

**Frederic M. N. Bertley Ph.D.**  
**PROFESSIONAL HIGHLIGHTS**

**\*\*\*COSI rated #1 Science Museum in the Nation in 2020, 2021, 2022 & 2023 – USA Today\*\*\***



- **Current position: President and CEO, COSI**
  - **National Medal Awardee–White House (IMLS) 2023**
  - Strategic Civic-minded Leader; Scientist and Innovator
  - Commencement Speaker – Columbus State College
  - Exec Prod & Host – PBS TV Show: QED with Dr. B
  - Exec Prod & Host – Animated Series: Dr. B in 3
  - A HistoryMakers – Aired on 60 Minutes - 2023
  - SMART 50 Awardee 2022 – Smart Business
  - Presidential Medal for Service – OSU – 2021
  - Commencement Speaker – OSU – 2021
  - SMART 50 Awardee 2021 – Smart Business
  - Innovator of the Year 2021 – Smart Business
  - C-Suite of the Year 2021 – Columbus Business First
  - Most Admired CEO 2021 – Columbus Business First
  - SMART 50 Awardee 2020 – Smart Business
  - Blooloop 50 Worldwide Museum Influencers 2020
  - SMART 50 Awardee 2019 – Smart Business
  - CEO of The Year 2018 – Columbus CEO
  - Honorary Doctorate 2018 – Otterbein University
  - Most Admired CEO 2018– Columbus Business First
  - Harvard Medical School Dean’s Service Award
  - Harvard Business School – Leadership Program 2018
  - Inducted in the Library of Congress (HistoryMakers)
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- 7 X EMMY™ winner
  - Dell Inspire 100 World Changers Award
  - Citation from Commonwealth of Pennsylvania House of Rep. for Impact on Science Education
  - Awarded a Citation from the City Council of Philadelphia for Civic Leadership
  - 40 Under 40 – Philadelphia Business Journal
  - Appointed Good Will Ambassador US – Senegal
  - INTEL Science and Engineering Grand Award Judge
  - United Nations Featured Speaker: Topic - Science and Innovation
  - Founder of The Color of Science™ Program
  - 25 years directing NSF, NIH, NASA, USAID formal/informal STEM education initiatives
  - 30 years developing STEM initiatives and curriculum for diverse audiences (K-16)
  - Board of Directors: Association of Science and Technology Centers (ASTC); American Alliance of Museums (AAM); McGill University Redpath Museum; Denison University Innovation Lab; OSU, College of Engineering; Experience Columbus; National Veterans Memorial & Museum (NVMM); Inquiry Schools
  - International Speaker: Numerous conferences/events (e.g. in the U.S: DOE, NSF, NIH, USAID, DOI, e.g. globally Canada, Japan, Italy, France, Paraguay, Peru, Egypt, Senegal, Barbados)

## **EDUCATION/TRAINING**

- 2000 – 2003 Research Fellowship, Harvard Medical School
- 1999 – Ph.D. McGill University (Immunology)
- 1994 – B.Sc. McGill University (Physiology and Mathematics)
  
- After graduating from McGill, turned my attention to the lack of primary healthcare, preventative medicine, and basic vaccines in developing nations where I managed multinational teams in Haiti, The Sudan, and the Canadian Arctic. I continued this area of interest by joining a vaccine research group at Harvard Medical School focusing on the development of DNA vaccines for HIV/AIDS. To expand my professional experiences, I worked for three years at the prestigious A-List law firm, WilmerHale LLP (formally Hale and Dorr) as a Technology Specialist. Working in the intellectual property division, I prosecuted patents, analyzed and drafted claim construction and performed freedom-to-operate studies for multi-national corporations.

## **RECENT EMPLOYEMENT HISTORY**

- **2016 – Current: President and CEO, Center of Science and Industry (COSI)**
- 2012 – 2016: Senior Vice President, Science and Education, The Franklin Institute
- 2008 – 2012: Vice President, Center for Innovation in Science Learning, The Franklin Institute
- 2006 – 2008: Harvard Medical School (Immunology Instructor)
- 2006 – 2008: Roxbury Community College (Professor, Science)
- 2004 – 2006: WilmerHale LLP (Formally Hale and Dorr) – Technology Specialist
- 2003 – 2004: Millennium Pharmaceuticals – Scientist
- 2000 – 2003: Harvard Medical School – Postdoctoral Fellowship

## **ROLE AS PRESIDENT AND CEO – 2016 - Current**

### **Leadership**

Consistently elevating COSI's reputation as a highly regarded science center, garnering the ranking of #1 science museum in the nation by USA today for 2020, 2021, 2022 and 2023. Re-envisioned COSI's strategic objectives and effectively developed implemented the organization's strategic plan. Successfully navigated the pandemic and positioned COSI in a fiscally sound position, superseding pre-pandemic status, making it the strongest and best financial position in over two decades. In addition, led the development of a suite of new effective programmatic initiatives that will extend well beyond the duration of the pandemic allowing for multiple, differentiated revenue streams. Examples of institutional leadership, and generative and innovative direction in diverse areas, are included below.

### **Mission Advancement**

Advancing the COSI mission by maintaining a visible presence in the public, business and philanthropic communities. Serving as the organization's chief fundraiser, leading all local and national activities; acting as a compelling spokesperson for the organization to garner the engagement and confidence of donors, members and community leaders; and stewarding relationships in support of COSI's reimagined vision and mission.

- Grew fundraising goal and attainment each year by double digit percent over previous year: 2017 – Current (including during the pandemic).
- Raised the most funds per year in the last six years since the opening of the current building in 2000.

### **Fiscal Oversight**

Developing and managing a sustainable operating budget with a keen focus on maximizing resources for effective operation; overseeing COSI's assets, including its human capital and facilities; continuing to build upon and diversify the funding base to support COSI's strategic plan by sustaining existing funding relationships and identifying new funding sources and resources.

- Grew attendance year-over-year to current (exception - 2020 pandemic year);
- Grew revenue year-over-year to current (exception - 2020 pandemic year);
- Grew membership levels to its highest point during my tenure.

### **Director of AMNH-COSI Partnership**

To advance and expand COSI's offerings, in 2016, a partnership was developed between AMNH and COSI to create an AMNH satellite site in Columbus, Ohio. This partnership created a wing within COSI's building housing two galleries: 1. A permanent gallery entitled "The American Museum of Natural History Dinosaur Gallery"; and 2. A traveling exhibition gallery entitled "The American Museum of Natural History Presents..." rotating AMNH created exhibits on a traveling exhibition schedule.

### **As Director of the AMNH-COSI Partnership**

- Lead the opening, operations and execution of the AMNH satellite site complete with the Dinosaur Gallery, and the AMNH curated traveling space;
- Oversee all financial analysis and fiscal impact of the AMNH-COSI partnership;
- Lead exchanges between COSI and AMNH Team members as a "brain trust exchange" of exhibit ideas and programmatic initiatives and best practices share-outs;
- Oversee regular visits of AMNH Staff to COSI to support similar exchange as well as have AMNH Staff oversee exhibit installation, storage and care.

Through this leadership and due to the collaborative spirit of leadership at both institutions, the partnership has been a resounding success in terms of (1) revenue augmentation, (2) showcasing cutting edge scientific discovery and dynamic content and (3) demonstrating the power and promise of partnership.

## **Additional State, Federal and Global Partnerships and Collaboration**

Forging and maintaining partnerships and collaborations with organizations locally, nationally and internationally. Partnerships covering a wide arrange of impactful programmatic initiatives through MOUs include, but are not limited to the US State Department, NASA, NOAA, EPA, USDOE, Virgin Hyperloop and USAID. Also developed partnerships at the state level throughout Ohio as well as with Kentucky, Michigan, Virginia, West Virginia, Indiana, Florida, Texas, and Alaska, to date. Extended programs in UAE, UK, Egypt, Barbados and Paraguay. Locally, built partnerships with k-12 stakeholders, cultural institutions, library associations and community organizations.

## **Culture and Team**

Inspiring COSI's Team members (both employees and volunteers) to deliver on COSI's mission while being effective stewards of organizational and community resources; constantly "raising the bar" and driving the organization and its constituencies towards higher levels of achievement and measurable results. Strengthening and growing the COSI culture and Team by increasing employee and volunteer engagement.

- Created a professional development and leadership training program for Executives, Senior Directors, Directors, Managers and all new onboarding staff.
- Mentored and coached internal talent such that 80% of the executives were promoted from within.
- Created a Diversity & Inclusion Program both internally and externally facing to ensure COSI is an organization serving all.

## **Leadership Around Vision, Innovation, Creation and Execution**

### ***Novel Programmatic Creations:***

- COSI Science Festival
- COSI Catalyst Group (A for-profit consultancy firm for COSI)
- STEM Science Kits and the Learning Lunchbox Program
- The Color of Science™ Program
- Extra-Curricular Intellectual Property Innovation Center (*pronounced* EPIC)

### ***Novel Media Productions:*** (Awarded a total of 5 EMMYS™ in their inaugural seasons)

- Prime-time TV show with PBS-WOSU: QED with Dr. B. <https://www.pbs.org/show/qed-dr-b/>
- Animated short science video series called Dr. B. in 3 <https://cosi.org/drbin3>

## **COSI BOARD CULTIVATION AND STEWARDSHIP**

- Actively engaging with COSI's Board of Trustees. Steward all Board Member relationships;
- Working directly and often with board members, including the Chair of the Board, specifically on governance and strategic planning matters;
- Working directly with Board Chair and Governance Committee, updated and rewrote by-laws
- Developed new relevant and effective Board Subcommittees;
- Working directly with the Chairs of the subcommittees to ensure trustee engagement, satisfaction and contribution to vision, mission and outcomes of COSI;
- Develop, plan and execute effective strategy for CEO-Board Member development pitches;
- Part of recruiting team for new Board of Trustee prospects

## **CORPORATE BOARD SERVICE**

- Park National Bank (PRK) – Board Member [www.parknationalbank.com](http://www.parknationalbank.com)
  - Member of Risk Committee
  - Member of the Executive Committee
- White Castle Restaurant – Board Member [www.whitecastle.com](http://www.whitecastle.com)

## **NON-PROFIT BOARD SERVICE**

Actively engaged on numerous regional, national and international non-profit boards with roles on governance, nominating, diversity and inclusion, audit, finance subcommittees as well as some chairmanship, including:

### ***National/International Boards:***

- American Alliance of Museums (AAM); [www.aam-us.org](http://www.aam-us.org)
- National Veterans Memorial and Museum Board (NVMM); [www.nationalvmm.org](http://www.nationalvmm.org)
- Association of Science and Technology Centers (ASTC); [www.astc.org](http://www.astc.org)
- Inquiry Schools; [www.inquiryschools.org](http://www.inquiryschools.org)
- Caribbean Science Foundation; [www.caribbeanscience.org](http://www.caribbeanscience.org)

### ***Regional Boards:***

- Columbus Regional Airport Association (CRAA);
- Experience Columbus;
- Denison University Launch Lab Advisory Board;
- Department of Engineering External Advisory Council, The Ohio State University;
- City of Columbus Commission on Black Girls;
- Columbus Cultural Leadership Consortium (CCLC);
- Columbus African American Business Council;
- Franklin Park Community Board
- Children’s Hospital of Philadelphia (IRB)

## **DEVELOPMENT / FUNDRAISING**

- As President and CEO - Chief Fundraiser for COSI
- Instrumental in securing numerous transformational gifts to **The Franklin Institute**;
- Key role in cultivating, proposing, securing and stewarding the largest individual donation, a naming gift of 10M;
- Co-PI (**TFI lead**) on the largest federal grant (25M - USAID) in the Institute’s history, for the international STEM work in Egypt;
- PI or Co-PI on multiple federally funded initiatives including projects supported by NASA, NIH, NSF, USAID, US State Department and DOE;
- Successfully pitched and institutional lead on multiple corporate capital and corporate grants including but not limited to Huntington, AEP, Nationwide, GSK, TE Connectivity, Bank of America, Exelon, Boeing, Dow, FMC and PNC.

## **INSTITUTIONAL AMBASSADORSHIP**

- Traveling throughout the U.S. and the world representing COSI increasing brand recognition;
- Appearing on numerous regional and national broadcast media outlets including NBC, ABC, CBS, PBS, PBS Kids, FOX, Travel Channel, Discovery Channel, BET, HBCU television;
- Appearing frequently in newspaper articles and on radio programs;
- Invited speaker to numerous national and international venues;
- Produced EMMY™ Award winning science communication shows;

## **SCIENCE COMMUNICATIONS PRODUCTIONS:**

### **QED with Dr. B (awarded 2 EMMYs in its inaugural season - 2022)**

A fun and informative science series, co-produced by PBS - WOSU and COSI, that talks one-on-one with the scientists, engineers and innovators who are redefining how we interact with our world. Developed in partnership between COSI and PBS-affiliate, WOSU, QED is a weekly primetime television series that engages a large viewing audience with basic science while highlighting authentic stories of scientists, engineers, and innovators from across the globe. Featuring relevant STEAM topics such as race, climate science, artificial intelligence, nanotechnology and viruses, the purpose of QED is: (i) To discuss and showcase cutting-edge science in an engaging manner; (ii) to increase science literacy by making science accessible *to all*; and (iii) through storytelling, connect the public to the diverse women and men who move science forward for the betterment of humankind. The program is hosted by Dr. Frederic Bertley  
<https://www.pbs.org/show/qed-dr-b/>

### **Dr. B. in 3 (awarded 3 EMMYs in its inaugural season - 2022)**

Dr. B. in 3 is an animated short video series that covers a wide range of 21<sup>st</sup> century science topics. This video series is an informal and fun exploration of relevant content for student and adult audiences alike. The animated characters and clever graphics, coupled with understandable metaphors and explanation, provide a memorable and accessible connection to the content. Provocative at times, yet always scientifically sound, this series leverages popular hip-hop music and humor along to create a new kind of energy around a science show.  
<https://cosi.org/drbin3>

## **SNAPSHOT OF LEADERSHIP PORTFOLIO PRIOR TO COSI**

### **2008 – 2016: Senior Vice President, The Franklin Institute, Philadelphia, PA.**

As part of the Senior Leadership team at The Franklin Institute responsibilities include strategic, operational, and administrative oversight institute-wide initiatives including:

- Developing, drafting and implementing two institutional Strategic Plans (2009 – 2014; and 2013 – 2018);
- Board of Trustee cultivation and engagement;
- Part of the capital campaign leadership effort to raise 60M for new construction;

- Part of the thought leadership around traveling exhibit selection and permanent exhibit development and refurbishment;
- Yearly development and execution of a balanced budget.
- Leading all mission-based programs and responsible for all aspects of programs including: (i) Creation and innovation; (ii) budget development and fundraising (working with the Development Department); (iii) program development and execution;
- Working closely with the Operations Department to ensure capital needs are met and maintained;
- Working closely with the Finance Department to ensure fiscal management of numerous institutional budgets;
- Cultivating board relationships and partnerships with local, regional and national organizations;
- Representing TFI regionally, nationally and internationally.

As Senior Vice President for Science and Education at The Franklin Institute, specific responsibilities included oversight of 10 direct reports and their staff. Overall responsibilities included but were not limited to:

- Leading the mission-based Science and Education Division which oversees the following departments:
  - Gender, Adult Learning and Community Engagement;
  - Youth Programs;
  - Professional Development;
  - Educational Technology;
  - Museum Programs;
  - Collections and Curatorial;
  - International Programs;
  - The Philadelphia Science Festival;
  - Awards Program;
  - The Journal of The Franklin Institute;
- Ensuring institutional alignment with the strategic plan;
- Creating and managing a large portfolio of programs;
- Developing multiple operational and grant-based budgets;
- Representing the President and The Franklin Institute at meetings, conferences and symposia;
- Delivering speeches on vision, strategic planning and programmatic deliverables;
- Directing all aspects of the Science Leadership Academy – a magnet high school founded in 2006 in partnership with the Franklin Institute and The School District of Philadelphia;
- Overseeing the Color of Science Program;
- Overseeing the Science After Hours Program;
- Overseeing the Committee on Science and The Arts (CS&A);
- Overseeing (as PI or Co-PI) multi-grant proposals to NSF, MLS, NASA, NIH, USAID, foundations and private corporations;
- Chairing of the Out of Africa Task Force;
- Co-Chairing of The Wellness Task Force;
- Serving as a TFI Liaison with the leadership of regional universities and colleges.

## **TALKS, LECTURES, SEMINARS**

The following are topics of keynotes, commencement addresses, featured speakers, seminars, and workshops delivered at conferences, companies, or not-for-profits at local, national and international venues including: The United Nations, The White House, The US Department of Interior, Centers for Disease Control (CDC), Harvard Medical School, MIT, Wharton School of Business, McGill University, The Ohio State University, Otterbein University, Canada, Europe, The Caribbean, Africa, South America, UAE.

### **Science and Engineering: General**

- The Enterprise of Scientific Research
- The Science Academy: A Lens into Basic Science Research
- Science Education
- Science Literacy
- Sibling Synergies: Science and Engineering
- Importance of STEM / STEAM
- Science and Engineering in the Community
- The Art of Science - The Science of Art
- Science of Sports
- Presenting Science: A Review of the Processes of Science Presentations
- Careers in Science
- The Importance of intellectual Property
- A Motivational Presentation to Encourage Participation in Science
- Intellectual Property Explained
- From Bench to Business: The Pathway to Entrepreneurship Clinic

### **Leadership/Organizational Culture**

- Five Pillars of Effective Leadership
- A Leader's Challenge
- A Scientific Approach to Leadership
- Creating a Culture of Innovation
- Science and Innovation
- Seven Strategies to Innovation
- Culture in your Corporation
- Project Management 101
- The Elevator Pitch

### **Science Master Classes**

- Neuroscience of Your Brain
- Infectious Diseases
- Genetics 101
- Vaccines: A 101 to 401 Primer
- Understanding Your Immune System
- The Future of Genomics and Gene Modification
- CRISPR Unplugged



- Understanding Pandemics
- HIV/AIDS: Update on the world's worst pandemic
- The ABCs of Science

## **DEI**

- The Power of Diversity and Inclusion
- DE&I Through the Lens of Science
- The Diversity of Science: Celebrating Women Scientists and Scientists of color

## **MANUSCRIPTS AND PUBLICATIONS**

Heimlich, J.E., Aichele, A. & Bertley, F. (2021). The potential for science centers in student-teacher-scientist partnerships: Explorations from one museum. In Farland-Smith, D. (Ed.). *Enhancing Learning Opportunities Through Student, Scientist, and Teacher Partnership*. pp.213-228. IGI Global. pp. 213-228.

Bertley FM, Koslowski PA, Wang SW, Chappelle J, Patel J, Sonuyi O, Mazzara G, Monterfiori D, Carville A, Mansfield KG, Aldovini A. Control of SHIV viremia and disease progression after IL-2-augmented DNA-MVA nasal vaccination in non-human primates. *Journal of Immunology*, 2004, Mar 15;172(6):3745-57.

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Izmailova E, Bertley FM, Huang Q, Makori N, Miller CJ, Young RA, Aldovini A. HIV-1 Tat reprograms immature dendritic cells to express chemoattractants for activated T-cells and macrophages. *Nature Medicine*, 2003, Feb; 9(2):191-5.

Wang SW, Bertley FM, Kozlowski PA, Herrmann L, Manson K, Mazzara G, Piatak M, Johnson RP, Carville A, Mansfield K, Aldovini A. A SHIV DNA/MVA rectal vaccination in macaques provides systemic and mucosal virus-specific responses and protection against AIDS. *AIDS Research and Human Retroviruses*, 2004, Aug;20(8):846-59

Libman Michael D, Ibrahim Salah A, Omer MI, Adlan IA, Bellavance F, Hoskins E, Bertley FM, Ward B. No evidence for short or long term morbidity after increased titer measles vaccination in Sudan. *Pediatric Infectious Disease Journal*. 2002, Feb 21(2):112-9,.

Ward BJ, Aouchiche S, Martel N, Bertley FM, Bautista-Lopez N, Serhir B, Ratnam S. Measurement of measles virus-specific neutralizing antibodies; evaluation of the syncytium inhibition assay in comparison with the plaque reduction neutralization test. *Diagnostic Microbiology & Infectious Disease*. 31999, Mar 3(3):147-52,.

You-Ten KE, Seemayer TA, Wisse B, Bertley FM, Lapp WS. Induction of a glucocorticoid-sensitive F1-anti-parental mechanism that affects engraftment during graft-versus-host disease. *Journal of Immunology*. 1995, July 155(1):172-80.

Bertley FM, Fox SJ, Martel N and Ward BJ Measles-induced Apoptosis in Human Peripheral Blood Mononuclear Cells. (Submitted – *Journal of Infectious Diseases*).

Bertley FM. From West Philly to the White House: The Story of The Franklin Institute's Partnerships for Achieving Careers in Technology and Science (PACTS). (Manuscript in preparation).

Bertley FM. The Power of 3 Months – the Positive Impact of a Basic Science Research Internship on Underrepresented Minority Students. (Manuscript in preparation).

Bertley FM, Ward BJ, Martin R, Holt E, Diaz F, Boulos R, and Halsey NA. Long-Term Follow-up of Haitian High Titer Measles Vaccine Recipients: No Evidence of Immunologic Damage 4 – 5 Years After Vaccination. (Manuscript prepared for text chapter submission).

Bertley FM, Ibrahim SA, Omer MIA, Adlan, Hoskins E, and Ward BJ. Absence of Immunologic Injury Following High Titer Vaccination in the Sudan. (Manuscript prepared for text chapter submission).

## **RECENT AWARDS AND HONORS**

2023 – National Medal – The White House / Institute of Museums and Library Services (IMLS)\*  
2023 – Spirit of Columbus Award – City of Columbus / Columbus Foundation  
2022 – Presidential Community Impact of the Year Award – The Ohio State University  
2022 – Cover Story of Mahogany Magazine  
2022 – Commencement Speaker – Columbus State College  
2022 – 5 X EMMY™ for PBS TV show QED with Dr. B (2X) and Dr. B. in 3 animated series (3X)  
2022 – Ohio 500 – Ohio Business Magazine  
2022 – Sankofa Award for Leadership and Community Engagement  
2022 – COSI Voted #1 Science Museum in the Nation (USA TODAY)\* 4 years in a row.  
2022 – SMART 50 Awardee – Smart Business  
2022 – Kappa Alpha Psi STEM Community Impact of the Year  
2022 – Innovator of the Year – Smart Business  
2021 – Presidential Medal for Service – The Ohio State University  
2021 – Commencement Speaker – The Ohio State University  
2021 – SMART 50 Awardee – Smart Business  
2021 – Innovator of the Year – Smart Business  
2021 – C-Suite of the Year 2021 – Columbus Business First  
2021 – Most Admired CEO 2021 – Columbus Business First  
2020 – COSI Voted #1 Science Museum in the Nation (USA TODAY)\*  
2020 – SMART 50 Award – Smart Business  
2020 – Bloolooop 50 Worldwide Museum Influencers 2020 List

2019 – SMART 50 Award – Columbus Business  
2018 – Honorary Doctorate – Otterbein University  
2018 – Commencement Speaker – Otterbein University  
2018 – CEO of The Year 2018 - Columbus CEO Magazine  
2018 – Most Admired CEO 2018 – Columbus Business First  
2018 – Harvard Business School – Young American Leaders Program  
2018 – Young At Heart Leadership Award – Columbus Young Professionals  
2018 – Who’s Who Black Columbus  
2017 – Hunting National Bank – Torchbearer Award  
2017 – Smart50 Award – Columbus Business First  
2017 – George Washington Carver Award, Temple University / Academy Natural Sciences  
2016 – Commonwealth of Pennsylvania House of Representatives: Impact on Science Education Award  
2016 – City Council of Philadelphia Civic Leadership Award  
2016 – Paul Robeson Award for Leadership, Paul Robeson Society, Philadelphia, PA  
2015 – Inducted in the United States Library of Congress (HistoryMakers)  
2015 – Nifty Fifty Presenter (US National Science and Engineering)  
2015 – STEMX Invited Speaker 2015 – STEMX Invited Speaker  
2014 – Minority Business Leader of The Year Award – Philadelphia Business Journal  
2014 – National Award for Education – National University of Paraguay  
2013 – EMMY™ : National Academy of Television and Science  
2012 – Dell Inspire 100 World Changers  
2011 – Good Will Ambassador US – Senegal: Science, Education and Innovation  
2010 – 40 Under 40 Philadelphia Business Journal

\* Not an individual award, but attributed to the COSI as an institution (under my leadership).