DOMENICO GRASSO

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Biographical Sketch
DOMENICO GRASSO
University of Michigan

Domenico Grasso serves as the president of the University of Michigan (Ann Arbor | Dearborn | Flint | Michigan Medicine | Michigan Athletics).

Immediately prior to his appointment as president, he served as chancellor of the University of Michigan-Dearborn, becoming the first Michigan graduate to lead the campus. During his tenure, he tripled external research funding and moved to R2 status, increased graduation rates by 11%, and launched the Go Blue Guarantee, which provides free tuition to students from families with incomes below $125,000 per year. He also introduced a new approach to diversity – grounded in personal narrative and storytelling – known as holistic excellence. In addition, he serves as professor of civil and environmental engineering in Ann Arbor and of public policy and sustainable engineering in Dearborn.

Grasso's career in higher education has been marked by significant contributions to engineering education, environmental engineering research, enrollment management, diversity and inclusion, and community engagement. Directly prior to joining UM-Dearborn in 2018, he was provost and chief academic officer at the University of Delaware, where he spearheaded efforts ranging from the creation of the Division of Enrollment Management and Institute for Financial Services Analytics, to community engagement and cybersecurity initiatives. At Delaware, he was also instrumental in the development of new university programs in entrepreneurship, the humanities, social sciences and the arts.

Grasso earned his Ph.D. in environmental engineering from the University of Michigan and began his academic career as professor in the Department of Civil and Environmental Engineering at the University of Connecticut, where he also served as department head. He then moved to Smith College, holding posts as the Rosemary Bradford Hewlett Professor and founding director of Smith's Picker Engineering Program — the first engineering program at a women's college and one of the few at a liberal arts college in the United States. Later, he served as dean of the College of Engineering and Mathematical Sciences and vice president for research at the University of Vermont.

Grasso is a passionate defender of sustainability and environmentally conscious practices, and his research has delved deeply into the fate of environmental contaminants and the development of techniques to reduce risks to human health and the natural world. His work has been supported by federal, state and industry partners, and he has authored more than 100 journal articles and reports; his work has been cited extensively. In addition, he has held several high-profile posts in the environmental engineering field, including fellow on NATO's Committee on the Challenges of Modern Society, technical expert to the United Nations Industrial Development Organization, vice chair of the Science Advisory Board for the U.S. Environmental Protection Agency and president of the Association of Environmental Engineering and Science Professors. Grasso was also a member of a World Bank-funded international team of scholars that established the first environmental engineering program in Argentina and addressed the Congress of the Republic of Peru on the topic of sustainable development.

Grasso is considered an influential thinker in the field of engineering education. He views engineering as a natural bridge between science and humanity, and many of his writings have reasoned for the importance of the social sciences, arts and humanities in better contextualizing the relevance of STEM education. As editor and chief contributor to the book Holistic Engineering Education: Beyond Technology (Springer 2010), Grasso explored new paradigms for 21st-century engineering education. In his own teaching, he has taken on the full spectrum of challenges — from a National Science Foundation-recognized undergraduate class for non-engineering majors, to technically rigorous courses that also explore societal, ethical and philosophical issues facing today's engineers and scientists. He has even found ways to engage the youngest STEM learners, co-founding, along with pioneer astronaut

Sally Ride, TOYChallenge – a nationwide toy design for middle school students.

A frequent collaborator with other scholars and academic leaders, Grasso served on advisory boards for MIT and Olin College, Colgate, Tufts, Johns Hopkins, Notre Dame, Worcester Polytechnic Institute and the National Academy of Engineering. In addition, he has held posts as associate editor of the journal Reviews in Environmental Science and Biotechnology and editor-in-chief of Environmental Engineering Science.

Grasso is a U.S. Army veteran having spent over ten years on both active and reserve status. He resigned his commission at the rank of Major after receiving citations and awards including Army Commendation Medal and Army Parachutist Badge.

Grasso's wife, Susan Hull Grasso, is also an accomplished engineer and Michigan alumna. She has a Ph.D. in public policy from the Biden School at University of Delaware. Together, they have four adult children, Benjamin, Jacob, Elspeth and Caitlín. He and Susan enjoy reading, cycling, hiking, skiing, and spending time outdoors with their dogs.

DOMENICO GRASSO

PRÉCIS AND HIGHLIGHTS OF ADMINISTRATIVE ACCOMPLISHMENTS

The best way to predict the future is to create it. Designing and advancing plans for a more impactful future, grounded in collaboration, inclusion, and transparency, has been the driving force of my academic career. The activities and accomplishments summarized below reflect the shared efforts of many exceptional colleagues with whom I have had the privilege to work.

UNIVERSITY OF CONNECTICUT (1989 - 2000)
Professor and Head of Department

With appointments in Civil and Environmental Engineering and Chemical Engineering, I built a rewarding teaching portfolio alongside a strong, well funded research program. Nearly all of my doctoral students and postdoctoral scholars advanced to faculty positions at major universities, earning numerous distinctions, including NSF CAREER awards, and one received a MacArthur ("Genius") Fellowship. I led the creation of a new BS program in environmental engineering and revitalized a struggling university wide PhD program, elevating it to national prominence.

As Head of Civil and Environmental Engineering, I reorganized six loosely connected subgroups into a cohesive, academically grounded department structured around three core areas: structures and applied mechanics, environmental and water resources engineering, and transportation systems. This realignment strengthened research productivity, clarified the curriculum, and enhanced the quality of faculty recruitment. The framework has stood the test of time and, with the subsequent addition of a geomechanics group, remains in place.

SMITH COLLEGE (2000 - 2005)
Rosemary Bradford Hewlett Professor and Founding Director

As Rosemary Bradford Hewlett Professor and Founding Director of the Picker Engineering Program, I reported directly to two accomplished presidents, Ruth Simmons, who later became president of Brown, and Carol Christ, who later became Chancellor of UC Berkeley. I recruited an outstanding faculty and, in collaboration with a talented group of junior colleagues, launched the first engineering program at a women's college and one of the few within a liberal arts college in the United States.

Together, we designed an innovative curriculum, established an external advisory board, built new facilities, and secured ABET accreditation. With a distinctive approach that bridged the sciences and humanities and emphasized unity of knowledge across disciplines, the program educated broadly minded women engineers and drew national and international attention.

Over five years, working closely with the Development Office, I raised more than $15 million to construct a new engineering and molecular sciences building. Building on a first year course we created at Smith called TOYTech, I partnered with Sally Ride, the first American woman astronaut, to launch TOYchallenge, a program designed to inspire middle school students to explore careers in technology.

UNIVERSITY OF VERMONT (2005 - 2013)
Dean, College of Engineering and Mathematical Sciences (CEMS)

Shortly after my arrival, and following extensive study and dialogue, the faculty voted unanimously to merge three small engineering departments into a single, vibrant School of Engineering. We then transformed the College of Engineering and Mathematical Sciences, comprising the School of Engineering and the Departments of Computer

Science and Mathematics and Statistics, from a unit not fully realizing its potential into one of the strongest and most successful on campus and beyond. Applications increased by more than 300 percent, enrollment grew by over 50 percent, and the academic profile of incoming students rose significantly. Alongside this growth, we established a Center for Student Success, and the four year graduation rate improved from 57 percent to 72 percent.

In 2006, the University of Vermont College of Engineering and Mathematical Sciences launched the Senior Experience in Engineering Design capstone program. Seniors participated in year long, financially supported design courses in partnership with private and public sector organizations, addressing real world challenges. These projects contributed to economic development and innovation while connecting highly qualified graduates with prospective employers. Students strengthened their technical expertise and learned to collaborate in diverse teams, develop business plans, and present persuasive proposals to public audiences. In 2008, Lisa Ventriss, President of the Vermont Business Roundtable, wrote of the program, "This is precisely the kind of partnership and collaboration between higher education and the private sector that will help grow Vermont's economy."

During my tenure as Dean, we launched three new undergraduate programs: a BA in Engineering in collaboration with the College of Arts and Sciences, a BS in Engineering Science, and an ABET accredited BS in Environmental Engineering. With strong faculty support, the College invested strategically in a research Spire of Excellence focused on complex systems, an area later identified in the strategic plan of the National Science Foundation as a priority. We recruited a cohort of faculty widely regarded among the best in the world. As a result, we attracted one of the founders of complexity theory, Stuart Kauffman, and were approached by a major national laboratory to explore establishing a satellite presence near the University.

Vice President for Research and Dean of the Graduate College

With responsibility for a $130 million university wide research enterprise, I developed an integrated and comprehensive perspective on academic administration spanning the full breadth of the university, from Arts and Sciences to Medicine. For the first time in the history of the University of Vermont, all university centers reported to the Office of the Vice President for Research, including the Vermont Cancer Center, the Clinical and Translational Research Center, the Vermont Advanced Computing Center, the Jeffords Policy Center, the Complex Systems Center, the Transportation Research Center, and the Centers of Biomedical Research Excellence, which encompassed the Vermont Lung Center, Neuroscience, and Immunology and Infectious Disease. During this period, we also established a university-wide Center for Complex Systems to catalyze interdisciplinary scholarship across the sciences, engineering, social sciences, and humanities.

Building on the strategic model we developed in the College of Engineering and Mathematical Sciences, the Provost and I advanced a university-wide framework for Transdisciplinary Research Initiatives, or "Spires of Excellence," to focus investments in areas of distinctive strength and opportunity.

During this period, we raised doctoral stipend levels and unified five separate biomedical science PhD programs into a single integrated program, strengthening student quality and expanding funding opportunities. We opened a campus office of MITRE Corporation and established a Research Advisory Committee to provide strategic counsel.

We launched new graduate programs, including a PhD in Bioengineering, a PhD in Educational Leadership, and an MS in Food Systems. We reorganized the Office of Technology Transfer, significantly increasing invention disclosures, and supported the creation of a Graduate Student Senate to strengthen student voice in shared governance. To streamline research administration, we merged the Office of Sponsored Programs with Grants and Contracts Accounting into a unified Sponsored Programs Administration, providing seamless support across the grant life cycle. We also revitalized the university wide student research conference, nearly doubling participation and elevating its visibility and impact.

UNIVERSITY OF DELAWARE (2013 – 2017)

Provost

I was recruited to serve as Provost by Patrick Harker, then President of the University of Delaware and former Dean of the Wharton School, later President of the Federal Reserve Bank of Philadelphia. As Provost and Chief Academic Officer, I oversee the full scope of the University's academic mission: seven colleges; student life; the research and graduate enterprise ($210 million); academic affairs; enrollment management; libraries and museums; and an academic budget of approximately $600 million within a total university budget of $1.2 billion. The University enrolls roughly 22,000 students, one third of whom are Delaware residents, and employs approximately 1,200 faculty. With an endowment of about $1.7 billion, normalized faculty performance is competitive with many AAU public institutions.

Throughout my tenure, I have emphasized transparent, collaborative leadership and a relentless pursuit of excellence to ensure that Delaware remains consequential in the course of human events. Key accomplishments and initiatives include the following.

Strategic Initiatives

- Structured, launched, and oversaw the University's strategic plan, Delaware Will Shine, focused on addressing the grand challenges, great debates, and big ideas of our time. The effort engaged more than 100 committee members and thousands of stakeholders. The plan was approved by the Board of Trustees, and implementation teams were established.

- Launched a Community Engagement Initiative and a comprehensive General Education Reform Initiative that embeds entrepreneurial thinking and innovation across the curriculum.

- Established the Delaware Cybersecurity Initiative, securing $3 million in state support; the program was subsequently designated a National Center of Academic Excellence in Cyber Defense Education by the NSA.

- Planned, constructed, and opened a new fMRI facility.

- Made strategic investments in a state of the art nanofabrication facility; an interdisciplinary spire of excellence in American Material Culture, which earned one of only three Next Generation Doctorate Implementation Grants from the National Endowment for the Humanities (alongside Chicago and Duke); Art Conservation; Special Collections; the Biden Institute and public policy; and an interdisciplinary spire in quantitative social sciences.

- Launched a humanities and library special collections initiative to better coordinate and elevate the University's distinctive holdings.

- Partnered with the Deans of Engineering and Business to create a PhD program in Financial Services Analytics, supported by a $22 million investment from JPMorgan Chase.

Enrollment Management and Student Life

- Created a Division of Enrollment Management by integrating Admissions, Student Financial Services, the Registrar, and Student Success into a unified enterprise.

- Developed alternative and affinity pathways, including UD in DC (with American University), World Scholars (with John Cabot University in Rome and Saint Louis University in Madrid), and Innovation Scholars in Entrepreneurship.

- Enrolled two of the most diverse and academically accomplished entering classes in University history, with record SAT profiles and yield.

- Convened coalitions addressing alcohol and drug abuse and mental health; binge drinking declined for two consecutive years.

- Commissioned a Faculty Board on Athletics report to strengthen student athlete academic progress and partnered with the President to establish and staff a Title IX office.

Diversity and Inclusive Excellence

- Created the Office of the Vice Provost for Diversity and authored *Inclusive Excellence: An Action Plan for Diversity at UD*.

- Established an LGBTQ Advisor role and convened a Multicultural Center coalition to recommend enhanced support structures for diverse students.

Faculty and Academic Affairs

- Negotiated a contract with a third party provider for online education and initiated three new online graduate programs.

- Revised Academic Program Review guidelines to emphasize quality, diversity, and benchmarking against AAU public peers, where UD performs competitively.

- Launched a faculty talent retention initiative, retaining more than 86 percent of faculty members who received external offers.

- Introduced a degree program in Speech Language Pathology.

- Expanded internal communications through regular town halls, faculty and staff gatherings, and faculty dinners focused on grand challenges and institutional priorities.

Development and Alumni Relations

- Worked closely with the Development Office on the capital campaign, shaping priorities, crafting the case statement, and participating in leadership briefings and alumni events.

- Oversaw Deans' development goals, closed the largest single gift in the University's history at $11 million, and increased annual Unidel Foundation funding from $6.8 million to $9.6 million.

Fiscal and Crisis Management

- Led a university wide effort to refine the Responsibility Centered Management budget model to better align resources with institutional priorities and operational effectiveness.

- Partnered with the Budget Office on a zero based budgeting initiative to rebalance administrative expenditures.

- Managed significant campus disruptions, addressed cases of faculty, student, and staff misconduct, and worked with the Executive Vice President and General Counsel to resolve a highly publicized and controversial major real estate transaction.

Across each of these domains, my goal has been to strengthen academic quality, expand opportunity, enhance fiscal discipline, and position the University of Delaware for sustained national distinction.

UNIVERSITY OF MICHIGAN-DEARBORN (2018 – 2025)

Chancellor and Chief Executive Officer

As Chancellor and Chief Executive Officer of the University of Michigan–Dearborn, I set strategic direction and lead all aspects of university operations, overseeing an annual budget of approximately $190 million, 9,000 students, and 1,100 faculty and staff. I also served as an Executive Officer of the University of Michigan, alongside leadership from Ann Arbor, Flint, Michigan Medicine, and Michigan Athletics; the Executive Officers meet at least two hours weekly to coordinate systemwide strategy and governance.

My inaugural address articulated priorities for my first term, and subsequent speeches and messages have reinforced a commitment to transparent, collaborative leadership and the relentless pursuit of excellence to ensure that UM Dearborn remains consequential in the course of human events. Key accomplishments and initiatives include the following.

Strategic Initiatives

- Structured and launched a comprehensive Strategic Plan centered on student success and community engagement.
- Became the only regional university invited to join the Coalition for Life Transforming Education.
- Launched the Urban Futures initiative to align and mobilize interdisciplinary expertise in service to metropolitan challenges.
- Tripled external research funding and moved to Carnegie R2 status.

Enrollment Management

- Created a Division of Enrollment Management by integrating Admissions, Student Financial Services, the Registrar, and Student Success into a cohesive enterprise.
- Reoriented financial aid philosophy to prioritize need based support.
- Implemented the Go Blue Guarantee, providing free tuition for students with family incomes of $125,000 or less.
- Increased the four year graduation rate by 11 percent.

Diversity and Holistic Excellence

- Established a DEI Initiative supported by targeted investments.
- Transitioned DEI into an Office of Holistic Excellence, emphasizing individual narratives, belonging, and

institutional culture.

Faculty and Academic Affairs

- Advanced practice based learning across the curriculum.
- Launched college based affinity programs to strengthen community and mentorship.
- Expanded internal engagement through open town halls and regular Conversations with the Chancellor.

Development and Alumni Relations

- Partnered closely with the Development Office in shaping capital campaign priorities, crafting the case for support, and participating in leadership briefings and alumni events.

Fiscal Stewardship

- Established a dedicated Budget Office and implemented zero based budgeting to realign administrative expenditures.
- Led a university wide effort to create a Responsibility Centered Management budget model aligned with institutional priorities and operational effectiveness.

Crisis Leadership

- Guided the University safely and steadily through the COVID pandemic, maintaining academic continuity while protecting the health and well being of the campus community.

Across each domain, my leadership has focused on strengthening academic quality, expanding opportunity, deepening community engagement, and positioning UM Dearborn for sustained distinction within the University of Michigan system and beyond.

UNIVERSITY OF MICHIGAN (2025–Present)
President and Chief Executive Officer

- Set the strategic direction and led all aspects of university operations across the Ann Arbor, Dearborn, and Flint campuses, Michigan Medicine, and Michigan Athletics, overseeing a $16 billion annual budget and a community of approximately 55,000 students and 60,000 faculty and staff.
- Restored stability and institutional confidence, rebuilding trust and pride within the senior leadership team during a period of transition.
- Successfully transitioned two major executive officer leadership roles, ensuring continuity, stability, and effective governance.
- Managed a significant private equity investment proposal within the context of Big Ten Conference partnerships and constraints.
- Reimagined and expanded the university's long-term strategy, *Look to Michigan*, committing $1 billion over ten years and launching a national media campaign.

- Invested $50 million to establish the Center for American Dialogue, designed to promote and strengthen civil discourse.

- Invested $250 million to launch the Biotechnology Innovation Institute, accelerating the translation of discovery and innovation into commercialization.

- Collaborated with Michigan Medicine leadership to navigate complex, high-profile challenges related to gender-affirming care, balancing patient care, institutional values, and public accountability.

- Launched a faculty public intellectual initiative to elevate scholarly voices and broaden the university's national impact.

- Diplomatically transitioned leadership of the university's football program, hiring a new coach while maintaining stability and stakeholder confidence.

- Guided the institution through a tense campus environment following the Charlie Kirk murder and broader Middle East–related tensions, prioritizing safety, dialogue, and institutional values.

- Initiated and completed comprehensive audits of the President's Office and the Communications Department to strengthen governance, transparency, and operational effectiveness.

- Invited participant (London) by The Royal Society and the American Academy of Arts & Sciences to discuss Knowledge Diplomacy and Knowledge Under Threat.

- Chaired a New York Times DealBook panel on the role of universities in restoring the American Dream.

- Moderated an Atlantic magazine event, *Who Will Lead American Science?*

- Signed second largest gift in university history, $100M.

- Testified before the House Committee on Education and Workforce on March 26, 2026. "U.S. Universities Under Siege: Foreign Espionage, Stolen Innovation, and the National Security Threat."

ADDITIONAL ITEMS OF NOTE

Assignments held and other sundry items

- Chair, National Academies Committee on Grand Challenges in Environmental Science and Engineering.
- Member, Blue Ribbon Panel assessing NOAA Scientific Integrity Policies and Procedures as applied to the 2015 Dr. Thomas Karl et al. *Science* paper: "Possible Artifacts of Data Biases in the Recent Global Surface Warming Hiatus" (July 2018; submitted to the U.S. Secretary of Commerce).
- Chair, President's Council – Olin College.
- Advisory Board Member, Liberal Arts and Engineering Initiative – MIT.
- Editor-in-Chief, *Environmental Engineering Science*.
- Vice Chair, EPA Science Advisory Board.
- President, Association of Environmental and Science Professors.
- Chair, NEASC Accreditation Review – Woods Hole Oceanographic Institution.
- Former Academic Team Leader, NEASC Accreditation Review – Dartmouth College.
- Offered the position of Professor (with tenure) and Department Chair at Columbia University; declined in order to join Smith College.
- Attended the 2012 Institute on Higher Education at UC Berkeley, designed for Vice Presidents, Provosts, and

Presidents to explore governance and management practices that support the creation and sustainability of world-class research universities.

Scholarly Impact

- Citations: >5,800; h-index: 39; i10-index: 69.

CURRICULUM VITAE

DOMENICO GRASSO

Office of the President
University of Michigan
Ann Arbor, MI 48109
grasso@umich.edu

EDUCATION

Ph.D. University of Michigan, Environmental Engineering, 1987

M.S.C.E. Purdue University, Civil Engineering, 1979

B.Sc. Worcester Polytechnic Institute, *Civil Engineering*, 1977

EXPERIENCE

President & Professor, University of Michigan (2025 – Present)

Chancellor & Professor, University of Michigan–Dearborn (2018 – 2025)

Provost & Professor, University of Delaware (2013 – 2017)

Vice President for Research & Dean, Graduate College & Professor, University of Vermont (2009 – 2013)

Dean, College of Engineering & Mathematical Sciences & Professor, University of Vermont (2005 – 2009)

Rosemary Bradford Hewlett Professor & Founding Director, Picker Engineering Program, Smith College (2000 – 2005)

Head of Department, Civil & Environmental Engineering, University of Connecticut (1998 – 2000)

Director, Environmental Engineering Program, University of Connecticut (1993 – 1998)

Professor / Associate Professor / Assistant Professor, Civil & Environmental Engineering and Chemical Engineering, University of Connecticut (1989 – 2000)

Visiting Scholar, UC Berkeley (Fall 1996)

Battelle Research Fellow, U.S. Army Toxic and Hazardous Materials Agency (Summer 1990)

Invited Technical Expert, United Nations Industrial Development Organization (Summer 1989)

Assistant Professor, Stevens Institute of Technology (1987 – 1988)

Research Associate / Teaching Fellow, University of Michigan (1983 – 1987)

Environmental Engineer, United States Army (1979 – 1990)

- **Active Duty (1979–1983):** Environmental Engineering Project Officer, U.S. Army Environmental Hygiene Agency, Rank: Captain

- **Reserve Assignments (1983–1990):** Various roles, including 453rd Civil Affairs Battalion and Commander, Headquarters and Headquarters Company, 353rd Civil Affairs Command, Special Operations Forces, Rank: Major

Research Assistant, Purdue University (1977 – 1979)

RESEARCH INTERESTS

Colloidal and interfacial processes, environmental physicochemical processes, environmental policy, engineering education, liberal arts and engineering.

BOARD & PANEL DUTIES (SELECTED)

Chair, National Academies Committee on Grand Challenges in Environmental Science and Engineering (2016 – 2019)

Chair, President's Council, Olin College (2010 – 2020)

Advisory Board Member, Liberal Arts and Engineering, MIT (2014- 2020)

Blue Ribbon Panel, Assessment of National Oceanic and Atmospheric Administration Scientific Integrity Policies and Procedures As Applied to the 2015 Dr. Thomas Karl, et al. *Science* Paper: "Possible Artifacts of Data Biases in the Recent Global Surface Warming Hiatus." July 2018– submitted to US Secretary of Commerce

Vermont Governor's Advisory Board on Engineering and the Environment, 2007- 2013 (appointed by Governor Douglas)

Chair, NEASC Reaccreditation Review Panel – Woods Hole Oceanographic Institution (2016)

Lake Champlain Chamber of Commerce Board of Directors (2009 –2013)

Science Advisory Board, U.S. Environmental Protection Agency - (Appointed by the Administrator - initially by Hon. Carol Browner, reappointed by Gov. Christine Todd Whitman, 1998 - 2005). Major Assignments: • *Vice Chair*
- *Chair, Committee on Valuing Ecosystem Services*
- *Chair, Environmental Engineering Committee*

Academic Team Leader NEASC Accreditation Review - Dartmouth College (2010)

President & Board of Directors (1998-2002) *Association of Environmental Engineering & Science Professors*

Member (2000-2005) *National Academy of Engineering Action Forum on Diversity in the Engineering Workforce*

Advisory Board Member (2001-2010) *Center for Hazardous Substances in the Urban Environment, Johns Hopkins University*

Advisory Board Member (2003-2013) *Center for Environmental Science and Technology, University of Notre Dame*

Strategic Planning Panel Member (2003) *School of Engineering, Princeton University*

COMMENTARIES, LETTERS, AND ESSAYS (SELECTED)

1. "All Polluters Must Pay," *Environmental Engineering Science*, **19** (3), 2002 (with D. Riley). 2.

"Engineering a Liberal Education," *Prism*, **12** (3), November 2002.

3. "The Value of Diversity," Letter to the *New York Times*, January 20, 2004, Late Edition - Final, Section A, Column 4, Page 18.

4. "Engineering and the Human Spirit," *American Scientist***, 92**:206-209, 2004.

5. "The Value of Things to Come," *Science*, **305**:1568-1569, 2004.

6. "Is It Time to Shut Down Engineering Colleges?" *Inside Higher Education*, 23 September 2005. 7.

"Holistic Engineering," *Chronicle of Higher Education*, 16 March 2007 (with D. Martinelli). 8. "Dead

Poets and Engineers," *IEEE Technology and Society*, **27**:8-9, 2008.

9. "Moving to the Smart Grid, "*Issues in Science and Technology* **17** (4), 2011.

10. "Sustainable Economic Development in the Face of Climate Change in Latin America: A Path Forward," *Environmental Engineering Science* **29** (8), 2012.

11. "Build Today for the Infrastructure of Tomorrow," Philadelphia Inquirer, September 11, 2016, (with Sheila Tobias).

12. "Engineers' Deafening Silence on Climate Change," ASEE Prism 29 (7), 60-60, 2020.

EDITORSHIPS

Editor-in-Chief (1997- 2020), *Environmental Engineering Science*
Theme Editor (1998-2002), *Encyclopedia of Life Support Systems*, UNESCO Associate Editor (2002-2006), *Reviews in Environmental Science and Biotechnology*

PRIVATE PRACTICE

SELECTED LIST OF CLIENTS

Boehringer Ingelheim Pharmaceuticals, Ridgefield, Connecticut Booz-Allen &
Hamilton, Bethesda, Maryland
Camp, Dresser, and McKee, Inc., Chicago, Illinois

Clayton Environmental Corp., Southfield, Michigan
Damon S. Williams Associates, Phoenix, Arizona
ENVIRON Corp., Princeton, NJ
Groundwater Technology, Inc. Edison, NJ
Jackson, Harris & Burlingame, Attorneys, Danielson, Connecticut
Lenard Engineering, Storrs, Connecticut
Norton Co., Wayne, New Jersey

PROFESSIONAL LICENSURE & CERTIFICATION

Professional Engineer (quondam), State of Texas, State of Connecticut
Diplomate Environmental Engineer, American Academy of Environmental Engineering (Certified by eminence)

HONORS AND AWARDS (SELECTED)

U.S. Army ROTC Scholarship Award, 1974-1977
Daniel Hutchins Trophy for Excellence in Civil Engineering, WPI, 1977
First Place Award for Research Paper, 31st Eastern Colleges Science Conference, 1977 Tau Beta Pi (Engineering)
University Fellowship, The University of Michigan, 1983
General Electric Foundation Graduate Student Award, 1985
AWWA Academic Achievement Award - Doctoral Dissertation, 1988
NATO-CCMS Fellowship, 1994-1997
Fellow, Connecticut Academy for Education in Mathematics, Science, and Technology (elected 1999) Offered position of *Chair & Full Professor (with Tenure)*, Department of Earth & Environmental Engineering, Columbia University 1999 (declined)
Named a "Pioneer in Disinfection," Water Environment Federation, 2000
Robert H. Goddard Alumni Award for Outstanding Professional Achievement, WPI, June 2007.
Taiwan Distinguished Environmental Lectures, 2009.
Benton Distinguished Lecture, University of Florida, 2011.
President's Medal for Academic Achievement, John Cabot University, Rome Italy, 2016.
Keynote Speaker, *American Academy of Environmental Engineers and Scientists* Annual Awards Ceremony, National Press Club, 2016.
Fellow, AEESP

COURSES TAUGHT (SELECTED)

UNDERGRADUATE
Mass & Energy Balances (Smith)
Chemical and Environmental Reaction Engineering (Smith)
Ancient Inventions (Smith/UVM/Delaware)
The Origins of Wealth (UVM)
Introduction to Engineering UCONN)
Water Quality Engineering (UCONN)

GRADUATE
Environmental Biochemical Processes (UCONN)
Environmental Engineering Chemistry (UCONN)
Environmental Physicochemical Processes (UCONN)

INVITED SEMINARS/COLLOQUIA (SELECTED)

1. "Mathematical Modeling of Aqueous-Phase Ozone Decomposition Kinetics," Department of Civil & Environmental Engineering, MIT, Cambridge, MA, 1 November 1989.

2. "Non-DLVO Interactions in Aqueous Systems," Department of Civil & Environmental Engineering, UC-Berkeley, 8 November 1996.

3. "Engineering and the Liberal Arts," Union College, 28 April 1998.

4. "Applications of Colloid and Surface Chemistry to Environmental Systems," Department of Earth &Environmental Engineering, Materials Science & Engineering, Columbia University, 11 May 1998.

5. "A Conceptual Overview of Bio (colloid) Movement in Porous Media," Department of Environmental Science & Engineering, Rice University, 24 November 1998.

6. "Biocolloid Behavior in Porous Systems," Department of Chemical Engineering, Yale University, October 12, 2000.

7. "The Seductive Equation and Engineering Thought," Rosemary Bradford Hewlett Professorship Inaugural Lecture, Smith College, 29 March 2001.

8. "Environmental Modeling: Caveat Emptor" Department of Mathematics, Amherst College, 25 April, 2001

9. "Engineering, The Liberal Arts and the Environment," Resources for the Future, Washington, DC, 16 May 2001.

10. "The Two Cultures and the Price of Everything and the Value of Nothing: Implications for the Environment and Engineering," Duke University, Durham, NC, 19 March 2006.

11. "Getting From Here to There: Moving to a Hydrogen Economy," Woodrow Wilson International Center for Scholars, Washington, DC, 21 April 2016.

PATENTS

1. "Method and Apparatus for Removing Gas-Phase Organics," U.S. Patent Number 5,198,000, 30 March 1993 (with G. Hoag)

2. "Method and Apparatus for Purifying Contaminated Gases" Australian Patent Number 22651/92, October 1995, (with G. Hoag)

PUBLICATIONS (Citations >5.8K; *h*-index = 39; *i*10-index = 69; Google Scholar Profile)

PEER REVIEWED JOURNAL PUBLICATIONS (SELECTED FROM >80 JOURNAL ARTICLES)

1. "Impact of Ozonation on the Stability of Montmorillonite Suspensions," *Journal of Colloid and Interface Science*, **153** (1), 1992 (with P. Chheda and C. van Oss).

2. "Surface Thermodynamics of Ozone-Induced Particle Destabilization," *Langmuir* , **10** (4), 1994 (with P. Chheda).

3. "Chemoautotrophic Biogas Purification for Methane Enrichment," *Chemical Engineering Journal,* **58** (1), 1995 (with K. Strevett and R. Vieth).

4. "Uncoupling Mass Transfer of Gaseous Substrates in Microbial Systems," *Chemical Engineering Journal,* **59** (2), 1995 (with K. Strevett and R. Fisher).

5. "Colloid Generation During Batch Leaching Tests: Mechanics of Disaggregation," *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **135**, 193, 1998 (with J. Bergendahl).

6. "Impact of Electrolytes on Dispersion and Lewis Acid/Base Interactions," *Journal of Colloid and Interface Science*, **200**, 172, 1998 (with M. Butkus).

7. "Quantitative Prediction of Colloid Detachment in Model Porous Media: Thermodynamics,"*AIChE Journal*, **45** (3), 1999 (with J. Bergendahl).

8. "Degradation and Detoxification of the Wood Preservatives Creosote and Pentachlorophenol in Water by the Photo-Fenton Reaction," *Water Research*, **33** (5), 1999 (with P. Engwall and J.J. Pignatello).

9. "Quantitative Prediction of Colloid Detachment in Model Porous Media: Hydrodynamics," *Chemical Engineering Science*, **55** (9), 2000 (with J. Bergendahl).

10. "Mobilization of Organic Matter and Enhancement of Polycyclic Aromatic Hydrocarbon Desorption from a Weathered Manufactured Gas Plant Soil by Metal Ion Complexing Agents," *Chemosphere*, **43** (8), 2001 (with Y. Yang, D. Ratté, B. Smets, and J. Pignatello).

11. "Effect of Nickel and Cadmium on Nitrification Inhibition," *Environmental Science & Technology*, **36** (14), 2002 (with Z. Hu, K. Chandran, and B. Smets).

12. "Impact of Metal Sorption and Internalization on Nitrification Inhibition," *Environmental Science & Technology*, **37** (4), 2003 (with Z. Hu, K. Chandran, and B. Smets).

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14. "Mechanistic Basis for Particle Detachment from Granular Media," *Environmental Science & Technology*, **37** (10), 2003 (with J. Bergendahl).

15. "Macro- and Nanoscale Observations of Adhesive Behavior for Several E. coli Strains (O157:H7 and Environmental Isolates) on Mineral Surfaces," *Environmental Science & Technology*, **39 (**17), 2005 (with H.-H Yang, J. B Morrow, and B. F. Smets).

16. "Advancing ecohydrology in the 21st century: A convergence of opportunities," *Ecohydrology*, **13** (4), e2208 (with AJ Guswa, D Tetzlaff, JS Selker, DE Carlyle‐Moses, EW Boyer, M Bruen, et al.) 2020.

17. "Peak grain forecasts for the US High Plains amid withering waters," *PNAS* **117** (42), 26145-26150 (with A Mrad, GG Katul, DF Levia, AJ Guswa, EW Boyer, M Bruen, et al.) 2020.

18. "Homogenization of the terrestrial water cycle," *Nature Geoscience*, **13** (10), 656-658 (with DF Levia, IF Creed, DM Hannah, K Nanko, EW Boyer, DE Carlyle-Moses, et al.) 2020.

BOOKS, MONOGRAPHS, AND CHAPTERS (SELECTED)

1. "Environment Programme - United Nations Industrial Development Organization," presented to the General Assembly, United Nations, Vienna, Austria, August 1989 (co-author).

2. *Hazardous Waste Site Remediation: Source Control*, CRC/Lewis Publishers, 1993.

3. "Hazardous Waste," Chapter 12, *Knowledge for Sustainable Development*, UNESCO 2002. (with D. Kahn, M. Kaseva and K. Mbuligwe)

4. "Chemical Oxygen Demand," *Encyclopedia of Analytical Science, 2nd edition*, P. J. Worsfold, Townshend and C. F. Poole, eds., Elsevier, Oxford Elsevier, 2005 (with Z. Hu).

5. *Holistic Engineering Education: Beyond Technology*, Springer, 2009 (with M.B. Burkins).

6. Water and Global Development Goals: The Role of Engineering and Social Science in Meeting International Policy Outcomes Encyclopedia of Water: Science, Technology, and Society, 1-10, 2019, (with Saleem Ali)

CONFERENCE PRESENTATIONS AND PROCEEDINGS AND TECHNICAL REPORTS (SELECTED FROM >100)

1. "Biodegradation of Nitroglycerin via Cometabolism," *American Institute of Chemical Engineers Annual Meeting*, Minneapolis, MN, 9-12 August 1992 (with H. Pesari).

2. "A Critical Review of In-Situ Air Sparging and Bioremediation Technologies – A Proposal," NATO CCMS Pilot Study: Evaluation of Demonstrated and emerging Technologies for the Treatment and Cleanup of Contaminated Land and Groundwater (Phase II), Oxford University, Oxford, UK, 14-21 September 1994.

3. "Thermodynamics and Hydrodynamics of Colloid Detachment in a Model Porous Media" *AIChE Annual Meeting*, 31 October –5 November, 1999, Dallas, TX (with J. Bergendahl)

4. "Soil Organic Matter Mobilization and Enhanced PAH Desorption Using Chelating Agents," *American Chemical Society 75th Colloid and Surface Science Symposium*, American Chemical Society, Carnegie-Mellon University, Pittsburgh, PA, 10-13 June 2001 (with K. Subramaniam, B. Smets, J. Pignatello).

5. "Chelating Agent Enhanced Desorption of PAH Compounds," *76th Colloid and Surface Science Symposium*, American Chemical Society, University of Michigan, Ann Arbor, MI, 23-26 June (with C. Stepp, K. Subramaniam, B. Smets, J. Pignatello).

6. "Dimensional Analysis of Particle Detachment form Granular Media" (poster), *76th Colloid and Surface Science Symposium*, American Chemical Society, University of Michigan, Ann Arbor, MI, 23-26 June (with J. Bergendahl).

7. "Fundamentally-based dimensionless numbers for predicting particle detachment from porous media" in The American Chemical Society Conference 226: U481-U481 091-ENVR Part 1, SEP 2003 (with J. Bergendahl).

8. "Teaching Teachers to Teach Engineering," Proceedings, American Society of Engineering Education Annual Conference, June 20-23, 2004, Salt Lake City, UT. (with G. Ellis, B Andam, S. Etheridge, T. Gralinski)

9. "Role of Cellular Appendages in Adhesion and Transport of Pseudomonas aeruginosa PAO1 in Porous Media" (poster) *78th Colloid and Surface Science Symposium*, American Chemical Society, Yale University, New Haven, CT 20-23 June 2004 (with R. Stratton, J. Morrow, B. Smets).

10. "Proteinaceous Surface Appendage Contribution to *Pseudomonas aeruginosa* PAO1 Surface Properties and Adhesive Ability" *European Geosciences Union General Assembly*, Vienna, Austria, April 24-29, 2007. (with, J. B Morrow, and B. F. Smets).

THESES/DISSERTATIONS SUPERVISED

Doctor of Philosophy (Environmental Engineering)

1. Chheda, P., [B.S., M.S., Chemistry; M.S. Environmental Engineering, Indian Institute of Technology, Bombay], "Surface Thermodynamics of Ozone-Induced Particle Destabilization Using Sodium Montmorillonite," Doctoral Dissertation, 1994. – Present Position: Research Assistant Professor, University of Connecticut.

2. Strevett, K., [B.S., Microbiology; B.S. Civil Engineering, Michigan State University], "Chemoautotrophic Biogas Purification for Methane Enrichment: Mechanism, Kinetics, and Economics" Doctoral Dissertation, 1995. – Present Position: Associate Professor, University of Oklahoma – NSF CAREER Award.

3. Hu, Hsien-Lun, [B.S. National Central University, Taiwan], "Inhibition of Nickel Precipitation by Gluconate: Kinetic Considerations," Doctoral Dissertation, 1996 - Present Position: Associate Professor, National Taiwan University [with N. Nikolaidis].

4. Butkus, M. [B.S. U.S. Merchant Marine Academy, M.S. Environmental Engineering, University of Connecticut], "Sorption of Phosphate to a Ferric Hydroxide Matrix," Doctoral Dissertation, 1997. – Present Position: Associate Professor, U.S. Military Academy, West Point.

5. Brakewood, Liv [B.S., Civil Engineering, Cornell, M.S. Chemical Engineering, UC-Berkeley], "Floating Spatial Domain Averaging," Doctoral Dissertation, 2000. - Present Position: Associate Professor, Washington State University.

6. Hu, Zhiqiang [B.S., M.S., Zhejiang (Agricultural) University, M.S. University of Connecticut], Nitrification Inhibition by Heavy Metals and Chelating Agents," Doctoral Dissertation, 2002. Present Position: Assistant Professor, University of Missouri.

7. Morrow, Jayne [B.S. Montana State University, M.S. University of Connecticut], "Role of Macro and Nanoscale Interactions in Bacterial Attachment to Heterogeneous Surfaces," Doctoral Dissertation, 2005 Present Position: Executive Director, National Science & Technology Council, OSTP, The White House [with B. Smets].

8. Yang, Hsiao-Hui [B.A. National Taiwan University], "The Effect of Environmental Stress on Cell Surface Properties and their Relation to Microbial Adhesion in Feedlot E. coli Isolates," ," Doctoral Dissertation, 2005 Present Position: Research Associate, Harvard Medical School [with B. Smets].

Doctor of Philosophy (Chemical Engineering)

9. Bergendahl, J. [B.S., Mechanical Engineering, M.S., Environmental Engineering, University of Connecticut], "Modeling the Mechanics of Colloid Detachment in Environmental Systems," Doctoral

Dissertation, 1999. – Present Position: Associate Professor, Worcester Polytechnic Institute.

Master of Science (Environmental Engineering)

1. Chelkowska, K., [B.S., Chemical Engineering, University of Warsaw, Poland], "Numerical Simulations of Early Aqueous-Phase Ozone Decomposition Progeny Speciation," Master's Thesis, 1989.

2. Morico, K., [B.S. Biochemistry, Fairfield University], "Evaluation of Oxidation Techniques for Amelioration of Taste and Odor Characteristic in Potable Water," Master's Thesis, 1990.

3. Koch, N., [B.S., Chemical Engineering, Arizona State University], "Alternative Oxidants for the Reduction of Disinfection By-Products," Master' Thesis, 1991.

4. Pesari, H., [B.S., Civil Engineering, Osmania University, India], "Biodegradation of an Inhibitory Non Growth Substrate - Nitroglycerin," Master's Thesis, 1993.

5. Garg, R., [B.S., Civil Engineering, Indian Institute of Technology, Delhi], "Physicochemical Treatment of Explosives Contaminated Soils - Impact of Nucleophilic Substitution Reactions on Contaminant Mobility," Master's Thesis, 1993.

6. Chen, P., [B.S., M.S., Biology, Wuhan University, China], "Thermodynamics and Kinetics of Gas Phase Organic Contaminant Partitioning," Master's Thesis, 1993.

7. Carrington, J., [B.S., Civil Engineering, U.S. Military Academy], "Nitrocellulose Particle Stability: Coagulation Thermodynamics," Master's Thesis, 1993.

8. Dudek, H., [B.S., Civil Engineering, University of Connecticut], "Mass Transfer Characteristics of Absorption/Desorption of Chlorinated Compounds in Nonpolar Media," Master's Thesis 1994.

9. LaFrance, P. [B.S., Civil Engineering, University of Portland), "Trajectory Modeling of Non Brownian Particle Flotation Using an Extended DLVO Approach," Master's Thesis 1994.

10. Flood, K. (B.S., Civil Engineering, Northeastern University), "Efficacy of Alternative Disinfectants on the Inactivation of Parvovirus," Master's Thesis 1995.

11. Hill, R. (B.S., Chemical Engineering, Georgia Institute of Technology), "Silicate Inhibition of Struvite Precipitation," Master's Thesis 1996.

12. Sperry, K. (B.S., Civil Engineering, University of New Hampshire), "Critical Issues in In-situ Bioremediation and Air Sparging," Master's Thesis 1997.

13. Engwall, M. (B.S., Civil Engineering, Worcester Polytechnic Institute), "Photo-Assisted Fenton's Oxidation of Creosote," Master's Thesis, 1997.

14. Ratté, D. (B.S., Civil Engineering, University of Maryland), "Polycyclic Aromatic Hydrocarbon Remediation: Bioavailability Enhancement," Master's Thesis, 1999.

Master of Science (Chemical Engineering)

15. O'Sullivan, D. (B.S., Chemical Engineering, University of Connecticut), "The Effects of Soil Washing on the Surficial Characteristics of a Heavy-Metal Contaminated Sand: Chemistry and Modeling," Master's Thesis 1995.

16. Jha, S. (B.S., Chemical Engineering, Indian Institute of Technology), "Oxidation of *p*-Arsanilic Acid," Master's Thesis 1996.

Postdoctoral Researchers

1. Dr. P. Chheda [Ph.D., Environmental Engineering, The University of Connecticut] 1994-1995.

2. Dr. S. Odueyungbo [Ph.D., Chemical Engineering, Imperial College, University of London (UK)] 1994-1996.

3. Dr. Yuhui Yang [Ph.D., Chemistry, Wuhan University, China, Post-Doc, Chemical Engineering, Cambridge University (UK)] 1997-1999.

4. Dr. Ahmadali Tabatabai [Ph.D., Chemical Engineering, University of Oklahoma], 1999.

5. Dr. Kavitha Subramaniam [Ph.D., Environmental Engineering, Georgia Institute of Technology], 2000-2002.

6. Dr. Kartik Chandran [Ph.D., Environmental Engineering, The University of Connecticut] 1999- 2002 – MacArthur Foundation "Genius" Award

7. Dr. Steve Zheng, [Ph.D. Environmental Engineering, Clarkson University], 2001-2002.

Visiting Scholars

1. Professor Guzine Ibrahim El Diwani, Chemical Engineering, National Research Center, Cairo, Egypt, United Nations Fellow, 1990.

2. Professor Lech Dzienis, Civil Engineering, Technical University of Bialystok, Bialystok, Poland, 1991.

3. Professor Narva Narkis, Environmental & Water Resources Engineering, Technion, Haifa, Israel, 1994-5.

4. Ms. Lesley L. Skandarian, New Britain High School, Partners in Science Project, Summer, 1997 & 1998. 5.

   Professor Richard Phillips, Chair, Engineering Department, Harvey Mudd College, Claremont, CA, 2001.

6. Professor Kurt Patterson, Civil & Environmental Engineering, Michigan Technological University, Houghton, MI, 2001