Curriculum Vitae

Name: **Mark Bela Santos Moldwin**
Present Positions: Professor of Climate and Space Sciences and Engineering
Arthur F. Thurnau Professor
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Education

DATES	INSTITUTION	DEGREES & DATE
1983-1987	University of Alaska-Fairbanks	B.A. Physics with Honors,
1987-1990	Boston University	M.A. Astronomy, 1990
1987-1992	Boston University	Ph.D. Astronomy, 1993 (W. Jeffrey Hughes, thesis advisor)

Recent Honors and Awards

2014	UM Harold R. Johnson Diversity Service Award
2014	UM Provost's Teaching Innovation Prize
2016	AGU Waldo E. Smith Union Award
2017	UM CoE John F. Ullrich Education Excellence Award
2019	US-Norway Fulbright Arctic Chair
2019	UM CoE Creativity, Innovation and Daring Faculty Incentive Award
2019	UM CoE Trudy Huebner Service Excellence Award

Roles Synergistic with Education and Mentoring

Faculty Director	UM M-Engin program (STEM Academic support program)
Past-President	American Geophysical Union's Education Section
Co-Chair	2024 S&SP Decadal Survey State of the Profession Panel
Faculty Advisor	UM College of Engineering Post-Doctoral Fellows (M-PACE)

Recent Magnetometer Funded Research Support

71) Principal-Investigator, Development of a new Research Quality, Low-Cost Inductive Magnetometer for Heliophysics Missions, NASA HTIDES, $600K, 5/1/18 to 4/31/21

75) Principal-Investigator, Instrument Concepts for Europa Exploration (ICEE2), NASA, $920K, 6/1/2019-5/31/2021

78) Principal-Investigator, Space weather electromagnetic pulse impacts on modern smart cities and Internet of Things technologies: Observations and modeling of fast and small-scale induced currents in the context of GICs, NASA LWS, $933,770, 8/1/2020 – 7/31/2024

79) Deputy Principal-Investigator, HERMES NEMISIS for NASA Artemis Lunar Gateway, NASA, $869K, 4/1/2020-12/31/2024
80) Principal-Investigator, GDC NEMISIS magnetometer instrument Phase A, NASA $250K, 10/1/2022-12/30/2022 and instrument Phase A-F, 2/1/2023-12/31/2032, $21M.

Selected Recent Magnetometer or Mission-Related Publications
(Google Scholar h-index = 48)
Over 200 publications and 3 patents with 8300+ total citations

141) Russell, C.T., Anderson, B.J., Baumjohann, W., Bromund, K.R., Dearborn, D., Fischer, D., Le, G., Leinweber, H.K., Leneman, D., Magnes, W., Means, J.D., **Moldwin, M.B.**, Nakamura, R., Pierce, D., Plaschke, F., Rowe, K.M., Slavin, J.A., Strangeway, R.J., Torbert, R., Hagen, C., Jernej, I., Valavanoglou, A., Richter, I., (2014) The Magnetospheric Multiscale Magnetometers, Space Science Reviews, 10.1007/s11214-014-0057-3, http://dx.doi.org/10.1007/s11214-014-0057-3
172) Regoli, L. H., **Moldwin, M. B**., Pellioni[1], M., Bronner, B., Hite[1], K., Sheinker, A., & Ponder, B. M. (2018). Investigation of a low-cost magneto-inductive magnetometer for space science applications. *Geoscientific Instrumentation, Methods and Data Systems, 7*(1), 129-142. doi:http://dx.doi.org/10.5194/gi-7-129-2018
183) Engebretson, M. J., Pilipenko, V. A., Ahmed, L. Y., Posch, J. L., Steinmetz, E. S., **Moldwin, M. B.**, et al. (2019). Nighttime magnetic perturbation events observed in Arctic Canada: 1. Survey and statistical analysis. *Journal of Geophysical Research: Space Physics*, 124, 7442– 7458. https://doi.org/10.1029/2019JA026794
186) Leonardo H Regoli[3], Mark B Moldwin, Connor Raines[1], Tom A Nordheim, Cameron A Miller, Martin Carts, Sara A Pozzi, (2020) Radiation tolerance of the PNI RM3100 magnetometer for a Europa lander mission, Geoscientific Instrumentation, Methods and Data Systems Discussions, https://doi.org/10.5194/gi-2020-12
190) Vidal-Luengo, S. E., & **Moldwin, M. B**. (2021). Global magnetosphere response to solar wind dynamic pressure pulses during northward IMF using the heliophysics system observatory. *Journal of Geophysical Research: Space Physics*, 126, e2020JA028587. https://doi.org/10.1029/2020JA028587
191) Boudouridis, A., Yizengaw, E., **Moldwin, M. B**., & Zesta, E. (2021). Nonlinear least squares fitting technique for the determination of field line resonance frequency in ground magnetometer data: Application to remote sensing of plasmaspheric mass density. *Journal of Geophysical Research: Space Physics*, 126, e2020JA028440. https://doi.org/10.1029/2020JA028440
195) McCuen, B. A., **Moldwin, M. B.,** & Engebretson, M. (2021). Characterization of transient-large-amplitude geomagnetic perturbation events. *Geophysical Research Letters*, 48, e2021GL094076. https://doi.org/10.1029/2021GL094076
200) Shi, Y., & **Moldwin, M. B.** (2022). Interhemispheric asymmetries in magnetosphere and ionosphere magnetic field residuals between Swarm observations and Earth magnetic field models. *Journal of Geophysical Research: Space Physics*, 127, e2021JA030190. https://doi.org/10.1029/2021JA030190
201) **Moldwin, M. B.,** Wilcox, E., Zesta, E., and Bonalsky, T. M.: Single-event effect testing of the PNI RM3100 magnetometer for space applications, *Geosci. Instrum. Method. Data Syst., 11*, 219–222, https://doi.org/10.5194/gi-11-219-2022, 2022.