MARK MOLDWIN is an Arthur F. Thurnau Professor of Climate and Space Sciences and Engineering at the University of Michigan. [Leopold Felsen Memorial Lecture]

He is currently the Executive Director of NASA’s Michigan Space Grant Consortium and Past-President of the American Geophysical Union’s (AGU) Education Section. Dr. Moldwin's primary research interests are magnetospheric, ionospheric and heliospheric plasma physics, magnetic sensor development and pre-college and college science education and outreach. He has published over 200 research articles, a textbook and holds three patents. Prof. Moldwin was awarded UM's Provost's Teaching Innovation Prize, and the UM's Harold R. Johnson Diversity Service Award. In 2016 he was recognized for his "extraordinary service to geophysics" with the AGU Union Waldo E. Smith Award. He was the 2019-2020 US-Norway Fulbright Arctic Chair.

Special thanks to Michael D. Felsen and Judith E. Felsen

A MAGNETO-INDUCTIVE MAGNETOMETER SYSTEM FOR BOOM-LESS SATELLITES AND BACKYARD CITIZEN-SCIENCE SPACE WEATHER MONITORS

We are developing and testing a COTS magneto-inductive magnetometer and noise cancellation algorithms for boom-less satellites as well as for backyard space weather citizen-science sensor suites. Our effort is focused on developing and testing a firmware modified PNI RM3100 magnetometer for space environment conditions for radiation and thermal environments from LEO to the surface of Europa. We are also combining the magnetometer with a COTS dual-frequency GPS receiver for research and citizen science space weather observations. Our goal is to have magnetometers everywhere to make high-quality geomagnetic and space weather measurements. This seminar describes the new technology and highlights the innovative hardware and software solution that enables global sensor nets and constellation missions.