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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 —

October 2015 – present	<b>Beta Bionics, Inc.</b> <i>President and CEO</i>	Boston, MA
February 2015 – present	<b>Boston University</b> <i>Professor</i>	Boston, MA Department of Biomedical Engineering
September 2004 – February 2015	<b>Boston University</b> <i>Associate Professor</i>	Boston, MA Department of Biomedical Engineering
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

## ACADEMIC ADMINISTRATIVE POSITIONS —

September 2007 – May 2011	<b>Boston University</b> <i>Director, NIH QBP Training Grant</i>	Boston, MA Department of Biomedical Engineering
September 2005 – September 2010	<b>Boston University</b> <i>Director, BME Graduate Admissions</i>	Boston, MA Department of Biomedical Engineering
September 2004 – May 2009	<b>Boston University</b> <i>Director, Computational Simulation Facility</i>	Boston, MA Department of Biomedical Engineering

## JOURNAL PUBLICATIONS —

EL-KHATIB, F.H., BALLIRO, C., HILLARD, M.A., MAGYAR, K.L., EKHLASPOUR, L., SINHA, M., MONDESIR, D., ESMAELI, A., HARTIGAN, C., THOMPSON, M.J., MALKANI, S., LOCK, J.P., HARLAN, D.M., CLINTON, P., FRANK, E., WILSON, D.M., DESALVO, D., NORLANDER, L., LY, T., BUCKINGHAM, B.A., DINER, J., DEZUBE, M., YOUNG, L.A., GOLEY, A., KIRKMAN, M.S., BUSE, J.B., ZHENG, H., SELAGAMSETTY, R.R., DAMIANO, E.R., RUSSELL, S.J. (2016) Home use of a bihormonal bionic pancreas versus insulin pump therapy in adults with type 1 diabetes: a multicentre randomised crossover trial. *Lancet* **389**, 369–380.

- RUSSELL, S.J., HILLARD, M.A., BALLIRO, C., MAGYAR, K.L., SELAGAMSETTY, R., SINHA, M., GRENAN, K., MONDESIR, D., EHKLASPOUR, L., ZHENG, H., DAMIANO, E.R., EL-KHATIB, F.H. (2016) Day and night glycemic control with a bionic pancreas versus conventional insulin pump therapy in pre-adolescent children with type 1 diabetes: A randomized cross-over trial. *Lancet Diabetes Endocrinol.* **4**, 233–243.
- RUSSELL, S.J., EL-KHATIB, F.H., SINHA, M., MAGYAR, K.L., MCKEON, K., GOERGEN, L.G., BALLIRO, C., HILLARD, M., NATHAN, D.M. & DAMIANO, E.R. (2014) Outpatient glycemic control in type 1 diabetes with a bionic pancreas. *N. Engl. J. Med.* **371**, 313–325.
- EL-KHATIB, F.H., RUSSELL, S.J., MAGYAR, K.L., SINHA, M., MCKEON, K., NATHAN, D.M. & DAMIANO, E.R. (2014) Autonomous and continuous adaptation of a bi-hormonal bionic endocrine pancreas in adults and adolescents with type 1 diabetes. *J. Clin. Endocrinol. Metab.* **99**, 1701–1711.
- DAMIANO, E.R., MCKEON, K., EL-KHATIB, F.H., ZHENG, H., NATHAN, D.M. & RUSSELL, S.J. (2014) A comparative effectiveness analysis of three continuous glucose monitors: The Navigator, G4 Platinum, and Enlite. *J. Diabetes Sci. Technol.* **8**, 699–708.
- SAVERY, M.D., JIANG, J., PARK, P.W. & DAMIANO, E.R. (2013) The endothelial glycocalyx in sydecin-1 deficient mice. *Microvas. Res.* **87**, 83–91.
- DAMIANO, E.R., EL-KHATIB, F.H., ZHENG, H., NATHAN, D.M. & RUSSELL, S.J. (2013) A comparative effectiveness analysis of three continuous glucose monitors. *Diabetes Care* **36**, 251–259.
- RUSSELL, S.J., EL-KHATIB, F.H., NATHAN, D.M., MAGYAR, K.L., JIANG, J. & DAMIANO, E.R. (2012) Blood glucose control in type 1 diabetes with a bi-hormonal bionic endocrine pancreas. *Diabetes Care* **35**, 2148–2155.
- RICHTER, V., SAVERY, M.D., GASSMANN, M., BAUM, O., DAMIANO, E.R. & PRIES, A.R. (2011) Excessive erythrocytosis compromises the blood–endothelium interface in erythropoietin-overexpressing mice. *J. Physiol.* **589**, 5181–5192.
- RUSSELL, S.J., EL-KHATIB, F.H., NATHAN, D.M. & DAMIANO, E.R. (2010) Efficacy determinants of subcutaneous microdose glucagon during closed-loop control. *J. Diabetes Sci. Technol.* **4**, 1288–1304.
- EL-KHATIB, F.H., RUSSELL, S.J., NATHAN, D.M., SUTHERLIN, R.G. & DAMIANO, E.R. (2010) A bi-hormonal closed-loop artificial pancreas for type 1 diabetes. *Science Trans. Med.* **2**, 27ra27.
- 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 bi-hormonal 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.
- 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. (1992) A hydroelastic model of the macromechanics in the endolymphatic vestibular canal. *J. Fluid Mech.* **238**, 337–369.

#### INVITED BOOK CHAPTERS & REVIEWS —

- 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.
- 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.

#### EDITORIAL COVERAGE —

- BUCKINGHAM, B. (2016) Day and night glycemic control with a bionic pancreas versus conventional insulin pump therapies in pre-adolescent children with type 1 diabetes: A randomised crossover trial. *Lancet Diabetes Endocrinol.* **4**, 233–243. Editorial covering Russell *et al.* (2010).
- BROWN, L. & EDELMAN, E. R. (2010) Optimal control of blood glucose: The diabetic patient or the machine? *Science Trans. Med.* **2**, 27ps18. Editorial covering El-Khatib *et al.* (2010).
- BARAKAT, A. I. (2008) Dragging along: The glycocalyx and vascular endothelial cell mechanotransduction. *Circ. Res.* **102**, 747–748. Editorial covering Potter & Damiano (2008).

#### ISSUED PATENTS —

- DAMIANO, E.R. & EL-KHATIB, F.H. (2005) Fully automated control system for type 1 diabetes. International PCT application # PCT/US2006/018620 (Priority date: May 13, 2005; PCT filed May 15, 2006).

#### PENDING PCT APPLICATIONS —

- EL-KHATIB, F.H. & DAMIANO, E.R. (2015) Multiple medicament infusion system that prevents medicament mis-channeling. Provisional application # 62/254,950 & # 62/353,210 (Priority date: June 22, 2016).
- EL-KHATIB, F.H. & DAMIANO, E.R. (2010) Modulation of automated glucagon delivery based on estimated effect of exogenous insulin accumulation. Provisional application # 61/408,639 (Priority date: October 31, 2010).
- EL-KHATIB, F.H. RUSSELL, S.J. & DAMIANO, E.R. (2015) Glucose control system with automatic adaptation of glucose target. Provisional application (Priority date: August 7, 2015).
- RAMEY, K, EL-KHATIB, F.H. & DAMIANO, E.R. (2015) Infusion system including multiple medicament infusion port. Provisional application (Priority date: July 8, 2015).
- EL-KHATIB, F.H. & DAMIANO, E.R. (2014) Offline glucose level control based on preceding periods of online glucose level control. Provisional application # 61/933,996 (Priority date: January 31, 2014).
- RAMEY, K., DAMIANO, E.R. & EL-KHATIB, F.H. (2013) Device for bridging infusion sources with sites of infusion in a multi-channel infusion system. Provisional application # 61/895,279 (Priority date: October 24, 2013).

- RAMEY, K., DAMIANO, E.R. & EL-KHATIB, F.H. (2013) An infusion set for infusing two or more medications via an array of multiple catheters or cannulas. Provisional application # 61/895,288 (Priority date: October 24, 2013).
- RAMEY, K., DAMIANO, E.R. & EL-KHATIB, F.H. (2013) Manifold for the transfer of medicaments from different vials without mischanneling. Provisional application # 61/932,835 (Priority date: October 24, 2013).
- EL-KHATIB, F.H., DAMIANO, E.R. & RUSSELL, S.J. (2010) Blood glucose control system. International PCT application # PCT/US2011/58688 (Priority date: October 31, 2010; PCT filed October 31, 2011).

#### US FDA INVESTIGATIONAL DEVICE EXEMPTIONS —

- *A Study Testing Static and Dynamic Glucose Target Settings in Our Bionic Pancreas.* (2015) Investigational Device Exemption Application #G150142, approved July 29, 2015 by the US Food and Drug Administration. Indications for use: Intended to provide autonomous control of blood glucose in adult subjects with type 1 diabetes in an outpatient setting using subcutaneous infusion of insulin and glucagon. Sponsor: E.R. Damiano (prepared by F.H. El-Khatib).
- *The Bionic Pancreas System.* (2015) Investigational Device Exemption Application #G150130, approved July 10, 2015 by the US Food and Drug Administration. Indications for use: Intended to provide autonomous control of blood glucose in adult subjects with type 1 diabetes in an outpatient setting using subcutaneous infusion of insulin and glucagon. Sponsor: E.R. Damiano (prepared by F.H. El-Khatib).
- *The Bionic Pancreas System.* (2014) Investigational Device Exemption Application #G140045, approved April 23, 2014 by the US Food and Drug Administration. Indications for use: Intended to provide autonomous control of blood glucose in adult subjects with type 1 diabetes in an outpatient setting using subcutaneous infusion of insulin and glucagon. Sponsor: E.R. Damiano (prepared by F.H. El-Khatib).
- *Testing a Wearable Bionic Endocrine Pancreas in the Diabetes Camp Setting.* (2013) Investigational Device Exemption Application #G130065, approved April 8, 2013 by the US Food and Drug Administration. Indications for use: Intended to provide autonomous control of blood glucose in adolescent subjects with type 1 diabetes in an outpatient setting using subcutaneous infusion of insulin and glucagon. Sponsor: E.R. Damiano (prepared by F.H. El-Khatib). Supplemental application #G130065/S003, approved April 18, 2014, extended IDE #G130065 to pre-adolescent subjects with type 1 diabetes.
- *A Wearable Closed-Loop Glucose Control System.* (2012) Investigational Device Exemption Application #G120255, approved November 30, 2012 by the US Food and Drug Administration. Indications for use: Intended to provide autonomous control of blood glucose in adult subjects with type 1 diabetes in an outpatient setting using subcutaneous infusion of insulin and glucagon. Sponsor: E.R. Damiano (prepared by F.H. El-Khatib).
- *An Inpatient Closed-Loop Glucose Control System.* (2012) Investigational Device Exemption Application #G120259, approved November 30, 2012 by the US Food and Drug Administration. Indications for use: Intended to provide automated control of blood glucose in pediatric and adult subjects with type 1 diabetes using subcutaneous infusion of either insulin only or insulin and glucagon. Sponsor: E.R. Damiano (prepared by F.H. El-Khatib).
- *A Closed-Loop Glucose Control System for Type 1 Diabetes.* (2010) Investigational Device Exemption Application #G100062, approved April 30, 2010 by the US Food and Drug Administration. Indications for use: Intended to provide autonomous control of blood glucose in pediatric and adult subjects with type 1 diabetes using subcutaneous infusion of insulin and glucagon. Sponsor: E.R. Damiano (prepared by F.H. El-Khatib).
- *Closed-Loop Glucose Control for Automated Management of Type 1 Diabetes.* (2008) Investigational Device Exemption Application #G080012, approved February 21, 2008 by the US Food and Drug Administration. Indications for use: Intended to provide automated control of blood glucose in adult subjects with type 1 diabetes using subcutaneous infusion of insulin and glucagon. Sponsor: E.R. Damiano (prepared by F.H. El-Khatib).

## GRANTS RECEIVED —

- *Final clinical studies for submission of a pre-market approval application to the FDA for a bionic pancreas.* (2015–2020) National Institutes of Health (NIDDK, UC4 DK108612, PI: E.R. Damiano), \$13,455,642.
- *The monitoring study: Evaluating the effort of remote monitoring for hypoglycemia on bionic pancreas safety and efficacy.* (2017–2018) Leona M. and Harry B. Helmsley Charitable Trust (Research Grant, PI: S.J. Russell, subcontract PI: E.R. Damiano), \$277,131 (subcontract).
- *Final clinical studies for submission of a pre-market approval application to the FDA for a bionic pancreas that automates type 1 diabetes management.* (2015–16) National Institutes of Health (NIDDK, UC4 DK108612, PI: E.R. Damiano), \$1,498,323.
- *Administrative Supplement to: A multicenter outpatient trial of a bihormonal bionic pancreas.* (2015–16) National Institutes of Health (NIDDK, DP3 DK101084, PI: E.R. Damiano), \$257,000.
- *An outpatient feasibility study of an insulin-only bionic pancreas for type 1 diabetes.* (2015–16) Leona M. and Harry B. Helmsley Charitable Trust (Research Grant, PI: E.R. Damiano), \$775,061.
- *The set-point study: Evaluating effects of changing the glucose target on bionic pancreas performance.* (2015–16) Leona M. and Harry B. Helmsley Charitable Trust (Research Grant, PI: S.J. Russell, subcontract PI: E.R. Damiano), \$364,428 (subcontract).
- *Testing a bionic pancreas in an outpatient study in preadolescent children with type 1 diabetes at the Clara Barton/Joslin Camps.* (2014) Leona M. and Harry B. Helmsley Charitable Trust (Research Grant, PI: E.R. Damiano), \$743,230.
- *A multicenter outpatient trial of a bihormonal bionic pancreas.* (2013–15) National Institutes of Health (NIDDK, DP3 DK101084, PI: E.R. Damiano), \$2,880,000.
- *Testing a bihormonal bionic pancreas in an outpatient study in children with type 1 diabetes at the Clara Barton/Joslin Camps.* (2013) Leona M. and Harry B. Helmsley Charitable Trust (Research Grant, PI: E.R. Damiano), \$694,210.
- *Transitional studies of a bionic pancreas for out-patient diabetes management.* (2013–16) National Institutes of Health (NIDDK, R01 DK097657, PI: E.R. Damiano), \$2,455,122.
- *Clinical trials of a closed-loop control system for type 1 diabetes management.* (2009–13) National Institutes of Health (NIDDK, R01 DK085633, PI: E.R. Damiano), \$2,046,225.
- *Subcutaneous continuous glucose monitoring and intravenous dosing of insulin and dextrose for automated glycemic control in the in-patient setting: A clinical trial in the MGH CRC.* (2011–2012) Wallace H. Coulter Translational Partners Grant (PI: E.R. Damiano), \$100,000.
- *In-patient trials of automated glucose control in children with type 1 diabetes.* (2010–2011) Leona M. and Harry B. Helmsley Charitable Trust (Research Grant, PI: E.R. Damiano), \$1,026,694.
- *Selecting insulin analogs for closed-loop control using multiplex pharmacokinetic profiling.* (2010–2012) Leona M. and Harry B. Helmsley Charitable Trust (Research Grant, PI: S.J. Russell, subcontract PI: E.R. Damiano), \$38,639 (subcontract).
- *Development and preclinical testing of a closed-loop control system for in-patient blood-glucose regulation.* (2010–2011) Wallace H. Coulter Translational Partners Grant (PI: E.R. Damiano), \$100,000.
- *Closed-loop glucose control for automated management of type 1 diabetes.* (2007–2011) Juvenile Diabetes Research Foundation (Clinical Investigations Research Grant, PI: E.R. Damiano), \$1,942,156.
- *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.
- *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 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.

#### GIFTS RECEIVED —

**Total Raised (since November 2011): \$2,918,551**

**GO BIONIC Challenge (from July 1, 2014–December 31, 2014): \$1,229,455**

- *Various gifts  $\leq$  \$5,000.* July 2014–April 2017, \$273,967.
- *Gift from Brenda Novak’s Online Auction for Diabetes.* March 2017, \$75,000.
- *Gift from Barbara G. Arsnow.* January 2017, \$14,500.
- *Gift from Thomas Duke, Sr.* January 2017, \$10,000.
- *Gift from John Tapper.* December 2016, \$10,000.
- *Gift from The Appleby Foundation.* December 2016, \$25,000.
- *Gift from American Endowment Foundation/Bert and Belle Ballard.* December 2015, \$85,000.
- *Gift from The Appleby Foundation (Courtesy of S. Rob Pierce).* December 2015, \$25,000.
- *Gift from Brian and Joelle Kelly Family Foundation.* December 2015, \$24,974.
- *Gift from National Philanthropic Trust (Courtesy of Duchie Murphy).* December 2015, \$400,000.
- *Gift from The Norman Hirschfield Foundation.* December 2015, \$50,000.
- *Gift from John D. Nachmann.* October 2015, \$10,000.
- *Gift from The Walter Foundation.* October 2015, \$25,000.
- *Gift from Theresa A. Madden.* August 2015, \$30,000.
- *Gift from Jeffrey L. Greenacre.* July 2015, \$25,000.
- *Gift from William Hunter Kleh and Karen A. Engelbourg.* May 2015, \$10,000.
- *Gift from Sally Langdon Barefoot Foundation.* May 2015, \$14,000.
- *Gift from Honig Vineyard and Winery.* April 2015, \$14,300.
- *Gift from The Appleby Foundation.* February 2015, \$25,000.
- *Gift from Adam Hess.* January 2015, \$10,000.
- *Gift from The Frederick Banting Foundation, Inc.* January 2015, \$300,000.
- *Gift from Adam Hess.* December 2014, \$10,000.
- *Gift from The Frederick Banting Foundation.* December 2014, \$300,000.
- *Gift from Kirk Ramey.* December 2014, \$80,000.
- *Gift from The Brian and Joelle Kelly Family Foundation (Courtesy of Brian Kelly).* December 2014, \$25,000.

- *Gift from Horace W. Goldsmith Foundation (Courtesy of Chuck Slaughter)*. December 2014, \$200,000.
- *Gift from Madden Charities (Courtesy of John Madden)*. December 2014, \$50,000.
- *Gift from The Walter Foundation (Courtesy of Bob Walter)*. October 2014, \$20,000.
- *Gift from William Kleh*. October 2014, \$10,000.
- *Gift from Todd Abbrecht*. October 2014, \$20,000.
- *Gift from Jeff Greenacre*. September 2014, \$45,000.
- *Gift from The Thomas J. Long Foundation (Courtesy of Jill Rapier)*. September 2014, \$100,000.
- *Gift from Len Ely*. September 2014, \$6,540.
- *Gift from The Clarie Friedlander Family Foundation (Courtesy of Peter Klein)*. August 2014, \$20,000.
- *Gift from The Indian River Community Foundation (Courtesy of Phillip and Stephanie Lambert)*. August 2014, \$35,000.
- *Gift from Jeff Greenacre*. August 2014, \$25,000.
- *Gift from Todd Abbrecht*. August 2014, \$20,000.
- *Gift from Janice and Bill Grigsby*. July 2014, \$5,225.
- *Gift from Tom Cronin*. July 2014, \$15,000.
- *Gift from The National Christian Foundation (Courtesy of Loren and Michael Gordon)*. March 2014, \$25,000.
- *Gift from Joyce and Steve Tadler*. February 2014, \$50,000.
- *Various gifts  $\leq$  \$5,000*. November 2013–June 2014, \$19,554.
- *Gift from Joyce and Steve Tadler*. October 2013, \$50,000.
- *Various gifts  $\leq$  \$5,000*. February–October 2013, \$8,935.
- *Gift from the W. W. Whitlock Foundation*. February 2013, \$10,000.
- *Gift from The Frederick Banting Foundation*. January 2013, \$125,000.
- *Various gifts  $\leq$  \$5,000*. December 2012–January 2013, \$1,790.
- *Gift from The Frederick Banting Foundation*. September 2012, \$63,000.
- *Gift from The Frederick Banting Foundation*. April 2012, \$50,000.
- *Gift from Ralph Faber*. January 2012, \$35,000.
- *Various gifts  $\leq$  \$5,000*. November 2011, \$5,975.
- *Gift from Deborah and Frank Pine*. November 2011, \$10,000.

## HONORS AND AWARDS —

- “WebMD Health Heroes Award,” Recipient for the Scientist Category, 2016
- Boston University Office of Technology Development, Innovator of the Year, 2016
- Selected to deliver the 2017 Kroc Lecture, University of California, Irvine, 2017
- Elected to the American Institute for Medical and Biological Engineering College of Fellows, 2015
- Artificial Pancreas Research Award, Diabetes Technology Society, 2014
- Named to the 2014 “HealthLeaders 20,” HealthLeaders Media, 2014
- Selected to deliver the 2014 University Lecture, Boston University, 2014
- Selected to deliver the 2014 Kleh Distinguished Lecture, Boston University London Centre, 2014
- Finalist in the inaugural “Invented Here” event, Museum of Science, Boston, MA, 2011
- CAREER Award, National Science Foundation, 2001–07
- Named to “Incomplete List of Teachers Ranked Excellent by their Students,” University of Illinois, 2001
- Individual National Research Service Award, National Institutes of Health, 1996–98
- Cardiovascular Research Center Fellowship, University of Virginia, 1995–96
- Poster Award, Second World Congress of Biomechanics, 1994

## PROPOSAL AND PANEL REVIEW —

Panel member for National Institutes of Health, 2013 NIDDK Workshop on Research Supported by the Special Statutory Funding Program for Type 1 Diabetes Research, June 2013.

Ad hoc reviewer for National Institutes of Health, IMPACT study section, June 2011.

Ad hoc reviewer for National Institutes of Health, EMNR-K study section: Translational Studies in Diabetes, Obesity & Endocrinology, November 2011.

Ad hoc reviewer for National Institutes of Health, Pilot and Feasibility Clinical Research Grants in Diabetes, Endocrine and Metabolic Diseases (R21), November 2011.

Ad hoc reviewer for National Science Foundation, U.S. Civilian Research and Development Foundation.

NSF CAREER Panel, Nano and Bio Mechanics of Materials Program, Civil and Mechanical System Division, Engineering Directorate, National Science Foundation, Washington, D.C., November 2005.

Biofluids Panel, Office of Biological and Physical Research, National Aeronautics and Space Administration, Washington, D.C., March 2003.

Biofluids Panel, Office of Biological and Physical Research, National Aeronautics and Space Administration, Washington, D.C., August 2001.

## MANUSCRIPT REVIEW —

American Journal of Physiology; Heart and Circulatory Physiology; Anesthesiology; Annals of Biomedical Engineering; Biophysical Journal; Biorheology; Cardiovascular Research; Circulation; Circulation Research; Diabetes; Diabetes Care; Diabetes Technology and Therapeutics; IEEE Transactions on Biomedical Engineering; Journal of Biomechanical Engineering; Journal of Biomechanics; Journal of Fluid Mechanics; Journal of the Society for Industrial and Applied Mathematics; Journal of Thrombosis and Haemostasis; Journal of Vestibular Research; The Lancet; Microcirculation; Microvascular Research; New England Journal of Medicine; Physics in Medicine and Biology; Physics of Fluids; Proceedings of the National Academy of Sciences (USA); Science Translational Medicine

## EDITORIAL CONTRIBUTIONS —

Co-Editor of special symposium issue entitled, “Glucagon: Physiology and Pharmacotherapy”, with Co-Editors J.R. Castle, S.J. Russell, W.K. Ward, in *Journal of Diabetes Science and Technology*, Volume 4, Issue 6, November 2010.

## CHAired SESSIONS AT SCIENTIFIC MEETINGS —

Vascular Sessions, “Microvascular Glycocalyx and Molecular Fluid–Structure Interaction”, Co-Chair with T.W. Secomb, at *Fifth World Congress of Biomechanics*, Munich, Germany, June 2006.

Vascular Sessions, “Biomechanics of the Endothelial Surface Layer in the Microcirculation”, Co-Chair with T.W. Secomb, at *ASME Summer Bioengineering Conference*, Key Biscayne, FL, June 2003.

Soft Tissue Mechanics Sessions, “Soft Tissues of the Head and Neck”, Co-Chair with J. Wayne, at *ASME Summer Bioengineering Conference*, Sun River, OR, June 1997.

## COMMITTEE ASSIGNMENTS —

- Member, Graduate Committee, Biomedical Engineering Department, Boston University, 2011–present
- Member, University Lecture Committee, Office of the Provost, Boston University, 2015–2016
- Chair, Graduate Admissions Committee, Biomedical Engineering Department, Boston University, 2005–2010
- Member, Search Committee for the Director of the Animal Care Program, Office of the Provost, Boston University, 2009–2010
- Member, Biomedical Engineering Executive Committee, Biomedical Engineering Department, Boston University, 2005–09
- Member, Biomedical Engineering Chair Search Committee, College of Engineering, Boston University, 2007–08
- Member, Faculty Search Committee, Biomedical Engineering Department, Boston University, 2007–08
- Member, Mechanical Engineering Chair Search Committee, College of Engineering, Boston University, 2006–07
- Member, Faculty Search Committee, Biomedical Engineering Department, Boston University, 2006–07
- Chair, Faculty Search Committee, Biomedical Engineering Department, Boston University, 2005–06



- Member, Graduate Admissions Committee, Biomedical Engineering Department, Boston University, 2004–05
- Member, Undergraduate Programs Committee, Mechanical and Industrial Engineering Department, 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

### GRADUATE-STUDENT PLACEMENT —

POTTER, D. R. Research Associate, Blood Systems Research Institute

EL-KHATIB, F. H. Senior Research Associate, Department of Biomedical Engineering, Boston University, and Vice President of Autonomous Systems, Beta Bionics, Inc.

STACE, T. M. Associate Professor, School of Mathematics and Physics, University of Queensland, Queensland, Australia

LONG, D. S. Assistant Professor, Department of Biomedical Engineering, Wichita State University, Wichita, Kansas

### GRADUATE-STUDENT AND POSTDOCTORAL ADVISING —

*Senior Research Scientists, Research Associates, and Research Fellows —*

SCOLNICK, S., SELAGAMSETTY, R., LEBOURDAIS, R., RAMEY, K., MCKEON, K., EL-KHATIB, F. H., JIANG, J.

*Postdoctoral Advising —*

ROY, B. C., EL-KHATIB, F. H.

*Theses and Ph.D. Dissertations Accepted —*

SAVERY, M. D. (2011) Ph.D. Dissertation: Quantitative analysis of the hydrodynamic integrity of the microvascular glycocalyx in healthy and transgenic mice.

POTTER, D. R. (2009) Ph.D. Dissertation: A comparison of the hydrodynamically relevant endothelial glycocalyx *in vivo* and *in vitro* using microparticle image velocimetry.

EL-KHATIB, F. H. (2005) Ph.D. Dissertation: System identification and adaptive closed-loop glucose control in a type 1 diabetic swine model.

LONG, D. S. (2004) Ph.D. Dissertation: Theoretical and experimental investigations of microvascular hemodynamics *in vivo* using micro-particle image velocimetry.

EL-KHATIB, F. H. (2001) M.S. Thesis: A non-Newtonian model of pulsatile blood flow in a cylindrical tube. M.S. thesis, University of Illinois at Urbana-Champaign, Urbana, Illinois.

STACE, T. M. (1999) Honors Thesis: An electrochemical model of the diffusion of charged molecules through the capillary glycocalyx. Honours thesis, University of Western Australia, Perth, Australia. *Awarded “Year 2000 Malcolm Baron Imperial College Prize for best engineering honours thesis in any discipline of engineering” by the Imperial College Alumni Association, Perth.*

*Doctoral Committee Member —*

Shamit Shrivastava (Biomedical Engineering, Boston University); Alon Singer (Biomedical Engineering, Boston University); James G. Truslow (Biomedical Engineering, Boston University); Jesse Lock (Biomedical Engineering, Boston University); Michele D. Savery (Biomedical Engineering, Boston University); Catherine Calabro (Biomedical Engineering, Boston University); Prashant Bansal (Biomedical Engineering, Boston

University); Michele D. Savery (Biomedical Engineering, Boston University); Daniel R. Potter (Molecular Biology, Cell Biology, Biochemistry Program, Boston University); Andrew Golden (Biomedical Engineering, Boston University); Steven Meyers (Biomedical Engineering, Boston University); Wynter J. Duncan (Biomedical Engineering, Boston University); Kenneth Halvorsen (Biomedical Engineering, Boston University); Kenneth Chrobak (Biomedical Engineering, Boston University); Min Tang (Biomedical Engineering, Boston University); Firas H. El-Khatib (Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign); Dmitri O. Pushkin (Theoretical and Applied Mechanics, University of Illinois at Urbana-Champaign); David S. Long (Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign)

*Masters Committee Member* —

Abhishek Jain (Biomedical Engineering, Boston University); Tatiana Laivins (Biomedical Engineering, Boston University); Alex Stetsyuk (Biomedical Engineering, Boston University); Deanna Behrens (Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign)

**OUTREACH ACTIVITIES** —

DAMIANO, E. R. Mathematical solutions for the biomedical sciences. *Nashoba Regional High School*, Bolton, Massachusetts, every May since 2010 – present.

DAMIANO, E. R. An academic research career in the biomedical sciences. *Acton-Boxborough Regional High School Career Breakfast*, Acton, Massachusetts, December 2009.

DAMIANO, E. R. An academic research career in the biomedical sciences. *Acton-Boxborough Regional High School Career Breakfast*, Acton, Massachusetts, March 2008.

**SOCIETY AFFILIATIONS** —

American Institute for Medical and Biological Engineering (AIMBE); American Diabetes Association (ADA); Biomedical Engineering Society (BMES); Microcirculatory Society (MCS)

**INVITED SEMINARS, SYMPOSIA, and KOL PANELS** —

DAMIANO, E.R. Social innovation and the law: crafting creative solutions to complex problems. *Northeastern Law Review Symposium, Northeastern University*, Boston, Massachusetts, March 2017.

DAMIANO, E.R. The long and winding road to the bionic pancreas. *National Science Foundation Smart and Connected Health Visioning Meeting, Boston University*, Boston, Massachusetts, March 2017.

DAMIANO, E.R. The science of translation. *The Wallace H. Coulter Foundation Symposium*, Fort Lauderdale, Florida, February 2017.

DAMIANO, E.R. The long and winding road to the bionic pancreas. *University of California Irvine Diabetes Center Kroc Lecture*, Irvine, California, January 2017.

DAMIANO, E.R. The long and winding road to the bionic pancreas. *University of California San Diego Pediatric Diabetes Research Center Type 1 Diabetes New Technologies and Therapeutics Symposium*, La Jolla, California, January 2017.

DAMIANO, E.R. The bionic pancreas. *2nd Cleveland Clinic Beta Cell Therapy Symposium on Diabetes*, Cleveland, Ohio, November 2016.

DAMIANO, E.R. Eli Lilly presentation. *Eli Lilly and Company Cambridge Innovation Center*, Cambridge, Massachusetts, November 2016.

DAMIANO, E.R. Digital health solutions. *T1D Exchange Annual Meeting*, Boston, Massachusetts, October 2016.

DAMIANO, E.R. Health and life sciences panel. *Boston University Questrom School of Business*, Boston, Massachusetts, October 2016.

DAMIANO, E.R. The long and winding road to the bionic pancreas. *Massachusetts Institute of Technology Digital Health Conference*, Cambridge, Massachusetts, September 2016.

DAMIANO, E.R. Will engineering disrupt therapeutics? *Harvard Business School Precision Medical Panel: Rogue Therapeutics Conference*, Boston, Massachusetts, June 2016.

DAMIANO, E.R. The long and winding road to the bionic pancreas. *Massachusetts Institute of Technology 8th Annual Medical Electronic Device Realization Center Workshop*, Cambridge, Massachusetts, May 2016.

DAMIANO, E.R. The long and winding road to the bionic pancreas. *Endocrine Grand Rounds, Brown University*, Providence, Rhode Island, May 2016.

DAMIANO, E.R. The long and winding road to the bionic pancreas. *Endocrine Grand Rounds, Boston University*, Boston, Massachusetts, May 2016.

DAMIANO, E.R. The long and winding road to the bionic pancreas. *GTCBio 9th Diabetes Drug Discovery and Development Conference*, Boston, Massachusetts, April 2016.

DAMIANO, E.R. The bionic pancreas. *Harvard Business School Healthcare Conference*, Boston, Massachusetts, January 2016.

DAMIANO, E.R. The bionic pancreas. *Endocrine Grand Rounds, Henry Ford Hospital*, Detroit, Michigan, November 2015.

DAMIANO, E.R. The bionic pancreas. *Grand Rounds, The Naomi Berrie Diabetes Center, Columbia University Medical Center*, New York, New York, October 2015.

DAMIANO, E. R. The bionic pancreas. *Practical Aspects of Diabetes Care 5th Annual Symposium, Winthrop University Hospital*, Mineola, New York, May 2015.

DAMIANO, E. R. The bionic pancreas. *2015 Diabetes Summit, GTCbio*, Boston, Massachusetts, April 2015.

DAMIANO, E. R. The bionic pancreas. *Boston University ENG 50th Celebration*, New York, New York, April 2015.

DAMIANO, E. R. The bionic pancreas. *2015 AROC Keynote Lecture, The New Jersey Association of Osteopathic Physicians and Surgeons (NJAOPS)*, Atlantic City, New Jersey, April 2015.

DAMIANO, E. R. The bionic pancreas. *2015 Bay Area Diabetes Summit*, Palo Alto, California, March 2015.

DAMIANO, E. R. The bionic pancreas. *1st Annual Type 1 Diabetes Summit Keynote Speaker, Maine P-PODS*, Portland, Maine, February 2015.

DAMIANO, E. R. Bionic pancreas update: Outpatient trials, user features, safety concerns & risk mitigation. *DiabetesMine DData Exchange*, Palo Alto, California, November 2014.

DAMIANO, E. R. A bionic pancreas for type 1 diabetes: The long-awaited alternative to the ever-elusive cure. *The University Lecture, Boston University*, Boston, Massachusetts, November 2014.

DAMIANO, E. R. Until there is a cure for type 1 diabetes ... there is the bionic pancreas. *The Kleh Family Foundation Distinguished Lecture Series, Boston University London Centre*, London, UK, October 2014.

DAMIANO, E. R. Until there is a cure for type 1 diabetes ... there is the bionic pancreas. *Boston University College of Engineering 50th Anniversary Alumni Gala Event*, Boston, Massachusetts, September 2014.

DAMIANO, E. R. Until there is a cure for type 1 diabetes ... there is the bionic pancreas. *Boston University Board of Trustees Luncheon*, Boston, Massachusetts, September 2014.

DAMIANO, E. R. The bionic pancreas. *ACA Implementation: The Impact on the Patient with Diabetes Policy Summit*, Washington, DC, September 2014.

DAMIANO, E. R. Making diabetes management disappear: A bionic pancreas for one and all. *American Diabetes Association Step-Out Breakfast*, Worcester, Massachusetts, July 2014.

DAMIANO, E. R. (with S. J. Russell) Outpatient glycemic control in type 1 diabetes with a bihormonal bionic pancreas. *Grand Rounds Presentation, Eli Lilly and Company*, Indianapolis, Indiana, June 2014.

DAMIANO, E. R. Making diabetes management disappear: A bionic pancreas for one and all. *Clara Barton Center Annual Event*, Charlton, Massachusetts, May 2014.

DAMIANO, E. R. Making diabetes management disappear: A bionic pancreas for one and all. *American Association of Diabetes Educators*, Framingham, Massachusetts, May 2014.

DAMIANO, E. R. Making diabetes management disappear: A bionic pancreas for one and all. *American Diabetes Association Step-Out Breakfast*, Worcester, Massachusetts, April 2014.

DAMIANO, E. R. Making diabetes management disappear: A bionic pancreas for one and all. *Boston University College of Engineering West Coast Alumni Event*, Palo Alto, California, January 2014.

DAMIANO, E. R. Redefining the landscape of diabetes management: A bionic pancreas for one and all. *Second Annual Carb DM Event*, Palo Alto, California, November 2013.

DAMIANO, E. R. Redefining the landscape of diabetes management: A bionic pancreas for one and all. *Translational Medicine Interest Group, Brown University Medical School*, Providence, Rhode Island, October 2013.

DAMIANO, E. R. Redefining the landscape of diabetes management: A bionic pancreas for one and all. *Endocrine Grand Rounds, Boston University Medical Center*, Boston, Massachusetts, September 2013.

DAMIANO, E. R. Redefining the landscape of diabetes management: A bionic pancreas for one and all. *Diabetes Day, Greenville Health System*, Greenville, South Carolina, September 2013.

DAMIANO, E.R. (with S. J. Russell) Redefining the landscape of diabetes management: A bionic pancreas for one and all. *NIDDK Teleconference with Senator Joe Donnelly*, Toronto, Canada, September 2013.

DAMIANO, E. R. The coming of age of the bionic pancreas. *The Best Diabetes Conference, Charles H. Best Diabetes Centre*, Toronto, Canada, June 2013.

DAMIANO, E. R. The coming of age of the bionic pancreas. *JDRF South Jersey Chapter Annual Meeting*,

- Marlton, New Jersey, may 2013.
- DAMIANO, E. R. This is the dawning of the age of the bionic endocrine pancreas. *Inaugural Joslin Symposium: Challenges and Opportunities in Type 1 Diabetes Research*, Boston, Massachusetts, May 2013.
- DAMIANO, E. R. Preliminary results of a bihormonal bionic pancreas in an out-patient setting: The Beacon Hill Study. *Second Annual Manning Symposium*, Charlottesville, Virginia, April 2013.
- DAMIANO, E. R. This is the dawning of the age of the bionic endocrine pancreas. *Third Diabetes Summit, GTCbio*, Boston, Massachusetts, April 2013.
- DAMIANO, E. R. Preliminary results of a bihormonal bionic pancreas in an out-patient setting: The Beacon Hill Study. *FDA/NIH/JDRF Public Workshop – “Workshop on Innovation Towards an Artificial Pancreas,”* Bethesda, Maryland, April 2013.
- DAMIANO, E. R. The coming of age of the bionic endocrine pancreas. *Translational Medicine Interest Group, Brown University Medical School*, Providence, Rhode Island, January 2013.
- DAMIANO, E. R. The coming of age of the bionic endocrine pancreas. *Endocrine Grand Rounds, Brigham and Women’s Hospital/Children’s Hospital*, Boston, Massachusetts, November 2012.
- DAMIANO, E. R. Bringing autonomous glucose control systems to the hospital and out-patient settings. *Department of Mechanical and Aerospace Engineering, Princeton University*, Princeton, New Jersey, October 2012.
- DAMIANO, E. R. (with S. J. Russell) Automated glucose control in type 1 diabetes using a bihormonal bionic pancreas. *Biodel Investors’ Meeting*, New York, New York, October 2012.
- DAMIANO, E. R. The coming of age of the bionic endocrine pancreas. *Anesthesia Grand Rounds, Boston University School of Medicine*, Boston, Massachusetts, September 2012.
- DAMIANO, E. R. (with S. J. Russell) Outpatient glycemic control in type 1 diabetes with a bihormonal bionic pancreas. *Eli Lilly and Company*, Indianapolis, Indiana, June 2012.
- DAMIANO, E. R. This is the dawning of the age of the bionic endocrine pancreas. *JDRF Capitol Chapter Annual Meeting*, Washington, DC, June 2012.
- DAMIANO, E. R. Bringing autonomous glucose control systems to the hospital and out-patient settings. *Center for Information and Systems Engineering (CISE) Symposium, Boston University*, Boston, Massachusetts, May 2012.
- DAMIANO, E. R. This is the dawning of the age of the bionic endocrine pancreas. *JDRF New England Chapter, 13th Annual Spring Research Briefing and Reception*, Newton, Massachusetts, April 2012.
- DAMIANO, E. R. The glycocalyx in sickness and in health, . . . until death us do part. *Harvard/MIT Vascular Biology Seminar Series, Harvard Medical School*, Boston, Massachusetts, March 2012.
- DAMIANO, E. R. On the road to a bionic endocrine pancreas. *2011 JDRF Bay State Branch Annual Meeting and Awards Ceremony*, Bethesda, MD, June 2011.
- DAMIANO, E. R. On the road to a bionic endocrine pancreas. *American Institute for Medical and Biological Engineering’s 20th Annual Event*, Washington, DC, February 2011.
- DAMIANO, E. R. On the road to a bionic endocrine pancreas. *JDRF Type 1 Diabetes Research Summit*, Bethesda, MD, January 2011.
- DAMIANO, E. R. Clinical testing of a prosthetic endocrine pancreas: A staged approach for moving from CRC to outpatient studies. *FDA Public Workshop – “Innovations in Technology for the Treatment of Diabetes: Clinical Development of the Artificial Pancreas (an Autonomous System),”* Bethesda, Maryland, November 2010.
- DAMIANO, E. R. On the road to a prosthetic endocrine pancreas. *Pediatrics Grand Rounds, Boston University School of Medicine*, Boston, Massachusetts, May 2010.
- DAMIANO, E. R. (with S. J. Russell) Closed-loop blood-glucose control for type 1 diabetes and critical illness. *Endocrine Grand Rounds, University of Massachusetts Medical School*, Worcester, Massachusetts, May 2010.
- DAMIANO, E. R. On the road to an artificial endocrine pancreas. *First Annual Translational Research Symposium, sponsored by the Boston University Clinical and Translational Science Institute (CTSI)*, Boston, Massachusetts, April 2010.
- DAMIANO, E. R. Pre-clinical and clinical studies of bihormonal closed-loop blood-glucose control for type 1 diabetes. *Biostatistics Center, Massachusetts General Hospital*, Boston, Massachusetts, December 2009.
- DAMIANO, E. R. Closing in on closed-loop control. *JDRF – Canadian Chapter Annual Meeting*, Toronto, Canada, September 2009.
- 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. *Endocrine 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 endothe-

- lium. *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 ) —

- DAMIANO\*, E.R. (2017) Artificial pancreas: is it finally on the horizon? *American Diabetes Association's 64th Advanced Postgraduate Course, Washington, DC, February 17, 2017.*
- DAMIANO\*, E.R. (2016) Isabel Lockerbie Address: The long and winding road to the bionic pancreas. *19th Annual Canadian Diabetes Association/Canadian Society of Endocrinology and Metabolism Professional Conference and Annual Meetings, Ontario, Canada, October 29, 2016.*
- DAMIANO\*, E.R. (2016) The bionic pancreas. *The American Association of Clinical Endocrinologists Mid-Atlantic Chapter 14th Annual Meeting, Hyattsville, MD, October 8, 2016.*
- DAMIANO\*, E.R. (2016) The long and winding road to the bionic pancreas. *The Best of the Best 2016, The Florida Endocrine Society, Orlando, FL August 12, 2016.*
- DAMIANO\*, E.R. (2016) Update on the bionic pancreas. *Friends for Life Conference and Expo, National Children with Diabetes Conference, Orlando, FL, July 7, 2016.*
- EL-KHATIB, F.H., BUCKINGHAM, B.A., BUSE, J.B., HARLAN, D.M., MAGYAR, K., LY, T.T., KIRKMAN, S., MALKANI, S., THOMPSON, M.J., LOCK, J.P., EKHLASPOUR, L., CLINTON, P., DINER, J., DEZUBE, M., HARTIGAN, C., BALLIRO, C., SELAGAMSETTY, R., ESMAEILI, A., SINHA, M., HILLARD, M., MONDESIR, D., RUSSELL, S.J., & DAMIANO\*, E.R. (2016) Home use of a bi-hormonal bionic pancreas versus conventional insulin pump therapy in adults with type 1 diabetes—a multicenter, randomized clinical trial. *76th Scientific Sessions of the American Diabetes Association, New Orleans, LA, June 10–14, 2016.*
- DAMIANO\*, E.R. (2016) Progress toward the bionic pancreas. *25th Annual and Scientific Clinical Congress of the American Association of Clinical Endocrinologists, Orlando, FL, May 27, 2016.*
- DAMIANO\*, E.R. (2016) The bionic pancreas. *Children with Diabetes Focus on Technology Conference, Falls Church, VA, April 8–10, 2016.*
- DAMIANO\*, E.R. (2016) Presidential Plenary Lecture: Outpatient studies testing automated glycemic control with a bionic pancreas. *98th Annual Meeting and Expo of the Endocrine Society, Boston, MA, April*

- 1–4, 2016.
- DAMIANO\*, E.R. (2015) The bionic pancreas. *Children with Diabetes Focus on Technology Conference*, Anaheim, CA, September 18–20, 2015.
- DAMIANO\*, E.R. (2015) The bionic pancreas. *Friends for Life Conference and Expo, National Children with Diabetes Conference*, Lake Buena Vista, FL, July 6–12, 2016.
- DAMIANO\*, E.R. (2015) Pathway to the pediatric bionic pancreas. *75th Scientific Sessions of the American Diabetes Association*, Boston, MA, June 5–9, 2015.
- DAMIANO\*, E.R. (2015) Opening plenary lecture: The bionic pancreas. 24th Annual and Scientific Clinical Congress of the American Association of Clinical Endocrinologist, Nashville, TN, May 14, 2015.
- DAMIANO\*, E. R. (2014) A bionic pancreas for type 1 diabetes: The long-awaited alternative to the ever-elusive cure. *Congress of Future Medical Leaders*, Washington, DC, November 14, 2014.
- DAMIANO\*, E. R. (2014) A bionic pancreas for type 1 diabetes: The long-awaited alternative to the ever-elusive cure. *Taking Control of Your Diabetes (TCOYD) 8th Annual National Conference*, San Diego, CA, November 8, 2014.
- DAMIANO\*, E. R. (2014) Outpatient trials of a bionic pancreas in adults, adolescents and preadolescents. Fourteenth Annual Diabetes Technology Meeting, Bethesda, MD, November 7, 2014.
- DAMIANO\*, E. R. (2014) The bionic pancreas. 2014 Cardiometabolic Health Conference, Boston, MA, October 24, 2014.
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#### LAY PRESS COVERAGE (selected stories) —

THE BOSTON GLOBE. “Funding via the crowd is now a reality for businesses.” January 31, 2017.

NIH. Feature story: “Bionic pancreas treats adults with type 1 diabetes.” January 10, 2017.

SCIENTIFIC AMERICAN. Feature story: “The artificial pancreas is here.” October 18, 2016.

ABC NEWS. Feature story: “Everything you need to know about equity crowdfunding.” May 16, 2016.

THE BOSTON GLOBE. Feature story: "Relaxed rules allow anyone to invest in online startups." May 16, 2016.

TIME MAGAZINE. Feature story: "The bionic pancreas is getting closer to reality." April 01, 2016.

TIME MAGAZINE. Feature story: "Meet the father and son behind a diabetes device with life-changing potential." September 29, 2015.

CNN. Feature story: "Two dads tackle their own kids' diabetes." August 10, 2015.

TEDX. "The bionic pancreas." <https://www.youtube.com/watch?v=bZXmfTxd79Q>, June 12, 2015.

TIME MAGAZINE. Feature story: "The next best thing to a cure for diabetes." January 29, 2015 online, February 9, 2015 newsstand issue.

TIME MAGAZINE. Featured in TIME "bookazine" entitled *100 New Scientific Discoveries*: "A new day for diabetics." January 2015 newsstand issue.

DISCOVER MAGAZINE. Ranked #28 in *The Year in Science, Top 100 Stories of 2014*: "#28 Bionic blood sugar control" January-February 2015 newsstand issue.

YAHOO NEWS, KATIE COURIC WORLD 3.0. Feature story: "Bionic pancreas: A father's mission to fight type 1 diabetes." September 2014.

WIRED. Featured in a story entitled: "When the biomedical industry can't prioritize diseases, private money can save lives?" September 19, 2014.

ATHENIUM. Feature story: "What is the outlook for the diabetes drug treatment over the 1-3 years?" September 2014.

THE WASHINGTON TIMES. Feature story: "Amesbury brothers try out bionic pancreas." September 14, 2014.

THE BALTIMORE SUN. Feature story: "Kids with type 1 diabetes get a taste of normal life with bionic pancreas." September 12, 2014.

BBC NEWS. Feature story: "Bionic pancreas: A new dawn for diabetics?" August 31, 2014.

CBS NEWS. Feature story: "Bionic pancreas tested in diabetic kids at a summer camp." August 13, 2014.

CBS NEWS. Feature story: "Diabetic north Texas 6-year-old tests bionic pancreas." August 12, 2014.

ASME. Feature story: "Managing diabetes with the wearable pancreas." August 2014.

BUSINESS INSIDER. Feature story: "This scientist is creating the perfect pancreas to treat his son's diabetes." August 20, 2014.

NIH DIRECTOR'S BLOG, BY DR. FRANCIS COLLINS. Feature story: "Bionic pancreas for type 1 diabetes." June 24, 2014.

NPR. Feature story: "Father devises a bionic pancreas to help son with diabetes." June 16, 2014.

THE NEW YORK TIMES. Feature story: "Artificial pancreas shows promise in diabetes test." June 16, 2014.

TIME MAGAZINE. Feature story: "Here is the deal with the bionic pancreas." June 16, 2014.

THE WALL STREET JOURNAL. Feature story: "Advances made in regulating type 1 diabetes." June 16, 2014.

THE BOSTON GLOBE. Feature story: "Artificial pancreas offers hope to diabetes patients. Hub researchers show findings." June 16, 2014.

ABC NEWS. Feature story: "Dad develops bionic pancreas to help diabetic son." June 16, 2014.

NBC NEWS. Feature story: "Bionic pancreas astonishes diabetes researchers." June 16, 2014.

CBS NEWS. Feature story: "Bionic pancreas shows promise for diabetes management." June 16, 2014.

USA TODAY. Feature story: "Bionic pancreas helped manage blood sugar in type 1 diabetics." June 16, 2014.

WEBMD. Feature story: "Bionic pancreas shows promise for type 1 diabetes. Device removes guesswork from insulin therapy, reduces low blood sugar episodes, study finds." June 16, 2014.

BLOOMBERG. Feature story: "Diabetics get freedom in bionic pancreas real-world trial." June 16, 2014.

BLOOMBERG. Feature story: "Freedom for diabetics as bionic pancreas passes testing." June 16, 2014.

SCIENCE DAILY. Feature story: "Bionic pancreas controls blood sugar levels in adults, adolescents with type 1 diabetes." June 16, 2014.

NATURE WORLD NEWS. Feature story: "Bionic pancreas can help type-1 diabetes patients to control blood sugar levels." June 16, 2014.

THE ASSOCIATED PRESS. Feature story: "Progress made on a bionic pancreas for diabetics." June 16, 2014.

HEALTH DAY. Feature story: "Bionic pancreas improves blood sugar control for people with type 1 diabetes." June 16, 2014.

YAHOO HEALTH. Feature story: "Bionic pancreas keeps blood sugar in check." June 16, 2014.

MEDICAL XPRESS. Feature story: "Bionic pancreas controls blood sugar levels in adults, adolescents with type 1 diabetes." June 16, 2014.

NEW SCIENTIST. Feature story: "Bionic pancreas frees people from shackles of diabetes." June 16, 2014.

EUREKALERT. Feature story: "Bionic pancreas outperforms insulin pump in adults, youth." June 16, 2014.

THE WASHINGTON POST. Feature story: "iPhone-controlled bionic pancreas may free Type 1 diabetics from the insulin pump." June 16, 2014.

WIRED. Feature story: "A bionic pancreas could liberate diabetes sufferers." June 16, 2014.

TECH TIMES. Feature story: "Bionic pancreas will be lifesaver for people with Type 1 diabetes." June 16, 2014.

SCIENCE NEWS. Feature story: "Bionic pancreas shows promise in diabetes test." June 16, 2014.

HEALTHLINE. Feature story: "Bionic pancreas keeps blood sugar in check for adults and adolescents with type 1 diabetes." June 16, 2014.

FOX NEWS. Feature story: "Researchers developing bionic pancreas for diabetics." June 16, 2014.

DIABETES FORECAST. Cover story: "The artificial pancreas aces new tests." March 2014.

MS NEWS. Feature story: "New technology for diabetic patients displayed at diabetes super conference." March 2014.

USA TODAY. Featured story: "Bionic pancreas could help fight diabetes." February 2, 2014.

GLU. Featured in a series of stories chronicling Bill Woods's day-to-day experience in our clinical study testing our bionic endocrine pancreas in the outpatient setting. September 2013.

HUFFINGTON POST. Feature story: "Turning diabetes over to the bionic pancreas." April 23, 2013.

GLU. Featured in a series of stories chronicling Anna Floreen's day-to-day experience in our clinical study testing our bionic endocrine pancreas in the outpatient setting. April 2–9, 2013. *Followed online by over 100,000 people.*

NATURE. Feature story: "Medical devices: Managed by machine." May 17, 2012.

CBS. Featured in a daytime television segment on *The Doctors*. May 2, 2012.

CNN. Feature story: "Artificial pancreas gives girl vacation from diabetes." March 4, 2012.

DIABETES DISCOURSE. Featured on ReachMD XM Radio. January 2011.

MASS GENERAL MAGAZINE. Feature story: "Conquering diabetes with sweet success: An artificial pancreas system, currently in the first phase of clinical trials at Mass General, holds tremendous promise." December 2010.

LA TIMES. Feature story: "A graduation gift from dad." November 2010.

BBC. Featured on radio broadcast. May 2010.

THE AUSTRALIAN. Feature story: "His little piggies may save lives." May 1, 2010.

THE BOSTON GLOBE. Feature story: "The blood sugar battle: Prototype of artificial pancreas holds promise for better management of type 1 diabetes." May 3, 2010.

SCIENCE DAILY. Feature story: "Novel artificial pancreas successfully controls blood sugar more than 24 hours." May 10, 2010.

THE BOSTON GLOBE. Feature story: "Artificial pancreas' shows promise in Boston experiments." April 22, 2010.

NBC TELEVISION NIGHTLY NEWS. Featured on nightly news broadcasts on NBC affiliates across the nation. April 14–15, 2010.

LA TIMES. Feature story: "Research offers promise for diabetics." April 15, 2010.

REUTERS. Feature story: "Artificial pancreas works in 11 patients-study." April 14, 2010.

CBS NEWS RADIO. Featured on radio broadcast. April 14, 2010.

VOICE OF AMERICA. Feature story: "Experimental artificial pancreas controls blood sugar in diabetics." April 14, 2010.

SCIENCE NEWS. Feature story: "Insulin pump and computer mated to regulate blood sugar." April 14, 2010.

THE MINT. Feature story: "Artificial pancreas to monitor, control blood sugar levels." April 14, 2010.

SÜDWESTRUNDFUNK. Featured on radio broadcast entitled "Kommt die künstliche Bauchspeicheldrüse (Artificial Pancreas)?" on SWR German Public Radio. April 14, 2010.

AMERICAN PUBLIC MEDIA. Featured on a re-aired radio broadcast entitled "Caring Parents" on *The Story, Hosted by Dick Gordon*. Originally aired January 7, 2009 and re-aired April 19, 2010.

USA TODAY. Feature story: "Artificial pancreas would dial up diabetes control." November 3, 2008.