WPI Presidential Medal Recipient Profiles

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Recipient Profiles

Arthur C. Clarke

Noted Author and Pioneer in Satellite Communications

With more than 80 books of science fiction and nonfiction, including 2001: A Space Odyssey, Childhood's End and Rendezvous With Rama, Arthur C. Clarke is one of the most prolific and visionary writers of the modern age. In 1945 when he was just 28 he sketched out the idea for orbital communications satellites. Today, geosynchronous satellites float 22,300 miles above the Earth in what’s known as the Clarke Orbit.

Educated in physics and mathematics, Clarke developed interests early on in both in interpreting the science and technology of today, and in envisioning the technological leaps of tomorrow. He once said, "As far as the future is concerned, any political or sociological prediction is impossible. The only area where there is any possibility of success is in the technological future.”

An extraordinary imagination, rooted a breathtaking depth and breadth of knowledge, coupled with a brilliant talent for storytelling, are qualities that have endeared Clarke to millions of readers. He has expanded our consciousness in virtually every medium, including film, television and the printed page, and has won numerous awards and honors, including the Marconi International Fellowship, the IEEE Centennial Medal, the Hugo, the Nebula and the Science Fiction Writers of America Grand Master’s Award. He has been nominated for the Nobel Peace Prize and for the Academy Award (for 2001). In 1998 he was knighted by Queen Elizabeth.

Presented November 30, 2001 at Imagining the Future.

William R. Grogan '46

Dean Emeritus of Undergraduate Studies, WPI; A Founder of the WPI Plan

The following is an excerpt from President Dennis D. Berkey's Inaugural Address:

"I am a mathematician, and one of my heroes is Isaac Newton, a founder of the calculus. Both wise and humble, Newton offered this generous appraisal of his life's work: 'If I have been able to see further than others,' he said, 'it is because I have stood on the shoulders of giants.'

"Like Newton's world, WPI has benefited from the vision and leadership of true giants, beginning with John Boynton, whose founding gift created our university with the proviso that 'the benefits of this school shall not be confined to the theories of science, but as far as possible shall extend to that practical application of its principles which will give the greatest advantage in the affairs of life.' Hence our motto, Lehr und Kunst, or Theory and Practice, and 140 years of producing graduates not only well educated in engineering, science, and the liberal arts, but also well prepared to apply their knowledge, intellect, and practical experiences from the distinctive components of the WPI program to make a real difference in the world.

"Another of the giants on whose shoulders we stand today is a man who provided inspired leadership to WPI for decades and who led the development of the WPI Plan and our Global Studies Program, the forms in which Boynton's vision has been implemented on this campus, and quite literally around the world, for the past 35 years. He is with us today, and he has honored me by serving as the chair of the committee to organize this inaugural ceremony. He is, of course, our Dean Emeritus William Grogan. On behalf of his many devoted colleagues and thousands of students who matured under his guidance, I call him forward at this time also to receive WPI's Presidential Medal, engraved with his name, today's date, and the simple phrase, 'WPI Visionary.'"

Learn more about Dean Grogan by reading the citation for his 1990 WPI honorary degree.

Read more about the history of the WPI Plan.

Presented May 20, 2005, during the inauguration of President Dennis D. Berkey, as Dr. Berkey’s first official act following his formal installation.

Please note in picture to the right: Dean Emeritus William Grogan, left, is congratulated upon receiving the WPI Presidential Medal by F. William Marshall Jr., chair of the WPI Board of Trustees.
Dean Kamen ’73

President and Owner, DEKA Research and Development Corp.

WPI is pleased to present the first WPI Presidential Medal to Dean Kamen in recognition of his visionary contributions to society, engineering, science and education. A renowned inventor, he founded AutoSyringe Inc., which made the world's first portable drug infusion pump (his earliest patent), while he was still a student at WPI. Today, he oversees DEKA in Manchester, N.H., which specializes in advanced medical technologies, including the IBOT, a revolutionary, stair-climbing wheelchair. He is the founder of FIRST (For Inspiration and Recognition of Science and Technology), a nonprofit organization dedicated to changing the way American youth views science and technology. Kamen has received numerous awards and honors, including, most recently, the National Medal of Technology. He received an honorary doctorate in engineering from WPI in 1992.

Presented March 30, 2001 at Morphing Education by Infusing Technology (NCSSMST annual conference).

The Honorable Edward M. Kennedy

United States Senator (D-Mass.)

The following is an excerpt from President Dennis D. Berkey's Inaugural Address:

"During more than four decades of distinguished public service, Senator Kennedy has devoted himself assiduously to the cause of education at all levels. From his creation of government loan packages in the 1960s, to his stewardship of Head Start, to his sponsorship just this past month of BioTeach -- a unique partnership between the biotechnology industry and Massachusetts high schools -- Senator Kennedy has championed the notion that, as he says, 'a decent, quality education is the greatest equalizer for all Americans.'

"As an advocate for science and technology education, Senator Kennedy has no peer. He has consistently raised his voice in support of university research and education and has fought to keep Massachusetts a leader in the bioscience and technology fields. Senator Kennedy, for all you have done for Massachusetts and for America, I am honored to present to you WPI's Presidential Medal, inscribed with your name, today's date, and the simple phrase, 'Education Champion.' Please accept this medal as a symbol of WPI's deep appreciation and gratitude."

Presented May 20, 2005, during the inauguration of President Dennis D. Berkey, as Dr. Berkey's first official act following his formal installation.

Raymond Kurzweil

Inventor and Founder of the Kurzweil Companies

Ray Kurzweil who was the principal developer of the first omni-font optical character recognition system, the first print-to-speech reading machine for the blind, the first CCD flat-bed scanner, the first text-to-speech synthesizers, the first music synthesizer capable of recreating the grand piano and other orchestral instruments and the first commercially marketed large vocabulary speech recognition system.

He received the Lemelson-MIT prize, the world's largest award in invention and innovation. He also received the 1999 National Medal of Technology, the nations highest honor in technology, as well as scores of other national and international awards including Engineer of the Year from Design News, Inventor of the Year from MIT and the Grace Murray Hopper Award from the Association for Computing Machinery. His recent book, The Age of Spiritual Machines: When Computers Exceed Human Intelligence, has been published in nine languages and became the No. 1 one bestselling book on Amazon.com in the categories of science and artificial intelligence.

Presented November 30, 2001 at Imagining the Future.

Paul MacCready

Founder and Chairman, AeroVironment Inc.

Throughout a long and distinguished career as a meteorologist, aeronautical engineer and entrepreneur, Paul MacCready has taken on host of challenges, amassed an amazing record of pioneering achievements, and become widely recognized as one of the most influential engineering minds or our times.
In 1977, with the Gossamer Condor, a 55-pound craft with a 96-foot wingspan, he achieved a milestone in aviation: powering an airplane with nothing more than human muscles. This human-powered plane successfully maneuvered a 1-mile, figure-eight course at an altitude of 10 feet and an average speed of 10 miles per hour to win the coveted $100,000 Kremer Prize. That plane now hangs in the National Air and Space Museum, not far from the Wright brothers' Flyer.

As a boy growing up in Connecticut, MacCready developed a passion for model aircraft of all types. During World War II, he trained as a Navy pilot. After the war, he studied physics at Yale and aeronautical engineering at Cal Tech, where he earned a Ph.D. A soaring enthusiast, he worked on a number of innovations for gliders early in his career, including the Speed Ring Airspeed Selector, used by glider pilots worldwide to select the optimum flight speed between thermals (commonly called the "MacCready Speed"). In the 1950s, he co-founded Meteorology Research, a company that specialized in weather modification. In 1970, he launched AeroVironment in California, where he turned his attention to new energy sources, such as solar and wind power.

It was during this time that he developed the Gossamer Condor, and later the Gossamer Albatross, which won a second Kremer Prize by crossing the English Channel under human power. A few years later, his Solar Challenger became the first solar-powered plane to fly across the Channel.

Under his direction, AeroVironment has opened a host of new frontiers in aviation, electric vehicles, telecommunications and energy. With General Motors, AeroVironment designed the Sunraycer, a sleek solar-powered car that won the first trans-Australian solar-powered car race in 1987, as well as the impact battery powered vehicle. It garnered headlines last summer when its Helios solar plane, designed as a prototype for a high-altitude telecommunications platform, flew to nearly 97,000 feet, shattering altitude records for propeller- and jet-powered planes. AeroVironment is also making headlines with its unmanned aircraft and micro-aircraft. Used for remote surveillance, they are finding a wide range of law-enforcement and military applications.

A member of the National Aviation Hall of Fame, MacCready has won numerous awards and honors for his work. They include the Collier Trophy, aviation’s highest honor, the Reed Aeronautical Award, and American Society of Mechanical Engineers. Century Gold Medal. Time magazine honored him as one of the 100 greatest minds of the 20th century. In 2003, he received the prestigious Heinz Award, in the category of technology, the economy and employment, and the Franklin Institute’s Bower Award and Prize for Achievement in Science, in the field of aviation. WPI recognized MacCready in 1980 with an honorary doctorate in engineering.

Presented November 11, 2002, as part of WPI’s celebration of the 100th anniversary of powered flight.

The Honorable James P. McGovern

United States Congressman (D-Mass.)

The following is an excerpt from President Dennis D. Berkey’s Inaugural Address:

"Before coming to WPI, I had known not nearly enough about Congressman McGovern’s work. More recently, I have come to appreciate how profoundly he understands and pursues the issues facing our district, many of which are the major issues facing the nation. From the problem of hunger in the Worcester region to jobs and the economy, to education and health care, and on to foreign policy, our Congressman distinguishes himself and our delegation at the highest level. We are fortunate today to be able to present to Congressman McGovern WPI’s Presidential Medal, inscribed with his name, today’s date, and the word ‘Statesman.’"

Read more about Congressman McGovern.

Presented May 20, 2005, during the inauguration of President Dennis D. Berkey, as Dr. Berkey’s first official act following his formal installation.

Please note, picture on right: Congressmen James McGovern receives the WPI Presidential Medal from WPI President Dennis Berkey, right, and F. William Marshall Jr., chair of the WPI Board of Trustees.

Duane Pearsall

Duane Pearsall

Inventor of the First Practical Home Smoke Detector

An engineer, inventor, and entrepreneur, Pearsall developed the first practical home smoke detector, which is credited with saving some 50,000 lives from residential fires over the past 30 years. Like many great discoveries, the device came about almost by accident. Pearsall had founded Statitrol Corp. to make static control devices for dark rooms. While testing a prototype, he noticed that smoke from a technician’s cigarette would cause a meter that measured the relative concentration of ions would instantly drop to zero. "By accident, we had discovered how to make an ionization smoke detector," he said in 1996.
Pearsall found that a Swiss company had also developed an ionization smoke detector, but it required too much power and too much radioactive material to be practical for use in homes. With the addition of a battery, Pearsall's detector became the first battery-powered home smoke detector listed by both Underwriter's Laboratory and Factory Mutual, and his company grew substantially as smoke detectors became a common fixture in homes everywhere. "It was a source of considerable satisfaction to learn that about then many instances throughout the country in which our devices were credited with saving lives, sometimes of whole families," Pearsall noted.

Pearsall's contributions to fire safety have won him many awards and honors. In 1976, President Gerald Ford presented him with the National Small Business Person of the Year award. In 1980, the Society of Fire Protection Engineers recognized him as Fire Protection Man of the Year. Pearsall was a charter member of WPI's Fire Protection Engineering Board of Advisors and has been a great support of the University's fire protection engineering program. The university has honored him with an honorary doctorate and in 1987 named him the first recipient of the Center for Firesafety Studies Herrick Drake Commemorative Award.

For his visionary contributions as an engineer, entrepreneur and technological humanist, WPI is proud to present the WPI Presidential Medal to Deane Pearsall.

Presented April 1, 2004, at the 25th Anniversary Celebration of the WPI Center for Firesafety Studies.

Alison Taunton-Rigby

President, Forester Biotech

Alison Taunton-Rigby has been a senior executive in the biotechnology industry for over 25 years. She is currently president of Forester Biotech, an organization that provides science-based product and business development services to the biotechnology and pharmaceutical industries. She has been president and CEO of several biotechnology companies, including Cambridge Biotech Corporation and Aquila Biopharmaceuticals.

She is a director of the Massachusetts Biotechnology Council, the Massachusetts Women's Forum and Synaptic Pharmaceuticals, and is a trustee of the Worcester Foundation for Biomedical Research at the University of Massachusetts Medical School. She is a member of the board of associates at the Whitehead Institute for Biomedical Research and a board member of Bentley College Center for Business Ethics. She has testified before Congress on the ethical issues surrounding human cloning.

Presented November 30, 2001 at Imagining the Future.

Richard T. Whitcomb '43

Innovator of super-sonic aircraft design

As an engineer at NASA's Langley Research Center, Dr. Richard T. Whitcomb solved a problem that had stood in the way of practical faster-than-sound flight. In 1952, he discovered and later experimentally verified a revolutionary aircraft design concept called the Transonic Area Rule. The rule greatly cut drag at near-sonic speeds by making local reductions in a plane's cross-sectional area. In the late 1960s, he invented the Supercritical Wing. With its unconventional shape-nearly flat on top, and downward sloping near the trailing edge-it enabled many airliners and business jets to either fly close to the speed of sound or realize substantial fuel savings. The Area Rule and the Supercritical Wing have influenced the design of most new aircraft built in the last half century, and both are considered major contributions in advancing the critical goal of maximizing fuel efficiency while improving performance and safety in all aircraft.

Whitcomb's extraordinary contributions to aviation have resulted in numerous awards and honors, including an honorary doctorate from WPI; the National Medal of Science (presented by President Richard Nixon in 1973); the NASA Scientific Achievement Medal, and the Collier Trophy, aviation's highest honor. In 2003, he was inducted into the National Inventors Hall of Fame for his development of the supercritical wing.

For his visionary contributions to society, engineering, science and flight, WPI is proud to present the WPI Presidential Medal to Richard Whitcomb.

Presented June 5, 2003, at the Presidential Advisory Council Dinner as part of WPI's celebration of the 100th anniversary of powered flight.