Inaugural Address

President Robert Kenneth McMahan
Kettering University
April 20, 2012

Chairman Kettering, fellow Trustees, my faculty and staff colleagues, alumni and current students (who are of course our reason for being), honored guests - I add my welcome.

Inaugurations appear to honor an individual, but in fact they actually celebrate institutions. I want to thank each of you for joining us today for what truly is a celebration of Kettering University: its past, its present and its important aspirations for the future. I'll begin with some personal remarks and then turn to the enormous opportunities that lie ahead for us.

It is humbling to stand before you as the seventh president of this quite remarkable university. As I do so, I am cognizant of the extraordinary achievements of those who have preceded me:

- Albert J. Sobey
- Guy R. Cowing
- Harold P. "Dusty" Rodes
- William B. Cottingham
- James E.A. John

and

- Stanley R. Liberty

Each has provided strong, wise, and thoughtful leadership in guiding the institution to where it is today and to our being recognized as one of the world’s premier STEM institutions. It is truly an honor (and I confess also a bit daunting) to follow in their footsteps.

I also want to say "thank you" to the Board of Trustees for the honor you bestow upon me today and for the opportunity to lead. I deeply appreciate the enormous faith and trust you have placed in me as together we steward this incredible place of teaching and learning, of creativity and imagination.

None of us spring fully formed into this world ready for achievement. We are, rather, shaped by the people in our lives; by the choices we make and the experiences, opportunities, hurdles, and accidents, which come our way.

At commencement ceremonies, we often encourage our newly minted graduates to thank their teachers, their friends and especially, their family. We tell them that without the help of so many, there’s no way they would be there on that glorious day. What is true for them is true for all of us. We each owe great debts to those who have touched and enriched our lives, and no one more so at this very moment than I.
As I look out across the audience, I see many of those very people. You know who you are—and to each of you, I thank you for your support and your friendship.

First and foremost among those however, is my supportive, inspirational, multi-talented and caring wife of 22 years, Karen – so far so good - and my two sons, Bob and James—each of whom has made me very proud and kept me grounded; my parents and Karen's parents, who have been an unending source of support for us both, and the many other members of my wonderful family. I thank each of you for your advice, encouragement, support, and love.

On this joyous day, I naturally also think about extraordinary people who have touched me throughout my life, and it is fitting at a university to make special mention of having been taught and encouraged by some marvelous mentors and colleagues, during my undergraduate education at Duke, my graduate years in Hanover and Cambridge, and at UNC and Western Carolina.

Among these in particular, Gary Wegner, my thesis advisor more than twenty-five years ago, a brilliant astrophysicist, is - as is oft said in German - my scientific father; Margaret Geller, a physicist who possesses a dazzling mind, an indomitable spirit, and an ability to conceptualize and communicate with few equals, and Rona Goffen, who has passed on, but whose brilliance and passion for Italian Renaissance Art – and who admonished me on our first meeting to never forget - or doubt - that Titian is God – touches me still and made her, for me, the model of a scholar/teacher.

Karen and I are very grateful for your warm reception since we joined this marvelous community almost ten months ago. We are grateful for your generous support and for your deep belief in and passion for Kettering University and the promise it holds for Flint, for Michigan, and for the nation.

So let me say at the outset—as clearly as I know how—that I gladly and enthusiastically accept and embrace the challenges and opportunities ahead, and I pledge with all of my heart, soul, and fiber to devote my energy, ideas, ideals, laughter, passion, and friendship to this great institution and do my best to serve each of you—the people of this singularly wonderful University.

I want to thank all who participated and who gave so much of your time and energy to today’s ceremony and the events surrounding it. The Inaugural Steering Committee, co-chaired by Karen Wilkinson, Jack Stock, and Robert Simpson has done a phenomenal job in coordinating the program. Thanks to each of you and the 39 other members of the Inauguration Committee for making this day so special.

Finally, this University’s reputation for excellence and record of outstanding achievement springs largely from the hard work of our dedicated and committed faculty and staff, as well as from our amazing alumni and our current students who fill our classrooms, labs, and halls. Together, they are Kettering University—and they are the ones who have made it great and have kept it great. They are also the ones who will ensure our future success. It is a true privilege to learn from and serve alongside each of them.

I have already come to love the hundred-year educational tradition that is this University and that has produced some of the greatest thinkers, innovators, educators, and business people this country has ever seen. I thank you for welcoming me into it.

**History**

Now for a bit of history - as the 1900’s opened, the population of Flint grew almost seven-fold in fifteen years, yet the city still faced dramatic shortages of skilled workers to feed the growing automobile industry even as the population grew.
On July 20, 1916, Walter Chrysler, confusingly then the general manager of Buick, arranged for two men from Dayton, OH to join a meeting in Flint with Chrysler, WW Mountain, Charles Stewart Mott, and others to discuss an organizing principle for education – the combination of classroom instruction (at night) and shop work (in the day) – in other words cooperative education. The two men were William Chryst and Charles F. Kettering.

Almost a century ago, in 1919, this group of visionaries from this great city of Flint founded the School of Automobile Trades on this principle.

For our students, in case you're curious: the first curriculum was arithmetic, penmanship, English, shop mathematics, mechanical drawing, sheet metal drafting, auto construction, and English for foreigners. And classes met in the YMCA.

In 1923, our full-time faculty consisted of six men, one of whom was Gordon Bell—Prof. Bell is there a relationship here? And in 1924, our cooperative engineering program began – with twenty students.

Over time, like the industries that spawned us, we evolved, first becoming the Flint Institute of Technology, then the General Motors Institute of Technology (GMI), next GMI Engineering and Management Institute, and finally in 1998, Kettering University, in honor of Charles F. Kettering, about whom I will say more in a moment.

Which brings us, ultimately, to today. During this, my first year at Kettering, I have spent a great deal of time listening…

...To our wonderfully bright, interested, mature, articulate, creative and motivated students who should make all of us proud,

...To our unusually talented faculty whose passion for teaching and learning is so impressive,

...To our engaged staff who devote themselves to the success of our students and to the effectiveness of our faculty,

...To our alumni who have taught me much about our rich history and about the power of a Kettering education, and

...To our distinguished trustees who are simply admirable in their commitment to our mission and to our becoming all that we can be.

What they have all taught me is that despite our various names and evolving programs, Kettering has from its birth been dedicated to excellence and to making a significant impact on Flint, the region and the nation by devoting ourselves to educating the next generation of leaders, innovators, entrepreneurs and engaged citizens. As a result, Kettering graduates have gone on to lead some of America’s greatest organizations: corporate, non-profit, and philanthropic. They are entrepreneurs and innovators. They work in manufacturing industries as diverse as the aerospace and automotive industries and as makers of medical devices, but they also work in finance, government, and a wide variety of nonprofit sectors.

I have also learned the degree to which we are indebted to the Flint community, particularly to our predecessors who had vision and who were determined to make this institution a reality. They believed, as we at Kettering do now, in the power of education to transform lives and communities. We are especially appreciative of our partners over the years, prominent among them the Mott Foundation, who have given and continue to give Kettering significant support. We are very proud to share our achievements with them and with the community we serve.
But beyond these observations - out of all of the voices, meetings, and conversations, in the hallways, around lunch or breakfast tables, in the Pavilion, the work-out room upstairs, or in the pool (that one - outside) or the beach (the one with no sand – which is a hard concept for a Floridian), or even conversations gently masking the fact that I am lost in the bowels of the Academic Building, one image – one thought – stands out for me….and that is:

The central commitment of this University to teaching and learning and to our students and to preparing them to lead extraordinary lives has never been so vibrant, so alive, and on a daily basis – so lived.

STEM

For almost one hundred years, Kettering has been a world-class technical institute, and we have rightly claimed for ourselves a distinctive niche among small not-for-profit private universities because of our focus on the STEM (Science, Technology, Engineering, and Mathematics) disciplines and on management, because of our unparalleled co-operative learning programs and because of our commitment to integrating theory and practice. Our curriculum framework connects science, engineering, mathematics and business to the world around our students and imparts to them habits of mind that yield benefits beyond workplace productivity and career advancement.

Students who graduate with Kettering degrees are so highly prized across such a wide spectrum of sectors in the American workforce precisely because they bring these skills with them throughout life.

As a result, and as those of you here today know well, Kettering graduates are extraordinarily successful in finding employment in their chosen fields and in being admitted to top-flight graduate and professional schools. Over one-half of our graduates eventually go on to graduate schools and when they do, they score on the average in the top five percent of all students on standardized graduate exams. Kettering graduates are found in disproportionately large numbers at the finest graduate and professional schools in the country. Our alumni, our partnerships with a wide range of businesses worldwide, and our unique focus on industries with potential for job growth set Kettering far apart from other institutions that might be considered competitors.

In fact, this very month in Fortune magazine and CNN Money there is an article entitled “How do you get into Harvard biz school?” In this article, Dean Dee Leopold, the Harvard business school dean of admissions, is quoted as saying—when asked about Harvard feeder schools - and I quote “We love Kettering in Flint” - Kettering was the only school named in the article other than Harvard itself.

But this achievement takes place in an even larger societal context…since the founding days of this country, our leaders have recognized the importance of science and engineering. Many of our founding fathers were inventors or scientists. Monticello was littered with instruments to measure the weather and time. George Washington conducted careful experiments in crop rotation and distribution. Benjamin Franklin – need I say more? Even Lincoln held a patent.

Today most of our successful corporations, the ones that touch our lives everyday like Apple, Boeing, Hewlett-Packard, Microsoft – and of course Ford and General Motors - were started by engineers. Simply stated, for the United States to remain the world leader in innovation, we need to produce more engineers and more scientists, because technological innovation is now an inextricable part of virtually every aspect of society.

In this light, and as a STEM institution with deep roots into our nation’s manufacturing heritage – and whose graduates have already led the development of previously unimagined technologies and scientific breakthroughs and through them have brought unparalleled changes in how we work, interact and play - we have a special and even sacred mission.
Unlike our predecessors, however, we find ourselves in a world of technological change that is so rapid that we must now constantly ask—and be able to answer: “How do we best prepare our students to be globally competitive participants in a technological landscape that hasn’t been invented yet?” Or as Karl Fisch, Michael Wesch, and colleagues noted, for a world in which:

- The top 10 in-demand jobs today did not exist six years ago.
- In which the U.S. Department of Labor estimates that today's student will have 10-14 jobs - by the age of 38.
- In which the average student reads 5-10 books a year but over 3000 web pages.
- In which it is likely that many of our students will live to be 100 — or, in other words, to have another 80 years to await them after they graduate.

...and...

- In which the amount of new technical information is doubling every 2 years - for students starting a 4-year technical degree this means that half of what they learn in their first year of study will be outdated by their third year of study.

So how do we prepare students for jobs that don’t yet exist using technologies that haven't been invented in order to solve problems that we don’t even recognize as problems yet?

The answer lies I believe in realizing that our history - our roots - gives us clarity of purpose, and also a shared sense of purpose, but it also reflects our commitment to real impact, relevance, outstanding teaching, and to our students.

This commitment will and must ultimately inform our choices and undergird our resolve to change, to evolve to be entrepreneurial and improvisational – and I mean improvisational in the in the Jazz music-as-metaphor sense articulated by Mary Catherine Bateson in which scholarship and teaching – and life - are at once individual and communal, repetitive and innovative, combining both familiar and unfamiliar components in response to new challenges, while always remaining true to an underlying grammar. In this way, our commitment ultimately means we must continually be receptive to change, continuous improvement and to the adoption of new and innovative forms of teaching, learning, and vigorous and engaged scholarship that honor our foundational purpose.

“Founded on the Gap”

In fact, in researching Kettering’s history, I learned that our founders articulated the same principle expressed in the language of their time: that we were “Founded on the Gap.” Bridging gaps is a standard that in many ways has defined this University from its beginning and throughout its history, and I believe it will continue to define us moving forward.

Indeed, the gaps that we have bridged are many and significant. By bridging those gaps, we have made the lives of our students better and more meaningful. We have contributed to our community, to the region and to the nation. We have advanced knowledge, fostered innovation and encouraged creativity.

For example, by embracing the criticality of the liberal arts and making liberal arts courses the core of our curriculum, we have bridged what too many others have seen as a gap between science, mathematics, engineering and technology and the non-science disciplines of the liberal arts.

Indeed, a holistic problem-based approach to learning fundamentally must ask students to integrate knowledge and practices from the sciences, economics, language, and creative arts.
We also must continually seek to bridge the gap between teaching our students merely to do things well and to do what is right – to value informed choice and responsible action. To live lives of integrity in both thought and action and to consider always the ethical implications of our choices. To that end, all Kettering seniors take the capstone Senior Seminar: Leadership, Ethics and Contemporary Issues to which end our namesake Charles F. Kettering put it this way: “the greatest education in the world is the education which helps one to be able to do the right things at the time it has to be done.”

Understanding that knowledge is not contained within the barriers of particular academic disciplines, we have bridged what we see as an artificial gap between the disciplines and foster an interdisciplinary approach, integrating both the content and the methodologies of many disciplines.

Our faculty in their research and our alumni in their work bridge what too many view as a gap between technology and its uses and between what was once considered “pure research” done at academic institutions and “applied research” done by industry.

Our distinctive co-op programs have for generations of our students bridged the gap between theory and practice, insisting that our students not only master fundamental science and engineering content, but also effective communications, working in teams, and organizational management.

Just as our faculty are committed to the notion that teaching and scholarship are not mutually exclusive but reinforcing, our students learn that learning is a lifelong process, and that true understanding flows from the integration of theory and practice, or as Charles Kettering put it:

Knowing is not understanding. There is a great difference between knowing and understanding: you can know a lot about something and not really understand it.

And our students understand.

We have also bridged what for others might have been the gap between this country and others by preparing our students, who come to us from the United States and over thirty other countries, to be citizens of the world.

We have served to bridge for many of our students what might have been an educational and ultimately a socio-economic gap, enabling many students who were the first generation in their families to be fortunate enough to attend college to learn, grow, thrive and contribute to their communities and to the nation.

We bridge it be able to continue to make a Kettering education possible for all talented students who would benefit mightily from this education that we introduced our new fixed tuition plan, which I’m pleased to tell you has brought us a great deal of positive national attention.

We have bridged the gender gap that once existed in the STEM disciplines by bringing to Kettering some amazingly talented women who have consistently demonstrated that women can and do succeed and excel in all of these important areas.

We have also been true to the values of Charles F. Kettering as a STEM institution, and we embrace his insistence that in order to succeed and to make a difference, we be willing to fail. In this regard, let me quote Mr. Kettering directly:

• Believe and act as if it were impossible to fail.
• An inventor fails 999 times, and if he succeeds once, he's in. He treats his failures simply as practice shots.
• It doesn't matter if you try and try and try again, and fail. It does matter if you try and fail, and fail to try again.
• It is not a disgrace to fail. Failing is one of the greatest arts in the world.

Mr. Kettering also made clear the importance of imagination and creativity, explaining his belief that “Our imagination is the only limit to what we can hope to have in the future” or as he put it even more memorably, “The Wright brothers flew right through the smoke screen of impossibility.”

Today, we at Kettering are contemplating the various ways in which we might take a leadership role in bridging the gap between the way that education has historically been “delivered” to students and the possibilities for using technology to deliver it even more effectively (not to speak of conveniently) in the near future and beyond. As we have been discussing on campus, education today is more collaborative, social, and peer-to-peer. It is also more virtual. But most of all, we recognize that education must be student-centered and that increasingly it is being brought to students rather than having students come to a conventional university and being passive recipients of knowledge presented to them.

As was the case when our founders first envisioned Kettering, we—and in fact all of higher education—are being confronted with both challenges and opportunities that previously were unimagined.

To survive and flourish as we have in the past, we are going to have to evolve quickly and intentionally if we are first to successfully compete for students in the 21st century and even more importantly educate them well.

Innovations in course delivery and business models are already displacing established players, and students we used to call “nontraditional” now constitute a majority. Many alternatives to traditional educational structures already exist - for example, StraighterLine, MIT OpenCourseWare, the Khan Academy, and badge skill certification - and draw ever-larger numbers of students.

Last year, for example, a Stanford University professor taught an online artificial-intelligence course to more than 160,000 students. This year he left his tenured position at Stanford to focus on his start-up company, Udacity, which will offer low-cost online courses in engineering and the sciences.

Higher education must – and we must – begin to partner with K-12 education in ways we have not before. Our highly successful pre-college programs like AIM, LITE and FIRST speak to the power of providing students early with the knowledge they need to make informed choices about pursuing a career in a scientific or technical area and the importance of building links between science and engineering professionals and K-12 teachers and students.

Towards the Future

So what does this mean for the Kettering of the future?

To answer that question, literally hundreds of members of the campus community—members of the faculty, the staff and the student body—spent months—in groups small and large—reflecting on, fervently discussing and productively debating our vision for the future.

At the outset, I framed the discussion by saying, “Developing this vision must begin with an articulation of the hopes and dreams of the people who make up the University community combined with an understanding of the rapidly changing nature of higher education.” I further said, “This vision process is intended ultimately to facilitate:

1. The development and articulation of a common vision of Kettering’s future
The campus formed five working groups from all campus constituencies that set about to answer the question of what Kettering University should look like in 2019, what values should form our foundation, what our strategic priorities should be and even what our motto might be.

The results of this process were heartening indeed. All groups embraced Kettering’s commitment to academic excellence, to being on the cutting edge of knowledge - and yes technology - and to continuing to be student-centered. They also envision a re-conceptualized campus, with new spaces ranging from a new student center to new residence halls and dining venues to new classrooms and laboratories that make new kinds of collaboration possible. They also envision Kettering taking a leadership role in developing new partnerships with those beyond the campus, in Flint, throughout the country and across the world.

This process is a first step in engaging the entire Kettering community in a conversation about transforming our institution – a discussion not only about what Kettering has been and what is now, but also what it can become.

The PAC steering committee brought order to the rich array of responses and articulated for us a new vision and the following seven principles going forward, principles that do honor our heritage and that will assure for us a place of leadership and distinction among STEM universities both in this country and throughout the world.

The vision: Kettering University will be the first choice for students and all partners seeking to make a positive impact on the world through innovation.

These principles are:

- **Invest in academic programs**, both supporting our traditional areas of strength while developing new interdisciplinary programs in such critical areas as biosciences, bioengineering, robotics and nanotechnology.
- **Enhance instruction**, including adopting such new instructional methods and fostering peer mentoring, pilot projects, faculty professional development and use of appropriate instructional technology.
- **Integrate experiential and academic learning**, finding creative ways to take advantage of the untapped synergy between experiential learning and the learning that takes place on-campus.
- **Enable significant expansion of applied research** by identifying strategic focus areas, and developing institutional structures to aggressively pursue funding and partnership opportunities with industry and government.
- **Foster collaboration** both within the university and between the university and external partners, among students, between students and faculty in defining and fulfilling mutually acceptable learning outcomes, among faculty in their research and teaching, among staff and faculty in other aspects of university operation, and between the university and both industry and government in applied research and workforce and economic development.
- **Invest in facilities and environment**, beginning with a re-conceptualization of the campus that will have a significantly enhanced student center at its core, that will create instructional spaces and research laboratories that promote interactions and exploration.
- **Strengthen outreach** by becoming much more engaged with the world beyond the university, in arenas ranging from K-12 programs to partnerships with local and regional governmental and community organizations to research collaborations with industry.
As this list of principles suggests, we have for Kettering as a community the highest expectations, and I am confident that we will realize all of them. And we will do so always mindful of the words of Charles Kettering, who insisted that: “High achievement always takes place in the framework of high expectation.”

As importantly, however, this effort is representative of an institution that has already begun, holistically, to demonstrate a commitment to excellence and to intentional focus.

This intentional focus will guide us in our efforts to ensure that our offerings are all that they should be, that we allocate our resources in ways that will be true to our mission and enable us to realize our aspirations, and that we are organized in ways that simply make sense. And as daunting as the challenges before us may be, this focus also provides us with important opportunities, and will frame how we evolve and how we will mobilize resources and partnerships in ways that will enable the university to be a major – and direct - contributor to the revitalization of Flint and the region.

Successful and decisive action based upon these principles will transform Kettering. In doing so, we will focus on:

1. Increasing the size of Kettering’s undergraduate and graduate programs through nationally focused admissions, improved retention, and new program development.
2. Creating the Kettering brand regionally, nationally, and internationally and linking the storied history of GMI to Kettering in a way that is clear and compelling to all of the University’s stakeholders.
3. Being a primary force in the economic revitalization of Flint and the region:
   • By developing Kettering into a truly Global University through new web-based, blended and interactive distance learning, continuing education, and graduate programs that will serve area companies and students as well as companies and students across the world.
   • By expanding applied research on the part of Kettering faculty and students that will benefit companies in Flint and across the world.
   • By establishing strategic partnerships with Flint organizations that will benefit students at Flint colleges and universities and also the broader community and establishing for the first time a true Flint-area Academic Common Market.
   • By Preparing talented premedical students for the proposed Michigan State University community medical school and for other graduate and pre-professional programs in the region.
   • By Developing new STEM based programs that will provide an unprecedented educational experience for high school students from Flint and the surrounding area interested in STEM careers.
4. And finally we will focus on developing a culture of giving and philanthropy in support of Kettering and its students through greater engagement of alumni, trustees, parents, friends, foundations and corporations.

Pursuing Excellence

Most significantly, however, all of these efforts constitute a pledge to value, expect, and embody excellence.

• We pursue excellence because it is worthy of pursuit, not just in and of itself, but because of its implications for the students, the community, and the nation that we serve. It is who we are. It is our history, it is our present, and it is our future.
• We will pursue excellence by ensuring that our students receive a rigorous, globally competitive educational experience steeped in and honoring our cooperative educational heritage while also providing a full range of experiential learning opportunities through which they can apply knowledge
gained in the classroom to the real world. This is our “secret-sauce” and no one, absolutely no one, does it better that we do.

- We will pursue excellence by constantly reviewing and assessing our curriculum to ensure its depth and relevance.
- We will pursue excellence by insisting that our scholarship and service to the university, to our disciplines, and the communities and the nation we serve will be of the highest quality, be innovative at the cutting edge, and set the highest standards.
- We will pursue excellence by streamlining and constantly improving our processes to make them transparent and efficient and ensuring that they promote fairness and equity for all members of the Kettering community, that they embody our intent to live by our values, and that they promote respect for those charged with administering them.
- We will pursue excellence by expending financial resources, our time and our talent wisely and strategically.
- We will pursue excellence by hiring faculty and staff colleagues who are people with promise and ambition, individuals who resonate with our vision of where we’re headed as opposed to where we’ve been.
- We will pursue excellence by truly living Daniel Burnham’s words: "Make no little plans; they have no magic to stir men's blood...Make big plans...aim high in hope and work."
- And we will pursue excellence by taking care of our people, the faculty and staff who do the real work of this university. Over the past months, I have seen over and over again the love our faculty and staff have for this place, time and time again how devoted they are to our students, how they love what they do.

We cannot, however, achieve this excellence alone. To realize our full potential to change the world, my colleagues and I will turn to our alumni and friends, and invite them to help Kettering.

**In Conclusion**

I believe we will succeed in all of these ambitions. But we cannot do so alone.

Kettering has come far because of the strength of our university and also because of the strength of our partnerships with our larger communities—our alumni and friends; with our partners in Flint, in industry and in K-12 education; with the business and labor communities; with our elected officials and civic leaders; and with the regional, national and international higher education community.

Together, we have truly come a very long way since our founding almost one hundred years ago – and together, we have real impact. Our nation needs us. Indeed, it needs us to be successful. It needs our ability to educate the best and brightest students, to challenge conventional wisdom with difficult questions, to be creative and to say “we don’t look outside the box, at Kettering there is no box.”

We must keep expanding this vision to see clearly what we are and what we must become, and to be truly transformational in our thinking.

I look forward to and cherish the opportunity to go on this journey with you. The future of this University is very bright, and full of great promise. Thank you for the opportunity to join you in it. I am honored by your presence, by your trust, and by your shared commitment to this great university.

Today we celebrate our University, our mission, our creativity, our history and our future. The poet Thomas Lynch once said “In rituals we act out things we cannot put into words.” Today is one of those rare occasions in which we, through both word and ritual, reflect on Kettering, on our common commitment.
and our place in the wider world of scholarship, of teaching and of learning. Great Universities simultaneously look both forward and back, and as such are stewards of a unique and living tradition.

Our time here is very special. Our time here is also brief when measured against the life of the institution we share. We have an obligation to those who have preceded us and to those who follow to do something great in the brief time we are privileged to steward this institution.

Charles Kettering once said, “Ideas are more permanent than people.” Almost two thousand years earlier, Pliny the Younger said it differently: “The erection of a monument is superfluous; our memories will endure if our lives deserve it.”

Let us go forth from the monument that is this day … and deserve it, for being a part of this great institution is a privilege beyond measure.

Thank you.