

GCEC Legacy Nomination for Edward Roberts: “A Lifetime of Pioneering Entrepreneurship”

August 15, 2020 submitted by Bill Aulet, Professor & Managing Director, Martin Trust Center for MIT Entrepreneurship

It fills me with great honor and joy to be able to nominate one of the true giants of this field for a GCEC Legacy Award. Ed’s life exemplifies the values, practices and achievements sought for the GCEC Legacy Award. He entered MIT in 1953 at age 17, received two degrees in Electrical Engineering, a second Master’s in Management and a PhD in Economics, and is still at MIT at age 84, full-time, and still leading the MIT-wide Entrepreneurship Center that he founded as well as the major Entrepreneurship & Innovation Track of the Sloan School’s MBA Program.

I have seen him first hand as an academic researcher, educator, mentor, practitioner and administrator take an entrepreneurship to entirely new levels with his creative leadership. His book published in 1991, *Entrepreneurs in High Technology: Lessons from MIT and Beyond*, is recognized by many as being the pivotal book on research into startups. It was a serious rigorous study of how technology transfer can be done more efficiently through startups. His 2009 seminal study, *Entrepreneurial Impact: The Role of MIT*, on the economic impact of universities through entrepreneurship has been not only widely cited but also replicated by numerous other universities to help justify our field.

As an educator and a mentor, Ed has created a talent tree that is second to none. His former students are now professors at top universities around the world but also in leadership roles in Entrepreneurship Centers, like myself at MIT. What is less well known is the role of his former students in the Venture Capital industry, such as Brad Feld and Nour Afeyan, and with entrepreneurs, such as founders Brian Halligan and Dharmesh Shah of Hubspot and Frederic Kerrest of Okta – both examples of multi-billion dollar companies today.

Also not as well known is his vital role in the creation of transformational entrepreneurship organizations such as the MIT Enterprise Forum, MIT Venture Mentoring Services and MassChallenge to name but a few. In each case, he was critical in the formation and success of these organizations who took the knowledge developed at MIT and brought it well beyond the campus to the great benefit of the field and society writ large.

I only have three pages so have provided you this overview before I give you but some of the seeming infinite examples to match to each of your criteria in the profile. This will not be easy and I am leaving much out. In the end however, I hope I will have made it clear why I put the title of “A Lifetime of Pioneering Entrepreneurship,” at the top of this nomination and why I believe he is such an ideal candidate for the GCEC Legacy Award. I know he and MIT, as an institution, would be honored and delighted to with this recognition.

Long Term Commitment, Standard of Excellence and Substantial Impact

In 1962 Ed co-founded the NASA-sponsored Organization Research Center #1, the first research center of the MIT School of Industrial Management, renamed the MIT Research Program on the Management of Technology which he headed, from which the Sloan School’s overall Entrepreneurship Program emerged.

In 1964, Professor Roberts founded the MIT Research Program on Technology-Based New Enterprises, the first sustained program of entrepreneurship research in any university. In 1973, that program broadened into the MIT Technology and Health Management Group, which he chaired, which in 1989 became the Management of Technology and Entrepreneurship Group, still under Ed’s chairmanship until 2003. This group then took one more step and became the MIT Technological Innovation, Entrepreneurship & Strategic Management Group (TIES), which Ed continued to chair until 2011 –close to 50 years of creating and building MIT’s teaching and research in R&D, innovation and entrepreneurship.

In the late-’60s, Roberts co-founded and co-led the MIT Alumni Association nation-wide Alumni Entrepreneurship seminars, which brought his early MIT spinoff studies and coaching by successful MIT

entrepreneurs to over 3,000 MIT young alumni in nine cities over three years. This was followed in 1978 by his co-founding the MIT Enterprise Forum, which grew to 28 chapters worldwide

In 1991 Professor Roberts became the Founder and Chair of the MIT Entrepreneurship Center, bringing entrepreneurship education, research and student activities across the entire Institute, renamed in 2011 as the Martin Trust Center for MIT Entrepreneurship, which Ed still Chairs until this day! Over the past 30 years, under the active direction of two Center heads, Ken Morse and myself, the Center has become the central core of all entrepreneurship activities at MIT. All of the materials the center produces, it makes available to other centers. Today, hundreds of colleges and universities use material produced by the center to deliver value to their students as well as countless other organizations.

But the center is not his only creation. Professor Roberts has been an active participant in the founding and growth of many of the other key pieces of the MIT Entrepreneurial Ecosystem: The Venture Mentoring Service, the Deshpande Center for Innovation, the Legatum Center for Development and Entrepreneurship. He became co-director of the MIT-Portugal Innovation & Entrepreneurship (I&E) Program, co-developer of the MIT Regional Entrepreneurship Accelerator Program, co-chair for I&E of the MIT-Skolkovo (Russia) collaboration. Even before that, Roberts was actively engaged in bringing MIT entrepreneurship to the world. In 1977, as part of an MIT policy study for the Government of Israel, he joined with Professor Baruch Raz of Tel Aviv University to study all of the high-tech companies they could find in Israel – all 88 of them !!! This encouraged Ed to co-found the non-profit Technion Entrepreneurial Associates which brought the first entrepreneurship education, mentoring and venture capital stimulation to Israel.

In 2005, Roberts co-founded and has chaired since then the MIT Sloan Entrepreneurship & Innovation MBA Track, and has taught until now its entry course, “Introduction to Technological Entrepreneurship”. The E&I Track has been by far the largest of the three Sloan Tracks, and this year has pre-registration of 220 of Sloan’s 405 entering MBA students. More could be added about his pioneering entrepreneurship within academia.

Thought Leadership as an Academic Researcher of Entrepreneurship

In 1964, as a third year Assistant Professor, Ed Roberts started the study of companies “spun-off” from major MIT laboratories, tracing the flow of technology from laboratory research into the marketplace. Those studies expanded to cover the companies formed by employees departing from all major MIT labs, then from a number of MIT academic departments in engineering and science, followed by similar studies of large non-profit and government labs and finally of major corporations. The research over twenty-five years probed aspects of the entrepreneurs themselves, their family backgrounds, their psychological characteristics, education, work experiences. It extended into aspects of financing, marketing, product development of young entrepreneurial firms. And it led to years of research on so-called “corporate entrepreneurship” as well, examining empirically corporate management of internal venturing, corporate venture capital, and large company alliances with younger/smaller entrepreneurial firms.

No other MIT faculty joined in these two-plus decades of research, carried out by Roberts with graduate thesis students from across MIT. All that began to change in 1991 with the founding of the MIT Entrepreneurship Center that was allowed to begin hiring promising young faculty to do research and teaching in entrepreneurship and innovation. The rapidly developed curriculum by the expanding faculty emphasized student team efforts whenever possible, worked hard to enroll engineering students to join their management counterparts, and integrated academic scholars with entrepreneurial and venture capital practitioners, featuring joint teaching when feasible.

Of great impact on the field of entrepreneurship was the creation of the Sloan School’s PhD Program in Entrepreneurial Studies. Since the late ‘80s, even before the Entrepreneurship Center was formally approved, MIT Sloan has graduated nearly 50 PhD students whose primary work was in entrepreneurship. They, and a

large number of former junior faculty from MIT, have populated and often led the development and continuation of entrepreneurship programs at many universities across the United States and around the world.

In 1991 Professor Roberts published the milestone book, “Entrepreneurs in High Technology: Lessons from MIT and Beyond”, every chapter based upon empirical research studies that he had carried out during the previous 20 years. That book received the 1991 Association of American Publishers Award for “Outstanding Book of 1991 in Management and Business”, followed the next year by the American Libraries Association Award for “Outstanding Academic Book of 1992”. That book encouraged other up-and-coming academics to include entrepreneurial studies in their research portfolios.

In 2009, Roberts and his PhD student, Charles Eesley, published the results of the first study ever of an entire university’s alumni body to document the extent and impact of those who formed and built new firms, *Entrepreneurial Impact: The Role of MIT* (Kansas City: Kauffman Foundation). Among other findings, it documented that living MIT entrepreneurs of still-living companies were equivalent in total revenues to the 10th largest economy in the world. This work was immediately followed by Eesley’s replication of that research at Stanford University, where he became a new faculty member, now tenured in entrepreneurship. Furthermore, Eesley and Roberts, with Professor Delin Yang, did a follow-on replication (with major needed modifications) of Tsinghua University in China, the first such study of any foreign university’s entrepreneurial output. In 2015, Ed and his MIT colleague, Fiona Murray, aided by PhD student Daniel Kim (now an entrepreneurship faculty member at Wharton) updated the MIT research and published *Entrepreneurship and Innovation at MIT: Continuing Global Growth and Impact* (Cambridge: MIT).

Earlier this year, Ed published *Celebrating Entrepreneurs: How MIT Nurtured Pioneering Entrepreneurs Who Built Great Companies* (Amazon Books, 2020). It documents in depth the 50+ years development of the MIT entrepreneurship system, and then focuses upon the founding and growth of MIT pioneering firms in four industries: life sciences and biotechnology; the Internet; from CAD-CAM to robotics; and modern finance.

Bridging the Description- Experience Gap as a Direct Entrepreneur to Continually Bring Relevance

Uniquely, Ed Roberts has also been a prolific co-founder and/or Board member of numerous startup firms. His first company, Pugh-Roberts Associates, was formed in 1963, but it also became a leading consultancy to major corporations in areas of R&D organization and later in corporate entrepreneurship. He was CEO of that firm, concurrent with all his academic activities, until its sale in 1990.

In 1969 he co-founded Medical Information Technology, the first firm to develop a comprehensive hospital information system focused upon the clinical side of medicine. Fifty years later he still remains on the Board of Directors of Meditech. In 1996 he joined with Charles Zhang, an MIT PhD in Physics, to create Sohu.com, the first Internet company in China, and remained on its public Board for twenty years until resigning in 2017. His CV lists eight other companies that he has co-founded. Professor Roberts was also a Board member of 25 additional companies.

In Summary

Professor Edward Roberts has devoted the past nearly 60 years of his life in entrepreneurship: Doing pioneering research on the formation and growth of technology-based firms; founding and building the primary organizations that constitute the MIT Entrepreneurial Ecosystem; educating large numbers of students who have become entrepreneurs and/or teachers/researchers of entrepreneurship; and personally co-founding many companies in widely varying fields, and serving as advisor and Board member to still more early-stage firms. His life indeed is a Legacy for so many others.