2018 Annual Lecturers

64th Annual Louis H. Bauer Lecturer: *Morgan Sandercock*

"High Altitude Physiology Without an Engine"

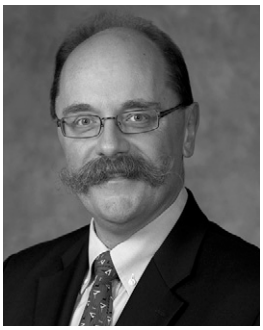
Morgan Sandercock has degrees in Mechanical Engineering and Computer Science from the University of Melbourne, Australia. Since 2008 he has been working on the Perlan Project. The Perlan Project is a long-term research project attempting to fly a glider into the high stratosphere. In 2006, the Perlan 1 glider was the first glider to soar over 50,000 ft. In 2017, the Perlan 2 glider set a new world record of 52,172 ft with Morgan and Jim Payne at the controls. Ultimately the Perlan 2 glider is expected to reach 90,000 ft.

Mr. Sandercock has been working on all aspects of the Perlan 2 glider, from the initial configuration and design to the construction of the life-support systems and piloting the glider in Argentina. Morgan has three other world records in gliders for speed and distance and recently flew 2620 km in one flight in Argentina. He lives in Minden, NV, which is the Perlan's base of operations.

5th Annual Reinartz Lecturer: *Ronald Mieczyslaw Przygodzki, M.D.*

"Genomic Medicine: What, How and Where?"

A native of Chicago, IL, Dr. Przygodzki earned his M.D. at the Medical University of Warsaw in Poland in 1985 and then served a Residency in the Department of Anatomic Pathology at the Medical University of Warsaw from 1985–1987. He returned to the United States in 1987 and served a Residency in the Department of Pathology and Laboratory Medicine at the University of Illinois at Chicago from 1988–1989 and a Residency in the Department of Pathology and Laboratory Medicine at Brown University's Rhode Island Hospital in Providence, RI, from 1989–1992. He held a Surgical Pathology Fellowship in the Department of Pathology and Laboratory Medicine at Rhode Island University Hospital from 1992 to 1993 and a Pulmonary and Molecular Pathology Fellowship at the Armed Forces Institute of Pathology, Washington, DC, and in the National Cancer Institute's Laboratory of Human Carcinogenesis in Bethesda, MD, from 1993 to 1995.



From 1995 until 2003, Dr. Przygodzki was Staff Clinical & Molecular Genetic Pathologist and Associate Director of the Molecular Diagnostics Laboratory, Department of Cellular Pathology and Genetics, Molecular Division, at the Armed Forces Institute of Pathology. He then became Chief of Pathology at Children's National Medical Center and an Associate Professor of Pathology and Pediatrics at the George Washington University Medical Center in Washington, DC. In 2008, he accepted his current position of Associate Director for Genomic Medicine at the Office of Research and Development, Department of Veterans Affairs, in Washington, DC. From 2008 until 2015, he was also Acting Director of the Biomedical Laboratory Research & Development. In 2015, he became Director of Genomic Medicine Implementation, Office of Research & Development..

Dr. Przygodzki has been honored with a variety of awards, including the Stowell-Orbison Award from the U.S. and Canadian Academy of Pathology, a Young Investigator Award from the Internaitonal Association for the Study of Lung Cancer, a New Frontiers in Cytology Award from the American Society of Cytopathology, and is a Distinguished Fellow of the Kosciuszko Foundation, Collegium of Eminent Scientists of Polish Origin and Ancestry. He is a member of the American Medical Association, the American Association of Blood Banks, the U.S. and Canadian Academy of Pathology, the International Association for the Study of Lung Cancer, the American Association for the Advancement of Sciences, and the Association for Molecular Pathology. He has been an editor on two books, written 12 book chapters, and has over 40 journal articles, over 40 abstracts, and 17 presentations.

53rd Annual Harry G. Armstrong Lecturer: *John B. Charles, Ph.D.*

"From Here to Mars: How the Twins Study and the Year-Long ISS Mission Have Moved Us Closer to the Red Planet"

John B. Charles, Ph.D., is the Associate Director of NASA's Human Research Program (HRP) for Exploration Research Planning, responsible for the scientific direction of human research and technology development enabling astronauts to go beyond low Earth orbit and eventually to Mars. Most recently, he was HRP's Chief Scientist and, before that, the Associate Manager for International Science, leading NASA's space life sciences planning for the joint U.S./Russian 1-year mission on ISS and the Twins Study. He plans to retire from NASA in February 2018, but as a private citizen hopes to continue applying the lessons from NASA's history to the fulfillment of its future plans.

Dr. Charles earned his B.S. in biophysics at The Ohio State University and his doctorate in physiology and biophysics at the University of Kentucky. He came to the Johnson Space Center in 1983 as a postdoctoral fellow and became a civil servant in 1985. He is co-developer of the fluid-loading countermeasure to help protect Space Shuttle astronauts from fainting during re-entry and landing, and investigated the cardiovascular effects of spaceflight using ultrasound, re-entry data recording, and in-flight lower body negative pressure on Space Shuttle astronauts and on crewmembers of the Russian space station Mir. He coordinated all of the NASA-sponsored biomedical, biological, and microgravity science investigations as Mission Scientist for American astronaut missions on Mir, on STS-95, John Glenn's Shuttle flight, and on STS-107, Columbia's last mission in January 2003. He was also the life sciences representative to NASA's human Mars mission planning activities in the 1990s.

Dr. Charles is a Fellow of the Aerospace Medical Association and has been a member since 1983; he is the 2017–2018 President of the Space Medicine Association. He is also a Full Member of the International Academy of Astronautics (IAA) and is currently chair of Commission 2, Space Life Sciences; he co-chaired the 18th IAA "Humans in Space Symposium" in Houston in 2011. He has published 75 scientific papers and space history articles and has received several professional awards, including National Space Club and Foundation Eagle Manned Mission Award (2017), the Joe Kerwin Award (2011) of the Aerospace Medical Association, the Hubertus Strughold Award (2001) from the Space Medicine Association, and the NASA Exceptional Service Medal (2000) and the NASA Exceptional Achievement Medal (2014).