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*College of Physicians  
and Surgeons*

Dear all,

October was a banner month for research in the Department. Many thanks to Henry Spotnitz and the team that reviewed the 47 research grant applications that were submitted, and to all the faculty who continue to devote their time to teaching and mentoring. The enthusiastic (and growing) participation in this program reflects our priority on teaching and promoting research in the department, and we thank all who have made it so successful.

Thank you as well for your continued participation in this monthly e-newsletter. In case you may not be aware, all issues of this [newsletter](#) are now available on the Center for Innovations and Outcomes Research web site for easy reference. Please continue to email Paul Kurlansky ([pk2245@columbia.edu](mailto:pk2245@columbia.edu)) or myself ([crs2@cumc.columbia.edu](mailto:crs2@cumc.columbia.edu)) with your confirmed publications, presentations, and grants for our upcoming issues.

As a reminder, the PubMed links below should work for everyone. The journal-specific links will only work if you have a subscription to that journal or you are connected into the Columbia University library e-journal system.

Best regards,  
Craig Smith, MD

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## CONGRATULATIONS

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Congratulations to Dr. Matthew Bacchetta on a groundbreaking publication in the Proceedings of the National Academy of Sciences regarding novel method for pulmonary drug delivery (See Thoracic Surgery Publications).

Congratulations to our new faculty member Dr. Kazuhiko Yamada on two recent NIH grant awards:

1. 1R01DK105503-01A1 (Moore/Yamada. MP) 07/01/15 – 05/31/20

siRNA Protection of Islet Grafts in Baboons

The overall goal of determine effects of siRNA protection of islets in autologous and allogeneic barriers in a non-human primate.

Direct Costs Awarded: \$305,389 (2015)

07/01/15 – 05/31/20

Role: PI

2. 1R01DK105468-01A1 (Moore/Yamada. MP) 07/01/15 – 05/31/20

siRNA Protection of Composite Islet Kidney Transplant in Baboons

The overall goal of determine effects of siRNA protection of islets of composite islet kidneys (IK) in baboons to reduce amount of excision of donor pancreas to apply the composite IK strategy for clinical living related islets and kidney transplantation.

Direct Costs Awarded: \$351,085 (2015)

Role: PI

Congratulations to Dr. Isaac George on receiving the Ninth Annual Kenneth A. Forde Surgical Research Award (\$10,000) for work with Nat Langer on the role of myostatin in heart failure.

Congratulations to Dr. Dustin Carpenter, working with Dr. Donna Farber on receiving the fourth annual John Jones Award. (\$3,000). Dustin will present the findings of his research to the John Jones Surgical Society this coming spring.

Congratulations to Drs. Elisabet Tomas, working with Drs. Frank D'Ovidio and Hiroo Takayama, and to Dr. Scott Chicotka working with Dr. Matthew Bacchetta, on receiving the Michael Treat Awards (\$2500 each) for technological innovations in surgery.

Congratulations to all of the 28 recipients of the Department of Surgery Start-Up Grants listed below—this year there were are record number 47 applications, so clearly the interest in research is strong within the Department!

<b>Investigator</b>	<b>Attending</b>	<b>Title</b>	<b>Startup Grants</b>	<b>Forde, Treat, JJSS</b>
Paula Alonso-Guallart	Adam Griesemer, MD	Bone Marrow and Amnion-Derived Multipotent Progenitor Cells for Promotion of Durable Mixed Hematopoietic Chimerism and Immune Tolerance in a Non-Human Primate Model	\$7,150	
Debarshi Banerjee, PhD	A. Kadenhe-Chiweshe, MD	Enhancement of anti-tumor effects of radiotherapy by ATF5 inhibition	\$5,900	
Shunpei Okochi, MD	A. Kadenhe-Chiweshe, MD	The effect of checkpoint inhibition using PD-1 blockade in experimental neuroblastoma	\$5,500	
Jeffrey Stern, MD	Tomoaki Kato, MD	Combined Bone Marrow and Liver Transplantation in Cynomolgus Monkeys: Induction of Allograft Tolerance and Mixed Chimerism Through Enhanced Memory Cell Depletion	\$5,400	

Neranjana de Silva	Xiaojuan Chen MD-PhD	Islet cell type identification and purification using the novel SmartFlare RNA Detection technology	\$5,400	
Nathaniel Langer, MD	Isaac George, MD	The role of myostatin in right ventricular dysfunction during pressure overload		\$10,000
Sulemon Chaudhry, MD	Mark A. Hardy, MD	Gut Derived Dopamine as a Regulator of Glucose Hemostasis	\$4,600	
Brandon Guenthart	Matthew Bacchetta, MD	In Vivo Decellularization of the Lung: Intervention for Acutely Injured Lungs	\$4,600	
Yeu Sanz (Samantha) Wu	Henry M. Spotnitz, MD	Porcine Research Model of Fiber Optic Ultraviolet Disinfection of LVAD Drivelines	\$4,550	
Estibaliz Castillero	Isaac George, MD	Role of BMP-1/TLD proteinase in cardiac remodeling and cachexia	\$4,500	
Christine Schad, MD	Carrie Shawber, PhD	Mechanism of prolonged sirolimus anti-proliferative effects on lymphatic malformation derived cells	\$4,450	
Ameer Gomberawalla	Sheldon Feldman, MD	Identification of Sentinel Lymph Nodes by Ultrasound Utilizing Iron Tracer Injection and Preoperative Biopsy in Women with Breast Cancer	\$4,400	
Abhishek Mathur, MD	Jean Emond, MD	Impact of Obesity & Adipocytokines on Outcomes from Hepatocellular Carcinoma Following Liver Transplantation	\$4,300	
Benjamin Kuritzkes, MD	Steven Lee-Kong, MD	Molecular profiling of tumors in patients with metastatic colorectal cancer	\$4,300	
Dustin Carpenter, MD, MPH.	Donna Farber, Ph.D. – CCTI	Immunologic consequences of brain death: cytokine, myeloid, and lymphoid data throughout the body and across the lifespan	\$4,200	\$3,000
Marc Najjar, MD	Jeffrey Ascherman, MD	Development of a lower limb lymphedema animal model and assessment of the efficiency of vascularized lymph node transfer (VLNT) in reversing lymphedema.	\$4,100	
Andrew Edwards	Dr. June Wu	Effect of a Notch3 decoy protein on blood vessel development in infantile hemangioma	\$4,000	
Hirohisa Ikegami, MD	Yoshifumi Naka, MD	Effect of arterial cannulation site on cerebral blood flow and neurological outcome in patients with venoarterial extracorporeal membrane oxygenation.	\$3,550	
Boyangzi Li	Paul Kurlansky, MD	Mortality prediction of VA-ECMO therapy in cardiogenic shock: development and analyses of multi center registry	\$3,500	
Ahmed M. Al-Mazrou	Pokala Ravi Kiran, MD	Clinical safety, consequences and costs related to early discharge following major colorectal surgery: An analysis of a	\$3,400	

		nationwide data		
Elisabet Tomas, MD, MHSc	Frank D'Ovidio, MD	Nanoparticle delivery of IL-10 by nebulization as a modulator of ischemia injury in a rodent model of uncontrolled DCD lung procurement	\$3,100	\$2,500
Scott Chicotka, MD	Matthew Bacchetta, MD	External Motor Control Circuit for Autoregulation of Transpulmonary Pressure Gradient During In-Vivo central ECMO Perfusion	\$3,100	\$2,500
Jordan Stern, MD	Roman Nowygrod, MD	Systemic procoagulant response to prosthetic vascular graft implants	\$1,000	
Jiho Han	Koji Takeda, MD	Impact of concomitant tricuspid valve procedures in left ventricular assist device implantation on RV function and tricuspid valve geometry: quantitative 3-d echo assessment	\$1,000	
Olutosin Akanni	Hiroo Takayama, MD	Computational hemodynamic simulation and assessment of ECMO-induced LV distention	\$1,000	
Kunal Suradkar	Emmanouil Pappou N	Multi-drug analgesia versus standard solution for perianal block — A prospective study to determine the Efficacy, Cost and Narcotic consumption in the Post-operative period	\$1,000	
Rose Fu, MD	Christine Hsu Rohde, MD	Effect of Pulsed Electromagnetic Field Therapy or Pectoral Block on Postoperative Pain in Breast Reconstruction Patients	\$1,000	
Barbara Coons, MD	Gudrun Aspelund, MD	Differences in the the outcomes and management of pediatric perforated appendicitis among socioeconomic and racial groups	\$1,000	
			\$100,000	

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## CARDIAC SURGERY

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### Presentations

E Pacard, M Blanchy, MP Foulc, D Kalfa Elastomeric Polymers for Heart Valve Tissue Engineering" Elastopôle Annual Meeting, Paris, France, October 15th, 2015.

### Publications

Chai PJ, George I, Nazif TM, Kalfa DM, Kodali SK, Torres AJ, Vincent JA, Leon MB, Bacha EA. Use of stented bovine pericardial valve for surgical mitral valve replacement in infants. *J Thorac Cardiovasc Surg.* 2015 Sep 18. pii: S0022-5223(15)01742-0. doi: 10.1016/j.jtcvs.2015.09.050. [Epub ahead of print] No abstract available.

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Kurlansky P. Biostatisticians and the future of cardiovascular research. *J Thorac Cardiovasc Surg.* 2015 Oct;150(4):1011. doi: 10.1016/j.jtcvs.2015.07.065. No abstract available.

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Kurlansky P. Internal thoracic artery grafting in the elderly and the challenge to conventional wisdom. *J Thorac Cardiovasc Surg.* 2015 Oct;150(4):900-1. doi: 10.1016/j.jtcvs.2015.07.062. Epub 2015 Jul 26. No abstract available.

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Lewis M, Ginns J, Schulze C, Lippel M, Chai P, Bacha E, Mancini D, Rosenbaum M, Farr M. Outcomes of Adult Patients with Congenital Heart Disease following Heart Transplantation: The Impact of Disease Type, Prior Thoracic Surgeries and Bystander Organ Dysfunction. *J Card Fail.* 2015 Sep 29. pii: S1071-9164(15)01081-7. doi: 10.1016/j.cardfail.2015.09.002. [Epub ahead of print]

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Sorabella RA, Wu YS, Bader A, Kim MJ, Smith CR, Takayama H, Borger MA, George I. Aortic Root Replacement in Octogenarians Offers Acceptable Perioperative and Late Outcomes. *Ann Thorac Surg.* 2015 Oct 17. pii: S0003-4975(15)01367-3. doi: 10.1016/j.athoracsur.2015.08.006. [Epub ahead of print]

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Teuteberg JJ, Slaughter MS, Rogers JG, McGee EC, Pagani FD, Gordon R, Rame E, Acker M, Kormos RL, Salerno C, Schleeter TP, Goldstein DJ, Shin J, Starling RC, Wozniak T, Malik AS, Silvestry S, Ewald GA, Jorde UP, Naka Y, Birks E, Najarian KB, Hathaway DR, Aaronson KD; ADVANCE Trial Investigators. The HVAD Left Ventricular Assist Device: Risk Factors for Neurological Events and Risk Mitigation Strategies. *JACC Heart Fail.* 2015 Oct;3(10):818-28. doi: 10.1016/j.jchf.2015.05.011.

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**EDUCATION**

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## **Publications**

Robich MP, Flagg A, LePar DJ, Odell DD, Stein W, Aftab M, Berfield KS, Eilers AL, Groth SS, Lazar JF, Shah AA, Smith DA, Stephens EH, Stock CT, DeNino WF, Tchanchaleishvili V, Soltesz EG. Understanding Why Residents May Inaccurately Log Their Role in Operations: A Look at the 2013 In-Training Examination Survey. *Ann Thorac Surg*. 2015 Oct 7. pii: S0003-4975(15)01251-5. doi: 10.1016/j.athoracsur.2015.07.047. [Epub ahead of print]

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## **PLASTIC SURGERY**

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### **Presentations**

Ascherman J, Jacoby A, Alizadeh K, Appel J, Berkowitz R, Castle J, Chun Y, Colwell A, Desai A, Downey S, Evans G, Fallucco M, Halperin T, Hollenbeck S, Johnson D, Mohebbi K, Morris D, Stokes T, Sudarsky L, Zeidler K. Aeroform vs saline tissue expansion in breast reconstruction: A prospective multi-center randomized controlled clinical study. American Society of Plastic Surgeons. Boston. October 16, 2015.

Fu R, Weinstein A, Rohde C, Chang M, Argenziano M, Ascherman J. A comparison of sterile sternal wound dehiscence versus infected sternal wound risk factors. Eighty fourth annual meeting of the American Society of Plastic Surgeons. Boston, Massachusetts. October 2015.

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## **THORACIC SURGERY**

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### **Presentations**

Ginsburg ME, Thomashow BM, Bulman, WA, Patel R, Jellen PA, Whippo BA, Sonett JR. Surgical Risk, Functional Outcomes, and Late Survival After Lung Volume Reduction Surgery (LVRS): Report of One Hundred Consecutive Surgical Cases. European Respiratory Society Amsterdam, September 28, 2015.

## **Publications**

Glick D, Dzierba AL, Abrams D, Muir J, Eisenberger A, Diuguid D, Abel E, Agerstrand C, Bacchetta M, Brodie D. Clinically suspected heparin-induced thrombocytopenia during extracorporeal membrane oxygenation. *J Crit Care*. 2015 Aug 1. pii: S0883-9441(15)00428-1. doi: 10.1016/j.jcrc.2015.07.030. [Epub ahead of print]

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Kim J, O'Neill JD, Dorrello NV, Bacchetta M, Vunjak-Novakovic G. Targeted delivery of liquid microvolumes into the lung. *Proc Natl Acad Sci U S A*. 2015 Sep 15;112(37):11530-5. doi: 10.1073/pnas.1512613112. Epub 2015 Aug 31.

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Kato TS, Armstrong HF, Schulze PC, Lippel M, Amano A, Farr M, Bacchetta M, Bartels MN, Di Tullio MR, Homma S, Mancini D. Left and Right Ventricular Functional Dynamics Determined by Echocardiograms Before and After Lung Transplantation. *Am J Cardiol*. 2015 Aug 15;116(4):652-9. doi: 10.1016/j.amjcard.2015.05.027. Epub 2015 May 21.

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Narotsky DL, Mosca MS, Mochari-Greenberger H, Beck J, Liao M, Mongero L, Bacchetta M. Short-term and longer-term survival after veno-arterial extracorporeal membrane oxygenation in an adult patient population: does older age matter? *Perfusion*. 2015 Oct 5. pii: 0267659115609092. [Epub ahead of print]

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Singer JP, Diamond JM, Gries CJ, McDonnough J, Blanc PD, Shah R, Dean MY, Hersh B, Wolters PJ, Tokman S, Arcasoy SM, Ramphal K, Greenland JR, Smith N, Heffernan P, Shah L, Shrestha P, Golden JA, Blumenthal NP, Huang D, Sonett J, Hays S, Oyster M, Katz PP, Robbins H, Brown M, Leard LE, Kukreja J, Bacchetta M, Bush E, D'Ovidio F, Rushefski M, Raza K, Christie JD, Lederer DJ. Frailty Phenotypes, Disability, and Outcomes in Adult Candidates for Lung Transplantation. *Am J Respir Crit Care Med*. 2015 Aug 10. [Epub ahead of print]

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## **Presentations**

Congress Symposium presentation, Kazuhiko Yamada. Chimeric thymus versus antigen presenting thymus for the induction of tolerance: Donor DC's in vascularized thymus grafts play an essential role in the induction of tolerance. Congress of the Asian Society of Transplantation; CAST 2015 Singapore. Aug 24, 2015.

## **Publications**

Thome JJ, Farber DL. Emerging concepts in tissue-resident T cells: lessons from humans. *Trends Immunol.* 2015 Jul;36(7):428-35. doi: 10.1016/j.it.2015.05.003. Epub 2015 Jun 10. Review.

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Trischler J, Shiomi T, Turner DL, Sklepkiwicz PL, Goldklang MP, Tanaka KF, Xu M, Farber DL, D'Armiento JM. Immune Modulation of the T Cell Response in Asthma Through Wnt10b. *Am J Respir Cell Mol Biol.* 2015 Oct 5. [Epub ahead of print]

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Villani V, Yamada K, Scalea JR, Gillon BC, Arn JS, Sekijima M, Tasaki M, Cormack TA, Moran SG, Torabi R, Shimizu A, Sachs DH. Adoptive Transfer of Renal Allograft Tolerance in a Large Animal Model. *Am J Transplant.* 2015 Aug 10. doi: 10.1111/ajt.13424. [Epub ahead of print]

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Weiner J, Griesemer A, Island E, Lobritto S, Martinez M, Selvaggi G, Lefkowitz J, Velasco M, Tryphonopoulos P, Emond J, Tzakis A, Kato T. Long-Term Outcomes of Auxiliary Partial Orthotopic Liver Transplantation in Pre-Adolescent Children with Fulminant Hepatic Failure. *Liver Transpl.* 2015 Oct 19. doi: 10.1002/lt.24361. [Epub ahead of print]

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Yu M, Owens DM, Ghosh S, Farber DL. Conditional PDK1 Ablation Promotes Epidermal and T-Cell-Mediated Dysfunctions Leading to Inflammatory Skin Disease. *J Invest Dermatol.* 2015 Jun 22. doi: 10.1038/jid.2015.232. [Epub ahead of print]



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Columbia University  
Department of Surgery  
630 West 168th Street  
Box 94  
New York, NY 10032  
[info@columbiasurgery.org](mailto:info@columbiasurgery.org)

