DAVID E. THOMAS

Curriculum Vitae · Creating communities of innovators around the world

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EXECUTIVE SUMMARY

Accomplished executive, science diplomat, and research scientist with 30 years of experience, now dedicated to advancing space ecosystems and innovation communities worldwide. Deep expertise in international relations, global strategy, and partnership development, with a proven record of leadership across academia, non-profit, government, and commercial settings and a track record of managing large-scale science and technology (S&T) programs and pioneering research.

David's mission began as opening doors for people around the world so they could discover purpose and become empowered to make a difference. It has evolved into creating communities of innovators around the world — empowering local leaders and communities to build sustainable opportunities that advance regional prosperity, resilience, and human flourishing. His current focus applies this mission to advancing space ecosystems globally.

As Executive Director of the Milo Space Science Institute within ASU's School of Earth and Space Exploration, David leads a groundbreaking initiative to revolutionize space science and exploration through the world's first university-led space agency — creating access to space, fostering international cooperation, and undertaking complex initiatives beyond the scope of any single entity.

PROFESSIONAL HIGHLIGHTS

- Executive Leadership: Executive Director at the Milo Institute; previously CEO at ASURE and executive roles at CFD Research and Aegis Technologies.
- Science & Space Diplomacy: Combines broad S&T fluency with cultural awareness and a diplomatic manner that opens access to senior levels of government; builds lasting international relationships on trust and principled frameworks, positioning the United States as a partner of choice for space capacity building.
- International Cooperation: Pioneered a transformational space-exploration model that makes space accessible, enables broader participation in the space economy, and shares cost and risk for ambitious missions.
- Global Strategic Partnerships: Cultivates trust relationships across the Americas, Indo-Pacific, Europe/UK, MENA, and Africa.
- Fiscal Management & Growth: Grew a non-profit to $60M in annual revenue; increased S&T revenue 300% with a 40% win rate on new customers.
- Societal Impact from S&T: Brought a telemedicine solution to market for early detection of vision problems in pre-verbal children; authored patents in advanced retinal imaging.

PROFESSIONAL EXPERIENCE

Executive Director — Milo Space Science Institute, School of Earth and Space Exploration, ASU

Oct 2018 – Present

Established the Milo business model around collaborative funding, a coordinating role, and capacity building — all creating access to space for international partners.

Workforce Development

- Over 30 training programs, agreements and speaking engagements in over 15 countries, across Africa, Indo-Pacific, Latin America, and Middle East regions.

Space Diplomacy

- Working with Regents Professor Jim Bell (Milo Chief Scientist) and the Milo Advisory Council, coordinated innovative mission models enabling new and non-traditional participants worldwide to join compelling space-science missions.
- Founded the Milo Ambassador Corps — professionals across Africa, Indo-Pacific, Latin America, MENA, North America, and UK/Europe (Australia, Canada, Ecuador, Morocco, Paraguay, UK, US, Zimbabwe): 12 agreements, 4 projects, and hundreds of engagements supporting space-diplomacy outcomes.
- Signed a NASA Space Act Agreement on behalf of ASU to prepare students globally for complex space careers through real-world, lunar-focused learning.

Director & CEO — ASU Research Enterprise (ASURE) *Jan 2019 – Jul 2021*

- Developed an innovation challenge patterned on the grand-challenge model, with 40% of teams receiving follow-on funding and projects with government, national labs, and industry.
- Provided thought leadership and messaging for an organization at the leading edge of transformation, maturing technology into positive impact for customers.

Program Manager, Strategic Programs — Arizona State University *Jun 2018 – Jan 2019*

- Created sustainable operating models for a diverse range of university programs, notably advancing operations for ASURE.
- Leveraged deep understanding of the university ecosystem to streamline operations and align them with long-term institutional goals.

Director — CFD Research Corporation *Apr 2014 – 2018*

- Increased annual contract awards 300% and doubled the proposal win rate through a first-principles approach to strategy, capture, execution, and customer engagement.
- Launched and managed a startup accelerator commercializing technologies from government R&D funding.
- Led multidisciplinary teams developing battery, fuel-cell, computational-materials, energetics, and semiconductor technologies; catalyzed strategic innovation and business development.

Executive Manager, Senior Scientist — Aegis Technologies Group *2005 – 2014*

- Provided transformational research, development, and business leadership in nanotechnology and materials science.
- Launched an R&D division with P&L accountability and IP management, securing $10M+ in defense-sector government contracts.
- Led multidisciplinary teams in materials science, energy, nanophotonic devices, and terahertz technologies.

Research Associate — NSF I/UCB, The University of Memphis *2001 – 2004*

- Guided a biomaterials laboratory analyzing biopolymer defects; developed a widely adopted fee-for-service analytical process to extend orthopedic implant lifetimes.

Research Associate — The University of Tennessee Space Institute *2002 – 2004*

- Advanced a telemedicine tool measuring visual acuity in pre-verbal children; developed image-processing algorithms and control systems to flag the need for follow-up eye care.

Manager of Research & Development — iScreen LLC *1999 – 2002*

- Led R&D for a telemedicine startup; navigated FDA Class II device approval and supported clinical trials, training, and documentation.

Manager of Research & Development — Federal Electro Optics *1997 – 1999*

- Led mechanical engineering and software development for a LASIK research system, including a comprehensive laser/mechanical/optical control system; patented an innovation improving vision-correction technology.

Research Associate — Los Alamos National Laboratory *1995*

- Investigated radiation effects on fiber optics for the ITER program and helped develop mitigation strategies, applying expertise in optics, materials science, and radiation effects.

TEACHING & EXECUTIVE EDUCATION

Graduate Courses Developed

- Global Space Entrepreneurship
- Space Diplomacy: Global States and Markets
- Professional Leadership Development
- Space for Global Future Leaders
- Space Leadership in the Age of AI

Executive Certificate (non-degree) Programs Led

- Washington, D.C. (bi-annual)
- Guayaquil, Ecuador
- Quito, Ecuador

RECENT SPEAKING ENGAGEMENTS

- Meridian Space Diplomacy Forum, Apr 2024 (Washington, D.C.) — Cosmic Cooperation: Space Education and Workforce Development Partnerships.
- Space Symposium, Apr 2024 (Colorado Springs) — Moderator, International Panel: Multilateral Collaboration on Capacity Building of Education to Workforce.
- Forward Research & Innovation Summit — Research and Space Edition, Nov 2023 (San Juan, Puerto Rico).
- Indo-Pacific Space and Earth Conference, Oct 2023 (Perth, Australia).
- Space Symposium, Apr 2023 (Colorado Springs) — Workforce development invited speaker.

EDUCATION

- M.Sc. Physics, Summa Cum Laude, 1996 — The University of Memphis
- B.Sc. Mechanical Engineering, Magna Cum Laude, 1994 — The University of Memphis
- Strategic Innovation Management Certificate, 2015 — Vanderbilt University

PATENTS

- US 6,561,648 — D. Thomas. System and method for reconstruction of aberrated wavefronts.
- US 6,394,999 — R. Williams, J. M. Freeman, J. F. Freeman & D. Thomas. Laser eye surgery system using wavefront sensor analysis to control DMD mirror patterns.
- US 6,508,812 — R. Williams, J. M. Freeman, J. F. Freeman & D. Thomas. Control system for high-resolution high-speed DMD for laser refractive eye surgery.
- US 6,523,954 — R. Kennedy, J. Bellows & D. Thomas. System and method for eye screening.
- US 6,859,311 — R. Williams, B. Callies, D. Thomas. DMD having a window transparent to UV light.
- US 7,077,521 — D. Thomas. System and method for reconstruction of aberrated wavefronts.

SELECTED PUBLICATIONS

Journal Articles

- R. Chen, J. Song, T. Lin, G. Aizin, Y. Kawano, N. Aoki, Y. Ochiai, V. Whiteside, B. McCombe, D. Thomas, M. Einhorn, J. Reno, G. Strasser, J. Bird, "Terahertz Detection with Nanoscale Semiconductor Rectifiers," IEEE Sensors Journal, 13(1), Jan 2013.

- M. S. Jahan, D. E. Thomas, M. D. Ridley, "Ionizing Irradiation for Sterilization and Modification of Orthopedic Biomaterials," Trans. Tech. Periodicals (2003).
- M. S. Jahan, D. E. Thomas, M. C. King, D. W. Cooke, B. L. Bennett, E. B. Orler, D. A. Wrobleski, "ESR Study of Radiation-Induced Oxidation in Poly(ester urethane)," NIM B 185 (2001) 351–354.
- R. A. Kennedy, D. E. Thomas, "Evaluation of the iScreen digital screening system for Amblyogenic factors," Can. J. Ophthalmology 35 (2000) 258–262.
- M. S. Jahan, D. E. Thomas, D. W. Cooke, B. L. Bennett, "A Study of Free Radicals in Irradiated/Aged UHMWPE Materials," J. Long-Term Effects on Medical Implants (2000).
- M. C. Buncick, D. E. Thomas, K. S. McKinny, M. S. Jahan, "Structural Changes of UHMWPE Exposed to X-Ray Flux…," Applied Surface Science 156 (2000) 97–109.

Book Chapters & Technical Publications

- M. S. Jahan, D. E. Thomas, D. W. Cooke, B. L. Bennett, "Effects of Gamma Irradiation on Fluorescence Yield in Scintillating, Wavelength Shifting and Clear Fibers," Proc. 4th Intl. Conf. on Calorimetry in High-Energy Physics (1993), World Scientific, 1994, pp. 613–617.
- M. S. Jahan, D. E. Thomas, D. W. Cooke, B. L. Bennett, "Thermal Recovery of Fluorescence Yields in γ-Irradiated Scintillating and Wavelength Shifting Fibers," Proc. SciFi93, World Scientific, 1995, pp. 441–449.
- H. H. Trieu, W. O. Haggard, R. L. Conta, J. E. Parr, D. E. Thomas, M. S. Jahan, "Investigation of Free Radicals in UHMWPE Materials Following Irradiation and Aging," ASTM STP 1307 (1998) 109–119.
- H. H. Trieu et al., "Relationship Between Free Radicals, Oxidative Degradation, and Wear Resistance of UHMWPE Tibial Components," AAOS Annual Meeting, 1997, Wright Medical Technology.

Additional publications include other refereed journal articles and 30+ papers presented at international, national, and regional conferences.

PHILANTHROPIC & COMMUNITY SERVICE

Part of David's personal mission is enhancing the wellbeing of marginalized populations. Contributions include launching a non-profit to advance education outcomes in Indigenous communities in Arizona, mentoring emerging leaders, creating a mentoring program in collaboration with a police department, supporting adoption agencies, participating in international community outreach, and providing strategic guidance to charitable organizations.

INTERESTS & ACTIVITIES

Actively supports multiple non-profit organizations in Arizona; avid traveler, amateur photographer, aspiring author and musician, and outdoor enthusiast.

REFERENCES

- Professor Jim Bell — Jim.Bell@asu.edu
- Scott Smas — Scott.Smas@asu.edu
- Lon Levin — lon.levin@s7v.com

Additional references available upon request.