

## Year 10 Technology Transfer Products

A. Inventions disclosed: 0

B. Patent applications filed: 7

1. Mg alloy mesh reinforced polymer/ECM hybrid scaffolds for critical-sized bone defect regeneration (Date of inception: 4/4/2017), Yingqi Chen, Sang-Ho Ye, Vesselin Shanov, William R. Wagner, U.S. Provisional Patent Application (#62/481,206) through the University of Pittsburgh. Reported by: William Wagner
2. CNT Sheet Substrates and Transition Metals Deposited on Same (Date of inception: 12/1/2017), US 2016/0351918 (Pub. Date: Dec. 1, 2016), Inventors: Yeohung Yun, Youngmi Koo and Jagannathan Sankar, US patent awarded, Appl. No: 16/116,708, PCT No: PCT/US15/14621 (Filed: Feb. 5, 2015). Reported by: Yeohung Yun
3. Mandrel-less electrospinning processing method and system, and uses therefor (Date of inception: 3/1/2017), U.S. Provisional Patent Application (#62/473,588) through the University of Pittsburgh. Reported by: William Wagner
4. A biodegradable, porous, thermally responsive injectable hydrogel as soft tissue defect filler (Date of inception: 4/1/2017). U.S. Provisional Patent Application (#62/480,820) through the University of Pittsburgh. Reported by: William Wagner
5. Matrix bound vesicles (MBVs) ocular applications (Date of inception: 6/1/2017), U.S. Provisional Patent Application (#62/502,271) through the University of Pittsburgh. Reported by: William Wagner
6. Devices and methods for local delivery to nervous system tissue (Date of inception: 6/1/2017), U.S. Provisional Patent Application (#62/524,149). Reported by: William Wagner
7. Multi-layered graft for tissue engineering applications (Date of inception: 7/1/2017), U.S. Provisional Patent Application (#62/537143) through the University of Pittsburgh. Reported by: William Wagner
8. Mg-Based Biodegradable Wires for Bone Fixation Devices” (Date of inception: 05/02/2018) Jagannathan Sankar, Zhigang Xu and Sergey Yarmolenko (NCAT), Adam Griebel (Fort Wayne Metals) and Ray Holloway, Luminal Solutions, Inc. US Provisional Application (# 62/665,921) through NC A&T State University (not counted for the reporting period)

C. Patents awarded: 5

1. Biodegradable, non-thrombogenic elastomeric polyurethanes. Patent No: 9808560 (Date awarded: 11/17/2017), Yi Hong, William R Wagner, Sang-Ho Ye. Reported by: Sang-Ho Ye. *A method of forming an implantable article includes providing a biodegradable polymer including anti-thrombogenic groups along the length of the biodegradable polymer, biodegradable groups in the backbone of the biodegradable polymer and a plurality of functional groups adapted to react with reactive functional groups on a surface of the implantable article, and reacting at least a portion of the plurality of functional groups with the reactive functional groups on the surface of the implantable article.*
2. Method for Making Magnesium Biodegradable Stent for Medical Implant Applications. Patent No: 9,655,752 (Date awarded: 5/23/2017), Reported by: Vesselin Shanov. *Method for Making Magnesium Biodegradable Stent for Medical Implant Applications*
3. Methods of Growing Carbon Nanotubes and Forming a Carbon Nanotube Thread. Patent No: 9,796,121 B2 (Date awarded: 10/24/2017), Reported by: Vesselin Shanov

4. Degradable Carbon Nanotube-Containing Biosensors and Methods for Targeting Clinical Marker Detection. Patent No: US 2014/0233952 A1 (Date awarded: 5/2/2017), Reported by: Prashant Kumta. *Patent on degradable carbon nanotube biosensors for detecting clinical biomarkers.*
5. Self-assembled organosilane coatings for resorbable metal medical devices. Patent No: US 2018/0015203 A1 (Date awarded: Jan 18, 2018). Reported by: Elia Beniash

D. Licenses Issued: 0

E. Spin-off Companies Started: 0

F. Building Codes Impacts: 0

G. Technology Standards Impacts: 0

H. New Surgical and other Medical Procedures Adopted: 0