

# **Dr. Stephen Badylak: Groundbreaking researcher in cell regeneration and tissue engineering, with innovations affecting over ten million patients**

*Recipient of the 2019 BioMed SA Award for Innovation in Healthcare & Bioscience*



**Stephen Badylak, D.V.M., Ph.D., M.D.**

*Professor of surgery and bioengineering at the University of Pittsburgh and deputy director of the McGowan Institute for Regenerative Medicine*

## **Selection committee rationale:**

- Pioneered use of the extracellular matrix (ECM), which has been shown to ignite cell regeneration and regrowth of damaged tissue
- Over ten million patients have benefitted from his research discoveries
- Collaborations with the US Army Institute of Surgical Research (ISR) and other San Antonio organizations to advance regenerative techniques for potential military and civilian use
- Prolific inventor of novel technologies with hundreds of scientific manuscripts in peer-reviewed journals
- Inducted in 2018 as a Fellow in the National Academy of Inventors

Dr. Stephen Badylak is a pioneer in the field of stem cell and tissue regeneration, researching and ratifying the extracellular matrix platform, upon which much of the field of tissue engineering and regeneration is based. Dr. Badylak's discoveries have been translated to medical applications that have helped millions of patients, and his intellectual property has contributed significantly to the multibillion-dollar regenerative medicine industry.

Dr. Badylak holds more than 70 U.S. patents, and over 300 patents worldwide, across the fields of biomaterials, medical devices and tissue engineering. He has prioritized clinical translation of his ideas, resulting in more than 40 of his patents being licensed to industry. He has also founded two biotech companies and currently serves as Co-Founder and Chief Science Officer of ECM Therapeutics, Inc. in Pittsburgh.

Dr. Badylak has authored more than 380 scientific publications and 50 book chapters, and recently edited a textbook entitled "Host Response to Biomaterials." He has chaired several study sections at the National Institutes of Health (NIH), including the Study Section for Small Business Innovative Research and the Bioengineering, Technology, and Surgical Sciences Study Section. Dr. Badylak is now a member of the College of Scientific Reviewers for NIH.

Dr. Badylak was inducted in 2018 as a Fellow of the National Academy of Inventors and is also a Fellow of the American Institute for Medical and Biological Engineering, a member of the Society for Biomaterials, a charter member of the Tissue Engineering Society International, and a founding international Fellow and past President of the Tissue Engineering Regenerative Medicine International Society (TERMIS). He also serves as Editor-in-Chief of the Journal of Immunology Regenerative Medicine and serves on the editorial boards of several other journals.

He has received many honors, including the Martin Mickle Outstanding Innovator Award from the University of Pittsburgh (2018), Distinguished Fellow of The Kosciuszko Foundation Collegium of Eminent Scientists of Polish Origin and Ancestry (2016), and a Founding Fellow of the International Fellows of Tissue Engineering and Regenerative Medicine (FTERM) (2012). He has been a featured expert on tissue regeneration on CBS' "60 Minutes," "Full Measure with Sharyl Attkisson," PBS, and the *New York Times*.

Dr. Badylak received his D.V.M. from Purdue University in 1976, an M.S. in Clinical Pathology from Purdue University in 1978, a Ph.D. in Anatomic Pathology from Purdue University in 1981, and graduated with highest honors with an M.D. from Indiana University Medical School in 1985. He joined the University of Pittsburgh in 2003 where he currently serves as a Professor of Surgery in the School of Medicine, Professor of Bioengineering in the Swanson School of Engineering, Deputy Director of the McGowan Institute for Regenerative Medicine, and Director of the McGowan Center for Preclinical Studies.