



### **Prof. Darryll J. Pines**

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Dr. Darryll J. Pines currently serves as the *Nariman Farvardin Professor of Engineering* and Dean of the A. James Clark School of Engineering. A position he has held since January of 2009. As dean, Pines has led the development of the Clark School's bold [2020 strategic plan](#) and achieved notable successes in key areas such as improving teaching in fundamental undergraduate courses and raising student retention and graduation rates; achieving success in national and international student engineering competitions; giving new emphasis to sustainability engineering and service learning; promoting STEM education among elementary, middle, and high school students; increasing the impact of research programs; expanding innovation and entrepreneurship activities; and expanding philanthropic contributions to the school. Today, as a result of investments in targeted recruitment, advising, and the school's signature [Keystone Engineering Education Program](#), the school's one-year undergraduate retention rate and five-year graduation rate are 91 percent and 75% respectively, which ranks in the *Top 5* among public flagship engineering colleges in the United States. Because of the Clark School's focus on experiential out of the classroom learning experiences, the college has embraced experiential learning opportunities like challenge projects and competitions including chasing after a 30 year old American Helicopter Society's Igor Sikorsky Prize with a Human Powered Helicopter named [Gamera](#), which holds the current world record for flight duration at 97 seconds. In addition, Pines along with colleagues inspired a cross university team to compete and win the *2011 DOE Solar Decathlon competition* its entry entitled [Watershed](#). The college's [Engineers Without Borders-EWB chapter](#) is considered one of the nation's best, and the Engineering Sustainability Workshop-ESW launched by Pines has become a key campus event. Pines has testified before Congress about the importance of K-12 STEM education for all students, and created the *Top 25 Source Schools* program which recognizes State of Maryland high schools for exemplary performance in preparing students for careers in engineering. At a national level he has lead an effort as part of the *American Society for Engineering Education-ASEE Engineering Deans Council's* K-12 STEM Committee to develop a potential *Advanced Placement Engineering* course in partnership with the College Board and Project Lead The Way-PLTW. In addition, Pines served as the 2015 chair of the National Academy of Engineering-NAE [Frontiers in Engineering Education-FOEE](#) Symposium which recognizes faculty from around the United States for their innovations in engineering education. At \$141 million, the school's research expenditures are at a record high, and the school was ranked as high as *11th* worldwide in 2011 by the *Academic Ranking of World Universities*, which focuses on research citations, and as high as *17<sup>th</sup>* in the *US News and World Report Graduate Rankings*. During his time as Dean, there have been several notable successes by Clark School faculty including one faculty member being recognized with the *National Medal of Technology and Innovation*, 9 faculty/alumni being inducted into the *National Academy of Engineering (NAE)*, more than 30 faculty receiving *NSF CAREER Awards*, and 5 faculty recognized with *Presidential Early Career Awards for Scientists and Engineers-PECASE Awards*.

During Pines' leadership of the aerospace engineering department from 2006 to 2009, the department was ranked *8<sup>th</sup>* and *6<sup>th</sup>* overall among U.S. universities in the *U.S. News and World Report* graduate and undergraduate school rankings respectively. During this time the department had its highest research expenditure productivity totaling more than \$20M.

During a leave of absence from the University of Maryland from 2003 to 2006, Pines served as a Program Manager for the Tactical Technology Office and Defense Sciences Office at the (Defense Advanced Research Projects Agency (DARPA). While at DARPA, Pines initiated five new programs primarily totaling approximately \$80M related to the development of advanced aerospace technologies for the US

military. For his DARPA program management leadership and innovation, he was awarded the Department of Defense's **Distinguished Service Medal**. He has also held positions at the Lawrence Livermore National Laboratory (LLNL), Chevron Corporation, and Space Tethers Inc. At LLNL, Pines worked on the Ballistic Missile Defense Organizations-BMDO's *Clementine Spacecraft* program, which was the *first* spacecraft to *discover water near the south pole of the moon*. A replica of the spacecraft now sits in the National Air and Space Museum in Washington, DC.

Pines' current research focuses on structural dynamics, including structural health monitoring and prognosis, smart sensors, and adaptive, morphing and biologically-inspired structures as well as the guidance, navigation, and control of aerospace vehicles. He is the co-author of over *70 journal articles, three edited book volumes, eight book chapters, and 150 conference papers*. Dr. Pines also is the holder of 7 co-authored Patents with his students and collaborators. In recognition of his scholarly research contributions and innovations to the fields of smart structures, structural health monitoring, micro and nano air vehicle design and development, navigation and control of aerospace systems, and engineering education, Dr. Pines has been afforded the title of *Fellow of AIAA, Fellow of ASME, Fellow of ASEE, and Fellow of the Institute of Physics*. He was awarded the *2012 ASME Adaptive Structures and Materials Systems Best Paper Award* in for his work in structural health monitoring. He was also recently inducted as a member of the *Tau Beta Pi Honor Society Class of 2013* for his emphasis on academic excellence in engineering. Dr. Pines was recognized in 2015 with the State of Maryland *House Speaker's Medallion* which honors those who have had a significant impact on the well-being of the citizens of the State of Maryland. He has served on the Executive and Advisory Board for Engineers Without Borders-EWB National, the National GEM Consortium, Mechanical Engineering Visiting Committee at MIT, Univ. of Toledo, and the Univ. of Washington, and is serving as an independent Corporate Director on the boards of two major corporations including Engility-LLC and Aurora Flight Sciences. Pines received a B.S. in mechanical engineering from the University of California, Berkeley. He earned M.S. and Ph.D. degrees in mechanical engineering from the Massachusetts Institute of Technology.