



2017 Brock International
Prize in Education Nominee

Richard Miller

Nominated by Vincent Manno

Nomination Portfolio for the 2017 Brock International Prize in Education

DR. RICHARD (RICK) K. MILLER
Founding President and First Employee
Olin College of Engineering
Needham, MA



Dr. Richard (Rick) K. Miller may be the most significant contributor to the reinvention of undergraduate engineering education in the 21st Century. A gentle but forceful voice for change, Miller gave up a deanship and tenure to be the first employee and founding President of the Olin College of Engineering in Needham, MA in 1999. The college and Miller, who is its embodiment, have received the highest accolades of the engineering and education professions including the 2013 Bernard M. Gordon Prize for Innovation in Engineering and Technology Education, and election to the National Academy of Engineering and the National Academy of Inventors. Driven by Miller's vision, Olin has become a model of project-based design centric education for engineering and non-engineering schools alike in the US and abroad.

Prepared by
Vincent P. Manno
Provost and Dean of Faculty
Olin College of Engineering

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1. Nomination Narrative for Richard K. Miller

2017 Brock International Prize in Education - August 2016

To my fellow Brock Prize jurors:

It is my honor to present the nomination portfolio of Dr. Richard (Rick) K. Miller for this year's Brock Prize.

The Brock International Prize in Education recognizes an individual who has made a specific innovation or contribution to the science and art of education, resulting in a significant impact on the practice or understanding of the field of education. The innovation or contribution must be specific and must have the potential to provide long-term benefit to humanity through change and improvement in education at any level, including new teaching techniques, the discovery of learning processes, the organization of a school or school system, the radical modification of government involvement in education, or other innovations. In sum, the prize is not intended to simply recognize an exemplary career or meritorious teaching, administration, or service with a primarily local impact. Instead, the prize is about innovative ideas that make meaningful change in how we think and act.

I have reflected on these criteria in preparing this nomination and have become convinced that Rick Miller is one of the very few individuals who meet and indeed exceed the aspirational criteria. The attached portfolio is provided to support this assertion.

The crux of this nomination is that Rick Miller may be the most significant contributor to the reinvention of undergraduate engineering education in the 21st Century. A gentle but forceful voice for change, Miller gave up a deanship and tenure to be the first employee and founding President of the Olin College of Engineering in Needham, MA in 1999. The college and Miller, who is its embodiment, have received the highest accolades of the engineering and education professions including the 2013 Bernard M. Gordon Prize for Innovation in Engineering and Technology Education, and election to the National Academy of Engineering and the National Academy of Inventors. Driven by Miller's vision, Olin has become a model of project-based design centric education for engineering and non-engineering schools alike in the US and abroad. If the extraordinary nature of Rick's impact on changing the field of education in specific ways with lasting benefits – not only in engineering education but on all forms and levels of education – is not evident from this portfolio, it is my deficiency for not making these characteristics self-evident.

A few words on the context of Rick Miller's contributions are in order to enhance understanding their significance. In short, Rick Miller took on starting a new college from scratch that challenged nearly every accepted norm of higher education – no departments, no tenure system, no predetermined curricular structures. That list of challenges is daunting enough and their successful achievement more than sufficient to justify his Brock Prize nomination but there is much more. Rick did all this within the context of engineering

education – among the most prescriptive and pedagogically risk averse undergraduate curricula. He took on this challenge in the Boston area in the shadow of Harvard and MIT and within close proximity of nearly a dozen highly rated engineering colleges.

Why would a successful and well-respected engineer, engineering educator and dean (see the *curriculum vitae* included as the third section of this portfolio, especially the outstanding academic and professional record prior to 1999) eschewing a trajectory that was clearly headed for even more recognition take on the Olin challenge – giving up tenure, near certain career advancement and risking the criticisms of colleagues and the academy? The answer is that Rick realized that this was more than about his career and what had worked for him. The fraction of undergraduates pursuing engineering degrees in the United States was then and remains well below the levels seen in the rest of the world (~5% in the USA, ~12% in Europe and over ~30% in Asia). More than half of the students who start a major in engineering in the USA transfer out of engineering – not because they are not *good enough* but because the pedagogy and connection to personnel passion and creativity is not evident to them. Further, the demographics of engineering do not reflect the gender, racial or socio-economic diversity of the nation. Rick had witnessed that the National Science Foundation spent \$100Ms to address these issues with only modest outcomes.

Rick saw Olin as an authentic chance to change a problem into an opportunity and realized that achieving this change would require prudent risk taking and challenging the status quo. A distinguishing feature of Rick's work and life is that it is focused on affecting attitudes, beliefs and behaviors. He is the consummate student and teacher – learning from others and honing his own insights through teaching. He saw that - properly configured - a reformulated undergraduate engineering education experience could be a model for liberal education for the 21st Century and relevant to challenges in STEM education in the preK-12 system.

This personal and institutional journey are illustrated by the material included in the fifth and sixth sections of this portfolio – samples of Rick's published works (five selections from a body of work of five book chapters, ~100 publications and ~80 invited and keynote talks and presentations) and a listing of press coverage associated with Rick and the college. Rick's primary approach is to interact with people who he sees as more knowledgeable than himself and meld them and his own thinking. The principles of curricular design and practical challenges noted in the first cited paper "Designing from a Blank Slate..." led to the first versions of the Olin curriculum – designed by faculty and students as partners – an amalgam of engineering and applied science, arts humanities and social sciences, and entrepreneurship.

The second cited paper ("From the Ground Up...") reflects the growing evidence of the impact of Olin's approach and its collaborations with other institutions that began around 2010. The underlying principle is that engineering is not a body of knowledge but a process that needs to be experienced – through integrating theory and practice. This educational principle resonates with and is supported by the findings of educational and learning sciences. In this (and in other works) Rick expands on his metaphor of engineering being more like a performance art than a science – the grist of performing (the highs and the lows) is from which improvement and

learning come. While the curricular innovation continues to this day, the general cornerstones of an Olin educational experience emerged – active learning, do-learn, people skills and a new definition of an engineer – ***‘a person with a vision of what has never been and does whatever it takes to make it happen’*** (see Rick Miller quote in the third cited work – “The Future of Engineering Education”).

The fourth and fifth cited works provide an illustrative pairing of the impact of Rick’s vision – not only drawing on both the Olin curriculum and now national and international leadership in curriculum innovation but also focusing on Rick’s interactions with leaders across the globe. The broad context is highlighted in the paper “Rethinking Higher Education...” which was an invited contribution to the *Bringing Theory to Practice* monograph [Civic Engaging, Civic Development and Higher Education](#). The power of the arguments Rick promotes in this paper is best illustrated by a single excerpt – ‘Engagement with others and with the grand challenges of our age is the most effective way to enhance learning.’ This train of thinking, which is now influencing several national agendas, is complimented by the arguments embedded in the fifth and final cited work (“Why the Hard Science of Engineering is No Longer Enough to Meet the 21st Century Challenges”).

While the examples of Rick Miller’s publications such as those cited in this portfolio provide strong evidence of the innovation and influence of his life’s work, I encourage my fellow jurors to watch in whole or at least sample two of Rick’s recent talks – listed with web links as the seventh section of this portfolio - <http://ecorner.stanford.edu/videos/4260/More-Innovation-Through-Education-Entire-Talk> and <http://livestream.com/asugsvsummit/events/5044127/videos/120380679>. These video clips provide insight not only to his work but also to his voice – a gentle advocacy wrapped in concrete passion.

The most important indicator of the impact of a person and their work is the influence it has had on others. In what I purport to be an extraordinary case, this aspect of Rick Miller’s achievements may be the strongest. The 12 letters of recommendation included in second section of this portfolio represent a remarkable cross-section of thought leaders and significant figures across the education spectrum – university presidents, provosts and deans, foundation presidents, educational innovators and international experts, including past laureates and nominees of the Brock Prize (e.g. Dr. Howard Gardner). It would be disservice to excerpt or attempt to summarize these letters. They are best appreciated as an ensemble reading.

I will offer two personal reflections on assembling this group of testimonials. First, while they reflect individual perspectives they have important commonalities. They all cite the broad impact of a life’s work. The letters are from people whose own achievements and responsibilities temper their using words in the superlative – yet the letters are filled with such accolades. The letters are deeply personal and demonstrate the impact of Rick and his ideas in their individual contexts. Rick Miller is their collective *go to person*. Second, the speed and enthusiasm with which I received these letters after my initial solicitations were remarkable. I have been in the position to solicit reviews, letters of nomination and similar materials on

several occasions from rosters of people not nearly as impressive as this group. I reached out to my 'top 12' list and had positive responses and thoughtful letters from all of them in hand within a few weeks. This speaks to the intellectual respect and personal affection that these individuals have for Rick Miller. Knowing Rick as I do, I can predict that he would be humbled and astonished about this aspect of his nomination.

In summary Rick Miller, as hopefully illustrated by this portfolio, is a deserving laureate of the Brock International Prize in Education. Olin College is now seen as a privately funded national laboratory for STEM education redesign. With only ~350 undergraduates (and no graduate program) and a faculty of less than 50, it is an institution whose shadow is much larger than its physical size. It is visited by hundreds of institutions from around the globe and is engaged in several co-creation partnerships and workshops. While many individuals have contributed to success, Rick Miller was and is the critical key ingredient – he embodies the institution. While continuing to lead Olin, Rick Miller is now on a crusade to change education for the good of humanity and especially for students who will have the task of taking on the challenges that our generation will leave them. Calling to mind the summary Brock Prize laureate criteria, Richard K. Miller is an individual who through his thought, action and affinity for people has catalyzed ***'meaningful change in how we think and act.'***

Respectfully submitted,



Vincent P. Manno, Sc.D.
Provost and Dean of Faculty
Professor of Engineering
Franklin W. Olin College of Engineering

2. Letters of Recommendation

(in alphabetical order of author)

1. **Jean-Lou Chameau** – President, King Abdullah University of Science and Technology (Saudi Arabia), President Emeritus , California Institute of Technology
2. **Carol A. Dahl** – Executive Director, The Lemelson Foundation
3. **James J. Duderstadt** – President Emeritus and University Professor of Science and Engineering, The University of Michigan
4. **Charles Fadel** – Founder and Chairman, Center for Curriculum Redesign and Founder and President, Foundation Helvetica Education
5. **Howard Gardner** – Hobbs Professor of Cognition and Education, Harvard University, Brock International Prize in Education Laureate
6. **Domenico Grasso** – Provost and Professor, University of Delaware
7. **Claudio Haddad** – Founder and Chairman of the Board, Insper Instituto de Ensino e Pesquisa (Brazil)
8. **David M. Kelley** – Donald W. Whittier Professor of Mechanical Engineering and Founder of Hasso Plattner Institute of Design (aka the d.school), Stanford University and Founder, IDEO
9. **James D. Plummer** - Former Dean of Engineering and John M. Fluke Professor of Electrical Engineering, Stanford University
10. **James C. Rahn** – President, The Kern Family Foundation
11. **Jamil Salmi** – Global Tertiary Education Expert, The World Bank
12. **Tony Wagner** – Expert In Residence, Harvard Innovation Lab and Senior Research Fellow, Learning Policy Institute



To: Jury for Brock International Prize in Education

Re: Nomination of Dr. Richard Miller

Date: June 1, 2016

It is my great pleasure to write this letter of recommendation in support of the nomination of Dr. Richard (Rick) Miller for the 2017 Brock International Prized in Education. I have known Rick for about 20 years and have interacted with him at numerous occasions in his capacity of President of Olin College. He and I have participated in a number of conferences as well as served on professional committees. Although he received the award after I left, I had the honor of promoting his appointment as Distinguished Alumnus when I was president of Caltech.

Over past 20 years, I have interacted with a large number of university presidents in the U.S. and overseas, and I do not know of any president who has had such a commitment to and impact on undergraduate education as Rick. He showed extraordinary vision and courage when he joined Olin College as president and first employee. Since then, he has steadily built what has become a transformative model for engineering education, and education in general.

The fully hands-on, team and project-based and multi-disciplinary approach that Rick promoted at Olin from day one was more than innovative at the time, it was revolutionary and viewed by most, including many skeptics, as a "cute" experiment at a small scale. However, at Olin, Rick made people believe that *engineering is a creative enterprise that begins and ends with people and their desire for a better world*. Fifteen years later, it is viewed as the aspirational mode for engineering education.

The educational approaches and principles that Rick has promoted at Olin are now being transferred to many institutions worldwide, small and large, including some of the largest state institutions in the U.S. There is a continuous flow of visitors to Olin who want to learn how to translate the Olin flavor to their institutions.

Because of this success, Olin attracts some unusually bright and enterprising young men and women. When I was president of Caltech, one of the most selective institutions in the world, we learned to lose some amazing smart young people to Olin because of the special environment Olin has created.

Rick gives freely of his time and is giving numerous lectures to spread the word. He has a stellar reputation and viewed as a person to listen to. When it comes to education, innovation and addressing the grand challenges of the world, he is a person to listen to!

Rick has had tremendous impact on the science and art of engineering education, more than anybody over the past 20 years. He is, I believe, very deserving of the Brock International Prize in Education.

Sincerely,

A handwritten signature in black ink, appearing to read "Jean-Lou Chameau", with a long horizontal flourish extending to the right.

Jean-Lou Chameau
President, KAUST
President Emeritus, Caltech



June 15, 2016

Dear Brock International Prize in Education Evaluation Committee,

I am writing in support of the nomination of Dr. Richard (Rick) Miller of Olin College of Engineering for the Brock International Prize in Education. I have known Rick since 2012, shortly after I joined The Lemelson Foundation as Executive Director. The Lemelson Foundation is committed to improving lives through invention. We work to inspire and educate the next generation of inventors, as well as support the translation of their ideas into products and businesses in support of sustainable development in the US and developing countries. I met Rick as we share a common interest in ensuring a pipeline of creative and productive innovators that are committed to creating a sustainable future both in the US and across the globe.

Rick Miller has had an accomplished career as an academic engineer and educator, having left his mark on multiple outstanding institutions. He has also stepped forward to lead at those institutions and shoulder the mantle of administration in support of institutional growth and excellence. Yet, Rick Miller's legacy will likely be dominated by the contributions he has made and is making to transform the future of education, both engineering and beyond, through the work he has been doing for more than a decade at Olin College.

My understanding is that when the Trustees of the Olin endowment found that they could not significantly influence the future of engineering education to prioritize innovations and excellence through various endowments and contributions to existing universities and colleges of engineering, they decided to launch a new institution that would be both an institution of engineering educational excellence, but also a learning laboratory for engineering education. They looked to recruit someone who had the experience to ensure excellence, but also the vision and creativity to capitalize on the extraordinary opportunity they were offering to explore how best to take engineering education to a higher level, ensuring graduates that would be at the leading edge of innovation and creativity. They wisely selected Rick Miller to take on that charge.

Since taking on leadership at Olin, Rick has been a leading national contributor to shaping the future direction of engineering education. His approach to launching Olin's curriculum was unprecedented. Embracing the design process, he engaged students and founding faculty for a year in defining how best to shape and implement engineering education. He broke traditions by integrating hands on design and building from the first days of a student's experience, and rejected the institution of tenure in order to keep the faculty vibrant and dynamic. The approach at Olin embraced entrepreneurship, integration of liberal arts, and partnerships with industry to provide students with immersive experience from the beginning.

Olin has established a reputation as one of the top undergraduate engineering institutions in a very short time, much to Rick's credit. As a result, there is demand from educational institutions across the US and internationally, both in higher education and K-12, to learn from the Olin experience in order to improve their students engineering experience. Rather than locking away the "trade secrets" of Olin's accomplishments, Rick has embraced this opportunity and opened the doors for others to learn from Olin and share their own learning with Olin.

Rick has also stepped out, even beyond the Olin stage, to emerge as a national and international leader in re-thinking engineering education. Rick has served to shape and promote cutting edge programs that seek to build more well-rounded engineers, which are grounded in a knowledge of societal needs, like the Grand Challenges

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Scholars from the National Academy of Engineering and the Epicenter. He has authored key articles and white papers and is a leading voice on the challenges of current engineering education and seeks to promote enhanced innovation from future engineering graduates.

Most recently Rick has been a leading voice for a more integrative approach to education, across disciplines, highlighting the need for a next generation of problem solvers who will tackle the increasingly complex challenges we face as a people and a planet. He is active in building a network of other educators, policy makers, and influencers who have shared views. While advocating for change in education that will bring a greater understanding of current challenges and systems implications, together with a better foundation for individuals defining and following a well-informed set of personal values, he is ensuring that these approaches are implemented and tested within the context of Olin's educational environment.

I encourage you to give Rick Miller your deepest consideration for receipt of the Brock International Prize in Education. He is breaking new ground in his views and approach to education, working to ensure we have a path to educating the problem solvers and leaders we need to ensure a sustainable future.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Carol A. Dahl". The signature is fluid and cursive, with a large initial "C" and "D".

Carol A. Dahl, Ph.D.
Executive Director



THE UNIVERSITY OF MICHIGAN

JAMES J. DUDERSTADT
PRESIDENT EMERITUS
UNIVERSITY PROFESSOR OF SCIENCE AND ENGINEERING

2001 DUDERSTADT CENTER
NORTH CAMPUS
ANN ARBOR, MICHIGAN 48109-2094
PHONE 734 647-7300 FAX 734 647-6814

June 1, 2016

Brock International Prize in Education
2021 S. Lewis, Suite 415
Tulsa, OK 74104-5733

To Whom It May Concern,

This letter is in support of the nomination of Dr. Richard K. Miller for the 2017 Brock International Prize in Education. Dr. Miller has had a truly extraordinary career of leadership in engineering education that culminated in the the creation of the Franklin W. Olin College of Engineering, now regarded by many as one of the America's most important and innovative efforts to develop new paradigms for engineering education. His leadership in this effort has recently been recognized both by election to the National Academy of Engineering (a rare event for engineering educators) and by receiving, along with two of his Olin colleagues, the NAE's Bernard M. Gordon Prize for Innovation in Engineering and Technology Education, the nation's leading award for engineering education.

Over the past decade, there has been growing awareness of the degree to which powerful forces in our world – globalization, demographics, a knowledge-and innovation-driven economy – are driving radical changes in engineering practice, demanding new paradigms for creating the knowledge base supporting engineering activities and educating the students for the engineering profession and other leadership roles in our society. Many recent studies have expressed concern about phenomena such as outsourcing of engineering services and off-shoring of engineering jobs, the declining interest of domestic students in engineering careers, and the eroding investment in engineering research and education. Of comparable concern has been the absence of truly radical experiments in exploring new paradigms for engineering practice, research, and education, in part because of inadequate resources, but also because of the natural tendency to cling to the status quo.

The Franklin W. Olin College of Engineering stands out as one of the most important and creative experiments in engineering in many ways. Through the exceptional commitment and generosity of the Franklin W. Olin Foundation, a green-field experiment was established to pioneer educational paradigms capable of producing 21st century engineers.

Yet, beyond adequate financial resources, it has taken great vision, skill, leadership, and determination to create a new institution from the ground up. Dr. Miller is one of those very exceptional leaders with the capacity to "create matter and energy out of the vacuum state"! He has provided truly visionary and skillful leadership in this remarkable effort, guiding the early birth and growth of the new institution, developing a vision to link its new paradigms for undergraduate engineering education with broader perspectives provided through co-location of the Olin College campus with Babson College of Business, one of the leading institutions for entrepreneurial business studies, and Wellesley College, one of the leading liberal arts colleges in the nation. Dr. Miller has recruited a faculty of unusual quality and creativity and attracted a student body of truly remarkable ability and enthusiasm.

RE: Support of Dr. Richard K. Miller's nomination for 2017 Brock International Prize
June 1, 2016
Page Two

Through Dr. Miller's leadership, this team of early faculty and students have explored and developed important new paradigms for engineering education, augmenting the classroom with design studio and laboratory experiences, the traditional technical curriculum with broader experiences in teamwork, innovation, and entrepreneurial skills, and reaching out to engage the participation of leaders of engineering through the nation and the world.

As Olin College enters its second decade of existence and its graduates now move on to provide leadership for American engineering, I believe it most appropriate to recognize this remarkable achievement the awarding of the 2017 Brock International Prize in Education.

Sincerely,

A handwritten signature in black ink, appearing to read "James J. Duderstadt". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

James J. Duderstadt
President Emeritus
University Professor of Science and Engineering



June 1, 2016

To: Brock Prize committee

Dear Madam/Sir:

I have known Richard Miller for five years, and accepted to serve on his board of advisors because I saw him starting a revolution in Engineering education. Having spent a 25-year career in technology, most recently at Cisco Systems, I was eager to witness this new model.

For the first time, there is a top-notch university, via its president, that pays attention to relevance to the real-world. Without sacrificing academic rigor one iota, it expands Engineering as a Science into Engineering as a Practice – the way it should always have been. Not only does Olin teach the deep principles and practices of engineering, it does so while incorporating skills (creativity, critical thinking etc.), character qualities (ethics, leadership etc.) as well as metacognition and a growth mindset. A Renaissance student is the proud outcome of a Renaissance president.

Rick has driven Olin's vision domestically to wide acclaim, and is sought after globally. His success is only matched by his modesty and authenticity.

It is my true pleasure to give him my absolute highest recommendation, with enthusiasm.

Yours sincerely,

Charles Fadel
Founder and Chairman,
Center for Curriculum Redesign

Founder and President,
Fondation Helvetica Education





HARVARD GRADUATE SCHOOL OF EDUCATION

May 27, 2016

The Brock International Prize in Education
2021 S. Lewis Ave, Suite 415
Tulsa, OK 74104-5733

To whom it may concern:

I am very pleased to have the opportunity to support the nomination of Dr. Richard K. (Rick) Miller, the President of the Franklin W. Olin College of Engineering (hereafter Olin), for the Brock International Prize in Education. I have known Rick well for a number of years, and I can say without hyperbole that he is one of the most outstanding educators in the world today and also a wonderful human being.

Rick has had a remarkable career. Trained as an engineer, he has published widely in applied mechanics, structural dynamics, and seismology and has held leadership roles at the University of Southern California and the University of Iowa. But his singular achievement has been the planning, launching, and successful steering of Olin for a decade and a half.

In recent times, especially given economic constraints, few new not-for-profit institutions of higher education have been launched in the United States. Olin stands out because it has not only succeeded in educating a new generation of engineers but has increasingly become a model for educating engineers, both in the United States and in countries around the world.

Rick has been able to lead Olin in achieving these goals for several reasons. First of all, he is a true educational visionary, rethinking not only the education of engineers, but, more broadly, the kind of problem-based, project-focused, interdisciplinary work that holds the key to educational success across a range of institutions of higher education. Second, he is a tireless learner, trying out new programs and practices, learning from them, revising as necessary, and keeping alive the spirit of innovation when it would have been easy to rest on his laurels. Third, he is an extraordinary teacher, not only of students and faculty, but also of leaders of other institutions, both in engineering and in other fields. Fourth, he is an exemplary leader—always seeking to articulate and realize his innovative mission, choosing associates well, helping them to grow, navigating carefully through challenges, and working cooperatively with other leaders at nearby institutions, in national organizations, and in international settings as well.

With all of these accomplishments, Rick would have ample reason to sing his own praises (as all too many innovative leaders are prone to do). In my view, perhaps Rick's most remarkable achievement consists of his admirable personal qualities—modest, even humble; helpful, unfailingly so; praising those who owe much to him; and a delightful companion for all occasions and all seasons.

Whether one is considering the education of young persons, or the education of those on the cusp of adulthood, there are many challenges and pressures in education today. Indeed, each year brings fresh challenges—economic, political, social, human. At such times, we need extraordinary leaders. I've had the privilege of knowing dozens of educational leaders at every level. In my view, Rick Miller stands at the very top of the pack. He amply deserves the Brock International Prize in Education, and I hope that you will see fit to confer this distinction on my distinguished friend and colleague Rick Miller.

Please let me know if I can provide any further information.

Sincerely,

A handwritten signature in black ink that reads "Howard Gardner". The signature is written in a cursive, flowing style.

Howard Gardner
Brock International Prize Winner 2015

15 June 2016

Dear Brock Prize Selection Committee,

It is with great enthusiasm that I provide this letter of support for Dr. Richard (Rick) Miller for the *Brock International Prize in Education*.

I have known Rick for about sixteen years, since he first moved from Iowa to Massachusetts to start one of the greatest adventures of the last century in higher education – Olin College. While Rick was starting Olin as its founding president, I was at the same time the founding director of the Picker Engineering Program at Smith College – the first engineering program at a women’s college in the United States. Rick and I spoke often and shared similar perspectives on what needed to be changed in engineering education. And although we both started with a *tabula rasa* in engineering education, Rick, starting an entire college, had an even grander canvas on which to craft a vision for the future of engineering education. And so he did.

As a seasoned leader, Rick surrounded himself with the best and the brightest – faculty, staff, and students – and he worked with them as partners and collaborators in building Olin. As a result, whenever you speak with folks associated with the College, the sense of pride and ownership of the Olin experience is overwhelming.

Rick, by nature is a thoughtful and unassuming scholar. But beneath his modest comportment, lies enormous passion – a passion that comes vividly to life whenever he starts to discuss the impact that his small college is having on engineering education world-wide.

Probably the most important aspect of Rick’s many accomplishments is that he wanted Olin not just to be an excellent boutique engineering school, but a living laboratory, continually inventing and exploring, testing the limits of current thought and practice in education. And most importantly – Rick wanted Olin to influence how others, across the country and across the globe, considered their efforts and could improve their efficacy.

Rick certainly understood that what he has been able to accomplish at Olin is, in no small measure, a fortunate result of having no institutional history to change. Nonetheless, many of the innovations that have developed at Olin have found their way into what might be considered traditional engineering educational programs influencing faculty and students well beyond Olin’s diminutive physical footprint, having precisely the desired effect that Rick intended.

Olin is visited annually by dozens of representatives from universities around the globe; there to observe, learn, and adopt the innovations. Two of the many Olin innovations that have been adopted by other institutions are engaged, hands-on, project-based education throughout the curriculum and a holistic approach to innovation and entrepreneurialism. These two innovations have proven wildly successful. To be sure, the students that have experienced these approaches have had more fulfilling experiences, are retained in greater proportion, are more sensitive to societal needs, and are highly sought by industry and graduate schools. Outcomes any university would love to emulate.

If the objective of the Brock International Prize in Education is to recognize an individual who has made a specific innovation or contribution to the science and art of education, resulting in a significant impact on the practice or understanding of the field of education, then you could select no better representative than Rick Miller. In short, Rick and Olin are transforming engineering education to enhance humanity's condition; his vision of this small institution influencing the nature of engineering education is becoming a reality.

The best way to predict the future is to create it ... Rick and Olin are doing just that!

Sincerely,

A handwritten signature in black ink, reading "Domenico Grasso". The signature is written in a cursive style with a large initial "D" and a long, sweeping underline.

Domenico Grasso
Provost – The University of Delaware
Chair, President's Council – Olin College

Insper



Dear Sir, Madam,

I am writing to give full support to Richard (Rick) Miller's nomination for the 2017 Brock International Prize in Education. I agree completely with Dr. Manno's characterization of Dr. Miller as being 'the most significant contributor to the reinvention of undergraduate engineering education in the 21st Century.' His influence has transcended national borders and impacted education across the globe.

As founder of Insper, a private Brazilian university, I have had close contacts with Dr. Miller. When we decided to create an engineering program in our School and having heard about the new method of teaching engineering, led by Dr. Miller, we turned to Olin for help in setting up our curriculum, learning and teaching objectives and faculty development. We are now in the third year of the cooperation agreement between our institutions, and Dr. Miller's vision and leadership have been fundamental in implementing and making it work to the fullest, in an extremely cooperative and friendly way.

Since the first time I met Dr. Miller, I have been extremely impressed by his innovative and creative thinking, his ability to communicate clearly and effectively his vision and, above all, his passion for education. I admire him for what he has accomplished and strongly recommend him for the 2017 Brock International Prize in Education.

Sincerely


Claudio Haddad

Founder and Chairman of the Board
Insper Instituto de Ensino e Pesquisa



June 21, 2016

Dear Selection Committee:

I'm writing this letter of support for Richard Miller for the 2017 Brock International Prize in Education.

We in the engineering and design community owe an enormous debt of gratitude to Rick Miller for his leadership in pioneering the future of engineering education. I believe it was an incredibly difficult undertaking to start Olin College from a clean sheet of paper. Rick did a wonderful job of balancing all of the disparate and unknown factors necessary to make a complete functioning, innovative organization from scratch. He got the balance just right between conventional engineering traits that the students needed and cutting edge new ways of learning.

We, in the design engineering community, look to Rick for inspiration for our own programs and how to evolve them for the future. I think Olin is a boldly original College and the fact that Rick could build it from the ground up is quite extraordinary. Design has not been the focus of most Universities in the recent past, but since the creation of Olin, more and more faculties understand its significance. This shift is largely due to Richard Miller's thinking and publications.

In my own academic pursuits of design thinking, Rick is the first person I go to when I need a breakthrough point of view on a specific problem. His depth of understanding and willingness to be open-minded far exceeds almost anyone else I know. The greatest testament I have to Rick and Olin's impact is the quality of the graduate students that arrive to my program at Stanford from their undergrad at Olin. These students are exemplary in their ability to balance traditional engineering skills and creative systems thinking approaches.

I think the world of Richard Miller - both personally and academically and I recommend him highly for this Prize.

Sincerely,

A handwritten signature in black ink that reads "David M. Kelley".

David M Kelley
Donald W Whittier Professor of Mechanical Engineering at Stanford University
Founder, Hasso Plattner Institute of Design at Stanford
Founder, IDEO

June 21, 2016

Re: Nomination of President Richard Miller for the 2017 Brock International Prize in Education

To Whom It May Concern:

I am writing to strongly support the nomination of President Richard Miller of Olin College for the Brock International Prize in Education. I first met Rick about 15 years ago and have followed very closely what he has accomplished at Olin.

Between 1999 and 2014 I was Dean of the Engineering School at Stanford University. One of the issues that I focused on when I was Dean was our undergraduate engineering program. Beginning in the 1990s, there were national concerns and calls for action to educate more STEM students in the United States because of concerns about our long-term economic competitiveness as a nation. Fewer than 5% of undergraduate students in the US were choosing engineering majors at that time, compared to numbers in developing countries many times larger. Many in the engineering community attributed this, at least partly and perhaps mainly, to the fact that engineering undergraduate curricula at that time were designed to filter out students rather than to embrace students who might have an interest in the field. This was largely accomplished by designing freshman and sophomore courses around math and science with little opportunity for students to experience the excitement of solving real problems in an engineering context until their junior and senior years. Many engineering schools began to try to make changes, including Stanford.

It was in this context that I first heard about Olin and met Rick Miller. Funded by a major gift from the Olin Foundation, Olin College had the rare opportunity to create an engineering school starting with a "clean slate". Rick Miller was the first employee of this new venture and has been its President since it was founded.

What was created at Olin was an engineering school unlike any existing college or university. Project based learning is the foundation of how Olin students are educated. Solving real engineering problems and design are part of the curriculum from the moment

a student starts at Olin. Science and mathematics are also certainly part of the curriculum but these subjects are taught in the context of solving real engineering problems. Students learn about entrepreneurship by actually starting a company as a student. They learn about creativity and innovation by solving challenging, actual engineering problems, often in partnership with corporations.

Olin also changed dramatically the traditional model for faculty appointments. There is no tenure system. Faculty are appointed on renewable contracts. Faculty performance is measured based on their impact on the educational process with a very broad view of how this impact can occur.

The results of this "clean-slate" college creation speak for themselves. A decade after graduating its first class of students, Olin College today is regarded as one of the very best undergraduate engineering programs in the US. It attracts the very best students and competes successfully for those students with institutions like Stanford, MIT and others. It also attracts terrific faculty who believe in the new approaches to education that Olin has pioneered. Those faculty come from the top graduate programs and Olin today finds itself competing successfully for faculty with the top engineering programs around the country. This is really a remarkable outcome.

Olin College is small with only 350 students. So one might argue that while it is an incredible successful story, the impact it can have on educating more engineers and changing engineering education is necessarily limited. This argument is simply wrong and the reason is that Olin was created to act as a national laboratory to demonstrate how engineering education can be reinvented. Its mission is to not only demonstrate these ideas, but to help reinvent engineering education in existing, much larger, engineering programs. This is already happening. At my own institution, Stanford, we have made significant changes in our undergraduate engineering programs, inspired by and modeled after the changes Olin has demonstrated. The results have been dramatic. Engineering undergraduate enrollments have more than doubled; today more than 40% of Stanford undergraduates choose an engineering major. Computer Science is the largest undergraduate major at Stanford by far and Mechanical Engineering majors are the second largest group on campus.

Other institutions are undergoing similar changes. The University of Illinois undergraduate engineering program has made significant changes in its curriculum in partnership with Olin. The University of Texas at El Paso has made sweeping changes in its curriculum in partnership with Olin. In my opinion, these and other examples are simply the beginning of the impact that Olin will have. Nationally in the US undergraduate engineering enrollment has increased by 55% in the past decade and in my view one of the major reasons for this is the change in undergraduate engineering curricula inspired by and enabled by Olin College.

With this background, let me now return to Rick Miller. There is no individual more responsible for the above events than Rick. He created Olin College. He inspired the radically new approaches to undergraduate engineering education pioneered by Olin. He is leading the national agenda to make similar changes in established undergraduate engineering programs nationwide. In my opinion he is a perfect candidate for the 2017 Brock International Prize in Education.

If there is additional information that I can provide, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "James D. Plummer", with a long horizontal flourish extending to the right.

James D. Plummer

THE
KERN FAMILY
FOUNDATION

Dear Selection Committee,

I am honored to support Rick Miller's nomination for the Brock International Prize in Education. I began working with Rick three years ago in my capacity as the president of The Kern Family Foundation.

We initially reached out to Rick because it was clear that the engineering education community recognizes him as a true maven; he is part of every conversation about innovation and reform and, although he is extremely humble, he is universally respected and admired. Furthermore, he is one of the strongest voices promoting the entrepreneurial mindset and reform that makes programming more student-centric—two major areas of interest for the Foundation. Eventually, due in large part to our experience with Rick, the Foundation forged an official partnership with Olin College.

Over time, Olin's relationship with the Foundation has grown steadily. In addition to regular meetings between the Foundation and Olin teams, Olin joined The Kern Entrepreneurial Engineering (KEEN) Network, a group of universities that works to integrate the entrepreneurial mindset into engineering education. Since 2014, Rick—along with the rest of his team—has actively contributed to KEEN by attending and presenting at conferences, sharing best practices with the Network, as well as engaging with and learning from partner institutions. In June 2015, Olin became the first KEEN partner institution to join the Network without an institutional grant—another major indication of Rick's dedication; he is motivated by genuine passion for systematic change, rather than grant money or the recognition it brings.

His work with KEEN, however, is only one of many ways that Rick works to evangelize on behalf of reform. Beyond Olin's undergraduate program, which serves as a laboratory for experimentation in undergraduate engineering teaching and learning, Rick forwards the transformation of undergraduate engineering education in the U.S. at a much larger scale through the Olin Collaboratory, an outward-focused initiative that actively inspires, catalyzes, and co-designs change with other universities. Currently, it welcomes nearly 400 visitors from 200 schools each year in order to explore different ways to fully integrate the fundamentals of entrepreneurial thinking into undergraduate engineering programs.

Due to our belief in the value of Olin's contributions in this area, the Foundation is currently supporting Olin's two pronged approach for further evangelization: the expansion of the Collaboratory and the development of a robust, orchestrated network of networks that advances the spread and adoption of the entrepreneurial mindset in undergraduate engineering education.

First, we are investing in Rick's expansion of the Collaboratory because the demand for Olin's expertise and services far exceeds their current capacity. As a result of this process, Olin will increase its ability to convert curious visitors—the hundreds of institutional leaders who are attracted by Olin's reputation and unique laboratory model of engineering education—into implementers of entrepreneurial mindset strategies at their own campuses.

Second, we are supporting Olin's network of networks, which Rick and I recently launched in Chicago. Through this work, Rick and the Foundation will create, convene, and drive a network of networks that will strategically position, amplify the urgency of, and accelerate the progress of a burgeoning national movement focused on transforming undergraduate engineering education to incorporate entrepreneurial mindset. Beginning in 2017, this network of networks will convene annually, bringing together a growing number of organizations whose missions address issues directly related to the transformation of

undergraduate engineering education, as well as key influencers within major engineering education movements.

On a more personal note, Rick is an incredible ally. In addition to introducing the Foundation to major players in the ecosystem, he has translated the motives between players in the field and helped forge alliances around shared ideas, regardless of the terms used to describe these ideas. Furthermore, Rick's emphasis on character makes him an incredibly valuable partner.

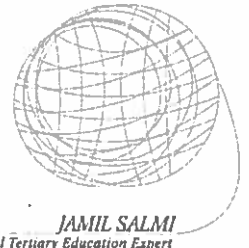
Rick has structured engineering education around people rather than technology. He believes that design should operate around a simple question: how can we help people? Ultimately, he teaches every student at Olin how to leverage technological advancement to promote human flourishing. If his mission is successful, this human-centric approach to engineering will become the norm in schools across the country.

A handwritten signature in black ink that reads "James C. Rahn". The signature is written in a cursive, flowing style.

James C. Rahn
President
The Kern Family Foundation

Jamil Salmi
11422 Dorchester Ln
Rockville
Md. 20852

jsalmi@tertiaryeducation.org www.tertiaryeducation.org



30 June 2016

2017 Selection Committee
Brock International Prize in Education

Re: Testimony about President Richard K. Miller

Dear Sir or Madam:

I write in strong support of President Miller's nomination for the Brook International Prize in Education. President Miller has distinguished himself as a visionary thinker and doer, introducing a remarkable innovation in the field of engineering education through the successful design and establishment of Olin College. He has built an exceptional national and international reputation for his visionary approach for engineering education and his impressive leadership qualities. It is my expert opinion that Olin College is today the most revolutionary and exciting school of engineering in the world. As principal force behind this great innovation, President Miller is definitely an outstanding figure in his field.

My name is Jamil Salmi. I am a recognized international expert in higher education. I was the author of the first World Bank policy paper on higher education reform in 1994 and the principal author of the Bank's 2002 Tertiary Education Strategy entitled "Constructing Knowledge Societies: New Challenges for Tertiary Education". My 2009 book addresses the "Challenge of Establishing World-Class Universities". My 2011 book, co-edited with Professor Philip Altbach (Director of Boston College's Center on International Higher Education), was entitled "The Road to Academic Excellence: the Making of World-Class Research Universities". During my last seven years at the World Bank, I was responsible for coordinating the Bank's work in higher education worldwide.

For the past twenty-three years, I have provided advice on higher education development, to governments and university leaders in more than 90 countries all over the world. In this capacity I have often had the opportunity to assess the performance of universities and colleges and provide strategic advice on the construction of world-class institutions. Since taking early retirement from the World Bank in January 2012, I have worked as an independent global tertiary education expert, providing policy advice to several governments (Chile, Colombia, Finland, France, Macedonia, Montenegro, United Kingdom, Russian Federation), universities, multilateral and bilateral development aid agencies, as well as professional associations.

I am very familiar with President Miller's work and a great admirer of his pioneering work as founder of Olin College of Engineering. About 9 years ago, I read a New Yorker article about Olin College and got so intrigued that I asked my assistant to get in touch with Rick Miller and invite him to make a presentation at the World Bank. We were all so impressed

after listening to President Miller's presentation that we organized a study tour to visit Olin College. Since then, I have worked frequently with President Miller in the context of international workshops where he presented the Olin experience and principles in many parts of the world. We have also worked together providing strategic guidance to the leaders of new institutions interested in applying some of the innovative principles developed at Olin College of Engineering.

Unlike many innovators who let success get to their head, President Miller has remained extremely humble about his great achievements. In the past two years, I had the privilege of meeting the Burmese Peace Nobel Prize Winner, Aung San Suu Xii, and sharing with her some advice about higher education reform in Myanmar. I was concerned that I would be disappointed when I met her in real life after having formed a very high idea of her from afar during her years of political struggle and imprisonment, but she turned out to be a genuinely inspiring human being who combines charisma and modesty. I have always had the same feeling about Rick Miller. While his accomplishments are exceptional beyond doubt, he has stayed unpretentious, unassuming and accessible to everyone. I have watched him work in many different settings, and been always fascinated by his ability to engage his audience in a very convincing manner and show in a credible way how anything is possible if you have an innovative vision and the commitment to make it work. This is the mark of a true leader who inspires others by empowering them and bringing out the best in them.

In summary, based on my extensive professional experience in many parts of the world, I am convinced that President Miller's exceptional contribution to the transformation of engineering education deserves to be recognized in a unique way.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Salmi', with a stylized flourish at the end.

Jamil Salmi
Global Tertiary Education Expert

**TONY WAGNER, ED.D.
221 LAKEVIEW AVENUE
CAMBRIDGE, MA 02138**

**TONY@TONYWAGNER.COM
617-620-6000**

June 30, 2016

To The Members of The Brock Prize Jury:

I write to support the candidacy of Dr. Richard Miller, President of Olin College, for The Brock International Prize in Education.

I first became acquainted with Rick Miller's work in 2010 while researching my book, *Creating Innovators: The Making of Young People Who Will Change The World*. The central question I explored in the book was: What must we do differently as parents and educators to develop the capacities of many more young people to be creative problem solvers? For one chapter, I wanted to highlight colleges or universities that truly educated young people to become innovators.

Unfortunately, I found only three higher education institutions that met my criteria: The Stanford D School, the MIT Media Lab, and Olin. I visited all three and spent time interviewing students and faculty and observing classes. The work being done at Stanford and MIT was impressive, but neither represents fundamental change in an entire institution of undergraduate education. Only Olin embodies a radically new model of a four-year college — one that truly prepares students for the Innovation Era.

Two things, in particular, most impressed me. The first was the emphasis in every class on acquiring knowledge while trying to solve a real problem or answer an important question. Teachers were most concerned not about what students knew but rather what they could do with what they knew. This is a fundamental and radical shift in education priorities, and very different from the emphasis on merely acquiring information in order to pass an exam, which is what I routinely see at Harvard and elsewhere. Equally important was the emphasis on intrinsic motivation in every class. Students were doing work worth doing, and they were deeply engaged.

Olin is not just a radically new model for engineering education. It is a model for the transformation of all colleges and universities. Olin exists and thrives because of the vision and commitment of Rick Miller. His leadership has shaped the foremost innovation in higher education in the 20th century.

Sincerely,

Herbert (Tony)
Wagner

Digitally signed by Herbert (Tony)
Wagner
Date: 2016.07.01 11:42:07 -04'00'

Tony Wagner, Ed.D.
Expert In Residence, Harvard Innovation Lab
Senior Research Fellow, Learning Policy Institute

3. *Curriculum Vitae* – Richard K. Miller, Ph.D.

ABBREVIATED CURRICULUM VITAE

(see http://www.olin.edu/sites/default/files/richard_k_miller_cv_april_2016.pdf)

For full CV)

Richard K. Miller

CURRENT TITLE President (and first employee)
Professor of Mechanical Engineering

ADDRESS Franklin W. Olin College of Engineering
Olin Way
Needham, MA 02492-1200

Telephone: (781) 292-2301
FAX: (781) 292-2314
E-mail: richard.miller@olin.edu

PERSONAL Birth date: June 12, 1949 Birthplace: Fresno, CA, USA
Family: Married (1971), 2 children

EDUCATION California Institute of Technology
Ph.D., Applied Mechanics, 1976

Massachusetts Institute of Technology
M.S., Mechanical Engineering, 1972

University of California, Davis
B.S., Aerospace Engineering, 1971 (Highest Honors)

**ACADEMIC
POSITIONS**

FRANKLIN W. OLIN COLLEGE OF ENGINEERING

1999-Present President (and first employee)
1999-Present Professor of Mechanical Engineering

UNIVERSITY OF IOWA

1992-1999 Dean, College of Engineering
1992-1999 Professor of Civil and Environmental Engineering

UNIVERSITY OF SOUTHERN CALIFORNIA

1989-1992 Associate Dean of Engineering (Academic Affairs)
1985-1992 Professor of Civil Engineering and of Aerospace
Engineering
1984-1985 Associate Professor of Civil Engineering and of
Aerospace Engineering
1982-1984 Associate Professor and Administrative Officer of
Civil Engineering
1979-1982 Associate Professor of Civil Engineering

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

July 1, 1979 Declined promotion to Associate Professor with tenure
to accept position at USC
Jan, 1976-1979 Assistant Professor of Mechanical and Environmental
Engineering
Sep-Dec, 1975 Acting Assistant Professor of Mechanical and
Environmental Engineering

SELECTED RECENT PROFESSIONAL ACTIVITIES

ALU Global Advisory Council – African Leadership Group
Member (2015 – Present)

ASSOCIATION OF INDEPENDENT COLLEGES AND UNIVERSITIES OF MASSACHUSETTS
Member (2006 – Present; Executive Committee, 2006 – 2009)

ASSOCIATION OF INDEPENDENT TECHNOLOGICAL UNIVERSITIES
Member (1999 – Present; Chair, 2007 – 2009; Past Chair 2009 – 2010)

BABSON COLLEGE, Babson Park, MA
Board of Trustees (Member, 2001 – Present)

BUSINESS HIGHER EDUCATION FORUM
Member (2013 - Present)

CALIFORNIA POLYTECHNIC STATE UNIVERSITY, SAN LUIS OBISPO
College of Engineering Dean's Advisory Committee (Member, 2006 – 2010)

CENTER FOR CURRICULUM REDESIGN, Cambridge, MA
Board of Advisors (Member 2011 – Present)

COUNCIL ON COMPETITIVENESS, Washington, DC
Member (2005 – 2008; 2011 – 2013)

COUNCIL ON FOREIGN RELATIONS, New York, NY
Higher Education Working Group on Global Affairs (Member, 2007 – Present)

FRANKLIN W. OLIN COLLEGE OF ENGINEERING, Needham, MA
Board of Trustees (Member, 1999 – Present)

HARVARD UNIVERSITY, Cambridge, MA
Visiting Committee for the School of Engineering and Applied Sciences
(Member, 2007; 2012; 2014 – 2015)

INDIAN INSTITUTE OF TECHNOLOGY, Gandhinagar, India
Leadership Conclave, Academic Advisory Council (Member, 2011)

KHALIFA UNIVERSITY OF SCIENCE, TECHNOLOGY & RESEARCH (KUSTAR), Abu Dhabi, UAE
Presidential Academic Advisory Committee (Member 2011 – Present (on leave 2014 - 2015))

NATIONAL ACADEMY OF ENGINEERING, Washington, DC (Member, 2012)
Bernard M. Gordon Prize for Innovation in Engineering and Technology Education
Selection Committee (Member, 2016 – 2018)
Committee on Engineering Education Workforce Continuum (Member, 2014 – Present)
Grand Challenge Scholars Program, Executive Committee (Member, 2010 – Present)
Grand Challenges International Summit Steering Committee (Member, 2011 – Present)
Changing the Conversation Working Group (Member, 2010)
Frontiers of Engineering Education, Steering Committee (Member, 2009)
Lifelong Learning Imperative Working Group (Member, 2009)

NATIONAL ACADEMY OF SCIENCES, Washington, DC
Integration of Education in the Humanities with Science, Engineering and Medicine,
Steering Committee, (Member, 2015 - Present)

NATIONAL SCIENCE FOUNDATION, Washington, DC
Engineering Advisory Committee (Member, 2002 – 2008; Chair, 2006 – 2007)

STANFORD UNIVERSITY, Stanford, CA
Stanford Engineering Advisory Council (Member 2013 – 2015)
The National Center for Engineering Pathways to Innovation (Epicenter) Advisory Board
(Member, 2014 – 2016)

STANLEY CONSULTANTS, INC., Muscatine, IA
Board of Directors (2001 – 2012)

SUZUKI ASSOCIATION OF THE AMERICAS, Boulder, CO
Honorary Board (Member, 2008 – 2013)

UNITED STATES MILITARY ACADEMY, West Point, NY
External Academic Program Goals Review Panel, (Vice President, 2012)

UNIVERSITY OF CALIFORNIA, DAVIS
Advisory Board, Department of Mechanical and Aeronautical Engineering
(Member, 2000 – 2006)
Advisory Board, Department of Civil and Environmental Engineering
(Member, 1995 – 1998)

UNIVERSITY OF IOWA, Iowa City, IA
Advisory Board, IIHR Hydroscience and Engineering (Member, 2000 – 2005)

AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS, MEMBER
AMERICAN SOCIETY OF CIVIL ENGINEERS, ELECTED LIFE MEMBER, 2015
AMERICAN SOCIETY FOR ENGINEERING EDUCATION, MEMBER
AMERICAN SOCIETY OF MECHANICAL ENGINEERS, MEMBER

HONORS

Member of Sigma Xi, Tau Beta Pi, Phi Kappa Phi Honor Societies
Recipient of Earl C. Anthony Fellowship, ARCS Foundation Fellowship, and NSF Traineeships

Listed in American Men and Women of Science
Listed in Who's Who in Frontier Science and Technology
Listed in Who's Who in Science and Engineering
Listed in Who's Who in America
Listed in Who's Who in the World

AWARDS

- Elected Fellow of the National Academy of Inventors, 2014.
- Recipient of the 2014 Distinguished Alumni Award, California Institute of Technology, presented at the 77th Annual Seminar Day, Pasadena, CA, May 17, 2014.
- Recipient of the National Academy of Engineering's Bernard M. Gordon Prize for Innovation in Engineering and Technology Education, 2013.
- Elected Fellow of the Engineering Mechanics Institute of the American Society of Civil Engineers, 2013.
- Elected Member of the National Academy of Engineering, 2012.

- The 2011 ASEE Donald E. Marlowe Award, presented at The American Society for Engineering Education Annual Conference, Vancouver, British Columbia, June 29, 2011.
- “Richard K. Miller Scholarships” and “Richard K. Miller Summer Fellowships” (about a dozen in total) at Olin College, Needham, MA, established by action of the Board of Trustees in May 2009 through generous donations “*in recognition of ten years of outstanding leadership of Olin College.*” (The scholarships provide need-based financial aid for deserving first-year students, and the summer fellowships provide summer support for pairs of continuing students and their faculty mentors.)
- 2006 All-Star Award, *Mass High Tech, The Journal of New England High Technology*, for leading the establishment of Olin College, presented October 25, 2006, Boston, MA.
- “Legacy of Iowa Engineering” award, University of Iowa, College of Engineering, Iowa City, IA, for making “*exceptional historical contributions toward advancing the College in teaching, research, or service*” while associated with the College, presented June 10, 2006 (11th person—and the second living person—to receive this award).
- The 2002 Distinguished Engineering Alumnus Award, College of Engineering, University of California, Davis, presented at Commencement Ceremonies on June 14, 2002 (12th person to receive this award in the history of the College of Engineering).
- The 2002 Citation for Excellence, Cal Aggie Alumni Association, University of California, Davis, presented at a reception at the College of Engineering on June 14, 2002, and acknowledged at a university-wide dinner on October 19, 2002, on Homecoming Weekend.
- “Richard K. Miller Engineering Entrepreneurial Studies Scholarship,” established January 29, 1999, by the President of the University of Iowa, through generous endowment support provided by the Engineering Development Council in recognition of “*extraordinary contribution to the College of Engineering.*” This perpetual scholarship fund supports tuition for deserving undergraduate engineering students each year.
- Tau Beta Pi Certificate of Recognition “*for outstanding service and dedication to the University of Iowa, College of Engineering,*” April 21, 1994.
- TRW Excellence in Teaching Award, USC School of Engineering, presented in May, 1987, at the annual faculty meeting of the School of Engineering, University of Southern California, Los Angeles (the award provided a \$4,000 prize from the TRW Corporation).
- David M. Wilson Associates "Outstanding Undergraduate Teaching Award in Civil Engineering," presented in May 1983, by the Graduating Class of Civil Engineers at the University of Southern California, Los Angeles.
- David M. Wilson Associates "Outstanding Civil Engineering Faculty Member" award, presented in May, 1981, by the Graduating Class of Civil Engineers at the University of Southern California, Los Angeles.
- Pi Tau Sigma (precursor to Tau Beta Pi) "Most Appreciated Faculty Member" award, presented at Commencement ceremonies in June, 1980, by the Graduating Class of Mechanical Engineers at the University of California, Santa Barbara.
- "Outstanding Instructor" award, presented in May, 1978, by the student chapter of ASME at the University of California, Santa Barbara.

SELECTED RECENT KEYNOTE AND INVITED PRESENTATIONS

- “*The Future of Engineering Education,*” R.K. Miller, (Invited Lecture), Bucknell University, Faculty Learning Series, College of Engineering, Lewisburg, PA, March 25, 2016.

- *National Town Hall, T-Summit 2016: Transformational Approaches to Creating T-Shaped Professionals*, (Invited Panelist), National Academy of Sciences, Washington, DC, March 22, 2016.
- *"The Future of Engineering Education,"* R.K. Miller, (Invited Lecture), Ahmedabad University, Ahmedabad, Gujarat, India, February 24, 2016.
- *"The Future of Engineering Education,"* R.K. Miller, (Keynote Presentation), Autodesk University, Education Summit 2015: The Future of Making Things in Education, Las Vegas, NV, November 30, 2015.
- *"Educating Engineers for the Challenges of the 21st Century,"* R.K. Miller, (Moderator and Invited Panelist), Global Grand Challenges Summit, Beijing, China, September 16, 2015.
- *"Innovations in Engineering Education,"* R.K. Miller, (Invited Panelist), IIT Global Leadership Conference 2015, Santa Clara, CA, July 24, 2015.
- *"A New Type of Engineering Education,"* R.K. Miller, (Invited Speaker), The Napa Summit, The Xconomy Retreat on Technology, Jobs and Growth, Napa Valley, CA, June 2, 2015.
- *"The Future of Engineering Education,"* R.K. Miller, (Keynote Presentation), The Global STEM Education Center, 2015 Annual Conference, Harvard University, Cambridge, MA, May 29, 2015.
- *"Educating Engineering Innovators For the 21st Century,"* R.K. Miller, (Keynote and Panel/Talk Show), 6^o Congresso Brasileiro de Inovação da Indústria, Sao Paulo, Brazil, May 14, 2015.
- *"CONNECTING THE DOTS: How and Why engineering education must change,"* R.K. Miller, (Connections Keynote Presentation), 2015 KEEN Winter Conference, Tempe, AZ, January 6, 2015.
- *"The Role of Soft Skills in Preparing Innovators,"* R.K. Miller, (Invited Panel Presentation), NAE – INAE GCSP Workshop, National Academy of Sciences, Washington, DC, December 18, 2014.
- *"Olin College of Engineering: Rethinking Engineering Education,"* R.K. Miller, (Invited Presentation), 2014 World Engineering Education Forum, Dubai, December 5, 2014.
- *"Engineering and Innovation,"* R.K. Miller, (Panelist), Engineering Forum, Instituto Tecnológico de Aeronáutica (ITA), São José dos Campos (SP), Brazil, November 17, 2014.
- *"Transforming Engineering Education at the Collegiate Level,"* R.K. Miller, (Invited Presentation), 3DS AND ACADEMIA: where learning meets innovation, 3DEXPERIENCE FORUM, DASSAULT SYSTEMES, Las Vegas, NV, November 12, 2014.
- *"The Importance of Industry-University Cooperation in the Education of Innovators,"* R.K. Miller, (Keynote Address), 2014 Global Industry-University Cooperation Forum, Seoul, South Korea, October 15, 2014.
- *"From the Ground Up: Rethinking Engineering Education,"* R.K. Miller, (Invited Lecture), College of Engineering, University of Michigan, Ann Arbor, MI, October 10, 2014.
- *"Encouraging Innovation from Universities,"* R.K. Miller, (Invited Lecture), Science Plaza, Science and Technology Agency, Tokyo, Japan, July 9, 2014.

- “*Developing an Innovation-Driven Workforce*,” R.K. Miller, (Invited Panelist), New York Times, Next New World Forum, San Francisco, CA, June 12, 2014.
- “*Creating Innovators*,” R.K. Miller, (Invited Panelist), International Exhibition and Conference in Higher Education, Riyadh, Saudi Arabia, April 16, 2014.
- “*Academic Freedom, Shared Governance, and Leadership in Innovative Universities*,” (Invited Presentation), Rectors’ Workshop, International Exhibition and Conference in Higher Education, Riyadh, Saudi Arabia, April 14, 2014.
- “*From the Ground Up: Rethinking Engineering Education*,” R.K. Miller, (Invited Lecture), College of Engineering, Ohio State University, Columbus, OH, April 2, 2014.
- “*Why T-shaped Thinking is Essential*,” R.K. Miller, (Invited Panelist), T-Summit 2014, Cultivating Tomorrow’s Talent Today, IBM Research—Almaden, San Jose, CA, March 25, 2014.
- “*From the Ground Up: Rethinking Engineering Education*,” R.K. Miller, (Invited Lecture), University of Warwick, Coventry, England, March 13, 2014.
- “*From the Ground Up: Rethinking Engineering Education*,” R.K. Miller, (Invited Lecture), College of Engineering, University of California, Berkeley, CA, March 4, 2014.
- “*The Olin College Experiment: Re-Designing Engineering Education*,” R.K. Miller, (Invited Presentation), Ahmedabad University, Ahmedabad, India, December 18, 2013.
- “*The Olin College Experiment: Re-Designing Engineering Education*,” R.K. Miller, (Closing Keynote Presentation), 2013 LifeScience Alley Conference, Minneapolis, MN, November 20, 2013.
- “*From the Ground Up: Rethinking Engineering Education*,” R.K. Miller, (Bernard M. Gordon Prize Lecture), 2013 National Academy of Engineering Annual Meeting, Washington, DC, October 6, 2013.
- “*Innovating Engineering Education: Challenges and Opportunities*,” R.K. Miller, (Keynote Presentation), Insper, Sao Paulo, Brazil, July 30, 2013.
- “*Academic Freedom, Shared Governance, and Leadership in Innovative Universities*,” R.K. Miller, (Keynote Presentation), Eurasian Higher Education Leaders Forum, Nazarbayev University, Astana, Kazakhstan, June 12, 2013.
- “*Technology Leadership and Competitiveness Panel*,” (Invited Panelist), Industrial Research Institute, Diamond Jubilee Meeting, Washington, DC, May 22, 2013.
- “*Creating Innovators for the Grand Challenges of the 21st Century*,” R.K. Miller, (Keynote Address), Spirit of Innovation Challenge, The Innovation Summit, NASA Johnson Space Center, Houston, TX, April 12, 2013.
- “*Student Engagement, Project-Based Learning, and Engineering Education in the 21st Century: Lessons from Olin College*,” R.K. Miller, (Keynote Address), Wentworth Institute of Technology, Winter Faculty Colloquium, Boston, MA, January 7, 2013.
- “*What Will It Take to Create Real Innovators for 21st Century?*,” R.K. Miller, (Keynote Address), Global Semiconductor Alliance, Emerging Company CEO Council, Palo Alto, CA, December 12, 2012.

- “*Educational Impacts of the Grand Challenges*,” R.K. Miller, (Invited Presentation) American Association of Engineering Societies Board of Directors Meeting, Reston, VA, November 29, 2012.
- “*Thinking Ahead: Preparing Engineering Leaders for the Next 50 Years*,” R.K. Miller (Closing Keynote Address) University of California, Davis, College of Engineering 50th Anniversary Celebration, Davis, CA, November 8, 2012.
- “*Incorporating Human-Systems Integration in Undergraduate Engineering Education Curriculum Panel*,” R.K. Miller (Invited Panelist), National Academy of Engineering and the Board on Human-Systems Integration of the National Research Council, Washington, DC, November 5, 2012.
- “*Olin College: A Comprehensive Redesign of Undergraduate Engineering Education*,” R.K. Miller, (Invited Plenary Address) III International Conference of the Russian Association of Higher Education Researchers, National Research University—Higher School of Economics, Moscow, Russia, October 20, 2012.
- “*Rethinking Engineering Education From the Ground Up*,” R.K. Miller (Keynote Address), Implementing Project-Based Learning in Engineering Education, Skolkovo Institute of Science and Technology, Moscow, Russia, October 18, 2012.
- “*Educating Engineers: Preparing 21st Century Leaders in the Context of New Modes of Learning*.” (Invited Panelist), National Academy of Engineering Annual Forum, Washington, DC, October 1, 2012.
- “*The Educational Imperative of the 21st Century*,” R.K. Miller, (Keynote Address), SISTEMA Tecnológico De Monterrey, Monterrey, Mexico, June 26, 2012.
- “*Fostering Innovation Through Higher Education: Academic Perspective Panel*,” R.K. Miller, (Invited Speaker), 5th Global University Summit, Chicago, IL, April 30, 2012.
- “*Olin College: A Comprehensive Redesign of Undergraduate Engineering Education*,” R.K. Miller (Plenary Address), Changing Paradigm in Teaching and Learning, World Class Teaching Universities, 3rd International Exhibition and Conference on Higher Education. Riyadh, Saudi Arabia, April 17-22, 2012.
- “*The Road to 21st Century Skills: How to Make Engineering Education more Relevant*,” R.K. Miller (Keynote Address), Regional Conference on Engineering and Applied Sciences in Central America: How to Develop the Next Generation of Innovators, World Bank and Ministry of Science & Technology, Costa Rica, February 22, 2012.
- “*Experiments in Pedagogy At Olin College*,” R.K. Miller (Invited Address), Academic Advisory Council Meeting, Indian Institute of Technology, Gandhinagar, India, December 1, 2011.
- “*From the Ground Up: A Comprehensive Systems Approach to the Redesign of Engineering Education*,” R.K. Miller (Invited Lecture), Indian Institute of Technology, Gandhinagar, India, November 30, 2011.
- “*From the Ground Up: A Comprehensive Systems Approach to the Redesign of Engineering Education*,” R.K. Miller (Invited Presentation), Brunel Lecture, Engineering Systems Division, Massachusetts Institute of Technology, Cambridge, MA, November 1, 2011.
- “*Learning Models for Engineering the 21st Century*,” R.K. Miller (Invited Presentation), Education Panel No. 1, President’s Academic Advisory Council, Khalifa University of Science, Technology and Research, Abu Dhabi, UAE, September 10, 2011.

- “*Educating Engineers for the Grand Challenges of the 21st Century*,” R.K. Miller (Keynote Address), The Future Engineer: Innovation in Engineering Education, Centennial Celebration of the School of Engineering-UFMG, Universidade Federal de Minas Gerais, Belo Horizonte-MG, Brazil, August 25, 2011.
- “*From the Ground Up: Redesigning Engineering Education for the 21st Century*,” by R.K. Miller (Keynote Address), First International Conference of Technological Universities, Universidade Technologica de Bolivar, Cartagena, Colombia, August 22, 2011.
- “*Global Grand Challenges: Educational Imperatives*,” R.K. Miller (Keynote Address), Global Technology and Engineering Consortium (GTEC), Olin College, Needham, MA, May 12, 2011.
- “*From the Ground Up: Reinventing Engineering Education*”, R.K. Miller (Invited presentation), Future Ed 3 Conference, New York Law School, New York City, NY, April 16, 2011.
- “*Convergence Thinking: Opportunities and Challenges*,” R.K. Miller (Keynote Address), Inauguration Ceremony of the Institute for Convergence Technology Initiatives, Yonsei University, Songdo City, Incheon, Korea, March 23, 2011.
- “*The Educational Implications of the Grand Challenges of Engineering*,” R.K. Miller (Invited Presentation), The Grand Challenges for Engineering, The John and Muriel Landis Lecture, Lafayette College, Easton, PA, March 3, 2011.
- “*Engineering, Liberal Arts, and the Educational Challenges of the Grand Challenges*,” R.K. Miller (Invited Presentation), Wellesley Women: Navigating a Complex World, Business Leadership Council Annual Meeting, Wellesley College, Wellesley, MA, November 13, 2010.
- “*From the Ground Up: Reinventing Engineering Education for the 21st Century*,” R.K. Miller and I. Adesida (Invited Presentation), Tradition, Innovation, and Creativity: Undergraduate Learning for the 21st Century, The Reinvention Center, Crystal City, VA, November 12, 2010.
- “*From the Ground Up: Rethinking Engineering Education for the 21st Century*,” R.K. Miller (Invited Presentation), Nanyang Technological University, Singapore, October 20, 2010.
- “*The Educational Imperatives of the Engineering Grand Challenges*,” R.K. Miller (Keynote Address), ASEE Global Colloquium on Engineering Education, Singapore, October 19, 2010.
- “*Advantages of Innovative Approaches to Curriculum Development*,” R.K. Miller (Invited Presentation), Educating Engineering Leaders Conference, Imperial College London, London, UK, September 9, 2010.
- “*From the Ground Up: Rethinking Engineering Education for the 21st Century*,” R.K. Miller (Keynote Address), 2010 Symposium on Engineering and Liberal Education, Union College, Schenectady, NY, June 4, 2010.
- “*Starting Over in Engineering Education: The Creation of Olin College*,” R.K. Miller (Invited Presentation), Reinventing the American University, American Enterprise Institute, Washington, DC, June 3, 2010.
- “*How Does Engineering Differ from Science?*,” R.K. Miller, (Keynote Presentation), Chicago Symposium, Excellence in Teaching Mathematics and Science: Research and Practice, Northwestern University, Evanston, IL, March 26, 2010.
- “*Innovative Educational and Pedagogical Approaches*,” R.K. Miller, (Invited Presentation), Transforming Tertiary Education for Innovation and Competitiveness, World Bank, Washington, DC, March 25, 2010.

- “*What Does Every Engineer Need to Know in the 21st Century?*,” R.K. Miller, Dean’s Distinguished Lecture, College of Engineering, University of California, Davis, January 28, 2010.
- “*Building an Educational Experience for Gen Y Engineers*,” R.K. Miller, (Education Keynote Address), Autodesk University, Las Vegas, NV, December 1, 2009.
- “*Olin College: Reflections on Ten Years of Experimentation in Engineering Education*,” R.K. Miller, MacVicar Lecture on Education, Massachusetts Institute of Technology, Cambridge, MA, November 20, 2009.
- “*Enhancing Student Engagement Through Creative Design, Entrepreneurial Thinking, and Project-Based Learning*,” R.K. Miller, (Invited Presentation), Global Human Resources Forum 2009—Creative Education for All, Seoul, Korea, November 4, 2009.
- “*What Does Every Engineer Need to Know—Now?*,” R.K. Miller, (Keynote Presentation), Annual Eberhardt Rechtin Lecture, Daniel J. Epstein Department of Industrial and Systems Engineering, Viterbi School of Engineering, University of Southern California, Los Angeles, CA, September 24, 2009.
- “*Creating an Innovative Engineering College from Scratch: Lessons Learned*,” R.K. Miller, (Invited Presentation), 2009 World Conference on Higher Education, Panel on World Class Universities and Innovative Tertiary Education Institutions, UNESCO, Paris, France, July 7, 2009.
- “*How Can We Best Prepare the Next Generation of Engineering Innovators?*,” R.K. Miller, (Keynote Address), 2009 Joint ASCE-ASME-SES Conference on Mechanics and Materials, Virginia Tech, Blacksburg, VA, June 26, 2009.
- “*From Concept to Reality: Designing an Independent College Devoted Solely to Engineering—Reflections on the First Ten Years*,” R.K. Miller, (Invited Presentation), Engineering Education in the 21st Century (pre-conference workshop), 2009 NSF CMMI Engineering Research and Innovation Conference, Honolulu, HI, June 22, 2009.
- “*The National Academy of Engineering Grand Challenges and the Role of Civil Engineering*,” R.K. Miller, (Invited Presentation), 2009 ASCE Annual Civil Engineering Department Heads Conference, Portland, OR, May 26-28, 2009.
- “*Creating an Innovative Engineering College from Scratch: Lessons Learned*,” R.K. Miller, (Invited Presentation), Knowledge Economy Forum VIII—Reforming Innovation Systems: Moving Beyond Lectures and Labs, INSEAD, Fontainebleau, France, April 28-May 1, 2009.
- “*From Concept to Reality: Some Challenges in Establishing Olin College*,” R.K. Miller, (Invited Presentation), Kazakhstan-World Bank Joint Economic Research Program (JERP), Workshop on Strategy for the New University of Astana, Ministry of Education and Science, Astana, Republic of Kazakhstan, December 16, 2008.
- “*Educating Engineering Leaders for the 21st Century*,” R.K. Miller, (Keynote Address), Annual H.T. Person Memorial Lecture, College of Engineering and Applied Science, University of Wyoming, Laramie, WY, October 10, 2008.
- “*On Becoming a Leader: Lessons from an Academic Start-Up*,” R.K. Miller, (Invited Presentation), Graduate Seminar, Department of Mechanical and Industrial Engineering, University of Iowa, Iowa City, IA, September 25, 2008.
- “*BEYOND RESEARCH: Are Our Universities Doing the Best Job of Producing Real Engineering Innovators?*,” R.K. Miller, (Invited Plenary Presentation), Ahmed M. Abdel-

Ghaffar Memorial Symposium, Advances in Structural Dynamics and Earthquake Engineering, University of Southern California, Los Angeles, CA, September 19, 2008.

- “*The New Liberal Education*,” R.K. Miller, (Invited Plenary Address), 2008 Baker Forum: What Does it Mean to be a Polytechnic University in the 21st Century?, California Polytechnic State University, San Luis Obispo, CA, May 5, 2008.
- “*Reinventing Engineering Education*,” R.K. Miller, (Invited Plenary Presentation), 2008 Global Management of Technology Forum, Seoul, Korea, January 30, 2008.

EDUCATIONAL CONSULTING

BABSON COLLEGE, Wellesley, MA

- Presidential Search Committee, Member (2001 – 2002)

KAUFFMAN CENTER FOR ENTREPRENEURIAL LEADERSHIP, Kansas City, MO

- Futures 21 Brain Trust, Member (2001)

NATIONAL FOUNDATION FOR TEACHING ENTREPRENEURSHIP, New York, NY

- Board of Overseers, Member (2011 – present)
- Curriculum and Educational Policy Working Group, Member (2001 – 2011)

NEW ENGLAND ASSOCIATION OF SCHOOLS AND COLLEGES

- Chair, Visiting Committee, General Accreditation Review, Berklee College of Music, Boston, MA (2013)
- Vice-Chair, Visiting Committee, General Accreditation Review, New England Conservatory (of Music), Boston, MA (2009)
- Chair, Visiting Committee, General Accreditation Review, U.S. Coast Guard Academy, New London, CT (2009 – 2010)

STATE OF LOUISIANA, BOARD OF REGENTS, Baton Rouge, LA

- Chair, External Review Committee, proposed Ph.D. in Engineering, and proposed M.S. in Engineering Management, Louisiana Tech University, Ruston, LA, (1998)

UNIVERSITY OF ILLINOIS, Springfield, IL

- “Fund Raising Concepts for Deans,” Workshop for all Vice Presidents and Deans, (organizer and presenter) (1999)

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles, CA

- Chair, External Review Committee, Aerospace Engineering Department, (1995)

WESTERN ASSOCIATION OF SCHOOLS AND COLLEGES

- Chair, Visiting Committee, General Accreditation Review, Harvey Mudd College, Claremont, CA, (1999)

WORLD BANK, Tertiary Education Division, Washington, DC

- Short-term Consultant, and guest speaker on establishment of “world class universities” (including the Joint Educational Research Project with the Republic of Kazakhstan to establish the New University of Astana) (2008)

ADMINISTRATIVE SERVICE

FRANKLIN W. OLIN COLLEGE OF ENGINEERING

- Chief Executive Officer of Olin College (1999 – Present)

- Search Committees for Provost, Vice President for Innovation and Research, Vice President for Administration and Finance, and Vice President for External Relations and Enrollment (Chair, 1999)
- Leadership Team and Strategic Planning Committee (Chair, 1999 – Present)
- Campus Master Planning and Facilities Development Team (co-Chair, 1999 – 2002)
- “Invention 2000” team for discovery, invention, development, and test of all aspects of Academic Program, Student Life, Policies and Procedures, Finance and Administration, External Relations, Admissions and Development, and College Governance (Chair, 2000 – 2002)
- Search Committee for Vice President for Development, (Chair, 2002 – 2003; and 2007 – 2008)
- President’s Cabinet (Chair, 2005 – Present)

UNIVERSITY OF IOWA

University-wide Service

- Search Committee, Executive Director, University of Iowa Alumni Association (1994-95)
- Search Committee, Provost (1996)
- Search Committee, President, University of Iowa Foundation (1997-98)
- Interdisciplinary Strategic Planning Committee (1998-1999)
- Search Committee, Dean, College of Education (1998-1999)

College of Engineering Service

- Dean of the College of Engineering (1992-1999)

UNIVERSITY OF SOUTHERN CALIFORNIA

University-wide Service

- Faculty Senate (1985-89)
- Steering Committee, President's Commission on Undergraduate Education (CUE) (1988-90)
- CUE Sub commission on General Education (1988-90)
- Task Force on English Language Training for Science and Engineering Graduate Students, Co-Chair (1990-1991)
- Advisory Board, Center for Excellence in Teaching, (1990 - 1992)
- General Education Committee, (1990 - 1992)
- Non-Resident Faculty Fellow, Troy Hall (1990 - 1992)
- Undergraduate Residential College Steering Committee (1992)
- University Honors College Steering Committee (1992)

School of Engineering Service

- Associate Dean for Academic Affairs (1989 - 1992)
- Undergraduate Education Committee; Chair (1988 - 1990)
- Curriculum Committee (1979 - 89); Chair (1986 - 89)
- Powell Fellowship Committee (1986 - 88); Chair (1987 - 88)
- Powell Research Grant Committee (1987 - 88)
- TRW Teaching Award Committee (1987 - 88)
- Appointments, Promotions, and Tenure Committee (1987 - 89)
- Academic Planning and Budget Advisory Committee (1985 - 87); Co-Chair (1989 - 1992)
- Search Committee for Dean of the School (1983 - 84)

Department of Civil Engineering

- Administrative Officer (1982 - 84)
- Search Committee for Chairman of the Department (1983 - 84)
- Search Committee for New Faculty; Chair (1985 - 86)
- Program Advisor for Applied Mechanics (1982 - 1992)
- Curriculum Committee (1979 - 92); Chair (1983 - 88)
- Office and Laboratory Space Allocation Committee (1986 - 88)

- Salary Review Board (1981 - 82; 1988 - 89); Chair (1988 - 89)
- Faculty Academic Development and Promotion Review Committee; Chair (1988 - 89)
- Student Affairs Committee (1980 - 81)
- Ph.D. Screening Exam Committee; Chair (1981 - 82)
- Teaching Assistant Committee (1988 - 1992)

Department of Aerospace Engineering

- Aerospace Structures Program Committee; Chair (1985 - 1992)

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

University-wide Service

- Campus Seismic Review Committee (1976 - 79)
- Graduate Council of the Academic Senate (1978 - 79)

College of Engineering Service

- Executive Committee (1976 - 78)

Department of Mechanical and Environmental Engineering

- Graduate Advisor (1977 - 78)
- Curriculum Committee (1976 - 77)
- Liaison Committee on Computers (1975 - 77)
- Committee on Laboratory Equipment (1975 - 76)

BOOK CHAPTERS

"Response of Hysteretic Oscillators Under Non-Stationary Random Excitation," R.K. Miller, S.F. Masri, H. Sassi, and T.K. Caughey, pp. 241-265 in *Studies in Applied Mechanics 14: Random Vibration - Status and Recent Developments, the Stephen Harry Crandall Festschrift*, edited by I. Elishakoff and R.H. Lyon, Elsevier, New York (1986).

Forward, R.K. Miller, in *Holistic Engineering Education: Beyond Technology*, 1st edition, by Domenico Grasso and Melody Brown Burkins, Eds., Springer, (2010).

"Olin College and the Future of Engineering," R.K. Miller, in *Writing and Reading Across the Curriculum*, 11th Edition, by Laurence Behrens and Leonard Rosen, Pearson Longman, New York, pp. 262-268, (2011).

"Some Challenges of Creating an Entirely New Academic Institution," R.K. Miller, Chapter 7, *Organizational Learning Contracts*, by Paul Goodman, Oxford University Press, New York, pp. 121-138, (2011).

"Rethinking Higher Education: Olin College of Engineering," R.K. Miller, Chapter 5, pp. 31-40 in *The Civic Series, Civic Engagement, Civic Development, and Higher Education, Bringing Theory to Practice Monographs*, edited by Jill N. Reich, Washington, DC, (2014).

PUBLICATIONS (listed in full CV – 106 total)

SELECTED PERSONAL QUOTATIONS IN NATIONAL PUBLICATIONS

- "Engineering School Names Its Founding President," *New York Times*, Jan 6, 1999 (Education supplement).
- "New College of Engineering Names Its President," *Boston Globe*, Jan 6, 1999.
- Appel, Adrienne, "Engineering College with a Catch," *Boston Sunday Globe*, November 14, 1999.

- Clayton, Mark, "The Making of a College," *Christian Science Monitor*, Nov 23, 1999.
- Costlow, Terry, "Single-Minded School," *Electronic Engineering Times*, February 14, 2000, pp. C1-C4.
- Richards, Frances, "Scholarships for all students," *Designfax*, April 2000, pp. 4.
- Sanoff, Alvin P., "Creating a Masterpiece at Olin College," *Prism*, September 2000, Vol 10, No 1, pp. 20-24.
- Milmore, Donna, "Trailblazers," *Boston Sunday Globe*, September 10, 2000, p. C7.
- Mervis, Jeffrey, "Olin Puts Up \$500 Million for 'No-Excuses' College," *Science*, 9 March, 2001, Vol. 291, No. 5510 pp.1886-1889.
- Abrahms, Sally, "Could It Be, a Start-Up College?" *Newsweek*, 13 April 2001 (online supplement).
- Mangan, Katherine S., "Students Arrive to Help Build 'College That Doesn't Exist'," *Chronicle of Higher Education*, 13 April, 2001, p. A50.
- Marcus, Jon, "Hard to get in, harder to find," *The New York Times Higher Education Supplement*, May 4, 2001, No 1485, p.10.
- Abel, David, "Recruited Elite Will Engineer a New School," (Front Page), *The Boston Globe*, Wednesday, August 22, 2001.
- Ganz, Jennie, "Olin Builds Unique Engineering Foundation," (Cover Story) *Engineering Times*, National Society of Professional Engineers, Vol. 23, no. 8, August-September 2001, pp. 1,12.
- "Engineering with a Creative Edge," *IEEE Spectrum*, September 2001.
- Singer, Karen, "The College that Doesn't Exist...Yet," (Cover Story) *Matrix*, October 2001, pp. 24-28.
- "Students Help Build a New College," (Cover Story) *Mechanical Advantage*, ASME, November 2001, Vol. 10, No. 7, pp. 1,3.
- Flaherty, Julie, "The Ultimate Engineering Project," *New York Times*, January 13, 2002.
- Clayton, Mark, "Starting with a Clean Slate," *Christian Science Monitor*, February 5, 2002.
- Soule, Alexander, "Making its first round draft picks," *Mass High Tech*, Monday, April 8, 2002.
- Rosenberg, Janice, "Tuition free college engineers a new approach," *Chicago Tribune*, July 14, 2002.
- Marklein, Mary Beth, "New college is a true feat of engineering," *USA Today*, August 19, 2002, section D, p.1 and p. 4.
- Dzierwa, Rich, "Lead Angle: Resistance to resistance-to-change," *Cutting Tool Engineering*, December 2002, Vol 54, No. 12, p. 6.
- Sanoff, Alvin P., "Engineers for All Seasons," *Prism*, January 2003, pp. 30-33.
- Greenawalt, Ann, "Olin College bucks traditional engineering education," *Boston Business Journal*, Vol. 22, No. 51, January 24-30, 2003, p. 45; p. 53.

- *Design News*, “New School Prepares Graduates; Aims to Attract, Retain Students,” September 26, 2005, p. 30.
- Wessel, David, “Building a Better Engineer: With No Tuition or Tenure, Olin College Aims to Produce Grads for a Global Economy,” *Wall Street Journal*, Marketplace, December 20, 2005, p. B1.
- Clayton, Mark, “Does the U.S. Face an Engineering Gap?,” *The Christian Science Monitor*, USA Society and Culture, December 20, 2005, p. 1.
- Guizzo, Eric, “The Olin Experiment: Can a Tiny New College Reinvent Engineering Education?,” *IEEE Spectrum*, Vol 43, No. 5, May 2006, pp. 31-36.
- Bombardieri, Marcella, “New College Sends Off Class That Engineered It: Olin’s First Grads Started With Idea,” *Boston Globe*, May 17, 2006, p. 1.
- Associated Press, “Graduating Class Helped Build Fledgling College,” appeared on *CNN.com*, May 23, 2006.
- Williams, Catherine, “Designing Better Engineers,” *Mass High Tech: The Journal of New England Technology*, May 8, 2006.
- Kladke, Brian, “Risk-takers Create Olin’s First Graduates,” *Boston Business Journal*, May 5, 2006.
- Schwartz, John, “Re-Engineering Engineering,” *New York Times Magazine*, September 30, 2007.

GRANTS (in full CV)

ENGINEERING CONSULTING (in full CV)

TEACHING and STUDENT THESIS SUPERVISION (in full CV)

4. Photograph of Nominee - Richard K. Miller, Ph.D.



5. Illustrative Examples of Published Works

(Five samples selected from a body of work that includes five book chapters, ~100 publications and ~80 invited talks and keynote presentations)

- ***“Designing from a Blank Slate – The Development of the Initial Olin College Curriculum,”*** S. Kerns, R. Miller, and D. Kerns, Jr., *Educating the Engineer of 2020: Adapting Engineering Education to the New Century*, The National Academies Press, Washington, DC , 98-113, (2005).
- ***“From the Ground Up: Rethinking Engineering Education for the 21st Century,”*** R.K. Miller (Keynote Address), 2010 Symposium on Engineering and Liberal Education, Union College, Schenectady, NY, June 4, 2010.
- ***“The Future of Engineering Education,”*** R.K. Miller with J. Euchner, *Research-Technology Management*, January-February 2014, pp. 15-19.
- ***“Rethinking Higher Education: Olin College of Engineering,”*** R.K. Miller, Chapter 5, pp. 31-40 in *The Civic Series, Civic Engagement, Civic Development, and Higher Education, Bringing Theory to Practice Monographs*, edited by Jill N. Reich, Washington, DC, (2014).
- ***“Why the Hard Science of Engineering is No Longer Enough to Meet the 21st Century Challenges,”*** R.K. Miller, White Paper, Olin College of Engineering, May 2015.

6. Samples of Press Coverage of Nominee

- “Engineering School Names Its Founding President,” *New York Times*, Jan 6, 1999 (Education supplement).
- “New College of Engineering Names Its President,” *Boston Globe*, Jan 6, 1999.
- Appel, Adrienne, “Engineering College with a Catch,” *Boston Sunday Globe*, November 14, 1999.
- Clayton, Mark, “The Making of a College,” *Christian Science Monitor*, Nov 23, 1999.
- Abrahms, Sally, “Could It Be, a Start-Up College?” *Newsweek*, 13 April 2001 (online supplement).
- Mangan, Katherine S., “Students Arrive to Help Build ‘College That Doesn’t Exist,’” *Chronicle of Higher Education*, 13 April, 2001.
- Rosenberg, Janice, “Tuition free college engineers a new approach,” *Chicago Tribune*, July 14, 2002.
- Marklein, Mary Beth, “New college is a true feat of engineering,” *USA Today*, August 19, 2002, section D, p.1 and p. 4.
- Wessel, David, “Building a Better Engineer: With No Tuition or Tenure, Olin College Aims to Produce Grads for a Global Economy,” *Wall Street Journal*, Marketplace, December 20, 2005, p. B1.
- Schwartz, John, “Re-Engineering Engineering,” *New York Times Magazine*, September 30, 2007.

7. Selected On-Line Resources

Selected Videos

- “More Innovation Through Education,” Stanford Technology Ventures Program, May 25, 2016:
<http://ecorner.stanford.edu/videos/4260/More-Innovation-Through-Education-Entire-Talk>
- “The Future of Engineering Education,” ASU GSV Summit – San Diego, CA, April 18, 2016.
<http://livestream.com/asugsvsummit/events/5044127/videos/120380679>

Additional Samples of Talks, Presentations and Publications on the following website:

- <http://www.olin.edu/about/presidents-office/speeches/>

8. Links to Additional Publications

Designing from a Blank Slate – The Development of the Initial Olin College Curriculum

http://brockinternationalprize.org/jurors/Miller1_designing_from_blank_slate.pdf

From the Ground Up: Rethinking Engineering Education for the 21st Century

http://brockinternationalprize.org/jurors/Miller2_union-paper-2010-final.pdf

The Future of Engineering Education: An Interview with Rick Miller

http://brockinternationalprize.org/jurors/Miller3_RTM-Interview-Jan-Feb-2014.pdf

Chapter 5, Rethinking Higher Education: Olin College of Engineering

http://brockinternationalprize.org/jurors/Miller4_BTtoP-chapter-2014.pdf

Why the Hard Science of Engineering is No Longer Enough to Meet the 21st Century Challenges

[http://brockinternationalprize.org/jurors/Miller5_Rebalancing%20engineering%20education%20\(May%20'15\).pdf](http://brockinternationalprize.org/jurors/Miller5_Rebalancing%20engineering%20education%20(May%20'15).pdf)