

**Chemokine Receptor Ccr-1 Recruits Host-derived Intimal Smooth Muscle-like Cell In Graft Arterial Disease**

*Koichi Shimizu, MD, PhD, Brigham and Women's Hospital, Harvard Medical School, Boston, MA; Manabu Minami, MD, PhD, Kyoto University, Graduate School of Medicine, Kyoto, Japan; Rica Shubiki, BA, Shiga University of Medical Science, Shiga, Japan; Marco Lopez-Illasaca, MD, PhD, Brigham and Women's Hospital, Harvard Medical School, Boston, MA; Peter Libby, MD, Brigham and Women's Hospital, Harvard Medical School, Boston, MA; Richard N. Mitchell, MD, PhD, Brigham and Women's Hospital, Harvard Medical School, Boston, MA;*

**Application Of A Biodegradable Polymer Wrap To Engineer Compliance-matched Arterial Vein Grafts**

*Qiang Wang, M.D./Ph.D., University of Pittsburgh, Pittsburgh, PA; Yi Hong, Ph.D., University of Pittsburgh, Pittsburgh, PA; Wei He, Ph.D., University of Pittsburgh, Pittsburgh, PA; William R. Wagner, Ph.D., University of Pittsburgh, Pittsburgh, PA; David A. Vorp, Ph.D., University of Pittsburgh, Pittsburgh, PA;*

**Influence Of Leftward Suprarenal Aortic Motion And Curvature On The Location And Shape Of Murine Aneurysms**

*Craig J. Goergen, PhD, Stanford University, Palo Alto, CA; Kyla N. Barr, B.S., Stanford University, Palo Alto, CA; Junya Azuma, M.D./Ph.D., Stanford University, Palo Alto, CA; Ronald L. Dalman, M.D., Stanford University, Palo Alto, CA; Charles A. Taylor, Ph.D., Stanford University, Palo Alto, CA; Philip S. Tsao, Ph.D., Stanford University, Palo Alto, CA; Joan M. Greve, Ph.D., Genentech Inc., South San Francisco, CA*

**Alpha-gal Removal Assay: A Tool For Evaluation Of Biocompatible Xenogeneic Heart Valve Substitutes**

*Filippo Naso, MS, University of Padova, Padova, Italy; Alessandro Gandaglia, MS, PhD, University of Padova, Padova, Italy; Laura Iop, MS, PhD, University of Padova, Padova, Italy; Michele Spina, MD, PhD, University of Padova, Padova, Italy; Gino Gerosa, MD, University of Padova, Padova, Italy;*

**Role Of Pathologic Hemodynamic Alterations In Aortic Valve Endothelial Activation**

*Philippe Sucosky, University of Notre Dame, Notre Dame, IN; Ling Sun, University of Notre Dame, Notre Dame, IN; Daniel Hoehn, University of Notre Dame, Notre Dame, IN;*

**Role Of Pathologic Hemodynamic Alterations In Aortic Valve Endothelial Activation**

*Ling Sun, University of Notre Dame, Notre Dame, IN; Daniel Hoehn, University of Notre Dame, Notre Dame, IN; Philippe Sucosky, University of Notre Dame, Notre Dame, IN;*

**Controlling Collagen Formation And Organization In Engineered Cardiovascular Tissues**

*Carlijn V. C. Bouten, PhD, Eindhoven University of Technology, Eindhoven, Netherlands; Mirjam P. Rubbens, PhD, Eindhoven University of Technology, Eindhoven, Netherlands; Nicky De Jonge, MSc, Eindhoven University of Technology, Eindhoven, Netherlands; Frank P. T. Baaijens, PhD, Eindhoven University of Technology, Eindhoven, Netherlands;*

**Echocardiographic Assessment Of 15 Month Follow-up Of Tricol Decellularized Valves Implanted In The Pulmonary Outflow Tract Of Vietnamese Pigs**

*Michele Gallo, MD, University of Padova, Padova, Italy; Helen Poser, DVM, University of Padova, Padova, Italy; Umberto Cucchini, MD, Azienda Ospedaliera di Padova, Padova, Italy; Alessandro Gandaglia, PhD, University of Padova, Padova, Italy; Paolo Franci, DVM, University of Padova, Padova, Italy; Michele*

*Spina, PhD, University of Padova, Padova, Italy; Roberto Busetto, DVM, University of Padova, Padova, Italy; Gino Gerosa, MD, University of Padova, Padova, Italy;*

#### **A Vascular Paint To Coat And Treat Atherosclerotic Plaques**

*Christian J. Kastrup, PhD, Massachusetts Institute of Technology, Cambridge, MA; Seung-Woo Cho, Massachusetts Institute of Technology, Cambridge, MA; Haeshin Lee, KAIST, Daejeon, Korea, Republic of; Jose-Luiz Figueiredo, Massachusetts General Hospital, Boston, MA; Swetha Kambhampati, Massachusetts Institute of Technology, Cambridge, MA; Timothy Lee, Massachusetts Institute of Technology, Cambridge, MA; Ralph Weissleder, Massachusetts General Hospital, Cambridge, MA; Matthias Nahrendorf, Massachusetts General Hospital, Cambridge, MA; Robert Langer, Massachusetts Institute of Technology, Cambridge, MA; Daniel Anderson, Massachusetts Institute of Technology, Cambridge, MA;*

#### **Matrix Synthesis And Cell Deformation Behavior In Engineered Heart Valve Scaffolds**

*John A. Stella, University of Pittsburgh, Pittsburgh, PA; Nicholas J. Amaroso, University of Pittsburgh, Pittsburgh, PA; John E. Mayer, Jr., Children's Hospital of Boston, Boston, MA; William R. Wagner, University of Pittsburgh, Pittsburgh, PA; Michael S. Sacks, University of Pittsburgh, Pittsburgh, PA*

#### **In Situ Estimation Of Extracellular Matrix Stiffness-interstitial Cell Mechanical Coupling In The Aortic Heart Valve Leaflet**

*Michael S. Sacks, PhD, University of Pittsburgh, Pittsburgh, PA*

#### **Engineering Neuregulin To Bias ErbB Signaling For Enhanced Cardiovascular Therapy**

*Steven M. Jay, Ph.D., Brigham and Women's Hospital, Cambridge, MA; Linda G. Griffith, Ph.D., Massachusetts Institute of Technology, Cambridge, MA; Richard T. Lee, M.D., Brigham and Women's Hospital, Cambridge, MA;*

#### **Disrupted Collagen Homeostasis In Thoracic Aortic Aneurysms In Patients With Bicuspid Aortic Valve**

*Julie A. Phillippi, PhD, University of Pittsburgh, Pittsburgh, PA; Adam A. Kubala, B.S., University of Pittsburgh, Pittsburgh, PA; Michael A. Eskay, B.S., University of Pittsburgh, Pittsburgh, PA; Douglas W. Chew, B.S., University of Pittsburgh, Pittsburgh, PA; Diana Gaitan, M.S., University of Pittsburgh, Pittsburgh, PA; John Hempel, PhD, University of Pittsburgh, Pittsburgh, PA; David A. Vorp, PhD, University of Pittsburgh, Pittsburgh, PA; Thomas G. Gleason, M.D., University of Pittsburgh, Pittsburgh, PA;*

#### **Aquaporin1, Transendothelial Water Transport And Possible Connection To Early Atherosclerosis**

*Shripad Joshi, City College of the City University of New York, New York, NY; Kung-Ming Jan, College of Physician and Surgeon, Columbia University, New York, NY; David Rumschitzki, City College of the City University of New York, New York, NY;*

#### **Anti-thrombogenic Semprus Surfaces After Long-term Exposure With Serum And Lock Solution**

*Christopher Loose, Dr., Semprus BioSciences, Cambridge, MA; Chad Huval, Dr., Semprus BioSciences, Cambridge, MA; Zheng Zhang, Dr., Semprus BioSciences, Cambridge, MA; Michael Bouchard, Semprus BioSciences, Cambridge, MA; Abby Deleault, Semprus BioSciences, Cambridge, MA; Robert Reed, Semprus BioSciences, Cambridge, MA;*

#### **Thrombospondin Gene Variations And Its Phenotypic Effects On Coronary Artery Disease**

*sriram kuram, University of bridgeport, Bridgeport, CT;*

### **Differentiation Of Abdominal Aortic Aneurysm Geometry: A Tool For Rupture Risk Assessment**

*Judy Shum, MS, Carnegie Mellon University, Pittsburgh, PA; Giampaolo Martufi, MS, Royal Institute of Technology, Stockholm, Sweden; Elena DiMartino, PhD, University of Calgary, Calgary, AB, Canada; Christopher B. Washington, MD, Allegheny General Hospital, Pittsburgh, PA; Joseph Grisafi, MD, Allegheny General Hospital, Pittsburgh, PA; Satish C. Muluk, MD, Allegheny General Hospital, Pittsburgh, PA; Ender A. Finol, PhD, Carnegie Mellon University, Pittsburgh, PA*

### **In Vitro Cardiomyogenic Potential of Human Amniotic Fluid Stem Cells**

*Shay Soker, PhD, Wake Forest University, Winston-Salem, NC; Xuan Guan, PhD, Wake Forest University, Winston-Salem, NC; Dawn Delo-O'Reily, Wake Forest University, Winston-Salem, NC; Anthony Atala, MD, Wake Forest University, Winston-Salem, NC;*

### **Longitudal MR Imaging Of Human Amniotic Fluid Stem Cells Injected Into Mouse Heart**

*Shay Soker, PhD, Wake Forest University, Winston-Salem, NC; Dawn Delo-O'Reily, PhD, Wake Forest University, Winston-Salem, NC; John Olson, Wake Forest University, Winston-Salem, NC; Anthony Atala, MD, Wake Forest University, Winston-Salem, NC*

### **The Fate Of An Endothelium Layer After Preconditioning; An In Vitro and In Vivo Analysis**

*Shay Soker, PhD, Wake Forest University, Winston-Salem, NC; Saami K. Yazdani, PhD, Wake Forest University, Winston-Salem, NC; Bryan W. Tillman, MD, PhD, Wake Forest University, Winston-Salem, NC; Joel Berry, PhD, Wake Forest University, Winston-Salem, NC; Randolph L. Geary, MD, Wake Forest University, Winston-Salem, NC*

### **Imaging Vasculogenesis An A Co-culture Of Fluorescently Labeled Endothelial Cells Pericytes And Myoblasts In Vitro**

*Shay Soker, PhD, Wake Forest University, Winston-Salem, NC; Tracy L. Criswell, PhD, Wake Forest University, Winston-Salem, NC; Zhan Wang, PhD, Wake Forest University, Winston-Salem, NC;*

### **Comparison Of Disturbed Flow And Laminar Flow On Tissue Factor (tf) Rna Expression In Huvec**

*Ryuzo Abe, MD, PhD, Yale University School of Medicine, New Haven, CT; Adrienne Rochier, MD, Yale University School of Medicine, New Haven, CT; Rei Abe, MD, Yale University School of Medicine, New Haven, CT; Bauer Sumpio, MD, PhD, Yale University School of Medicine, New Haven, CT;*

### **Discovery Of Shear-regulated And Side-specific Mirnas And Mrnas In Human Aortic Valvular Endothelial Cells**

*Casey J. Holliday, Georgia Institute of Technology and Emory University, Atlanta, GA;*

### **Reduced Protein Deposition On Heparinized Cbas-eptfe Vascular Grafts: A Mechanism For In Vivo Persistence Of Heparin Bioactivity**

*John L. Fisher, Ph.D., W. L. Gore & Associates, Inc., Flagstaff, AZ; Johan Riesenfeld, Ph.D., Carmeda, AB, Upplands Vasby, Sweden; Paul C. Begovac, Ph.D., W. L. Gore & Associates, Inc., Flagstaff, AZ;*

### **Spatially Regulated Angiogenesis Via Simultaneous Delivery Of Stimulatory And Inhibitory Factors**

*William W. Yuen, Harvard University, Cambridge, MA; Nan R. Du, Harvard University, Cambridge, MA; Eduardo A. Silva, Harvard University, Cambridge, MA; David J. Mooney, Harvard University, Cambridge, MA;*

**Regulates The Degree Of Osteogenesis In Vascular Smooth Muscle Cells Under Hyperglycemic Conditions By Activating The Elr1 Receptor**

*Aditi Sinha, Clemson University, Clemson, SC; Naren Vyavahare, PhD, Clemson University, Clemson, SC;*

**Cyclic Stretch Induces Alignment And Differentiation Of Mitral Valve Endothelial Cells**

*Kartik Balachandran, Disease Biophysics Group, Wyss Institute for Biologically Inspired Engineering, School of Engineering and Applied Sciences, Harvard University, Cambridge, MA; Jill Wylie-Sears, Children's Hospital of Boston, Boston, MA; Joyce Bischoff, Children's Hospital of Boston, Boston, MA; Elena Aikawa, Brigham and Women's Hospital, Boston, MA; Robert A. Levine, Massachusetts General Hospital, Boston, MA; Kevin Kit Parker, Disease Biophysics Group, Wyss Institute for Biologically Inspired Engineering, School of Engineering and Applied Sciences, Harvard University, Cambridge, MA;*

**A20 Inhibits Angiogenesis And Promotes The Pro-survival Pi3k/akt Pathway In Endothelial Cells**

*Sanah Essayagh, Beth Israel Deaconess Medical Center, Boston, MA; Lynn Choi, Beth Israel Deaconess Medical Center, Boston, MA; Salvatore Scali, Beth Israel Deaconess Medical Center, Boston, MA; Eva Csizmadia, Beth Israel Deaconess Medical Center, Boston, MA; Cleide Da Silva, Beth Israel Deaconess Medical Center, Boston, MA; Mark Fisher, Beth Israel Deaconess Medical Center, Boston, MA; Robert Bolash, Beth Israel Deaconess Medical Center, Boston, MA; Laura Benjamin, Beth Israel Deaconess Medical Center, Boston, MA; Allen Clermont, Joslin Diabetes Center, Boston, MA; Christiane Ferran, Beth Israel Deaconess Medical Center, Boston, MA;*

**New Method For In Vivo Non-invasive Vascular Graft Compliance Measurement**

*Beat H. Walpoth, University Hospital, Geneva 14, Switzerland; Sarra M. de Valence, University of Geneva, University of Lausanne, Geneva, Switzerland; Wojciech J. MROWCZYNSKI, University Hospital, Geneva, Switzerland; Damiano Mugnai, University Hospital, Geneva, Switzerland; Jean-Pierre Giliberto, University of Geneva, Geneva, Switzerland;*

**Add-on Endothelin Type A Receptor Antagonist To Ace Inhibitor Provides Reno And Cardio Protection In Advanced Type 2 Diabetes In Rats**

*Sara Cattaneo, Mario Negri Institute for Pharmacological Research, Bergamo, Italy; Carla Zoja, Mario Negri Institute for Pharmacological Research, Bergamo, Italy; Fabio Fiordaliso, Mario Negri Institute for Pharmacological Research, Milan, Italy; Vincenzo Lionetti, Scuola Superiore Sant'Anna, Pisa, Italy; Vanessa Zambelli, Mario Negri Institute for Pharmacological Research, Milan, Italy; Monica Salio, Mario Negri Institute for Pharmacological Research, Milan, Italy; Daniela Corna, Mario Negri Institute for Pharmacological Research, Bergamo, Italy; Giuseppe Remuzzi, Mario Negri Institute for Pharmacological Research, Bergamo, Italy; Ariela Benigni, Mario Negri Institute for Pharmacological Research, Bergamo, Italy;*

**Analysis Of Proteins Associated With The Carmeda Bioactive Surface After Acute Blood Contact**

*Roy Biran, W.L. Gore & Associates, Inc., Flagstaff, AZ; Savannah Gore, W.L. Gore & Associates, Inc., Flagstaff, AZ; Dan Pond, W.L. Gore & Associates, Inc., Flagstaff, AZ; Jonas Andersson, Carmeda, AB, Upplands Vasby, Sweden; Gunilla Sundin, Carmeda, AB, Upplands Vasby, Sweden; Johan Riesenfeld, Carmeda, AB, Upplands Vasby, Sweden;*

**Development Of A Biomimetic Vascular Surface By The Sequential Co-immobilization Of Thrombomodulin And Endothelial Protein C Receptor**

Anu Subramanian, University of Nebraska, Lincoln, Lincoln, NE; Karl Kador, University of Nebraska, Lincoln, Lincoln, NE; MinJeong Schneider, University of Nebraska, Lincoln, Lincoln, NE; Tarlan Mamedov, University of Nebraska, Lincoln, Lincoln, NE;

### **Mechanical Properties Of Tissue-engineered Vascular Constructs Produced Using Arterial Or Venous Cell Sources**

Robert Gauvin, ing., PhD, LOEX / Hôpital du Saint-Sacrement, Québec, QC, Canada; Maxime D. Guillemette, PhD, LOEX / Hôpital du Saint-Sacrement, Québec, QC, Canada; Todd Galbraith, LOEX / Hôpital du Saint-Sacrement, Québec, QC, Canada; Danielle Larouche, PhD, LOEX / Hôpital du Saint-Sacrement, Québec, QC, Canada; Hugo Marcoux, LOEX / Hôpital du Saint-Sacrement, Québec, QC, Canada; David Aubé, LOEX / Hôpital du Saint-Sacrement, Québec, QC, Canada; François A. Auger, MD, LOEX / Hôpital du Saint-Sacrement, Québec, QC, Canada; Lucie Germain, PhD, LOEX / Hôpital du Saint-Sacrement, Québec, QC, Canada;

### **Translation To Higher Throughput: An In Vitro, Combination Contractility And Electrophysiological Assay**

Anna Grosberg, Ph.D., Harvard University, Cambridge, MA; Mark D. Brigham, Harvard University, Cambridge, MA; Kevin Kit Parker, Harvard University, Cambridge, MA;

### **Microfabrication And Demonstration Of A Multi-layered Cardiac Tissue Engineering Scaffold**

Hyoungshin Park, Ph.D., MIT, Cambridge, MA; Benjamin Larson, MIT, Cambridge, MA; Maxime D. Guillemette, MIT, Cambridge, MA; Saloni R. Jain, MIT, Cambridge, MA; Casey Hua, MIT, Cambridge, MA; Ernest S. Kim, MIT, Cambridge, MA; George C. Engelmayr, MIT, Cambridge, MA; Lisa E. Freed, MIT, Cambridge, MA;

### **Development Of Tough Elastomeric Scaffolds For Cardiovascular Tissue Engineering**

Shilpa Sant, Ph.D., Brigham and Women's Hospital, Cambridge, MA; Chang Mo Hwang, Ph.D., Brigham and Women's Hospital, Cambridge, MA; Sang-Hoon Lee, Ph.D., Department of Biomedical Engineering, College of Health Science, Korea University, Seoul 136-703, Korea, Republic of; Ali Khademhosseini, Ph. D., Brigham and Women's Hospital, Cambridge, MA;

### **Porous Scaffold-mediated Vascularization For Applications In Heart Repair**

Lauran R. Madden, University of Washington, Seattle, WA; Derek J. Mortisen, University of Washington, Seattle, WA; Eric M. Sussman, University of Washington, Seattle, WA; Buddy D. Ratner, University of Washington, Seattle, WA;

### **Characterization Of Ultrasmall Superparamagnetic Iron Oxide Nanoparticles For Noninvasive Monitoring Of Inflammation In Tissue Engineered Vascular Grafts By Magnetic Resonance Imaging**

Jamie K. Harrington, BA, Yale University School of Medicine, New Haven, CT; Halima Chahboune, PhD, Yale University School of Medicine, New Haven, CT; Jason M. Criscione, Yale University School of Medicine, New Haven, CT; Tai Yi, BS, Yale University School of Medicine, New Haven, CT; Narutoshi Hibino, MD PhD, Yale University School of Medicine, New Haven, CT; Gustavo A. Villalona, MD, Yale University School of Medicine, New Haven, CT; Xenophon Papademetri, Yale University School of Medicine, New Haven, CT; Toshiharu Shinoka, MD PhD, Yale University School of Medicine, New Haven, CT; Tarek Fahmy, PhD, Yale University School of Medicine, New Haven, CT; Christopher K. Breuer, MD, Yale University School of Medicine, New Haven, CT;

### **Evaluation Of A Novel Thoracic Aorta Stent Device In A Sheep Model**

*Glenn A. Edwards, University of Melbourne, Werribee, Victoria, Australia;*

### **Improved Endothelialization Of Small-diameter Vascular Grafts By Protein Coating**

*Lindsay Mesure, PhD fellow, Catholic University Leuven, Leuven, Belgium; Geoffrey De Visscher, PhD, Catholic University Leuven, Leuven, Belgium; Willem Flameng, MD, PhD, Catholic University Leuven, Leuven, Belgium;*

### **Assessment Of A Biodegradable Synthetic Vascular Prosthesis In The Pig Carotid Artery Model**

*Beat H. Walpoth, University Hospital, Geneva, Switzerland; Damiano Mugnai, University Hospital, Geneva, Switzerland; Sarra de Valence, University of Geneva, University of Lausanne, Geneva, Switzerland; Jean-Christophe Tille, University Hospital, Geneva, Switzerland; Ebrahim Khabiri, University Hospital, Geneva, Switzerland; Robert Gurny, University of Geneva, University of Lausanne, Geneva, Switzerland; Afksendyios Kalangos, University Hospital, Geneva, Switzerland; Michael Moeller, University Hospital, Geneva, Switzerland;*

### **Pathophysiologic Basis And Implications Of Degenerative Changes In Medtronic Freestyle Aortic Root Bioprostheses**

*Robert F. Padera, M.D., Ph.D., Brigham and Women's Hospital, Boston, MA; Frederick J. Schoen, M.D., Ph.D., Brigham and Women's Hospital, Boston, MA;*

### **A Novel In Vitro Model Of Vein Graft Adaptation**

*L. Model, MD, Yale University, New Haven, CT; A. Muto, MD, PhD, Yale University, New Haven, CT; Y. Kondo, MD, PhD, Yale University, New Haven, CT; K. Ziegler, MD, Yale University, New Haven, CT; S. Egbalieh, MD, Yale University, New Haven, CT; A. Feigel, MD, Yale University, New Haven, CT; L. Niklason, MD, PhD, Yale University, New Haven, CT; A. Dardik, MD, PhD, Yale University, New Haven, CT;*

### **Hypothetical Size Optimization Of A Constricting External Vascular Mesh For Coronary Artery Bypass Surgery**

*Paul Human, University of Cape Town, Cape Town, South Africa; Thomas Franz, University of Cape Town, Cape Town, South Africa; Stephan Dobner, University of Cape Town, Cape Town, South Africa; Daya Reddy, University of Cape Town, Cape Town, South Africa; Melanie Black, University of Cape Town, Cape Town, South Africa; Helen Ilsley, University of Cape Town, Cape Town, South Africa; Michael Wolf, Medtronic, Minneapolis, MN; Deon Bezuidenhout, University of Cape Town, Cape Town, South Africa; Lovendran Moodley, University of Cape Town, Cape Town, South Africa; Peter Zilla, University of Cape Town, Cape Town, South Africa;*

### **Use Of A Devitalized Tissue-engineered Scaffold To Produce Vascular Media Substitutes With Improved Mechanical Properties**

*Jean-Michel Bourget, M. Sc., Université Laval - LOEX, Québec, QC, Canada; Robert Gauvin, Ph.D., Ing., Université Laval - LOEX, Québec, QC, Canada; François A. Auger, M.D., FRCP (C), CQ, FCAHS, Université Laval - LOEX, Québec, QC, Canada; Lucie Germain, Ph.D, Université Laval - LOEX, Québec, QC, Canada;*

### **Induced Elastin Regeneration In 3-d Collagen Constructs**

*Lavanya Venkataraman, BE, Clemson University, Clemson, SC; Anand Ramamurthi, PhD, Cleveland Clinic, Cleveland, OH;*

### **Microcrimped Collagen Scaffolds Mimic The Mechanical Response Of Valve Leaflet Biomaterials**

*Jeff M. Caves, PhD, Emory University, Atlanta, GA; Vivek A. Kumar, Georgia Tech, Atlanta, GA; Wenjun Xu, Georgia Tech, Atlanta, GA; Nisarga Naik, Georgia Tech, Atlanta, GA; Mark G. Allen, PhD, Georgia Tech, Atlanta, GA; Elliot L. Chaikof, MD, PhD, Emory University, Atlanta, GA;*

### **Elastogenic Stimulation Of Smcs Derived From Cacl<sub>2</sub> And Elastase Perfusion Models Of Abdominal Aortic Aneurysms**

*Anand Ramamurthi, Cleveland Clinic, Cleveland, OH; Partha Deb, BE, Cleveland Clinic, Cleveland, OH; Carmen Gacchina, BS, Clemson University, Clemson, SC;*

### **The Role Of Tgfbeta And Cox-2 In Human Veingraft Arterialization And Stenosis**

*Glenn C. Hunter, University of Arizona, Tucson, AZ; Wesley T. Myers, University of Texas Medical Branch, Galveston, TX; Kenneth J. Woodside, University of Texas Medical Branch, Galveston, TX; Qian Guo, University of Texas Medical Branch, Galveston, TX; Shu Zhang, University of Texas Medical Branch, Galveston, TX; Ann Burke, University of Texas Medical Branch, Galvston, TX;***The Role Of**

### **Metallothioneins In The Endothelial Cell Response To Shear Stress**

*Sungmun Lee, Ph.D., Georgia Institute of Technology, Atlanta, GA; Daniel E. Conway, Ph.D., University of Virginia, Charlottesville, VA; Ankit K. Shah, Bachelor, Georgia Institute of Technology, Atlanta, GA; Suzanne G. Eskin, Ph.D., Georgia Institute of Technology, Atlanta, GA; Larry V. McIntire, Ph.D., Georgia Institute of Technology, Atlanta, GA;*

### **Directed 3d Cell Alignment And Elongation In Microengineered Gelatin Methacrylate Hydrogels Via An MMP-dependent Mechanism**

*Jason W. Nichol, PhD, Harvard-MIT, Cambridge, MA; Hug Aubin, MD Candidate, Harvard-MIT, Cambridge, MA;*

### **Partial Loss Of A20 (Tnfaip3) Promotes Resistance To Abdominal Aortic Aneurysms**

*Scott M. Damrauer, Beth Israel Deaconess Medical Center, Boston, MA; Clayton R. Peterson, Beth Israel Deaconess Medical Center, Boston, MA; Peter Studer, Beth Israel Deaconess Medical Center, Boston, MA; Viktoriya L. Marusyk, Beth Israel Deaconess Medical Center, Boston, MA; Eva Csizmadia, Beth Israel Deaconess Medical Center, Boston, MA; Cleide G. Da Silva, Beth Israel Deaconess Medical Center, Boston, MA; Christiane Ferran, Beth Israel Deaconess Medical Center, Boston, MA*

### **Differentiating Between Transanastomotic And Transmural Endothelialization: An Isolation-loop-graft Model In The Rat**

*Tim Pennel, University Cape Town, Cape Town, South Africa; Deon Bezuidenhout, University Cape Town, Cape Town, South Africa; Peter Zilla, University Cape Town, Cape Town, South Africa*

### **Trilayered Electrospun Small Diameter Vascular Grafts In Vitro Characterization**

*Michael J. McClure, MS, Virginia Commonwealth University, Richmond, VA; Scott A. Sell, PhD, Virginia Commonwealth University, Richmond, VA; Gary L. Bowlin, PhD, Virginia Commonwealth University, Richmond, VA;*

### **Osseous Metaplasia In Calcific Aortic Valve Disease: Role Of Gender And Congenitally Bicuspid Valves**

*Paul A. VanderLaan, MD, PhD, Brigham and Women's Hospital, Boston, MA; Robert F. Padera, MD, PhD, Brigham and Women's Hospital, Boston, MA; Frederick J. Schoen, MD, PhD, Brigham and Women's Hospital, Boston, MA; Richard N. Mitchell, MD, PhD, Brigham and Women's Hospital, Boston, MA*

**Induced Regeneratability Of Elastic Matrix In Doxycycline-stabilized Vascular Microenvironments**

*Anand Ramamurthi, Cleveland Clinic, Cleveland, OH; Emily Ongstad, MS, Clemson University, Clemson, SC;*

**Mechanosensitivity Of Human Adult Mesenchymal Stem Cells To Vascular-relevant Applied Physical Forces**

*Adele M. Doyle, Ph.D., Georgia Institute of Technology, Atlanta, GA; Tabassum Ahsan, Ph.D., Tulane University, New Orleans, LA; Robert M. Nerem, Ph.D., Georgia Institute of Technology, Atlanta, GA;*

**Time-series Study Of Association Between Geometric Change And Hemodynamics Of Human Lower Extremity Vein Bypass Graft**

*Yong He, Ph.D, University of Florida, Gainesville, FL; Roger Tran-Son-Tay, Ph.D, University of Florida, Gainesville, FL; Peter R. Nelson, MD, University of Florida, Gainesville, FL; Scott A. Berceci, MD, Ph.D, University of Florida, Gainesville, FL;*

**Cardiovascular Remodelling During Pregnancy**

*Sarah M. Wells, Dalhousie University, Halifax, NS, Canada;*

**Efficient Delivery Of Mesenchymal Stem Cells To The Beating Heart**

*Glenn Gaudette, PhD, Worcester Polytechnic Institute, Worcester, MA; Michael Fakharzadeh, Worcester Polytechnic Institute, Worcester, MA; Jacques P. Guyette, Worcester Polytechnic Institute, Worcester, MA; Marsha W. Rolle, Worcester Polytechnic Institute, Worcester, MA; George Pins, Worcester Polytechnic Institute, Worcester, MA;*

**Epicardial Extracellular Matrix Environment Specifies Cell Fate**

*Alexander Bick, M.S., Harvard Medical School, Boston, MA; Ian Wheeldon, PhD, Harvard Medical School, Boston, MA; Arash Fardhari, Harvard Medical School, Boston, MA; Ali Khadmhosseini, PhD, Harvard Medical School, Boston, MA*

**Engineering Microvascular Networks To Promote Adipogenesis**

*Ruei-Zeng Lin, Children's Hospital Boston, Boston, MA; Alexandra Dreyzin, Children's Hospital Boston, Boston, MA; Andrew C. Dudley, Children's Hospital Boston, Boston, MA; Juan M. Melero-Martin, Children's Hospital Boston, Boston, MA;*

**Substantial Expression Of Mature Elastin In Arterial Constructs**

*Yadong Wang, University of Pittsburgh, Pittsburgh, PA; Kee-Won Lee, University of Pittsburgh, Pittsburgh, PA;*

**Analysis Of The Regenerative Potential Of Vascular Grafts Incorporated With Platelet Rich Plasma**

*Patricia Wolfe, Virginia Commonwealth University, Richmond, VA; Scott Sell, PhD, McGuire VA Medical Center, Richmond, VA; Gary Bowlin, PhD, Virginia Commonwealth University, Richmond, VA;*

**Targeting Of Nanoparticles To Ischemia For Therapeutic Angiogenesis**

*Jaeyun Kim, Ph.D., Harvard University, Cambridge, MA; Lan Cao, Ph.D., Harvard University, Cambridge, MA; Dmitry Shvartsmana, Ph.D., Harvard University, Cambridge, MA; David Mooney, Ph.D., Harvard University, Cambridge, MA;*



### **The Potential Role Of Toll-like Receptor 2 In Peripheral Arterial Disease**

*Hemanshu Patel, MB BS, Royal Free Vascular Unit, University College London, London, United Kingdom; Janice Tsui, MD FRCS, Royal Free Vascular Unit, University College London, London, United Kingdom; Xu Shi-Wen, PhD, Centre for Rheumatology & Connective Tissue Disease, University College London, London, United Kingdom; Dhiraj Joshi, MRCS, Royal Free Vascular Unit, University College London, London, United Kingdom; David Abraham, PhD, Centre for Rheumatology & Connective Tissue Diseases, University College London, London, United Kingdom; Daryll Baker, PhD FRCS, Royal Free Vascular Unit, University College London, London, United Kingdom; Sidney Shaw, PhD, Department of Clinical Research, University of Bern, Bern, Switzerland;*

### **ARA 290, A Nonerythropoietic Tissue Protective Peptide Derived From Erythropoietin Has A Potential Role In Treatment Of Peripheral Arterial Disease**

*Dhiraj Joshi, MRCS, Royal Free Vascular Unit, University College London, London, United Kingdom; Xu Shi-Wen, PhD, Centre for Rheumatology & Connective Tissue Disease, University College London, London, United Kingdom; Janice Tsui, MD, FRCS, Royal Free Vascular Unit, University College London, London, United Kingdom; Hemanshu Patel, MB BS, Royal Free Vascular Unit, University College London, London, United Kingdom; Sadashivam Selvakumar, FRCS, Lister Hospital, Stevenage, United Kingdom; David Lawrence, FRCS, Heart Hospital, University College London, London, United Kingdom; David Abraham, PhD, Centre for Rheumatology & Connective Tissue Disease, University College London, London, United Kingdom; Daryll Baker, PhD, FRCS, Royal Free Vascular Unit, University College London, London, United Kingdom;*

### **Endothelialization Of Reversibly Stabilized Heart Valve Scaffolds In A Pulsatile Bioreactor**

*Dan T. Simionescu, Clemson University, Clemson, SC; Leslie N. Sierad, Clemson University, Clemson, SC; Christopher Albers, Clemson University, Clemson, SC; Jordan Maivelett, Clemson University, Clemson, SC; Joseph Chen, Mississippi State University, Mississippi State, MS; Mary E. Tedder, Clemson University, Clemson, SC; Jun Liao, Mississippi State University, Mississippi State, MS; Agneta Simionescu, Clemson University, Clemson, SC;*

### **Diabetes Alters Stem Cells And Scaffolds Used In Heart Valve Tissue Engineering**

*Agneta Simionescu, Clemson University, Clemson, SC; Dan Simionescu, Clemson University, Clemson, SC;*

### **Fluid Flow And Tgf- $\beta$ 1 Effects On Smad2 Signaling In Haec Cultures Exposed To Prolonged Shear Stress: A Role In Atheroprotection?**

*Kristina D. Rinker, PhD, University of Calgary, Calgary, AB, Canada; Robert D. Shepherd, University of Calgary, Calgary, AB, Canada; Stephanie M. Kos, University of Calgary, Calgary, AB, Canada;*

### **Vegf-fixed Surface For In Situ Capture Of Endothelial Progenitor Cells**

*Takehisa Matsuda, Ph.D, Kanazawa Institute of Technology, Hakusan, Japan; Tatsuki Aomizu, Kanazawa Institute of Technology, Hakusan, Japan; Makoto Kuwana, Kanazawa Institute of Technology, Hakusan, Japan; Mieko Kogi, Ph.D, Kanazawa Institute of Technology, Hakusan, Japan*

### **Seeding Of Acellular Porcine Ureteric Scaffold For Tissue Engineering Small Diameter Vessels**

*Taha H. Khan, PhD, Institute of Medical and Biological Engineering, Leeds, United Kingdom; Stacy-Paul Willshaw, PhD, Institute of Medical and Biological Engineering, Leeds, United Kingdom; Sotiris Korossis, PhD, Institute of Medical and Biological Engineering, Leeds, United Kingdom; Eileen Ingham, PhD, Institute of Medical and Biological Engineering, Leeds, United Kingdom; Shervanthi Homer-Vanniasinkam, PhD, Leeds Vascular Institute, Leeds, United Kingdom;*

**Neomycin Based Carbodiimide Crosslinking As An Alternative To Glutaraldehyde For Fixation Of Bioprosthetic Heart Valves**

*Narendra R. Vyavahare, Clemson University, Clemson, SC; Amy Munnely, Clemson University, Clemson, SC; Joshua Leong, Clemson University, Clemson, SC;*

**Modulation Of Mast Cell Adhesion And Cytokine Secretion On Electrospun Bioresorbable Vascular Grafts**

*Koyal Garg, Virginia Commonwealth University, Richmond, VA; John J. Ryan, Virginia Commonwealth University, Richmond, VA; Gary L. Bowlin, Virginia Commonwealth University, Richmond, VA;*

**Inhibition And Reversal Of Osteogenic Differentiation Of TNF $\alpha$ ; Activated RASMCs By Pentagalloylglucose**

*Narendra R. Vyavahare, Clemson University, Clemson, SC; Chaitra Cheluvraju, Clemson University, Clemson, SC;*

**Serotonergic Antagonist As A Novel Therapeutic For Heart Valve Disease**

*Joshua D. Hutcheson, Vanderbilt University, Nashville, TN; W. David Merryman, PhD, Vanderbilt University, Nashville, TN;*

**Development Of An Innovative Endovascular Stent-graft For Aortic Aneurysms Using A Nanocomposite Polymer**

*Mital Desai, Department of Vascular Surgery, Royal Free Hampstead NHS Trust, London, United Kingdom; Arnold Darbyshire, Division of Surgery and Interventional Science, University College London, London, United Kingdom; Max Ahmed, Division of Surgery and Interventional Science, University College London, London, United Kingdom; Raheleh Bakhshi, Division of Surgery and Interventional Science, University College London, London, United Kingdom; James Eaton-Evans, Department of Engineering Science, University of Oxford, Oxford, United Kingdom; Xiang Zhou, Department of Engineering Science, University of Oxford, Oxford, United Kingdom; Zhong You, Department of Engineering Science, University of Oxford, Oxford, United Kingdom; Alexander M. Seifalian, Division of Surgery and Interventional Science, University College London, London, United Kingdom; George Hamilton, Department of Vascular Surgery, Royal Free Hampstead NHS Trust, London, United Kingdom*

**The Role Of The Scavenger Receptor Lox-1 In The Internalisation Of Oxidised Ldl**

*Michael W. Twigg, MBChB, Leeds Vascular Institute, Leeds, United Kingdom*

**An Arginine Incorporated Nanocomposite Polymer For Vascular Bypass Grafts**

*Achala de Mel, University College London; Centre for Nanotechnology & Regenerative Medicine; UCL Division of Surgery & Interventional science, London, United Kingdom; Bala Ramesh, University College London; Centre for Nanotechnology & Regenerative Medicine; UCL Division of Surgery & Interventional science, London, United Kingdom; Arnold Darbyshire, University College London, Centre for Nanotechnology & Regenerative Medicine, London, United Kingdom; George Hamilton, Vascular Group, Royal Free Hampstead NHS Trust Hospital and Centre for Nanotechnology & Regenerative Medicine, University College London, London, United Kingdom; Alexander M. Seifalian, University College London; Centre for Nanotechnology & Regenerative Medicine; UCL Division of Surgery & Interventional science; Royal Free Hampstead NHS Trust, London, United Kingdom*

**Tissue Engineered Blood Vessels Fabricated From Decellularized Porcine Arteries Repopulated With Xenogeneic Ecs And Smcs**

*Akie Matsumura, Chicago Association for Research and Education in Science, Hines, IL; Andrew Gassman, M.D., Loyola University Chicago, Maywood, IL; Yonggang Pang, M.D., Ph.D., Illinois Institute of Technology, Chicago, IL; Areck Ucuzian, M.D., Loyola University Chicago, Maywood, IL; Howard Greisler, M.D., Loyola University Chicago and Hines VA Hospital, Maywood and Hines, IL;*

**The Role Of Notch Signaling In Ec Akt And Erk Phosphorylation In Response To Smc-released Factors**

*Areck A. Ucuzian, M.D., Loyola University Medical Center, Maywood, IL; Yonggang Pang, M.D., Ph.D., Illinois Institute of Technology, Chicago, IL; Akie Matsumura, Edward Hines VA Hospital, Hines, IL; Howard P. Greisler, M.D., Loyola University Medical Center, Maywood, IL;*