Evan Snyder, M.D., Ph.D., F.A.A.P.

Evan Y. Snyder earned his M.D. and Ph.D. in neuroscience from the University of Pennsylvania as a member of the NIH Medical Scientist Training Program. He had also studied psychology, philosophy, & linguistics at the University of Oxford. He received all of this medical post-graduate training (in pediatrics, neurology, and neonatal-perinatal medicine) at Children's Hospital-Boston, Harvard Medical School (where he was also selected to be Chief Resident in Medicine and then Chief Resident in Neurology), and received his basic research post-doctoral fellowship training (in molecular developmental biology) in the Department of Genetics at Harvard Medical School. He was hired as an attending faculty physician in the Department of Pediatrics (Division of Newborn Medicine) and Department of Neurology at Children's Hospital-Boston, Harvard Medical School. He also established his own independent research program at Boston Children's Hospital, Harvard Medical School and was promoted to assistant professor at Harvard where he helped launch the stem cell and regenerative medicine fields.

He is regarded as one of the "Fathers" of the stem cell and regenerative medicine fields. In 2003, after 23 years at Harvard, Dr. Snyder was recruited to Southern California, to Sanford-Burnham Prebys Medical Discovery Institute and University of California-San Diego (Department of Pediatrics) as a Full Professor and Founding Director of the Center for Stem Cells & Regenerative Medicine. He then inaugurated the Stem Cell Research Center & Core Facility, initiated the Southern California Stem Cell Consortium, & helped found the Sanford (San Diego) Consortium for Regenerative Medicine. Dr. Snyder is a Fellow of the American Academy of Pediatrics (FAAP) and was elected to the prestigious and selective *Association of American Physicians (AAP)* as well as to the equally honorific *American Institute of Medical & Biologic Engineering (AIMBE)*. He was a founding member of the FDA/NIH Stem Cell Working Group to generate guidelines for human transplantation. That working group became and served nearly a decade on the FDA's Biological Response Modifiers Advisory Committee and ultimately the Cell, Tissue, & Gene Therapy Advisory Committee, on which Dr. Snyder served for a decade, culminating his serving 2 terms as its Chairperson. He is now Chairman of the Scientific Advisory Committee of the Genetic Disease Biobank of the National Institute of General Medical Science at NIH. He is a recent Diplomate of the select Health Leadership Academy.

With >300 publications, and ~750 invited talks, he is recognized worldwide as a leader in this field, and sits on (often chairing) many national and international policy committees, helping to develop strategies and establish standards for the generation and use of all stem cells. He has won numerous professional awards and honors, but was also named by Forbes Magazine in 2008 in their List of "12 Stem Cell Revolutionaries" and a "Rock Star of Innovation" by CONNECT, a Southern California-based organization fostering business and biotech. He holds >30 patents (others pending), and sits or has sat on the editorial boards of many high-tier journals. His biography is included in the upcoming book *"Child Neurology: Its Origins, Founders, Growth & Evolution"*.

He was on the inaugural editorial board of *Cell Stem Cell* & *Current Protocols in Stem Cell Biology*. He was invited to serve on the expert panel of the Bipartisan Policy Center, a non-partisan think tank & advisory committee to Congress to help expedite the rational approval of novel cell-based therapies). He has been an Associate for the Fulbright Visiting Scholar Program.

He remains a practicing academic physician (neurologist, pediatrician, neonatologist). He is on the steering committee and admissions committee of UCSD's MD-PhD Program (the NIH-funded Medical Scientist Training Program) and on the faculty of UCSD's Biomedical Sciences Graduate Program. He created the "Bedside-to-Bench" teaching module for the Division of Neonatology and, from 2004-2010 directed basic science research for that Division.

Dr. Snyder's foundational discoveries in stem cell biology helped create the field of "Regenerative Medicine". His seminal discoveries include: **(a)** The existence of stem cells in the nervous system, isolation of the first rigorously-defined clonal neural stem cell (NSC), and generation of the first engraftable human NSCs—arguably the first solid organ stem cell discovered. **(b)** The translational capabilities of stem cells in models of development and disease, including the first demonstrations that stem cells can replace cells,

deliver therapeutic genes, rescue endangered host cells via trophic, anti-inflammatory, angiogenic mechanisms (introducing the concept of he called the “chaperone”/“paracrine” effect). **(c)** First to demonstrate that stem cells “home” to pathology, including tumors, strokes, trauma, degeneration, amyloid plaques, coining the concept “pathotropism”. **(d)** First to use stem cells in disease models including childhood (lysosomal storage diseases, leukodystrophies, perinatal asphyxia) and adult diseases (ALS, Parkinson’s, tumors, stroke, spinal cord injury, traumatic brain injury, MS). **(e)** First to use of stem cells to model and unravel complex, polygenic diseases, including for drug discovery. **(f)** First to demonstrate reciprocal cross-talk between the injured CNS and stem cells. **(g)** First to combine stem cells with biomaterials for repair, providing the first evidence that multi-modal strategies are needed for complex disorders. **(h)** Introduced Regenerative Medicine’s first biomarker for patient stratification based on their responsiveness to a stem cell molecular mechanisms-of-action using MRI. **(i)** Pioneered many technical advances in the generation, characterization, and use of hESCs and hiPSCs, e.g., use of stem cells for drug discovery via high-throughput technology, and creating the first peptide to direct therapeutic cell migration (by chemically engineering an inflammatory chemokine). Almost every clinical trial in the stem cell field to date is predicated on concepts he introduced.