascular endothelium. *Department of Biomedical Engineering, University of Virginia*, Charlottesville, Virginia, September 2003.
- DAMIANO, E. R. Extracting physiologically relevant information from microhemofluidic studies in microvessels *in vivo*. *Department of Theoretical and Applied Mechanics, University of Illinois at Urbana-Champaign*, Urbana, Illinois, September 2003.
- DAMIANO, E. R. Microhemofluidics in fuzzy-walled venules determined from intravital micro-particle image velocimetry. *Fluid, Thermal and Chemical Processes group, Division of Engineering, Brown University*, Providence, Rhode Island, April 2003.
- DAMIANO, E. R. Microhemofluidics in fuzzy-walled venules determined from intravital micro-particle image velocimetry. *Department of Biomedical Engineering, Washington University*, St. Louis, Missouri, April 2003.
- DAMIANO, E. R. Microhemofluidics in fuzzy-walled venules determined from intravital micro-particle image velocimetry. *Department of Bioengineering, Rice University*, Houston, Texas, March 2003.
- DAMIANO, E. R. Microhemofluidic studies in post-capillary venules using intravital micro-particle image velocimetry. *Department of Bioengineering, University of Utah*, Salt Lake City, Utah, November 2002.
- DAMIANO, E. R. Toward a new understanding of the interface between blood and the vascular endothelium. *Department of Bioengineering, University of California, San Diego*, La Jolla, California, March 2002.
- DAMIANO, E. R. Toward a new understanding of the interface between blood and the vascular endothelium. *Center for Computational Medicine and Biology, The Johns Hopkins University*, Baltimore, Maryland, March 2002.
- DAMIANO, E. R. Toward a new understanding of the interface between blood and the vascular endothelium. *Department of Bioengineering, Pennsylvania State University*, University Park, Pennsylvania, November 2001.
- DAMIANO, E. R. Mechano-electrochemical dynamics of cell interactions with the extracellular matrix at the luminal surface of capillary endothelial cells. *Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign*, Urbana, Illinois, February 2001.
- DAMIANO, E. R. A mathematical model of red-cell motion through capillaries lined with an endothelial-cell glycocalyx. *Department of Mechanical Engineering/Biomedical Engineering Program, University of Rochester*, Rochester, New York, April 1997.
- DAMIANO, E. R. Fluid–structure interactions of blood with a macromolecular surface layer lining the capillary wall. *Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign*, Urbana, Illinois, April 1997.
- DAMIANO, E. R. Fluid–structure interactions of blood with a macromolecular surface layer lining the capillary wall. *Department of Biomedical Engineering, University of Michigan*, Ann Arbor, Michigan, April 1997.
- DAMIANO, E. R. Fluid–structure interactions of blood with a macromolecular surface layer lining the capillary wall. *School of Mechanical Engineering, Purdue University*, West Lafayette, Indiana, March 1997.
- DAMIANO, E. R. Fluid–structure interactions of blood with a macromolecular surface layer lining the capillary wall. *Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University*, Blacksburg, Virginia, February 1997.
- DAMIANO, E. R. Fluid–structure interactions in vestibular and microvascular biomechanics. *Department of Mechanical Engineering, State University of New York at Stony Brook*, Stony Brook, New York, May 1996.
- DAMIANO, E. R. Three-dimensional fluid mechanics in the vestibular semicircular canals. *Department of*

- Biomedical Engineering, University of Virginia, Charlottesville, Virginia, January 1996.*
- DAMIANO, E. R. Three-dimensional fluid mechanics in the vestibular semicircular canals. *Department of Mechanical, Aeronautical and Nuclear Engineering, University of Virginia, Charlottesville, Virginia, September 1994.*
- DAMIANO, E. R. A singular perturbation model of fluid dynamics in the vestibular canal. *Department of Mechanical Engineering, Washington University, St. Louis, Missouri, January 1994.*
- DAMIANO, E. R. A singular perturbation model of fluid dynamics in the vestibular canal. *Department of Mechanical Engineering, University of Rochester, Rochester, New York, October 1993.*

**ABSTRACTS & CONFERENCE PROCEEDINGS ( \* denotes invited ) —**

- EL-KHATIB, F. H., JIANG, J., NATHAN, D. M., RUSSELL, S. J. & DAMIANO\*, E. R. (2008) Closed-loop blood-glucose control using dual subcutaneous infusion of insulin and glucagon in ambulatory diabetic pigs. Eighth Annual Diabetes Technology Meeting, Bethesda, MD, November 13–15, 2008.
- POTTER, D. R., JIANG, J. & DAMIANO, E. R. (2008) The recovery time course of the endothelial glycocalyx after enzymatic and cytokine degradation. Proceedings of the 2008 BMES Annual Fall Meeting, St. Louis, MO, October 2–4, 2008.
- SAVERY, M. D., JIANG, J. & DAMIANO, E. R. (2008) A vasoprotective role for free-radical scavenger therapies in chronically hyperglycemic NOD mice. Proceedings of the 2008 BMES Annual Fall Meeting, St. Louis, MO, October 2–4, 2008.
- DAMIANO\*, E. R. (2008) Closing in on closed-loop control. Friends for Life Conference and Expo, National Children with Diabetes Conference, Orlando, FL, July 23–27, 2008.
- POTTER, D. R., JIANG, J. & DAMIANO\*, E. R. (2008) Restoration of the hydrodynamically relevant endothelial glycocalyx after enzymatic-, cytokine-, and free-radical-mediated degradation *in vivo*. 13th International Congress of Biorheology and 6th International Conference on Clinical Hemorheology, Penn State University, State College, PA, July 9–13, 2008.
- EL-KHATIB, F. H., JIANG, J. & DAMIANO, E. R. (2008) Closed-loop blood-glucose control using dual subcutaneous infusion of insulin and glucagon in ambulatory diabetic pigs. 68th Scientific Sessions of the American Diabetes Association, San Francisco, CA, June 6–10, 2008.
- SAVERY, M. D., JIANG, J. & DAMIANO, E. R. (2008) Using  $\mu$ -PIV to assess the role of insulin and free radical scavenger therapies in treating the effects of chronic hyperglycemia on the microvascular glycocalyx of NOD mice. Experimental Biology 2008, San Diego, CA, April 5–April 9, 2008.
- POTTER, D. R., JIANG, J. & DAMIANO, E. R. (2008) The recovery time course of the endothelial glycocalyx after enzymatic and cytokine degradation. Experimental Biology 2008, San Diego, CA, April 5–April 9, 2008.
- SAVERY, M. D. & DAMIANO, E. R. (2008) Using  $\mu$ -PIV to interrogate the endothelial surface layer in arterioles *in vivo*. Experimental Biology 2008, San Diego, CA, April 5–April 9, 2008.
- SAVERY, M. D. & DAMIANO\*, E. R. (2007) Using  $\mu$ -PIV to interrogate the endothelial surface layer in arterioles *in vivo*. 41st Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 4–7, 2007.
- EL-KHATIB, F. H., JIANG, J. & DAMIANO, E. R. (2007) Closed-loop blood-glucose control using dual subcutaneous infusion of insulin and glucagon in ambulatory diabetic pigs. Seventh Annual Diabetes Technology Meeting, San Francisco, CA, October 25–27, 2007.
- SAVERY, M. D. & DAMIANO, E. R. (2007) Using  $\mu$ -PIV to interrogate the endothelial surface layer in arterioles *in vivo*. 2007 BMES Fall Annual Meeting, Los Angeles, CA, September 27–29, 2007.
- SAVERY, M. D., JIANG, J. & DAMIANO, E. R. (2007) Using  $\mu$ -PIV to examine the effects of hyperglycemia on the ESL in venules of NOD mice *in vivo*. 2007 BMES Fall Annual Meeting, Los Angeles, CA, September 27–29, 2007.
- RICHTER, V., PRIES, A. R., GASSMANN, M. & DAMIANO, E. R. (2007) Microrheology in skeletal muscle vessels upon increased erythropoietin (EPO) levels. 2007 BMES Fall Annual Meeting, Los Angeles, CA, September 27–29, 2007.
- YAO, Y., CIESLEWICZ, M., HUANG, H., DAMIANO, E. R. & DEWEY, C. F. (2007) Dynamics of the endothelial glycocalyx layer subjected to unsteady flow. 2007 BMES Fall Annual Meeting, Los Angeles, CA, September 27–29, 2007.
- DAMIANO\*, E. R. (2007) Closing in on closed-loop control. Friends for Life Conference and Expo, National Children with Diabetes Conference, Orlando, FL, July 11–15, 2007.
- EL-KHATIB, F. H., JIANG, J. & DAMIANO, E. R. (2007) Adaptive closed-loop control provides robust blood-glucose regulation using dual subcutaneous insulin and glucagon infusion in ambulatory diabetic

- swine. 67th Scientific Sessions of the American Diabetes Association, Chicago, IL, June 22–26, 2007.
- POTTER, D. R. & DAMIANO, E. R. (2007) Using micro-particle image velocimetry to interrogate the endothelial-cell glycocalyx *in vitro* after hyaluronin and hyaluronidase treatments. Experimental Biology 2007, Washington, DC, April 28–May2, 2007.
- ROY, B. C., TRONGNETRPUNYA, A., JIANG, J. & DAMIANO, E. R. (2007) Microhemoviscometric analysis of blood flow in glass tubes. Experimental Biology 2007, Washington, DC, April 28–May2, 2007.
- SAVERY, M. D. & DAMIANO, E. R. (2007) Using fluorescent micro-particle image velocimetry to interrogate the endothelial surface layer in arterioles, *in vivo*. Experimental Biology 2007, Washington, DC, April 28–May2, 2007.
- SAVERY, M. D., JIANG, J. & DAMIANO, E. R. (2007) Using fluorescent micro-particle image velocimetry to examine the effects of chronic hyperglycemia on the endothelial surface layer in venules of NOD mice *in vivo*. Experimental Biology 2007, Washington, DC, April 28–May2, 2007.
- EL-KHATIB, F. H., JIANG, J. & DAMIANO\*, E. R. (2006) Closed-loop blood-glucose control using dual subcutaneous insulin and glucagon infusion *in vivo*. Sixth Annual Diabetes Technology Meeting, Atlanta, GA, November 2–4, 2006.
- EL-KHATIB, F. H., JIANG, J., GERRITY, R. G. & DAMIANO, E. R. (2006) Pharmacodynamics and stability of subcutaneously infused glucagon in a type 1 diabetic swine model *in vivo*. Fifth Annual Diabetes Technology Meeting, Atlanta, GA, November 2–4, 2006.
- POTTER, D. R., TIEN, J. & DAMIANO\*, E. R. (2006) Using near-wall microfluidics and micro-PIV to interrogate the glycocalyx on HUVECs *in vitro*. 2006 BMES Fall Annual Meeting, Chicago, IL, October 11–14, 2006.
- EL-KHATIB, F. H., JIANG, J. & DAMIANO, E. R. (2006) Closed-loop blood-glucose control using dual subcutaneous insulin and glucagon infusion *in vivo*. 2006 BMES Fall Annual Meeting, Chicago, IL, October 11–14, 2006.
- POTTER, D. R., TIEN, J. & DAMIANO\*, E. R. (2006) Using fluorescent micro-particle image velocimetry to interrogate the surface glycocalyx on cultured endothelial cells in collagen microchannels. 5th World Congress of Biomechanics, Munich, Germany, July 29–August 4, 2006.
- EL-KHATIB, F. H., JIANG, J. & DAMIANO, E. R. (2006) Optimized, self-learning, *in vivo* blood-glucose control using dual subcutaneous infusion in a type 1 diabetic swine model. 66th Scientific Sessions of the American Diabetes Association, Washington, DC, June 9–13, 2006.
- EL-KHATIB, F. H., JIANG, J. & DAMIANO, E. R. (2006) Closed-loop blood-glucose control using dual subcutaneous insulin and glucagon infusion *in vivo*. Massachusetts Biotechnology Council Diabetes Summit Conference, Boston, MA, May 31, 2006.
- POTTER, D. R., TIEN, J. & DAMIANO\*, E. R. (2006) Using fluorescent micro-particle image velocimetry to interrogate the surface glycocalyx on cultured endothelial cells in collagen microchannels. Experimental Biology 2006, San Francisco, CA, April 1–5, 2006, (Abstr).
- DAMIANO, E. R., RICHTER, V. & PRIES, A. R. (2005) Microviscometric analysis of venular blood flow in Epo-mice before and after isovolemic hemodilution. 2005 BMES Fall Annual Meeting, (Abstr).
- DAMIANO, E. R., POTTER, D. R. & TIEN, J. (2005) Using fluorescent micro-particle image velocimetry to interrogate the surface glycocalyx on cultured endothelial cells in collagen microchannels. Experimental Biology 2005 (Abstr).
- LONG, D. S., SMITH, M. L., PRIES, A. R., LEY, K. & DAMIANO, E. R. (2004) Micro-viscometry reveals reduced blood viscosity in microvessels after isovolemic hemodilution. *Proceedings of the 2004 BMES Fall Annual Meeting*, 6.P5.133, p. 116, Philadelphia, PA, October 13–16, 2004, (Abstr).
- DONG, G., SMITH, M. L., LEY, K., DAMIANO, E. R. & ACTON, S. T. (2004) Detection of microspheres in venules for automated particle image velocimetry. *The 17th IEEE Symposium on Computer-Based Medical Systems*, Bethesda, MD.
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