

CURRICULUM VITAE

Youngjae Chun, Ph.D.

Associate Professor

Department of Industrial Engineering

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A. Education

Ph.D., University of California, Los Angeles, 2009

Major: Mechanical Engineering

Specialty: Biomedical Devices, MEMS/Nanotechnology

Advisor: Professor Gregory P. Carman, Daniel S. Levi

M.S., University of California, Los Angeles, 2007

Major: Mechanical Engineering

Specialty: MEMS/Nanotechnology

Advisor: Professor Gregory P. Carman

M.S., Inha University, Graduate Dean's Award for Research Excellence, 2005

Major: Mechanical Engineering

Specialty: Advance Manufacturing Technology

Advisor: Professor Eun-Sang Lee

B.S., Inha University, 2003

First Major: Mechanical & Aerospace Engineering

Second Major: Business Administration (B.A.)

B. Professional Positions Held

9/2017 – current

Associate Professor and Director of the Medical Device Manufacturing Laboratory

Department of Industrial Engineering, University of Pittsburgh

Secondary Appointment in Department of Bioengineering

Secondary Appointment in Clinical and Translational Science Institute

Courtesy Appointment in McGowan Institute for Regenerative Medicine

- 9/2011 – 08/2017 **Assistant Professor and Director of the Medical Device Manufacturing Laboratory**
 Department of Industrial Engineering, University of Pittsburgh
 Secondary Appointment in Department of Bioengineering
 Secondary Appointment in Clinical and Translational Science Institute
 Courtesy Appointment in McGowan Institute for Regenerative Medicine
- 6/2009 – 5/2011 **Postdoctoral Research Fellow, Chancellor's Award for Postdoctoral Research**
 Department of Mechanical Engineering
 Joint appointment in The Center for Advanced Surgical and Interventional Technology, David Geffen School of Medicine
 University of California, Los Angeles
- 11/2006 – 5/2009 **Research Assistant**
 Department of Mechanical Engineering
 University of California, Los Angeles

C. Publications

C1. Refereed Publications

(i) Refereed Journal Papers

1. Minjeong Park, Youngjae Chun, Seonpil Kim, Keun Yong Sohn, and Minhyon Jeon. (2022) Effect of Hexagonal Boron Nitride Insulating Layers on the Driving Performance of Ionic Electroactive Polymer Actuators for Light-Weight Artificial Muscles. ***International Journal of Molecular Sciences***. 23(9):4981, 1-10.
2. Moataz Elsisy, Bryan W. Tillman, Lynn Chou[‡], Catherine Go, Sung Kwon Cho, Youngjae Chun. (2022) *In Vitro* and *In Vivo* Assessment of a Novel Organ Perfusion Stent (OPS) for Successful Flow Separation in Donation after Cardiac Death. ***Journal of Biomaterials Applications***. 0(0), 1-13.
3. Go, Catherine, Larry Fish, Youngjae Chun, Louis Alarcon, Bryan W. Tillman. (2022) The Anchor Point Algorithm: A Morphometric Analysis of Anatomic Landmarks to Guide Placement of Temporary Aortic Rescue Stentgrafts for Non-Compressible Thorso Hemorrhage. ***The Journal of Trauma and Acute Care Surgery***
4. Catherine Go, Moataz Elsisy, Brian Frenz, J.B. Moses, Amit D. Tevar, Anthony J. Demetris, Youngjae Chun, Bryan W. Tillman. (2021) A retrievable, dual chamber stent protects against warm ischemia of donor organs in a model of donation after circulatory death. ***Surgery***. 171(4), 1100-1107.
5. Moataz Elsisy, Mahdis Shayan, Yanfei Chen[†], Bryan W. Tillman, Catherine Go, and Youngjae Chun. (2021) Assessment of mechanical and biocompatible performan

ce of ultra large nitinol endovascular devices fabricated via a low energy laser joining process, **Journal of Biomaterials Applications**, 36(2), 332-345.

6. Jingyao Wu, Leila J. Mady, Abhijit Roy, Ali Mubin Aral, Boeun Lee, Feng Zheng, Toma Catalin, Youngjae Chun, William R. Wagner, Ke Yang, Humberto E. Trejo Bittar, David Chi, and Prashant N. Kumta. (2020) *In-vivo* efficacy of biodegradable ultra-high ductility Mg-Li-Zn alloy stents for pediatric airway obstruction. **Nature Communications Biology**, 3(787), 1-11.
7. Catherine Go, Moataz Elsisy, Youngjae Chun, Parthasarathy D. Thirumala, William W. Clark, Sung Kwon Cho, Anthony J. Demetris, and Bryan W. Tillman. (2020) A three-tier Rescue stent improves outcomes over balloon occlusion in a porcine model of noncompressible hemorrhage. **Journal of Trauma and Acute Care Surgery**, 89(2), 320-328.
8. Moataz Elsisy, Bryan W. Tillman, Catherine Go, Jenna Kuhn, Sung K. Cho, William C. Clark, Junkyu Park, and Youngjae Chun. (2020) Comprehensive Assessment of Mechanical Behavior of an Extremely Long Stent Graft to Control Hemorrhage in Torso. **Journal of Biomedical Materials Research Part B: Applied Biomaterials**, 1-12.
9. Mahdis Shayan, Neil Gildener–Leapman, Moataz Elsisy, Jack T. Hastings, Shinjae Kwon, Woon-Hong Yeo, Jee-Hong Kim, Puneeth Shridhar, Gabrielle Salazar, and Youngjae Chun. (2019) Use of Superelastic Nitinol and Highly-Stretchable Latex to Develop a Tongue Prosthetic Assist Device and Facilitate Swallowing for Dysphagia Patients. **Materials**, 12(21), 3555.
10. Youngjae Chun, Yanfei Chen, Moataz Elsisy, Joseph Sukinik, Puneeth Shridhar, Jun-Kyu Park, Yong Bae Kim, Chang-Ki Hong, and Joonho Chung. (2019) *In vitro* and *in vivo* experiments of a novel intra-arterial neurovascular decompressor for treating neurovascular compression syndromes: a brief report. **Neurological Research**, 41(7), 665-670.
11. Byeong K. Kim, Jae Ung Cho, Kwang Young Jeong, Youngjae Chun, Gregory P. Carman, Seong S. Cheon. (2019) A coupled constitutive relation with impulse–momentum for compressive impact behavior of the expanded polypropylene foam, **Polymer Engineering and Science**, 59(1), 49-57.
12. Catherine Go, Youngjae Chun, Jenna Kuhn, Yanfei Chen, Sung Kwon Cho, William W. Clark, Bryan W. Tillman. (2018) Damage control of caval injuries in a porcine model using a retrievable Rescue stent. **Journal of Vascular Surgery: Venous and Lymphatic Disorders**, 6(5), 646-656.
13. Connor Howe, Saswat Mishra, Yun-Soung Kim, Yanfei Chen, Sang-Ho Ye, William R. Wagner, Jae-Woong Jeong, Hun-Soo Byun, Jong-Hoon Kim, Youngjae Chun, and Woon-Hong Yeo. (2018) Stretchable, Implantable, Nanostructured Flow–Diverter System for Quantification of Intra-aneurysmal Hemodynamics, **ACS NANO**, 12(8), 8706-8716.
14. Yongkuk Lee, Connor Howe, Saswat Mishra, Dong Sup Lee, Musa Mahmood, Matthew Piper, Youngbin Kim, Katie Tieu, Hun-Soo Byun, James P. Coffey, Mahdis Shayan[†], Youngjae Chun, Richard M. Costanzo, and Woon-Hong Yeo. (2018) Wireless, intraoral hybrid electronics for real-time quantification of sodium intake toward hypertension management, **Proceedings of the National Academy of Sciences (PNAS)**, 115(21), 5377-5382.

15. Yanfei Chen, Yun-Soung Kim, Bryan W. Tillman, Woon-Hong Yeo, and Youngjae Chun. (2018) Advances in Materials for Recent Low-Profile Implantable Bioelectronics, **Materials**, 11(4), 522.
16. Saswat Mishra, James J.S. Norton, Yongkuk Lee, Dong Sup Lee, Nicolas Agee, Yanfei Chen, Youngjae Chun, and Woon-Hong Yeo. (2017) Soft, conformal bioelectronics for a wireless human-wheelchair interface. **Biosensors and Bioelectronics**, 91(15), 796-803.
17. Yongkuk Lee, Benjamin Nicholls, Dong Sup Lee, Yanfei Chen, Youngjae Chun, Chee Siang Ang, and Woon-Hong Yeo. (2017) Soft Electronics Enabled Ergonomic Human-Computer Interaction for Swallowing Training. **Scientific Reports**, 7, 46697.
18. Youngjae Chun, Colin P Kealey, Daniel S Levi, David A Rigberg, Yanfei Chen, Bryan W. Tillman, KP Mohanchandra, Mahdis Shayan, and Gregory P Carman. (2017) An *in vivo* pilot study of a microporous thin film nitinol-covered stent to assess the effect of porosity and pore geometry on device interaction with the vessel wall. **Journal of Biomaterials Applications**, 31(8), 1196-1202.
19. Youngjae Chun, Sung Kwon Cho, William W. Clark, William R. Wagner, Xinzhu Gu, Amit D. Tevar, Ryan M. McEnaney, Bryan W. Tillman. (2017) A retrievable rescue stent graft and radiofrequency positioning for rapid control of noncompressible hemorrhage. **J Trauma Acute Care Surg**, 83(2), 249-255.
20. Mahdis Shayan, Brian T. Jankowitz, Puneeth Shridhar, and Youngjae Chun. (2016) Use of Micropatterned Thin Film Nitinol in Carotid Stents to Augment Embolic Protection. **Journal of Functional Biomaterials**, 7(4), 34.
21. Mahdis Shayan, Yanfei Chen, Puneeth Shridhar, Colin P. Kealey, and Youngjae Chun. (2016) *In Vitro* Study of a Superhydrophilic Thin Film Nitinol Endograft that is Electrostatically Endothelialized in the Catheter Prior to the Endovascular Procedure. **Journal of Functional Biomaterials**, 7(4), 31.
22. Yanfei Chen, Bryan W. Tillman, Sung Kwon Cho, Tara D. Richards, Amit D. Tevar, Xinzhu Gu, William R. Wagner, and Youngjae Chun. (2016) A novel compartmentalized stent graft to isolate the perfusion of the abdominal organs. **Journal of Medical Engineering & Technology**, 41(2), 141-150.
23. Puneeth Shridhar, Yanfei Chen, Ramzi Khalil, Anton Plakseychuk, Sung Kwon Cho, Bryan Tillman, Prashant N. Kumta, and Youngjae Chun. (2016) A Review of PMMA Bone Cement and IntraCardiac Embolism. **Materials**, 9(10): 821.
24. Bryan W. Tillman, Youngjae Chun, Sung Kwon Cho, Yanfei Chen[†], Nathan Liang, Timothy Maul CCP, Anthony Demetris, Xinzhu Gu, William R. Wagner, and Amit D. Tevar (2016). Dual Chamber Stent Prevents Organ Malperfusion in a Model of Donation after Cardiac Death. **Surgery**, 160(4), 892–901.
25. Yanfei Chen, Mahdis Shayan, Woon-Hong Yeo, and Youngjae Chun. Assessment of Endothelial Cell Growth Behavior in Thin Film Nitinol. **Biochip Journal**, 1-7. (DOI: 10.1007/s13206-016-1106-7).
26. Mahdis Shayan, Marzyeh Moradi, Anton Y. Plakseychuk, Ravi Shankar, and Youngjae Chun (2016). Osteoblast Cell Response to Oxide Films Formed on Nanograin 316L Stainless Steel Obtained by Two-dimensional Linear Plane-strain Machining. **Materials Letters**, 177(15), 94–98.

27. Yanfei Chen, Connor Howe, Yongkuk Lee, Seongsik Cheon, Woon-Hong Yeo, and Youngjae Chun (2016). Microstructured Thin Film Nitinol for a Neurovascular Flow-Diverter. **Scientific Report**, 6: 23698, 1-10. (DOI: 10.1038/srep23698).
28. Yanfei Chen, Stephen P. Emery, Antonina P. Maxey, Xinzhu Gu, William R. Wagner, and Youngjae Chun^s (2016). A Novel Low-Profile Ventriculoamniotic Shunt for Fetal Aqueductal Stenosis. **Journal of Medical Engineering & Technology**, 40(4), 186–198.
29. M.H. Babiker, Y. Chun, B. Roszelle, W. Hafner, H. Y. Farsani, L.F. Gonzalez, F. Albuquerque, C. Kealey, D.S. Levi, G.P. Carman, and D.H. Frakes (2016). *In Vitro* Investigation of a New Thin Film Nitinol-Based Neurovascular Flow Diverter. **ASME Journal of Medical Devices**. (DOI: 10.1115/1.4033015).
30. Mahdis Shayan, Sungyeun Yang, WonHyoung Ryu, and Youngjae Chun. (2015) A Novel Low-Profile Thin Film Nitinol/Silk Endograft for Treating Small Vascular Diseases. **Journal of Biomedical materials research Part B: Applied Biomaterials**, 1-10. (DOI: 10.1002/jbm.b.33548).
31. Mahdis Shayan and Youngjae Chun. (2015). An overview of thin film nitinol endovascular devices. **Acta Biomaterialia**, 21, 20–34.
32. Yanfei Chen, Brian T. Jankowitz, Sung Kwon Cho, Woon-Hong Yeo, and Youngjae Chun. (2015) A Novel Low-Profile Flow Sensor for Monitoring of Hemodynamics in Cerebral Aneurysm. **Biomaterials and Biomedical Engineering**, 2(2), 71–84.
33. Matthew M. Barry, Mahdis Shayan[†], Brian T. Jankowitz, Yanfei Chen, Xinjie Duan, Anne M. Robertson, Minking K. Chyu, and Youngjae Chun (2015). Smart Guidewires for Smooth Navigation in Neurovascular Intervention. **ASME Journal of Medical Devices**, 9(1), 1–9.
34. Rupal I. Mehta, Rashi I. Mehta, and Youngjae Chun (2014). Hydrophilic polymer embolism (HPE): an under-recognized iatrogenic cause of ischemia, inflammation and coagulopathy. **Human Pathology**, 46(3), 488–489.
35. Brian T. Jankowitz, Mahdis Shayan, Anne M. Robertson and Youngjae Chun (2014). *In vitro* assessment of the trackability of neurovascular intermediate catheters: a comparative analysis. **Journal of Medical Engineering & Technology**, 38(8), 379–384.
36. Mahdis Shayan, Youngjae Chun, Woonchul Lim, Minuk Lee, Tae Hee Lee, Byung-Hyun Min, and Dong-Gung Lee (2014). Computational Analysis of the Regenerated Knee Structure after Bone Marrow Stimulation Techniques. **Journal of Mechanics in Medicine and Biology**, 15(3), 1–11.
37. Mahdis Shayan, Youngsoo Jung, Po-Shun Huang, Marzyeh Moradi, Anton Y. Plakseychuk, Jung-Kun Lee, Ravi Shankar, and Youngjae Chun (2014). Improved Osteoblast Response to UV-Irradiated PMMA/TiO₂ Nanocomposites with Controllable Wettability. **Journal of Materials Science: Materials in Medicine**, 25(12), 2721–2730.
38. Yongha Kim, Youngjae Chun, and Seong S. Cheon (2014). Shear directional impact characteristics of adhesively bonded tubular joints. **Advanced Composite Materials**, 24(3), 287–295.

39. Youngjae Chun and Bopaya Bidanda (2013). Sustainable manufacturing and the role of the International Journal of Production Research. ***International Journal of Production Research***, 51(23-24), 7448–7455.
40. C.P. Kealey, Y.J. Chun, F.E. Viñuela, K.P. Mohanchandra, G.P. Carman, F. Viñuela, D.S. Levi (2012). *In vitro* and *in vivo* testing of a novel, hyperelastic thin film nitinol of flow diversion stent. ***Journal of Biomedical Materials Research Part B: Applied Biomaterials***, 100(3), 718–725.
41. Allan W. Tulloch, Youngjae Chun, Daniel S. Levi, Kotekar P. Mohanchandra, Gregory P. Carman, Peter F. Lawrence, and David A. Rigberg (2011). Super hydrophilic thin film nitinol demonstrates reduced platelet adhesion compared with commercial ly available endograft materials. ***Journal of Surgical Research***, 171(1), 317–322.
42. Youngjae Chun, Po-Yu Lin, Hsin-Yun Chang, Michael C. Emmons, K.P. Mohanchandra, Daniel S. Levi, and Gregory P. Carman (2011). Modeling and experimental analysis of the hyperelastic thin film nitinol. ***Journal of Intelligent Material Systems and Structures***, 22(17), 2045–2051.
43. Youngjae Chun, Soojung Claire Hur, Colin P Kealey, Daniel S Levi, K P Mohanchandra, Dino Di Carlo, Jeff D Eldredge, Fernando Vinuela, and Gregory P Carman (2011). Intra-Aneurysmal Flow Reductions in a Thin Film Nitinol Flow Diverter. ***Smart Materials and Structures***, 20(5), 1–10.
44. Kotekar P. Mohanchandra, Youngjae Chun, Sergey V. Prikhodko, and Gregory P. Carman (2011). TEM characterization of super-hydrophilic Ni-Ti thin film. ***Materials Letters***, 65(8), 1184–1187.
45. C.P. Kealey, S.A. Whelan, Y.J. Chun, C. H. Soojung, A.W. Tulloch, K.P. Mohanchandra, D. Di Carlo, D.S. Levi, G.P. Carman, D.A. Rigberg (2010). *In vitro* hemocompatibility of thin film nitinol in stenotic flow conditions. ***Biomaterials***, 31(34), 8864-8871.
46. Y J Chun, D S Levi, K P Mohanchandra, M C Fishbein and G P Carman (2010). Novel micro-patterning processes for thin film NiTi vascular devices. ***Smart Materials and Structures***, 19(10), 1–9.
47. Youngjae Chun, Daniel S. Levi, K.P. Mohanchandra, Gregory P. Carman (2009). Superhydrophilic surface treatment for thin film NiTi vascular applications. ***Materials Science and Engineering: C***, 29(8), 2436–2441.
48. David Rigberg, Allan Tulloch, Youngjae Chun, Kotekar Panduranga Mohanchandra, Greg Carman, Peter Lawrence (2009). Thin-film nitinol (NiTi): A feasibility study for a novel aortic stent graft material. ***Journal of Vascular Surgery***, 50(2), 375–380.
49. (*Front Cover*) Youngjae Chun, Daniel S. Levi, K.P. Mohanchandra, Fernando Vinuela, Fernando Vinuela, Jr., Gregory P. Carman (2009). Thin film nitinol microstent for aneurysm occlusion. ***ASME Journal of Biomechanical Engineering***, 131(5), 1–8.
50. Eun Sang Lee, Y.J. Chun, J.Y. Jang, Myeong Woo Cho, Won Seung Cho, and J.H. Lee (2007). In-Process Electrolytic Dressing Lapping (IEDL) of Al₂O₃-BN Machinable Ceramics. ***Key Engineering Materials***, 336, 1473–1476.

51. Eun Sang Lee, J.H. Lee, W.M. Kim, and Y.J. Chun, (2005). Removal of micro burr by using Electrolytic-deburring. ***Journal of the Korean Society of Precision Engineering***, 22(9), 20–26.
52. Eun Sang Lee, Y.J. Chun and N.K. Kim (2005). A study on the optimum condition selection of rotary dressing system of ultra-precision centerless grinding machine for ferrule fabrication. ***Key Engineering Materials***, 291–292, 189–194.

(ii) Refereed Clinical Case Reports

1. Puneeth Shridhar, Ramzi Khalil, Triston Smith, Gustav Eles, David Lasorda, Young Jae Chun. (2016) Mechanical Thrombectomy in Post-Transplant Heart. *World Journal of Cardiovascular Diseases*, 06, 338-341, October 10, 2016.
2. Puneeth Shridhar, Sina Omran, Raef Hajjali, David Lasorda, Ramzi Khalil, Young Jae Chun. (2016) Transient Mid Ventricular Ballooning Due to Bad Dream in a Post menopausal Woman. *World Journal of Cardiovascular Diseases*, 06(10), October 10, 2016.
3. Puneeth Shridhar, Triston Smith, Ramzi Khalil, Gustav Eles, David Lasorda, and Young Jae Chun. (2016) Acute Stent Thrombosis Following Concomitant Balloon Aortic Valvuloplasty and Percutaneous Coronary Intervention. *World Journal of Cardiovascular Diseases*, 06(10), October 10, 2016.
4. Puneeth Shridhar, Triston Smith, Ramzi Khalil, David Lasorda, and Young Jae Chun. (2016) Exclusion of Giant Coronary Artery Aneurysm with Covered Stent Combined with Coil Embolization of Vessel Outflow. *Medical Case Reports*, 2 (3), September 30, 2016.
5. Puneeth Shridhar, Triston Smith, Ramzi Khalil, David Lasorda, Young Jae Chun. (2016) A Unique Case of Successful Mechanical Thrombectomy and Stenting of Cabrol Graft: A Case Report. *World Journal of Cardiovascular Diseases*, 6(9), 295-299, September 2016.
6. Shridhar P, Lasorda D, Chun YJ. (2016) Interleukin-2 Induced Atrioventricular Dissociation. *International Journal of Collaborative Research on Internal Medicine & Public Health*, 8(8), 510-511, August 2016.
7. P. Shridhar, R. Khalil, D. Lasorda, and Y. Chun. (2016) Lenalidomide induced stroke in multiple myeloma. *Journal of Integrative Cardiology*, 2(6), 2016.

(iii) Papers in Fully Refereed Conference Proceedings

1. Moataz Elsisy, Robert Herbert, Woon-Hong Yeo, John John J. Pacella, and Youngjae Chun. (2021) Development of a nanosensor-integrated stent for wireless, continuous monitoring of restenosis progression, *SPIE Smart Materials & NDE*, Virtual, March 10-13, 2021.
2. Tae-Bong Hur, William W. Clark, Youngjae Chun, Catherine Go, Bryan Tillman, Sung Kwon Cho. (2019) Improving Structural Strength and Stability of Parylene-Based Capacitive Micro Pressure Sensor using Corrugated Sidewall. *MEMS 2019*, Seoul, Korea, Jan. 27-31, 2019.

3. Yanfei Chen, Connor Howe, Stephen Emery, Stephanie Greene, Puneeth Shridhar , Woon-Hong Yeo, Youngjae Chun. (2017) A low-profile flow sensing system for monitoring of cerebrospinal fluid with a new ventriculoamniotic shunt. *IEEE Electronic Components and Technology Conference*, Lake Buena Vista, Florida, May 30–June 2, 2017.
4. Connor Howe, Yongkuk Lee, Yanfe Chen, I. Guven, Youngjae Chun, and Woon-Hong Yeo. (2016) Microstructured thin film nitinol for a smart flow-diverter. *In Proceedings of the 2016 IEEE Electronic Components and Technology Conference*, Las Vegas, NV, May 31–June 3, 2016.
5. Mahdis Shayan, Marzyeh Moradi, Ravi Shankar, Youngjae Chun (2015). Enhanced Osteoblast Cell Growth on the Nanograin Surface. *In Proceedings of the 2015 Industrial and Systems Engineering Research Conference*, Nashville, TN, May 30–June 2.
6. Yanfei Chen, Matthew M. Barry, Mahdis Shayan, Brian T. Jankowitz, Xinjie Duan, Anne M. Robertson, Minking Chyu and Youngjae Chun (2015). Smart Guidewires for Smooth Navigation in Neurovascular Intervention. *In Proceedings of the 2015 SPIE Smart Structures and Materials and Nondestructive Evaluation and Health Monitoring*, San Diego, CA, March 8–12.
7. Yanfei Chen, Brian T. Jankowitz, Sung Kwon Cho and Youngjae Chun (2015). A Novel Low Profile Wireless Flow Sensor to Monitor Hemodynamic Changes in Cerebral Aneurysm. *In Proceedings of the 2015 SPIE Smart Structures and Materials and Nondestructive Evaluation and Health Monitoring*, San Diego, CA, March 8–12.
8. Youngjae Chun, Soojung Claire Hur, Colin P. Kealey, Daniel S. Levi, K.P. Mohanchandra, Dino Di Carlo, and Gregory P. Carman (2011). A Novel Hyper-Elastic Thin Film Nitinol Covered Stent Significantly Decreases Intra-Aneurysmal Flow *In Vitro*. *In Proceedings of the 2011 SPIE Smart Structures and Materials and Nondestructive Evaluation and Health Monitoring*, San Diego, CA, March 6–10.
9. Youngjae Chun, H.Y. Chang, P.Y. Lin, Daniel S. Levi, K.P. Mohanchandra, Michael C. Emmons, Meonghoon Seong, Allan W. Tulloch, Colin P. Kealey, David A. Rigberg, Peter F. Lawrence, and Gregory P. Carman (2010). Computational Modeling and Experimental Characterization of Hyper-Elastic Thin Film NiTi for Neurovascular Microstent Applications. *In Proceedings of the 2010 ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems*, Philadelphia, PA, September 28–October 1.
10. Youngjae Chun, Daniel S. Levi, K.P. Mohanchandra, Allan W. Tulloch, David A. Rigberg, Fernando Vinuela, Fernando Vinuela Jr., and Gregory P. Carman (2010). Novel Fabrication Processes for Thin Film Nitinol Endografts and Evaluation of Endothelialization in Swine Model. *In Proceedings of the 2010 SPIE Smart Structures and Materials and Nondestructive Evaluation and Health Monitoring*, San Diego, CA, March 7–11.
11. Youngjae Chun, Daniel S. Levi, K.P. Mohanchandra and Gregory P. Carman (2009). Fabrication Processes for Creating Micro Features in Thin Film NiTi Endovascular Grafts. *In Proceedings of the 2009 ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems*, Oxnard, CA, September 20–24.

12. Youngjae Chun, Daniel S. Levi, K.P. Mohanchandra, and Gregory P. Carman (2009). Superelastic NiTi Thin Film Small Vessel Graft for Vascular Repair. *In Proceedings of the SPIE Smart Structures and Materials and Nondestructive Evaluation and Health Monitoring*, Vol. 7288, San Diego, CA, March 8–12.
13. Youngjae Chun, Daniel S. Levi, K.P. Mohanchandra, and Gregory P. Carman (2008). Thin Film Nitinol Microstent for Aneurysm Occlusion. *In Proceedings of the 2008 ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems*, 2008-389, Ellicott City, MD, October 28–30.
14. Eun Sang Lee, Youngjae Chun, and N.K. Kim (2005). A study on the optimum condition selection of rotary dressing system of ultra-precision centerless grinding machine for ferrule fabrication. *In Proceedings of the 2005 International Committee for Abrasive Technology*, St. Petersburg, Russia, May 20–24.

iv) Patents and other intellectual property created

1) Patent Cooperation Treaty (PCT) and Provisional Patents

1. William W. Clark, Yifan Zhang, Youngjae Chun, Bryan W. Tillman, Sung Kwon Cho. Magnetic Location Detection. Provisional Patent Application No. 63/340,309, Priority date: May 10, 2022.
2. W.R. Wagner, S. Kim, Y. Chun, K.W. Nowicki. Bioabsorbable metallic alloy coils coated with a polyurethane-based on fatty amide functional groups for treating intracranial aneurysms (IA) and Renal artery aneurysms (RAAs). Provisional Patent Application No. 63/288,847, Priority date: December 12, 2021.
3. Y. Chun, M. Elsisy, J. Pacella, W. Yeo, R. Herbert. An arterial pulsation based vascular mechanical property monitoring system for radially expandable self-expanding endoprotheses. Provisional Patent Application No. 63/156466, Priority Date: March 4, 2021.
4. B.W. Tillman, Y. Chun. A multi-lumen implantable device. Patent Application No. PCT/US2021/014661, Priority date: January 22, 2021.
5. C. Toma, W.R. Wagner, A. D'Amore, Y. Chun. Valved Stent for The Treatment of Tricuspid Regurgitation. Application No. PCT/US2020/039583, Priority date: June 28, 2019, Publication No. WO 2020/264136 A1, Publication date: December 30, 2020.
6. B.W. Tillman, Y. Chun, C. Go. Electromagnetic system for rapid cannulation of fenestrated endovascular grafts. Provisional Patent Application No. 16/957,646, Priority date: June 25, 2020.
7. Y. Chun, S. Emery, S. Greene, and J. Suknik. Ventriculoamniotic shunt for fetal aqueductal stenosis. Application No. PCT/US2020/035072, Priority date: May 29, 2019, Publication No. WO2020243394A1, Publication date: December 03, 2020.
8. B.W. Tillman, Y. Chun, A. Tevar. Endovascular apparatus for perfusing organs in a body. Provisional Patent Application No. 16/397,704, Priority date: April 29, 2019.
9. Y. Chun, P. Carullo. Esophageal temporary occlusion device and method for endotracheal intubation and orogastric tube insertion. Application No. PCT/US2017/057139, Priority date: October 18, 2016, Publication No. WO2018075616A1, Publication date: April 26, 2018.

10. Y. Chun, B.T. Jankowitz, S. Cho, Y. Chen, W. Yeo, Y. Lee, C. Howe. Novel ultra-low profile wireless flow sensors to monitor hemodynamic alterations in the vascular system. Application No. PCT/US2017/03462, Priority date: May 27, 2016, Publication No. WO2017205718A1, Publication date: November 30, 2017.
11. Y. Chen, Y. Chun, S. Emery, X. Gu, W.R. Wagner, S. Greene. A novel low-profile ventriculoamniotic shunt for fetal aqueductal stenosis. Application No. PCT/US2016/056751, Priority date: October 14, 2015, Publication No. WO2017066389A1 Publication date: April 20, 2017.
12. J. Chung, Y. Chun. A device for changing the course of a vessel. Patent Application No. KR 10-2016-0165953, Priority date: March 15, 2017.
13. V. Badhwar, Y. Chun, A. D'Amore, D.S. Schwartzman, W.R. Wagner. Retrievable self-expanding non-thrombogenic low-profile percutaneous atrioventricular valve prosthesis. Application No. PCT/US2016/019849, Priority date: March 16, 2015, Publication No. US10583004B2, Publication date: September 01, 2016.
14. V. Badhwar, Y. Chun, A. D'Amore, W.R. Wagner. Double component mandrel for electrospun stentless, multi-leaflet valves fabrication. Application No. PCT/US2016/019837, Publication No. WO2016138416A1, Priority date: March 16, 2015, Publication date: September 01, 2016.
15. Y. Chun, W.R. Wagner, X. Gu, P. Wearden, and T. Yoshizumi. Superelastic, Bioabsorbable Endovascular Devices. Application No. PCT/US2015/60064, Publication No. WO 2016/077410, Priority date: November 11, 2015, Publication date: May 19, 2016.
16. B.W. Tillman, A. Tevar, and Y. Chun. Endovascular Apparatus for Perfusing Organs in a Body. Application No. PCT/US2014/068116, Publication No. WO2015119705 A1, Priority date: February 4, 2014, Publication date: August 13, 2015.
17. Y. Chun and N. Gildener-Leapman. Intra-Oral Prostheses and Other Anatomical Prostheses. Application No. PCT/US2015/017642, Priority date: February 27, 2014, Publication No. WO2015130879 A1, Publication date: September 3, 2015.
18. B.W. Tillman, W. Clark, S.K. Cho, and Y. Chun. Perfusion Device for Treating an Injured Blood Vessel. Application No. PCT/US2014/904,063, Priority date: July 12, 2013, Publication No. WO2015006607 A1, Publication date: January 15, 2015.
19. D.S. Levi, G.P. Carman, A.W. Tulloch, and Y. Chun, and C.P. Kealey. Thin Film Vascular Stent for Arterial Disease. Application No. PCT/US2014/018410, Priority date: February 25, 2013, Publication No. WO2014131037 A1, Publication date: August 28, 2014.
20. G.P. Carman, D.S. Levi, Y. Chun, and F. Vinuela. Ultra-Low Fractional Area Coverage Flow Diverter for Treating Aneurysms and Vascular Diseases. Application No. US 2011037988 W, Priority date: May 25, 2010, Publication No. WO2011150118 A3, Publication date: April 5, 2012.
21. D.S. Levi, G.P. Carman, Y. Chun, and F. Vinuela. Thin Film Vascular Stent and Biocompatible Surface Treatment. Application No. PCT/US2010/026430, Priority date: March 6, 2009, Publication No. WO2010102254 A2, Publication date: September 10, 2010.

v) Invited Conference Presentations

1. Youngjae Chun, Moataz Elsisy, Robert Herbert, and Woon-Hong Yeo. A novel microsensor embedded coronary artery stent to continuously monitor in-stent restenosis. *The 6th International Conference on Active Materials and Soft Mechatronics*, Georgia Tech, Atlanta, GA, October 26-29, 2022. (*Scheduled*)
2. Youngjae Chun, Moataz Elsisy, and Bryan W. Tillman (2022). Use of Nitinol for Novel Endovascular Device Research. Biomaterials Session, TERMIS AP, ICC Jeju, South Korea, October 5-8, 2022. (*Scheduled*)
3. Youngjae Chun, Moataz Elsisy, Robert Herbert, and Woon-Hong Yeo. A novel microsensor embedded coronary artery stent to continuously monitor in-stent restenosis. IEEE NEMS, Virtual Conference, April 14-17, 2022.
4. Youngjae Chun. Novel endovascular devices used in non-compressible hemorrhage and organ perfusion. Orange County, Garden Grove, CA, December 15-18, 2021.
5. Youngjae Chun. Translational Medical Device Research using Superelastic Nitinol. 29th International Conference on Adaptive Structures and Technologies, Seoul, South Korea, September 30-October 4th, 2018.
6. Youngjae Chun. Smart Material Based Translational Research on Medical Devices. UKC 2021, Orange County, Garden Grove, CA, December 15-18, 2021.
7. Youngjae Chun. Translational Endovascular Device Research using Superelastic Nitinol. IISE Annual Conference, Orlando, FL, May 18-22, 2018.
8. Youngjae Chun. Intelligent Bio-Manufacturing for the Rapid Translation of Advanced Medical Devices, 2017 McGowan Institute for Regenerative Medicine Retreat, Nemaquin Woodlands Resort, March 5-7, 2017.
9. Mahdis Shayan, Brian T. Jankowitz, and Youngjae Chun (2016). A Novel Thin Film Nitinol Covered Stent for Treating Atherosclerotic Carotid Artery Stenosis. *Advances in Functional Materials*, Jeju, South Korea, August 8–11.
10. Yanfei Chen, Connor Howe, Youngjae Chun, and Woon-Hong Yeo (2016). Mechanical Behavior of a Microstructure Thin Film Nitinol. *Advances in Functional Materials*, Jeju, South Korea, August 8–11.
11. Yanfei Chen, Mahdis Shayan, and Youngjae Chun (2015). Implantable Nitinol Medical Devices. *US-Korea Conference on Science, Technology, and Entrepreneurship*. Atlanta, GA, July 29–August 2.
12. Mahdis Shayan, S.Y. Yang, W.H. Ryu, and Youngjae Chun (2014). A Novel Thin Film Nitinol/Silk Endograft for Treating Small-Caliber Vascular Diseases. *Industrial and Systems Engineering Research Conference*, Montreal, Canada, May 31–June 3.
13. Neil Gildener-Leapman, Mahdis Shayan, Gabrielle Salazar, and Youngjae Chun (2014). A Novel Mechanical Nitinol Prosthetic Tongue. *Industrial and Systems Engineering Research Conference*, Montreal, Canada, May 31–June 3.

vi) Contributed Conference Presentations

1. D. Kenawy, M. Elsisy, Y. Chun, M. Garcia-Neuer, M. Abdel-Rasoul, W.C. Clark, B.W. Tillman. (2022) A Magnetic Sensor-Equipped Retrievable Aortic Rescue Stent Graft for Non-Compressible Torso Hemorrhage, ACS Clinical Congress, San Diego, CA, October 16-20, 2022. (*Abstract accepted*)
2. D. Kenawy, M. Elsisy, Y. Chun, M. Garcia-Neuer, M. Abdel-Rasoul, W.C. Clark, B.W. Tillman. (2022) A Magnetic Sensor-Equipped Retrievable Aortic Rescue Stent Graft for Non-Compressible Torso Hemorrhage, 2022 Vascular Annual Meeting, Boston, MA, June 15-18, 2022. (*Abstract accepted*)
3. D. Kenawy, M. Elsisy, Y. Chun, M. Garcia-Neuer, M. Abdel-Rasoul, W.C. Clark, B.W. Tillman. (2022) A Magnetic Sensor-Equipped Retrievable Aortic Rescue Stent Graft for Non-Compressible Torso Hemorrhage, Seattle, WA, May 12-14, 2022.
4. M. Elsisy, S. Kim, S. Ye, K. Chung, W.R. Wagner, Y. Chun. (2022) Synergistically Enhanced Functions of Superelastic Nitinol and Biodegradable Metals to Develop a Growing Percutaneous Heart Valve Frame for The Pediatric Patients. *Society For Biomaterials*, Baltimore, MD, April 27-30, 2022.
5. M. Elsisy, B.W. Tillman, L. Chaou, C. Go, S.K. Cho, Y. Chun. (2022) A Novel Dual Chamber Perfusion Stent Graft Using a Smart Nitinol and Highly Stretchable ePTFE to Isolate Blood Flow in Donation after Cardiac Death. *Society For Biomaterials*, Baltimore, MD, April 27-30, 2022.
6. M. Elsisy, S. P. Emery, S. Greene, N. Hazen, and Y. Chun. (2021) A Soft Silicone-Nitinol-ePTFE Ventriculoamniotic Shunt for Treating Fetal Aqueductal Stenosis. *BMES 2021*, Orlando, FL, October 6-9, 2021.
7. M. Elsisy, B.W. Tillman, C. Go, J. Kuhn, Y. Chun. (2020) Enhanced Mechanical Performance in a New Long Retrievable Stent Graft to Control Torso Hemorrhage. *BMES 2020*, Virtual, October 14-17, 2020.
8. M. Elsisy, B.W. Tillman, C. Go, J. Kuhn, and Y. Chun. (2019) Enhanced Mechanical Performance in a New Long Retrievable Stent Graft to Control Torso Hemorrhage. *BMES 2019*, Philadelphia, PA, October 16-19, 2019.
9. Y. Chun. (2019) Translational Endovascular Device Research using NiTi Smart Materials. *UKC 2019*, Chicago, IL, August 14-17, 2019.
10. Y. Chun. (2019) Microfabrication Technologies for Nitinol Smart Material Used in Endovascular Devices. MEMS-Nano Division, Korean Society for Mechanical Engineers, Busan National University, Busan, South Korea, May 22-24, 2019.
11. Y. Chun. (2019) Translational Endovascular Device Research using Superelastic Nitinol. IISE Annual Conference & Expo. Nashville, TN, May 18-21, 2019.
12. M. Elsisy, Y. Chen, B.W. Tillman, C. Go, and Y. Chun. (2018) A retrievable stent graft for hemorrhage control using laser-welded nitinol stent covered with an ultra-stretchable ePTFE. *IMECE 2018*, Pittsburgh, PA, November 9-15, 2018.

13. Y. Chen, B.W. Tillman, C. Go, M. Elsisy, and Y. Chun. (2018) A Novel Customizable Stent Graft that Contains Superelastic Nitinol and Highly-Stretchable ePTFE. *BMES 2018*, Atlanta, GA, October 17-20, 2018.
14. G. Bryson, P. Carullo, and Y. Chun. (2018) Evaluating Occlusion Success of Esophocclude Prototypes in Comparison to Diameter and Radial Force. *BMES 2018*, Atlanta, GA, October 17-20, 2018.
15. J. Hastings, N. Gildener-Leapman, and Y. Chun. (2018) In vitro viability testing of pH sensor incorporation in tongue prosthetic assist device for treating dysphagia. *BMES 2018*, Atlanta, GA, October 17-20, 2018.
16. Y. Chun. (2018) Translational Medical Device Research using Superelastic Nitinol. *ICAST 2018*, Seoul, October 2, 2018.
17. Y. Chen, B. Tillman, C. Go, M. Elsisy, and Y. Chun. (2018) A Novel Customizable Stent Graft that Contains Superelastic Nitinol and Highly-Stretchable ePTFE. *BMES 2018*, Atlanta, October 17-20, 2018.
18. Y. Chun. (2018) Use of Thin Film Nitinol for Developing Low-Profile Endografts. *UKC 2018*, St. Johns University, Queens, NY, August 1-4, 2018.
19. Y. Chun. (2018) New Nitinol Endovascular Devices. 44th Northeast Bioengineering Conference. Drexel University, Philadelphia, PA, March 28-30, 2018.
20. Y. Chen, P. Carullo, and Y. Chun. Use of Superelastic Nitinol for Temporary Occlusion of the Esophagus. (2017) *The Korean Society of Medical & Biological Engineering*, Chunbuk National University, November 10-11, 2017.
21. Y. Chen, P. Shridhar, J. Kern, and Y. Chun. (2017) Advanced Manufacturing Technologies for New Medical Devices. *UKC 2017*, Washington D.C., August 9-12, 2017.
22. Y. Chen, C. Howe, E. Stephen, S. Greene, P. Shridhar, W. Yeo, and Y. Chun. (2017) A low-profile flow sensing system for monitoring of cerebrospinal fluid with a new ventriculoamniotic shunt. *IEEE Electronic Components and Technology Conference*, Lake Buena Vista, Florida, May 30-June 2, 2017.
23. Y. Chun, N. Gildener-Leapman, and M. Shayan. (2017) Design and Manufacturing a Nitinol Artificial Tongue to Treat Dysphagia. IISE Annual Conference & Expo, David L. Lawrence Convention Center, Pittsburgh, PA, May 20-23, 2017.
24. Y. Chen, S.P. Emery, A.P. Maxey, X. Gu, W.R. Wagner, and Y. Chun. (2017) In Vitro Assessment of a Novel hunt for Treating Fetal Aqueductal Stenosis. *Design of Medical Devices Conference*, Minneapolis, Minnesota, April 11-13, 2017.
25. P. Shridhar, Y. Chen, B.W. Tillman, S.K. Cho, T.D. Richards, A.D. Tevar, X. Gu, W.R. Wagner, and Y. Chun. (2017) A Novel Visceral Perfusion Stent to Salvage Donation after Cardiac Death (DCD) Organs. *Design of Medical Devices Conference*, Minneapolis, Minnesota, April 11-13, 2017.
26. P. Shridhar, B.W. Tillman, Y. Chen, S.K. Cho, and Y. Chun. (2017) The Rescue Stent for Non-Compressible Traumatic Hemorrhage. *Society for Biomaterials*, Minneapolis, Minnesota, April 5-8, 2017.

27. P. Shridhar, Y. Chen, S. Greene, S. Emery, and Y. Chun. (2017) A New Treatment Option for Fetal Aqueductal Stenosis: Ventriculo-Amniotic Shunt. *Society for Biomaterials*, Minneapolis, Minnesota, April 5-8, 2017.
28. M. Shayan, B.T. Jankowitz, B.W. Tillman, and Y. Chun (2016). Novel Embolic Protection Covered Stent with Micropatterned Thin Film Nitinol. *Industrial and Systems Engineering Research Conference*, Anaheim, CA, May 21-24.
29. Y. Chen, C. Howe, Y. Lee, W.H. Yeo, and Y. Chun (2016). Mechanical Behavior of a Thin Film Nitinol Covered Neurovascular Device. *Industrial and Systems Engineering Research Conference*, Anaheim, CA, May 21–24.
30. B.W. Tillman, Y. Chun, N.L. Liang, T.D. Richards, A.J. Demetris, T.M. Maul, A.D. Tevar (2015). A Novel Percutaneous Organ Perfusion Stent Improves Liver Perfusion in a Porcine Model of Donation after Cardiac Death. *Hepatology*, 62(Supplement S1), DOI: 10.1002/hep.28201, 318A–320A, October.
31. N. Gildener-Leapman, M. Shayan, J.H. Kim, P.S. Vosler, and Y. Chun (2015). A novel approach to oral and oropharyngeal dysphasia: Tongue Prosthetic Assist Device (TPAD). *The 3rd Congress of European ORL-HNS*, Prague, Czech Republic, June 7–11.
32. M. Shayan, M. Moradi, R. Shankar and Y. Chun (2015). Improved MC3T3 cellular growth on nano-grained 316L stainless steel obtained by linear-plane machining severe plastic deformation. *Society for Biomaterials*, Charlotte, NC, April 15–18.
33. M. Shayan and Y. Chun (2015). A Novel Metallic Scaffold that Promotes the Rapid Seeding of Endothelial Cells. *Society for Biomaterials*, Charlotte, NC, April 15–18.
34. B.W. Tillman, T.D. Richards, A.D. Tevar, X. Gu, W.R. Wagner, and Y. Chun (2015). A Pilot Study of an Organ Perfusion Stent Improves Organ Perfusion in a Porcine Model of Donation after Cardiac Death. *McGowan Retreat*, March 4.
35. M.M. Barry, M. Shayan, B.T. Jankowitz, Y. Chen, X. Duan, A.M. Robertson, M.K. Chyu, and Y. Chun (2014). A Smart Guidewire for Smooth Navigation in Interventional Radiology. *Industrial and Systems Engineering Research Conference*, Montreal, Canada, May 31–June 3.
36. M. Shayan, S.Y. Yang, W.H. Ryu, and Y. Chun (2014). A Novel Thin Film Nitinol/Silk Endograft for Treating Small-Caliber Vascular Diseases. *International Conference on Shape Memory and Superelastic Technologies*, Pacific Grove, CA, May 12–16.
37. N. Gildener-Leapman, M. Shayan, G. Salazar, and Y. Chun (2014). A Novel Mechanical Nitinol Prosthetic Tongue. *International Conference on Shape Memory and Superelastic Technologies*, Pacific Grove, CA, May 12–16.
38. M.M. Barry, M. Shayan, B.T. Jankowitz, Y. Chen, X. Duan, A.M. Robertson, M.K. Chyu, and Y. Chun (2014). A Smart Guidewire for Smooth Navigation in Interventional Radiology. *International Conference on Shape Memory and Superelastic Technologies*, Pacific Grove, CA, May 12–16.
39. Y. Chun, S.C. Hur, M. Shayan, C.P. Kealey, D.S. Levi, K.P. Mohanchandra, D. Di Carlo, and G.P. Carman (2013). A Novel Thin Film Nitinol Covered Neurovascular Stent Significantly Decreases Intra-Aneurysmal Flow *In Vitro*. *66th Annual Meeting of the APS Division of Fluid Dynamics*, Pittsburgh, PA, November 24–26.

40. M. Shayan, S. Yang, W. Ryu, and Y. Chun (2013). Synergistically Enhanced Functions of Endograft by Integrating Thin Layers of Nitinol and Silk. *Biomedical Engineering Society*, Seattle, WA, September 25–28.
41. M. Shayan, Y. Jung, P.S. Huang, M. Moradi, J.K. Lee, R. Shankar, and Y. Chun (2013). Improved Osteoblast Response to UV-Irradiated Superhydrophilic PMMA/TiO₂ Nanocomposites. *Society for Biomaterials*, Boston, MA, April 10–13.
42. Y. Chun, C.P. Kealey, K.P. Mohanchandra, D.A. Rigberg, D.S. Levi, F. Vinuela, and G.P. Carman (2013). A Novel Thin Film Nitinol Flow-Diverting Stent for the Treatment of Cerebral Aneurysms. *26th Annual Meeting of Korean Society of Cerebrovascular Surgeons*, Geonju, Geollabuk-do, South Korea, February 15–16.
43. Y. Chun, D.S. Levi, K.P. Mohanchandra, C.P. Kealey, H. Babiker, D.H. Frakes, S.C. Hur, A.W. Tulloch, D.A. Rigberg, D. Di Carlo, F. Vinuela, and G.P. Carman (2012). A Novel Thin Film NiTi (TFN) Device for Cerebral Aneurysm Treatment. *8th European Solid Mechanics Conference*, Graz, Austria, July 8–13.
44. Y. Chun, D.S. Levi, K.P. Mohanchandra, C.P. Kealey, H. Babiker, D.H. Frakes, S.C. Hur, H. Chang, M.C. Emmons, P.Y. Lin, A.W. Tulloch, D.A. Rigberg, D. Di Carlo, F. Vinuela Jr, F. Vinuela, and G.P. Carman (2012). A Novel Flow-Diverting Thin Film Nitinol (TFN) Covered Microstent. *Industrial and Systems Engineering Research Conference*, Orlando, FL, May 19–23.
45. Y. Chun, D.S. Levi, K.P. Mohanchandra, M.C. Fishbein, G.P. Carman (2012). A Novel Micro Manufacturing Process for Medical Thin Film Nitinol. *Industrial and Systems Engineering Research Conference*, Orlando, FL, May 19–23.
46. H. Babiker, C.P. Kealey, Y. Chun, G.P. Carman, D.S. Levi, and D.H. Frakes (2012). *In-vitro* Fluid Dynamic Investigation of a Novel Hyper Elastic-Thin Film Nitinol Stent and the Pipeline Embolization Device for Cerebral Aneurysm Treatment. *International Stroke Conference*, New Orleans, LA, February 01–03.
47. H. Babiker, Y. Chun, C.P. Kealey, G.P. Carman, D.S. Levi, D.H. Frakes (2011). Experimental Fluid Dynamic Investigation of a Novel Hyper-Elastic Thin Film for Cerebral Aneurysm Treatment. *ASME Summer Bioengineering Conference*, Farmington, PA, June 22–25.
48. G.P. Carman, Y. Chun, K.P. Mohanchandra, D.S. Levi, C.P. Kealey, C.S. Hur, D. Di Carlo, and F. Vinuela (2011). A Hyper-Elastic Thin Film Nitinol Flow Diverter for Brain Aneurysms. *Minerals, Metals & Materials Society*, San Diego, CA, March 01–04.
49. C.P. Kealey, H. Babiker, Y. Chun, P. Lin, K.P. Mohanchandra, D.A. Rigberg, G.P. Carman, D.S. Levi, and D.H. Frakes (2011). *In Vitro* Evaluation of a Novel Hyper-Elastic Thin Film Nitinol Covered Stent for the Treatment of Intracranial Aneurysms. *International Stroke Conference*, Los Angeles, CA, February 09–11.
50. D.A. Rigberg, D.S. Levi, G.P. Carman, Y. Chun, K.P. Mohanchandra, C.P. Kealey (2010). The Development And Characterization of Next Generation Endovascular Devices Using Thin Film Nitinol. *The 2010 VEITH symposium, 38th Annual Symposium on Vascular and Endovascular Issues*, New York, NY, November 16–20.

51. R.I. Mehta, Y. Chun, D.S. Levi, G.P. Carman, H.V. Vinters, M.C. Fishbein, W.H. Yong (2010). Analysis of Hydrophilic Coating on Vascular Devices as a Cause of Cerebral Ischemia. *UCLA Oppenheimer Program*, David Geffen School of Medicine, CNSI, Los Angeles, CA, November 16.
52. Y. Chun, D.S. Levi, S.C. Hur, C.P. Kealey, A.W. Tulloch, K.P. Mohanchandra, D.A. Rigberg, D. Di Carlo, P.F. Lawrence, F. Vinuela, F. Vinuela, Jr., and G.P. Carman (2010). Thin Film Nitinol Vascular Grafts for Treating Intracranial Aneurysms. *he US-Korea Conference on Science, Technology, and Entrepreneurship*, Seattle, WA, August 11–15.
53. A.W. Tulloch, Y. Chun, C.P. Kealey, K.P. Mohanchandra, J. Chang, V. Milisavljevic, D.S. Levi, G.P. Carman, P.F. Lawrence, D.A. Rigberg (2010). Hydrophilic Surface Treatment of Thin Film Nickel Titanium Reduces Bacterial Biofilm Production Compared to Commercially Available Endograft Materials. *Vascular Annual Meeting*, Boston, MA, June 10–13.
54. Y. Chun, S.C. Hur, C.P. Kealey, A.W. Tulloch, D.S. Levi, D. Di Carlo, H. Chang, K. P. Mohanchandra, D.A. Rigberg, P.F. Lawrence, and G.P. Carman (2010). A Novel Neurovascular Stent Covered in Stretchable Thin Film NiTi Significantly Decreases Flow into a Wide-Neck Aneurysm *In Vitro*. *American Society for Artificial Internal Organs*, Baltimore, MD, May 27–29.
55. C.P. Kealey, Y. Chun, A.W. Tulloch, D.S. Levi, K.P. Mohanchandra, G.P. Carman, P.F. Lawrence, and D.A. Rigberg (2010). An *In Vitro* Examination of the Thrombotic Response to Thin Film Nickel Titanium (Nitinol) Under Stenotic Flow Conditions. *Arteriosclerosis, Thrombosis and Vascular Biology*, San Francisco, CA, April 8–10.
56. Y. Chun, D.S. Levi, A.W. Tulloch, K.P. Mohanchandra, D.A. Rigberg, F. Vinuela, F. Vinuela Jr., P.F. Lawrence, and G.P. Carman (2010). Micro-patterned Superhydrophilic Thin Film NiTi Endografts for Treating Vascular Diseases. *International Conference on Shape Memory and Superelastic Technologies*, Pacific Grove, CA, May 16–20.
57. A.W. Tulloch, Y. Chun, A. Chau, K.P. Mohanchandra, G.P. Carman, P.F. Lawrence, and D.A. Rigberg (2009). Thin-film nickel titanium demonstrates reduced bacterial adherence *in vitro* compared with commercially available endograft materials. *American College of Surgeons 95th Annual Clinical Congress*, Chicago, IL, October 11–15.
58. Y. Chun, D.S. Levi, K.P. Mohanchandra and G.P. Carman (2009). Fabrication Processes for Creating Micro Features in Thin Film NiTi Endovascular Grafts. *ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems*, Oxnard, CA, September 20–24.
59. Y. Chun, A.W. Tulloch, D.S. Levi, K.P. Mohanchandra, F. Vinuela, D.A. Rigberg, and G.P. Carman (2009). Less Thrombogenic Surface of Thin Film Nitinol for Endovascular Grafts. *22nd European Conference on Biomaterials*, Lausanne, Switzerland, September 7–11.
60. Y. Chun, D.S. Levi, K.P. Mohanchandra, and G.P. Carman (2009). Self-expandable Thin Film Nitinol Endografts for Vascular Repair: Manufacturing and Short-Term Results in Swine. *4th Frontiers in Biomedical Devices Conference & Exhibition*, 2009-83048, Irvine, CA, June 08–09.

61. Y. Chun, D.S. Levi, K.P. Mohanchandra, F. Vinuela, and G.P. Carman (2009). Manufacturing and *In-vivo* Testing of Thin Film Nitinol Micro-Endograft. *American Society for Artificial Internal Organs*, Dallas, TX, May 28–30.
62. A.W. Tulloch, Y. Chun, D.S. Levi, K.P. Mohanchandra, G.P. Carman, P.F. Lawrence, D.A. Rigberg (2009). Hydrophilic Surface Treatment of Thin Film Nickel Titanium Reduces Platelet Adhesion and Aggregation *in vitro* and Prevents Endograft Thrombosis *in vivo*. *Rochester Vascular 2009*, Rochester, NY, May 1–3.
63. A.W. Tulloch, Y. Chun, D.S. Levi, K.P. Mohanchandra, G.P. Carman, P.F. Lawrence, D.A. Rigberg (2009). Hydrophilic Surface Treatment of Thin Film Nickel Titanium Reduces Platelet Adhesion and Aggregation *in vitro* and Prevents Endograft Thrombosis *in vivo*. *SVS 2009 Research Initiatives in Vascular Disease Conference*, Washington, DC, April 28.
64. Y. Chun, D.S. Levi, A.W. Tulloch, K.P. Mohanchandra, F. Vinuela, F. Vinuela, Jr. and G.P. Carman (2009). Manufacturing and *In-vivo* Testing of Thin Film Nitinol Micro-Endograft. *Technology Forum*, CNSI, UCLA, Los Angeles, CA, April 23.
65. D.A. Rigberg, Y. Chun, K.P. Mohachandra, G.P. Carman, P.F. Lawrence (2008). Thin Film Nitinol (NiTi): A Novel Material for Aortic Stent Grafts. *Western Vascular Society 23rd Annual Meeting*, Napa, CA, September 13–16.
66. Y. Chun, D.S. Levi, K.P. Mohanchandra, F. Vinuela, F. Vinuela, Jr., and G.P. Carman (2008). Thin Film Nitinol Micro-Endograft for Interventional Procedures. *Technology Forum 2008*, UCLA, Los Angeles, CA, May 27.
67. Y. Chun, K.P. Mohanchandra, L. Stepan, D.S. Levi, and G.P. Carman (2007). Manufacturing and Testing of Thin Film NiTi for Biomedical Applications. *44th Annual Technical Meeting of the Society of Engineering Science*, Texas A&M University, College Station, TX, October 21–24.
68. E.S. Lee, J.H. Lee, W.M. Kim, and Y. Chun (2005). Micro Burr Removal by Electro-deburring. *Korean Society of Precision Engineering*, Jeju, South Korea, June 23-24.
69. Y. Chun, J.H. Lee and E.S. Lee (2005). A Study on the Optimal Condition Selecting Ultra-thin Shadow Mask with Electrolytic-deburring. *Korean Society of Mechanical Engineers*, Busan, South Korea, May 25–27.
70. Y. Chun and E.S. Lee (2004). Development of Dressing System for Centerless Grinding Machine and Database Construction of Ferrule Centerless Grinding. *Korean Society of Precision Engineering*, Busan, South Korea, May 21–22.

D. Honors and Awards

- 2022 *The Pitt Ventures First Gear (NSF I-Corps designated site), Innovation Institute, Entrepreneurship, Commercialization, Economic Development, University of Pittsburgh*
- 2021 *Michael G. Wells Healthcare Entrepreneurship Competition Award (M. Elsisy and Y. Chun), Innovation Institute, Entrepreneurship, Commercialization, Economic Development, University of Pittsburgh*
- 2019 *Independent Research Award, The Liam Ward Fund, The Children's Heart Foundation*

- 2019 *Innovative Project Award, American Heart Association*
- 2019 *Photo Contest Award, Division of Micro/Nano Technology, 2019 KSME Conference*
- 2018 *Chancellor's Seed Funding Award (PI: Dr. Stephen Emery), University of Pittsburgh*
- 2016 *Pitt Innovation Challenge (PInCh) Award, Clinical and Translational Science Institute (CTSI), University of Pittsburgh*
- 2016 *Certificate of Achievement, From Bench Top to Bedside: What Every Scientist Needs to Know, Coulter Translational Research Partnership II Program Section*
- 2014 *Samuel and Emma Winters Foundation Research Award (\$12,000)*
- 2012 *Cover Story in Biomaterials, Journal of the Korean Society of Mechanical Engineers*
- 2011 *The Marquis Who's Who in America, 65th Edition*
- 2010 *The 2010 Chancellor's Award for Postdoctoral Research, UCLA*
- 2010 *The 3rd Place in Technical Lecture Award, 6th Annual Young Generation Technical and Leadership Conference*
- 2009 *Research Highlight, ASME & AIAA Adaptive Structures & Material Systems Newsletter, Spring(<http://asms-tc.org/newsletters/ASMSNewsletterSpring2009.pdf>)*
- 2009 *Front Cover of the ASME Journal of Biomechanical Engineering, 131*
- 2009 *Best Student Paper/Presentation Award (Honorable Mention), SPIE Smart Structures and Materials and Nondestructive Evaluation and Health Monitoring*
- 2008 *Best Paper Award, ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems*
- 2005 *Graduate Dean's Award for Research Excellence, Inha University, Incheon, South Korea*
- 2005 *Korea Government Fellowship for Doctorial Studies, National Research Foundation of Korea (\$60,000, 2-year)*
- 2003 *Graduate Fellowship Award (2-year), Inha University, Incheon, South Korea*

F. Professional Service & Leadership Activities

F1. Department, School, and University Service

- 2022 – present PhD Qualifier Committee, Department of Industrial Engineering
- 2018, 2019 McGowan Institute of Regenerative Medicine Retreat Poster Judge
- 2019 International Research Collaboration Committee Chair (University of Pittsburgh and Inje University, Korea, MOU)
- 2014 – 2015 Supervisor of The Pittsburgh Science & Technology Academy Program
- 2013 – present Faculty Advisor, Korean Graduate Students Association
University of Pittsburgh
- 2012 – present Industrial Engineering Oral Doctoral Qualifying Exam
Manufacturing Portion Committee
- 2012 INVESTING NOW Summer Workshop, Engineering Office of Diversity
- 2011 – present Dual Degree Program Committee Chair, Pitt (USA) - Yonsei (Korea)

F2. Positions of Leadership and Affiliations

(i) Positions of Leadership

- 2017 – present Technical Committee Member, UKC
- 2009 – present Technical Committee Member, SPIE Smart Materials / NDE
- 2009 – present Technical Committee Member, ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems
- June 29, 2012 Invited Expert for Panel Discussion, Korea Evaluation Institute of Industry Technology, Ministry of Knowledge Economy, South Korea

(ii) Professional Affiliations

- Member, Biomedical Engineering Society (BMES)
- Member, Institute of Industrial Engineers (IIE)
- Member, Society for Biomaterials (SFB)
- Member, American Heart Association (AHA)
- Member, Korean-American Scientists and Engineers Association (KSEA)

F.3 Conferences, Tracks or Sessions Organized and/or Chaired

- 2022 – present Conference Organizing Committee, *12th World Biomaterials Congress, EXCO, Daegu, South Korea, May 26-31, 2024*
- 2020 – present Committee member, Bio/Medical Division, *The Korean Society of Manufacturing Technology Engineers*
- 2017 – present Session Chair, *UKC Biomedical Engineering Division*
- 2017 – present Conference Program Committee Member, *BIODEVICES*
- 2019 BMES 2019 Conference Abstract Reviewer, *BMES 2019, Philadelphia, PA, October 16-19, 2019*
- 2017 Session Organizer/Abstract Reviewer, *Society for Biomaterials, Minneapolis, Minnesota, April 5-8, 2017.*
- 2017 Session Chair, Manufacturing and Engineering Design, *The Industrial and Systems Engineering Research Conference, May 30–June 2, 2017, Nashville, TN.*
- 2017 *10th International Conference on Biomedical Electronics and Devices, February 21–23, 2017, Porto, Portugal.*
- 2016 Track Chair, Manufacturing and Engineering Design, Applied Solutions Sessions, *The Institute of Industrial Engineers 2016, May 21–24, 2016, Anaheim, CA.*
- 2012 Session Chair, Manufacturing and Engineering Design, *The Industrial and Systems Engineering Research Conference, May 19–23, 2012, Orlando, FL.*
- 2009 Session Chair, Symposium of Bio-inspired Smart Materials and Structures, *ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems, September 20–24, Oxnard, CA.*

F4. Journal Editorships or Journal Editorial Board Services

- 2022 – present Editorial Board Member, The Frontiers in Bioengineering and Biotechnology
- 2020 – present Associate Editor, Journal of Mechanical Science and Technology, Springer
- 2019 – present Associate Editor, BioMedical Engineering Online, Springer Nature
- 2019 – present Associate Editor, Journal(s) Frontiers in Nanotechnology
- 2016 – present Editorial Board Member, Smart Materials, Journal(s) Frontiers in Materials