Dr. Michael Loudiana

Contact Information

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Education

Ph.D. Physics, Washington State University, December 1984
M.S. Physics, Washington State University, June 1980
B.S. Physics, Eastern Washington University, June 1978

Recent Ministry Activities

- 2014 – 2025: Led or co-led 25 church small groups
- 2019 - 2020 – Creation Apologetics Master Class, Answers in Genesis
- November 2021: Speaking engagement at Epic Church Legacy University
- May 2022 – Certificate of Ministry, Highlands College, two-year evening program
- May – June 2022 – Attended Creation Super Conference, Myrtle Beach, SC, Creation Ministries International (CMI)
- June – August 2022 – Taught Biblical Worldview class at East Highland Baptist Church, Hartselle, AL
- August 2022 – present – Technical reviewer for The Journal of Creation
- June - July 2024: Taught Creation Science at East Highland Baptist Church, Hartselle, AL
- July 2025: Attended Creation Conference, Denver, CO, Creation Ministries International (CMI)

Published Devotions

- 2022: Contributed devotions to COFFEE WITH GOD Volume 3.
- 2023: Contributed devotions to COFFEE WITH GOD Volume 4.
- 2024: Contributed devotions to COFFEE WITH GOD Volume 5.
- 2025: Contributed devotions to COFFEE WITH GOD Volume 6 (to be published)

Current project

Science, the Universe, and the Bible: A Guide to Thinking for Yourself

This book exposes assumptions scientists make when developing theories about the past, such as the Big Bang theory. It also addresses questions regarding scientific worldviews, why we can trust the Bible, and the incredible physical laws that govern our universe.

Employment History

- **2020 – Present: Retired**
- **2012 – 2019: Boeing Technical Director, Huntsville, AL**
  - Technical director of a multi-company team for the U.S. Missile Defense Agency (MDA) to develop future architectures and automated decision logic for National Ballistic Missile Defense System (BMDS)
  - Recognized expert in missile defense tracking, discrimination, and countermeasure mitigation
  - Recognized expert in endo-atmospheric and exo-atmospheric missile / rocket phenomenology (dynamics, signatures, signal propagation, and atmospheric / weapon interactions)
  - Recognized expert in algorithms for statistical data analysis, automated decision making, and machine learning
  - Collaborated with National Laboratories, including Massachusetts Institute of Technology / Lincoln Laboratories, Lawrence Livermore National Laboratory, and Johns Hopkins University Applied Physics Laboratory on research, development, and systems engineering for Missile Defense Systems
- **1985 – 2012: Boeing Technical Fellow, Seattle, WA**
  - Key technical contributor to "Star Wars" era missile defense programs such as Advanced Target Measurement, Airborne Optical System, and Space Based Neutral Particle Beam Concept Development and Technology Integration programs
  - Developed radiometric sensor calibration for infrared Airborne Surveillance Testbed sensor. Calibration utilized advanced stellar irradiance models and was recognized as the infrared standard in the missile defense community, nationwide.
  - Developed approaches to perform discrimination of ballistic missile warheads (key enabling technology for ballistic missile defense) with optical sensors. Guided Boeing team that successfully implemented discrimination algorithms

Committee Experience

Program committee, paper selection, and session chair for Military Sensing Symposium Specialty Group on Missile Defense – Sensors, Environments, and Algorithms (MSS MD-SEA), Environmental Research Institute of Michigan, University of Michigan and SENSIAC Military Sensing Information Analysis Center, Georgia Institute of Technology, 2000 – 2009 (11 conferences in 10 years)

Patents

- Patent 8,672,258 – Power Transmission for A/C Flight Testing, issued March 18, 2014
- Patent 8,806,945 – Method and Apparatus for Shockwave Attenuation, issued August 19, 2014

- Patent 8,902,102 – Passive Bistatic Radar for Unmanned Aircraft System Sense and Avoid, issued December 2, 2014

Publications

M.A. Loudiana, “AST IR Signature Measurements from TCMP Flight 3A," 2000 Meeting of the Military Sensing Symposia (MSS) Specialty Group on Missile Defense Sensors, Environments and Algorithms (MD-SEA), 25-27 January 2000.

M.A. Loudiana and Billy E. Johnson, “A Summary of Theater Ballistic Missile Data Collected by the Airborne Surveillance Testbed," Fifth Annual American Institute of Aeronautics and Astronautics (AIAA) / Ballistic Missile Defense Organization (BMDO) Technology Readiness Conference, 17-20 September 1996.

M.A. Loudiana and C.M. Parsons, “Characterization and Discrimination of Debris Observed by AST on STORM Flights," 1995 Meeting of the IRIS Specialty Group on Targets, Backgrounds, and Discrimination, 31 January - 2 February 1995.

M.A. Loudiana and G.E. Klein, “AST Observations of the ODES Post-Boost Vehicle During the STARS M2 ODF Mission," 1995 Meeting of the IRIS Specialty Group on Targets, Backgrounds, and Discrimination, 31 January - 2 February 1995.

G.E. Klein and M.A. Loudiana, “CSO Resolution Enhancement and Measurement Techniques for AST," SPIE International Symposium on Optical Engineering and Photonics in Aerospace Science and Sensing, 12-16 April 1993.

A.E. Rydgren, M.A. Loudiana G.E. Klein, “Phenomenology Observed During Recent AST Missions,” Optical Discrimination Algorithms (ODA) Conference VI, 14-15 September 1993.

G.E. Klein and M.A. Loudiana, “CSO Resolution Enhancement and Measurement Techniques for AST," Optical Discrimination Algorithms (ODA) Conference V, 9-11 March 1993.

M.A. Loudiana, and G.E. Klein, “Two Body Model Temperature Analysis of the BP-TD Vehicle," Optical Discrimination Algorithms (ODA) conference V, 9-11 March 1993.

M.A. Loudiana, and G.E. Klein, “AST Observations of a Special RV," Optical Discrimination Algorithms (ODA) conference V, 9-11 March 1993.

M.A. Loudiana, and G.E. Klein, “AST Observations of a Special RV," 1993 Meeting of the IRIS Specialty Group on Targets, Backgrounds, and Discrimination, 26-28 January 1993.

G.E. Klein, M.A. Loudiana, and A.E. Rydgren, "AST Observations of Target Phenomena during the Firebird Mission," Optical Discrimination Algorithms (ODA) conference, 8-10 September 1992.

A.E. Rydgren, G.E. Klein, and M.A. Loudiana, "AST Observations of Target Reentry Phenomena during the GBI/ERIS FTV-2 Mission," Optical Discrimination Algorithms (ODA) conference, 8-10 September 1992.

E. Montenegro and M.A. Loudiana, "Ascent Heating Effects for Thin Shrouds," Proceedings of the Passive Optical Signature Symposium, vol. 2, pp. 45-1 to 45-20, September 1990.

M.A. Loudiana, J.K. Messer, and B. Ford, "USASDC Queen Match Program: Overview and Results of Flight 1," Proceedings of the 1990 Meeting of the IRIS Specialty Group on Targets, Backgrounds, and Discrimination, 23 January 1990.

M.A. Loudiana, M.E. Calkins, and J.R. Gillis, "Capabilities of the Batch Optical Signature Simulation," Proceedings of the Passive Optical Signature Symposium, vol. 1, pp. 131-146, August 1988.

M.A. Loudiana and T.W. Armstrong, "Neutral Particle Beam Discrimination with IR Sensors," Proceedings of the 1988 Meeting of the IRIS Specialty Group on Targets, Backgrounds, and Discrimination, vol. 1, pp. 317-329, 17 December 1986.

J.T. Dickenson, M.A. Loudiana, and A. Schmid, "Consequences of Exposure of Optical Coatings to Reactive Gasses and Energetic Particles," Adhesives, Sealants, and Coatings for Space and Harsh Environments, Lieng-Huang Lee ed., Plenum Press, New York, pp. 467-475, 1988.

M. Guardalben, A. Schmid, M.A. Loudiana, and J.T. Dickenson, "Photothermal Analysis of Synergistic Radiation Effects in ThF4 Optical Thin Films," Physical Review B, vol. 35, pp. 4026-4030, 15 March 1987.

M.A. Loudiana, J.T. Dickinson, A. Schmid, and E.J. Ashley, "Electron Enhanced Sorption of Fluorine by Silver Surfaces," Applied Surface Science, vol. 28, pp. 311-322, 29 August 1986.

M.A. Loudiana, J.T. Dickinson, and E.J. Ashley, "Electron-Induced Damage of ThF4 Thin Films in the Presence of XeF2," Journal of Vacuum Science and Technology, vol. A 3, pp. 647-650, May/June 1985.

M.A. Loudiana and J.T. Dickinson, "Summary Abstract: Simultaneous Exposure of SiO2 and ThF4 to XeF2 and Energetic Electrons," Journal of Vacuum Science and Technology, vol. B 3, pp. 1393-1396, September/October 1985.

M.A. Loudiana and J.T. Dickenson, "Simultaneous Exposure of SiO2 and ThF4 to XeF2 and Energetic Electrons," Proceedings of the Topical Meeting on Microphysics of Surfaces, Beams, and Adsorbates, Santa Fe, New Mexico, cosponsored by the Air Force Office of Scientific Research, American Vacuum Society, and Optical Society of America, 4-6 February 1985.

M.A. Loudiana, J. Bye, J.T. Dickinson, and D.A. Dickinson, "Chemisorptive Emission from Fluorine Adsorption on Tungsten," Surface Science, vol. 157, pp. 459-472, 28 November 1984.

M.A. Loudiana, J.T. Dickinson, and E.J. Ashley, "Electron-Induced Damage of ThF4 Thin Films In The Presence of XeF2," Journal of Vacuum Science and Technology, vol. A 3, pp.647-650, 12 October 1984.

M.A. Loudiana, A. Schmid, J.T. Dickinson, and E.J. Ashley, "The Chemical Sputtering of Silica by Ar+ Ions and XeF2," Surface Science, vol. 141, pp. 409-416, 11 January 1984.