I am deeply honored by your invitation to speak today, not only because the theme you chose for your conference—Scholarship in Action—guides so much of our work at Syracuse and harkens back to the action research tradition in my field of social psychology, but because I share with you the DNA of activism that characterizes iSchool faculty, staff, students and professionals. As Liz Liddy and her wonderful colleagues at Syracuse have taught me so well, you are big thinkers and you are not intimidated by big challenges, whether that means taking on entrenched ways of thinking, entrenched disciplinary boundaries, or entrenched academic, professional, or government bureaucracies. Nobody embodied this spirit more than our dear, late friend, Ray von Dran. And I know that Ray would be thrilled to see that what was just an occasional meeting of a “Gang of Five” iSchool deans a decade ago has grown into a robust, multi-day annual conference of more than 500 participants here in Fort Worth (where he once was dean).

Perhaps it’s no coincidence that the phenomenal growth of the iSchool movement over that period reflects the growth of humanity’s capacity to store information. As many of you know, a few years ago USC’s Martin Hilbert and Priscilla Lopez undertook the audacious task to approximate how much information humanity has been amassing in every form, analog and

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1 Keynote address given at the annual gathering of iSchools—the iConference. The theme of this year’s conference, held in Fort Worth, TX, February 12-15, was “Scholarship in Action.” Thanks to Peter Englot and Josephine Thomas for their contributions to this speech.
digital. That was about 2.5 billion gigabytes in 1986. Around the time that the Gang of Five began meeting and the iSchool concept was just starting to gel, our capacity was about 55 billion gigabytes, reflecting how our ability to transmit and store information really was exploding. And it was at about that time that we reached the tipping point at which digital storage outstripped all other forms.

Setting aside possible differences of opinion on methodology and whether or not all of this information really qualifies as information, as opposed to undigested data, this is a stark illustration—especially to those of us outside the iField—of the “Information Age” coming of age.

And at the same time, we can’t help but wonder: what good is all of this information doing us? Or, perhaps more appropriately: what good are we making of it? Somehow, despite our collective capacity to retain so much more today than ever before, so many of the world’s problems seem only to be growing in breadth and intensity. They are complex, deeply embedded in and defined by local contexts, and also globally resonant and integrated, and they evade simple solutions. There may be no better example than climate change, which our prodigious scientific knowledge base has linked decidedly with human causes, and yet we continue to fail to navigate a plausible route to sustainability. Likewise, despite the fact that we can link with each other across time and space in an instant on social media, inter-ethnic and inter-cultural distances and conflicts are growing exponentially as well, and we continue to arm ourselves against each other with fury. Our cities have become battle zones where a legacy of abandonment is evident in depleted affordable housing stock, widespread unemployment, crumbling infrastructure, and failing schools. Indeed, as we perfect pipelines of technology—grids and networks to massively share information, energy, and goods—we forget about our human pipelines, with the cradle-prison pipeline overtaking the cradle-to-college pipeline in so many places. But perhaps Nobel Peace Prize laureate Mohammed El-Baradei put his finger on the most pervasive threat to us all:

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3 See, for example, Marian Wright Edelman, “The Cradle to Prison Pipeline Crisis,” *Focus Magazine* 34, 6 (2006).
poverty, which he labeled unambiguously as a “weapon of mass destruction,” when he spoke this fall at a peace summit at Syracuse University hosted by the Dalai Lama.4 And this is as true in the U.S. as anywhere, as the distribution of wealth becomes increasingly distorted, looking less like a bell curve and more like an unbalanced barbell, with growing numbers on the low end and an ever-increasing gap between the have and the have-nots.

Ultimately, these problems are rooted in entrenched ways of thinking and doing things—from habits of overconsumption to the perpetuation of individualist myths and hyper-partisan zero-sum thinking that defy collective solutions. These are not easily altered. Taking them on requires sweeping change, the kind that can only happen if we marshal the best of our knowledge and commit ourselves to collective action. What we need is a movement on a global scale but one that is defined by nuanced, place-based movements in many locales with different landscapes, norms, and practices. This sounds like a mobilization effort ripe for the likes of talented i-schoolers. The question is: how can we do this? Who will the “we” be? And in the context of this gathering, how can advances in the information field help bring us together in deep ways that mobilize action and collective problem-solving?

Changing our Ivory Tower Paradigms

As a start, I believe that higher education has a central role to play in taking on the challenges of the world, though importantly we can’t do it by being solitary experts crafting “solutions” detached from the world and its diverse voices of expertise on the ground, outside our borders and boundaries. Universities always have served as storehouses of knowledge, and for two millennia we have stretched to adapt as paradigms for accessing, advancing, and translating knowledge have shifted. So, I don’t think it’s a coincidence that at the same time that our collective capacity to retain knowledge exploded a little over a decade ago, our growing pains intensified. We began to hear concerted calls for colleges and universities to have what amounts to an attitude adjustment. This was captured by a landmark report in the year 2000 from the Kellogg Commission calling upon universities in the U.S. “to reshape our historic agreement with the American people so that it fits the times that are emerging instead of the times that have passed.”5

4 Mohammed El-Baradei, remarks at the symposium “The Rise of Democracy in the Middle East” during the Common Ground for Peace summit at Syracuse University, 8 October 2013.
Ironically, the times that have passed can guide us today even in the midst of this “iRevolution.” We can look for inspiration to the Morrill Act signed by President Lincoln in 1862, which launched a revolution of its own in higher education by providing for what would become known as “democracy’s colleges.” This visionary legislation ignited what was effectively a nationwide barn-raising aimed simultaneously at spreading innovation through university-community collaboration and fostering access to education for the next generation of farmers, who made up 80 percent of the nation’s population at the time. More than one hundred and fifty years later, we need to ignite a barn-raising apt for the 21st century. With our population flipped and 80 percent of us now living in metropolitan areas, how can we connect our colleges and universities deeply with our communities and leverage the tools of our time to spur innovation and expand access today?

While innovative approaches to connecting with communities can be found at colleges and universities across the country, the “ivory tower” remains the dominant metaphor for higher education. Our disciplinary silos, while connected expansively around the world, have not necessarily kept pace with the inter-connections or linkages that define the complexity of the problems on the ground – whether that ground is at home in Syracuse or in Beijing. If we look critically at ourselves, we can see that we really have fashioned our campuses as places apart from the world, physically as well as metaphorically. And while we like to think of ourselves as being all about plumbing the depths of the world’s great challenges and finding solutions, we tend to do that by trying to remove ourselves as much as possible from the world. Meanwhile, we need only peer over our campus walls, through our gates, and down the hills upon which so many of us sit (as Syracuse University does) to see that holding the world at arm’s length to try to solve “its” problems, as if we are not a part of them, is just not working.

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Too often, we have clung to an isolationist myth of how innovation happens, swayed by success stories of solitary geniuses of the past who locked themselves away and solved some great puzzle. But as the late sociologist of knowledge, Robert Merton reminded us, the “discoveries” of Newton, Faraday, Hooke, Kelvin, and so many others were inseparable from their social contexts. Indeed, in 1961, on the 400th anniversary of the birth of Sir Francis Bacon—to whom we trace one of the earliest comprehensive descriptions of science—Merton pointed out that Bacon saw science as a fundamentally communal endeavor, dependent upon “the accumulating cultural base and the concerted efforts of men [sic] of science sharpening their ideas through social interaction.”

Although in principle, the iRevolution ought to help us technically to move beyond isolationist mythology and solitary practices it is probably fair to say that this communal endeavor is more complicated today than in Bacon’s time. In this regard, Northwestern University economist Benjamin Jones refers to Isaac Newton’s famous aphorism that “if one is to stand on the shoulders of giants, one must first climb up their backs, and the greater the body of knowledge, the harder this climb becomes.” Indeed, not only do we have more data to parse, coming in less linear progression from more corners of the net, but we also must master the art of group think to reap the full benefits of the diversity of talent and perspectives now available for lasting innovation.

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Creating high-impact innovations that are both socially responsive and socially responsible in a world that is simultaneously growing smaller (through technology) and yet more diverse requires deliberate attention to attracting talent from places where we have allowed it to go uncultivated before and to building an inclusive ecosystem of innovation. Grappling with today’s messy problems requires that we reach out broadly—not just across universities, but across the public, private, and nonprofit sectors, as well as across our communities—to bring to the table the full community of experts we need, those with and without the standard pedigrees, seasoned in life’s experiences. And as we build this inclusive innovation ecosystem, we must do more than climb the mountain of accumulated knowledge. We must practice creative information-sharing and problem-solving in diverse groups in real time, often embedded in situ in the contexts in which real life unfolds. As the eminent scholar of civic engagement, Harry Boyte, points out, such practices would not only yield better science, but the process itself, which he calls “civic science,” would also help us build social cohesion in our fractured world.9

Connecting for Real, for the Public Good

These are challenges that should be very familiar to you in the iSchool movement, tapping into its inherently democratic, activist roots. Indeed, many iSchools grew up around library science, a discipline built on a commitment to assuring the free flow of information—a responsibility crucial to realizing the First Amendment’s guarantees of free speech and a free press. It is an activism that also has been vigorously cultivated in the technologically focused sectors of the iField, where traditions of innovation, entrepreneurship, and change leadership have been leveraged to dramatically expand access to information and, increasingly, to drive the global economy.

Yet we still have much work to do to be attentive to innovating in ways that will expand access to those on the wrong side of the digital divide. When you carry around a smartphone (or

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two!) everywhere you go, you work on a desktop, laptop or tablet, and you’re accustomed to saying what you need to say to friends and family in 140 characters or less, it’s easy to forget that there is a divide. But as the Pew Internet and American Life Project documents, it is very real. Four in ten American adults do not have broadband access at home and one in five Americans is not an internet user at all, with the largest percentage of the disconnected being Latinos, African Americans, the elderly, and people with disabilities, and income and education levels being major determinants.  

Bridging that divide is absolutely critical for us to deliver on the promise of education as an escalator of social mobility and the progenitor of democratic engagement. Colleges and universities assume digital literacy for entering students and without it, it is very hard for students to reap the considerable private gains (or ROI) associated with obtaining a post-secondary degree. Further, the Organization for Economic Cooperation and Development (OECD), recently documented that it is now more difficult to move up the socioeconomic ladder in the U.S. than in almost every other industrialized nation. If we fail to bridge the digital divide, it would be disastrous, especially since the groups disproportionately cut off from economic prosperity include those already among the most marginalized and, at the same time, among the fastest growing as a percentage of our population, according to census data. And this is not to speak of the corrosive effects on the viability of our democracy, which is so profoundly connected to equality of access to information.

We will need every ounce of democratic commitment if we are to overcome this pervasive divide and innovate in ways that facilitate thorough-going and widely beneficial change in the world. We also need to be attentive to discerning innovations that merely connect us from those that foster true collaboration and collective action. Perhaps it goes without saying that today we can technically spread innovation more quickly and expansively than ever before, but technology can cut both ways. It is precisely that ease, almost effortlessness or mindlessness if you will, that may make our impact less powerful than it might otherwise be. When we fail to make the most of innovations that have revolutionary potential to advance the public good, we run the risk that they will come to be defined—and ultimately neutralized—by the jaundiced view of skeptics (such as those at a company called Despair, Inc.).

It simply is hard to tell whether or not innovations will be able to live up to their hype. There is potential for technology to democratize access to innovation and ideas and to connect people beyond the immediate sphere of their local geographies, but lasting impact also requires a commitment to listening, to speaking across difference, to reciprocity of interaction, and to rolling up our sleeves together. Otherwise, communication can be an illusion. And we need to make these firm connections on the ground where we live, even as we also work to plumb the resonance between local contexts, globally.
It is far too easy to think that we have communicated, to think that we understand the issues from others’ viewpoints as well as we do from our own, when we stop at connectivity alone. As Sherry Turkle, who has been interviewing people about their use of social media, wrote last year in *The New York Times*: “We are tempted to think that our little “sips” of online connection add up to a big gulp of real conversation…” Usually they don’t.

This pitfall of electronic communication is particularly problematic as we try to forge deep, place-based collaborations to tackle pressing issues locally and globally, whether facing the health, prosperity, and sustainability of our communities, or organizing collective action against injustice. For example, the efficacy of social media in actually mobilizing people to take action is being widely questioned. In a recent opinion piece in the student newspaper at Syracuse University, one of our own budding journalists bemoaned her generation’s tendency to be content to “like” protesters’ Facebook pages or retweet calls to action rather than show up for a rally. She wrote: “On campus today, it seems we have relinquished our need to stand up for a cause. This is not because reasons worth fighting for no longer exist, but because we have decided clicking a mouse is the equivalent of taking to the streets.” A recent Pew Research Center study on social media and political engagement suggests likewise. And the role of social media even in “Arab Spring” uprisings across the Middle East in recent years may not have been what we suppose. In a widely discussed paper by Yale doctoral student Navid Hassanpour, this electrical engineer turned political scientist employed mathematical models to show that, contrary to media portrayals celebrating the role of social media in mobilizing grassroots protests against the Mubarak regime, increased social media connectivity actually stalled collective action by protesters by “discouraging face-to-face communication and mass presence in the streets.”

Sensitivity to such pitfalls is precisely the motive behind a National Task Force commissioned by the U.S. Department of Education and led by the Association of American Colleges and Universities calling for “hands-on, face-to-face, active engagement in the midst of differing perspectives about how to address common problems that affect the well-being of our nation and the world.”

Both the iSchool movement and higher education more generally have great capacities for exactly this kind of public problem-solving that we need so desperately right now. We need to discard our isolationist myths of solitary geniuses of innovation, we need to bridge the digital

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18 “Highlights,” *A Crucible Moment*. 
divide, and we need to move, as Scott Peters has pointed out, from a model of “public service,” where universities do things for “a passive and needy public,”19 to one of “public work that taps and engages and develops the civic agency, talents, and capacities of everyone, inside and outside the academy.”20 We require a model that is far more collaborative and collective than the customary one, drawing a diverse set of “experts” from across many sectors, inside and especially outside the academy, together, on the ground connected via i-technology, but in ways that fully utilize the full range of different voices, facing down the differences in a group process that maximizes the quality of the problem-solving.21

*i-Professionals Motivate Informed Collective Action*

The iField is rich with examples of innovations that hold promise to contribute mightily to building this new model, especially as it involves bringing people together across disciplinary boundaries. Online collaboratories and “Big Data” and “Big Science” projects all employ technologies with the potential to help us move beyond the passive transmission of ideas and, instead, facilitate authentic communication and meaningful collaboration on an unprecedented scale. And yet, it also is crystal clear that you in the iSchool movement get that the success or failure to realize that potential lies not so much in the technology as in the people who use it, and that getting people to genuinely collaborate across boundaries can be very had work. As your movement’s own vision statement avows:

“… trans-disciplinary collaboration is not a natural act. Not only does each discipline bring to the table a set of values, goals, models, economics, and ethics that have evolved slowly and in relative isolation over an extended period of time within their discipline, but also they must interact with and respond to the interests of external bodies. These are not always aligned in ways that foster rapid agreement.”22

Underlying this understatement is the recognition that if we really want technology to facilitate fundamental change in the world, we need it to facilitate the development of “strong ties” among people with shared purposes, as Malcolm Gladwell suggests in an essay on the limits of technology. It takes deliberate effort to get people to move beyond shared sentiments and moral support to the motivation required for taking collective social action.23 And this is especially true if we are to see the mobilization of diverse talent and perspectives necessary to make progress on today’s messy challenges. As Scott Page demonstrates, the power of diversity

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creates better groups, but building strong ties that also bridge social and ideological and value differences requires mindfulness, even (or perhaps especially) in the information age.

Collaborating for Change in a Rust Belt Landscape

For American higher education to spur the barn-raising we need today, we must leverage technology to do exactly that, building strong ties across our disciplines, our institutions and our communities through publicly-engaged teaching, learning, scholarship and problem-solving. To do this, we have to be willing to change many of our most entrenched habits of mind, and the ways in which we normally approach problem-solving – as “experts” (often “solitary geniuses” with some graduate student disciples) telling others what to do; as P.I.s working on a grant cycle, here one day and gone the next; as innovators protecting IP; as disciplinary advocates guarding the silos; as neighbors living cheek by jowl with our communities, rather than as participants embedded within our communities; as leaders rather than partners. All of this needs to change for us to be effective, trusted, sustained catalyzers of real social change. As Caryn McTighue Musil described in the latest issue of AACU’s magazine Diversity & Democracy, we need a new paradigm of “generative partnerships” that, in her words, “makes more transparent the interdependency of modern life.”

Recognizing the importance of generative partnerships as a basis for innovation, we are working hard in Syracuse to till the ground of trust-building; to build broad public-private coalitions and empower a new generation of residents, scholars, children and adults to work together at a turning point for our older industrial rust belt city. By way of an illustration of both how hard and how rewarding this work can be, I will take you on a dash through one neighborhood in Syracuse, although scholarship in action at SU spans out far beyond, throughout the region and touching many global partners. Here though, I simply want to emphasize the

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point that when the ground is appropriately tilled, there is so much fertile growth that can re-envision a rustbelt city and collaboratively open doors of opportunity. But it takes the time and patience and trust-building that we are not always prepared to encounter, given our habits of instantaneous technology-mediated connectivity.

The rust in Syracuse is nowhere more evident than in the Near Westside. It was once a hotbed of industrial innovation that gave the world the first air-cooled automobile engine (from the H.H. Franklin Manufacturing Company), multiple advancements in indoor climate control (from Carrier Corporation), some of the first “visible” print typewriters (from the L.C. Smith & Brothers Typewriter Company), specially hardened steel plows for farming (from the Syracuse Chilled Plow Company), pioneering gears that drove productivity in the world’s factories, homes, and streets (from the Brown-Lipe Gear Company) and supplied our burgeoning nation with solar-evaporated salt (Syracuse Coarse Salt Company). But this thriving district of manufacturing, railway yards, and housing was hit hard during the city’s long industrial decline after the Second World War. Today, the Near Westside includes the ninth-poorest census tract in the nation. Half of its 3,300 residents live below the poverty level, 44% are African American and 23% Latino, 40% are unemployed, and 17% consider themselves to have one or more disabilities. Home ownership has shrunk to 15%.

Seven years ago, a group of residents of this diverse, inner city community joined with us and with foundations, businesses, not-for-profits, state and city government, and other institutions of higher education to create a non-profit organization, the Near Westside Initiative, to write and rewrite the story and the future of this neighborhood. We called it the SALT District, for Syracuse Art, Literacy, and Technology, harkening back to its roots in the salt industry and foreshadowing what we all hoped to be its new prosperous future beyond the digital divide. From the beginning this initiative, with its very big ambitions, recognized its power would come not just from new technology and entrepreneurship and innovation – though certainly from all of that – but also importantly from the diversity of participants and the

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authenticity of their roots in and commitment to this place and especially to its children. So the board of this 501c3 has the much revered Father Jim Mathews of St. Lucy’s Church, Mary Alice Smothers, the wisest resident grandmother and community leader, Dan Queri, a local developer who also runs the youth basketball team at St. Lucy’s, Paul Nojaims, a third generation neighborhood supermarket owner, and many more. And they have joined forces with faculty and students from SU—designers, environmental engineers, technologists, artists, entrepreneurs, public health specialists, journalists and K-12 educators—as well as corporate and city government leaders, to build strong ties to last.

Although the process of building these strong ties (across such diverse participants) can be loud and messy, the result has been an environment that allows, inspires, creates, and sustains a host of innovative and successful collaborations of “experts” of all descriptions. Its structure is one form of what the legal scholar Susan Sturm has called the “architecture of inclusion” for full participation, and there is plenty of talking and even yelling across difference that provides an extraordinary education for all involved. As clichéd as it may sound, this is as close to democracy in action as I have ever come in the academy. It has also generated over $70 million dollars of public and private development in the Near Westside during hard economic times, and spawned a host of creative ventures that are engaging all generations, every day.

The neighborhood’s unfolding tale of transformation has been dubbed by one journalist “The Near West Side Story” and inspired a graffiti artist-in-residence, Steve Powers, to repurpose old railroad trestles as canvases for “A love letter to Syracuse”. Technology—the ever-present T” in SALT—is always in the ether and an indispensable vehicle for moving the story along, but it always revolves around the plotline of those messy social interactions, the human network. This is all set against a backdrop of rejuvenated civil infrastructure on the ground—revitalized formerly abandoned warehouses, new homes employing cutting-edge,

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29 For a description of this project and the movement of which it is a part, see Kelundra Smith, “Graffiti Bridge,” The Syracuse New Times, 11 Oct. 2011, pp.16-18.
energy-efficient design that are owned by neighborhood residents, and a physical connective corridor of streetscape, public art, and wired buses that runs from the neighborhood, clear across town, and all the way up the hill to SU.

Woven into the scene are new people and businesses and organizations—from the headquarters of our district-wide collaborative school reform partnership, Say Yes to Education Syracuse, to Pro-Literacy International and the regional public broadcasting station WCNY, to La Casita, a Latino/a cultural Center, created by SU faculty members and La Liga, the neighborhood’s Spanish Action League. The strong ties of progress here are deeply embedded, cementing a sustainable social infrastructure of collective action that can now produce new ideas, new visions literally every time we turn our heads. With this civil and social infrastructure of collaboration and hope pretty securely in place, the Near Westside is now “open for business”—as Governor Cuomo of NY State has dubbed his state-wide economic development plan—and art, technology, entrepreneurship and sustainable design are at its leading edge, engaging here both the next diverse generation of Near Westside children, and their parents, grandparents, and new university friends.

Here’s a snap shot of innovation, creativity, and inclusivity on the Near Westside and you can see how instrumental technology, in all its facets and modalities, is to making this a success, to spreading access, to energizing vision, to spurring hope. Most importantly, not only are the children and youth and adults of this neighborhood joining in moving fast beyond the digital divide, but their voices are being heard loud and clear, and therefore the facile connections that can now be catalyzed through social media and the like, are more likely to have real lasting impact.
Recognizing, as iSchoolers do, that books are not only one of our oldest technologies, but remain an essential onramp to the information superhighway, environmental design professor Zeke Leonard worked with our iSchool’s library science students, interdisciplinary design students, and Near Westside residents to repurpose the existing technologies in three archaic landline phone booths in the neighborhood. They created Little Free Libraries inspired by the well-known model developed in Wisconsin. And when kids can’t come to the books, we bring the books—and much more—to the kids with the Mobile Literacy Arts Bus, a mobile home that was completely renovated by a team of artists and technologists to bring lessons in the arts and literacy to schools across the Syracuse City School District.

A virtual twist on these forms of hand-to-hand story sharing can be found in the work of architecture professor Anda French and her students, who worked with city officials and local schoolchildren to set up street installations at strategic pedestrian crossroads in downtown Syracuse where they solicited texted responses to the questions “What if … Syracuse?” and “What do you want to be?” The dreams and aspirations of respondents not only were screened at a multimedia video presentation, but played on a global stage when the project was selected for the “best of” American architecture exhibit at last year’s Venice Biennale. Photographer and art educator Steve Mahan also opens gateways to the world for local school children with his Photography and Literacy project, which helps youngsters find their vision and voice with digital cameras and teases out their poetic reflections.
That all starts with the world outside their door, which soon will include a completely renovated “Main Street” for the neighborhood, courtesy of an international design competition—“Movement on Main”—that leverages the street’s role as an agent of social and recreational life, challenging normative modes of movement by fostering innovative forms of exercise suitable to Syracuse’s chilly climate—which you know will include snow shoveling—and integrating new technologies that activate and engage, such as kinetic energy applications, sensor driven musical pavers, movement activated lighting, and public “exergames.”

*Spreading Networks to Empower Change*

The breadth and depth of these collaborations have generated energy that is now having ripple effects both back on campus and with our national and global partners. We are seeing iSchool faculty publishing articles on “Information Studios: Integrating Arts-Based Learning into the Education of Information Professionals” and Visual and Performing Arts students taking minors in Global Enterprise Technology or the iSchool’s entrepreneurship sequence from “What’s the Big Idea” to “Ideas2Startup.” Quickly the collaborative intersection of information studies, entrepreneurship, and design (and visual arts more generally) has become a signature in
the university, and we see degree programs, such as Design+, being built to last across these disciplines.

The kind of vibrant team-based innovation that we see on the Near Westside not only serves to spur the development of interdisciplinary educational programs, but also reminds us constantly of the value of a broad and diverse community of experts. As one of our iSchool undergraduates, David Rosen, said after participating in a multi-disciplinary design project on the future of social media, “everyone is an expert on something.” Such intersections of expertise illustrate vividly why we would do well to broaden our received understanding of innovation as being informed primarily by STEM fields. The arts of writing, design, and photography clearly play a fundamental role in the work we are doing on the Near Westside, and in partnership with so many others in Syracuse. This suggests that when we witness disciplinary boundaries evaporating in the heat of public problem-solving, what we are seeing is the power not of STEM, but of Science, Technology, Engineering, the Arts, and Mathematics: STEAM.

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30 For a description of the Design+ program, including the curriculum, see [http://vpa.syr.edu/art-design/design/graduate/design-plus/curriculum](http://vpa.syr.edu/art-design/design/graduate/design-plus/curriculum).
We’ve also learned from projects like these that technology can be a pivotal medium for empowering a diverse new cadre of tomorrow’s young people to experience what it feels like to turn the tables on a world in which they are so often treated as objects rather than agents. With an eye toward achieving full participation in the i-revolution, we know realizing the promise of women, more than half the world’s population, must be at the top of our agenda. So we need to not only bridge the digital divide within our neighborhoods, but also build a two-way street back to campus. One way we’re trying to do that at Syracuse is with the IT Girls program and Project Engage, through which women associated with Syracuse University as academics, professionals, and students in STEM fields collaborate to mentor and serve as models for success for middle- and high-school girls, a time in their lives that is pivotal for envisioning their future selves. We bring these budding scientists, engineers, technologists, and entrepreneurs to campus where we both counsel and challenge them to test their knowledge and their images of themselves, all in an environment that plays to their intellectual, technical, and social ingenuity. The results of this fall’s events are still being tabulated, but last year nearly one quarter of the high-school seniors who participated ended up enrolling at Syracuse University in a STEM discipline.

In all of our efforts to inspire young people to innovate, our aim remains the same: to find and cultivate talent in places where—perhaps for many reasons, but most certainly for too long—it has gone underdeveloped, if not completely untapped, as it has not only in Syracuse, but everywhere. The future of the planet and the prosperity of humanity depend on how effectively we can help the generation now before us to amplify their voices, sharpen their vision, and unleash their talent to make a better world. This is what it means to bring all the talent to the innovation table and solve our public problems together. There is no better way to assure our innovations—as dazzling as they may be at their inception—will truly prove to be sustainable. As Syracuse faculty member, and renowned Kenyan scholar of African orature, Micere Githae Mugo, tells us, citing an African proverb: “If you want to go quickly, go alone. If you want to go far, go together.”

And higher education has a pivotal role to play in cultivating this kind of collective action, not only at the level of our institutions, which are explicitly dedicated to foster the public good, but at the level of individual scholars and students, who are ethically compelled to employ all of the tools that we have been privileged to develop to make a real difference in the world. As information economist Joseph Stiglitz said in his Nobel Prize in economics acceptance remarks in 2001:

“We as academics have the good fortune to be [further] protected by our academic freedom. With freedom comes responsibility: the responsibility to use that freedom to do

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31 Micere Githae Mugo, “Ut in place of Boots, Bullets, Bombs and Drones at Military and Metaphorical War Zones,” closing keynote address delivered at Africa Initiative Symposium on Deconstructing War Zones Syracuse University, 2 Feb. 2013.
what we can to ensure that the world of the future be one in which there is not only greater economic prosperity, but also more social justice.”\textsuperscript{32}

As each of us considers what it means for us to try to realize that vision—to put our scholarship into action—we must never forget that this is by no means a solitary sojourn. It is something best done—indeed, only done—by recognizing our common cause, forging strong ties across difference, and striding forward together, arms linked, as the great leaders of the most powerful social movements throughout history have shown us it must be done. I think that each of us, and all of us, can draw inspiration from the words of one of those leaders, from my neck of the woods, Central New York, Elizabeth Cady Stanton, who said:

“So closely interwoven have been our lives, our purposes, and experiences that, separated, we have a feeling of incompleteness—united, such strength of self-association that no ordinary obstacles, difficulties, or dangers ever appear to us insurmountable.”\textsuperscript{33}


\textsuperscript{33}Elizabeth Cady Stanton, \textit{Elizabeth Cady Stanton as Revealed in her Letters, Diary and Reminiscences}, vol. 1, ch. 10 (1922).