This letter serves as my broad-based vision statement for the position of Vice President for Research at New Mexico State University (NMSU). I have served as the **Associate Vice President for Innovation: 2014-15** at The University of Akron (UA). This position was specially created in the Provost’s Office so that I could help create innovative initiatives and partnerships on the academic side, similar to what I had done in the past on the research side. In my role as Assoc. Vice President for Innovation I chaired 1 of 5 Team of Leaders (TOL) that comprised of no more that 4-5 members with ranks of Associate VP and higher. For a year I also carried the title of **Special Assistant to the President for Innovation (2013-14)**, and reported directly to the President on university-wide programs as well as represented him on the White House lead initiative: the Advanced Manufacturing Partnership (AMP2.0). I was also the **Associate Dean for Research in Engineering (2009-2015)** for six years, and as of June 30, 2015, I stepped down from all of the above positions, and am now a tenured Professor in two departments, Mechanical Engineering and Biomedical Engineering. For the last two years, I have been concentrating on helping a venture backed company introduce innovative water treatment technologies in India, and we will have three demo plants go live this year impacting thousands of people affected by arsenic, uranium and industrial effluents. Currently, I am also the Chair of the Finance Committee of the city of Akron’s venture fund, the Akron BioInvestment Fund II, a $1.75M fund to nurture the biomedical corridor in NE Ohio. After a two year break from administration, I am now looking for a new challenge that can utilize my unique combination of skills and experience in academia and industry.

It is no cliché that these are tough times for higher education, especially public universities. There are many threats due to decreasing state support leading to higher tuition, declining enrolments in many states and the steady increase of for-profit entities. Shrinking budgets also impact the research enterprise, as it cannot operate in a vacuum or isolation in a university, and anyone leading the research enterprise has to work closely with the entire senior leadership of the University, primarily the President, Provost, CFO and VP for Development. It is this position, of all others that has the luxury of looking outwards, and becoming the rock in turbulent times. It is this position that should catalyze not only growth in research, but innovation across campus and the region. It is this position that should take leadership for the economic development of the region and maybe the entire state. It is this position that can play a significant role in creating a true **Innovation University**. This is my vision and my message: that I will help create a university vibrant in research, fiscally responsible, connected to its academic mission for all students and faculty, and one that creates the talent and knowledge that feeds into a regional ecosystem that in turn creates prosperity for all. I have certainly helped do this in Akron and NE Ohio and the achievements, amongst others, were recognized in a recent book, “The Smartest Places on earth,” in which the author, Antoine Van Agtmael (who coined the term **emerging markets**) calls out “the remarkable story of how rustbelt cities such as Akron and Albany in the US and Eindhoven in Europe are becoming the likely hotspots of global innovation…”
Creating value, national/international reach/impact

I am an academic, but now have administrative experience in the President, Provost and the Dean’s office. I am also an entrepreneur as I have been part of a few start-up companies. I also have significant experience in interacting with funding agencies (DoD, NSF, FHWA/DoT, etc) as well as large companies (Medtronic, Caterpillar, Timken, Formula One racing, etc). All of the above experiences have allowed me to create significant value within the academic environment and the region. A few examples of these are given below:

• On October 01, 2013, I was appointed to be on President Barak Obama’s Operations Committee for the White House lead initiative Advanced Manufacturing Partnership 2.0, representing UA President Luis Proenza who was 1 of 19 members in the Steering Committee comprising Presidents/CEOs from academia, industry and labor. I was part of one of the working teams that made a deep dive into technologies that will pave the way for American competitiveness for the next 20 years.

• I represented The University of Akron in the TechBelt team (NE Ohio + Pennsylvania) in developing the winning proposal for establishing America Makes (formerly called National Additive Manufacturing Innovation Institute - NAMII) as the pilot institute of President Obama’s vision for 14 such institutes forming the National Network of Manufacturing Institutes (NNMI). This was a $70M public-private enterprise and was launched as a pilot and a model for such future institutes (final selection was made out of 22 proposals).

• I envisioned and executed on a unique public-private partnership with the Timken Company, in which we moved their research labs in engineered surfaces to UA ($5M deal) and developed a for-profit company to market the IP in Timken non-competitive spaces. I was the main architect for the UA-Timken deal at the University (negotiations lasted 18 months), wrote the business plan for the initial capitalization for the company and served as Co-Founder and VP Operations and then moved to the Board of Directors. This entire effort has been covered by the Washington Post, the Chronicle, many magazines and quoted in a recent report by the Ohio Board of Regents as a model for the state. It is also being quoted as a national model in the MIT lead project called Production in the Innovation Economy, which is focused on renewing American manufacturing.

• I lead the development of an execution plan for a University-wide Innovation Practice Center that encompasses a Proof-of-Concept center surrounded by an IP legal clinic, entrepreneurial support and a program in public policy. The proof-of-concept center is modeled after MIT’s Deshpande Center whose leadership has been a key supporter of our efforts in Akron.

Strategic planning, involving the stakeholders and executing

The VPR must have a vision of where he/she sees the university’s research enterprise in the next 5/10/15 years and maybe even longer. The two annual reports/documents that help set this vision are the US News rankings and the NSF research rankings for approximately 630 research universities. These provide a starting point for where the University is with respect to others in the nation, and coupled with the strategic strengths of the university and the region, provide a framework for the development and execution of a realistic and viable strategic plan for the institution.

I successfully used this approach six years ago to help develop and execute a plan for the College of Engineering at UA that for years had been doing about $4M expenditure with about 59 faculty members. The strategic plan that I developed was developed working with the college faculty over a 9 month period, and getting everyone’s buy-in. The plan involved focusing on six strategic areas, starting interdisciplinary centers (we now have 5), increasing interaction with industry (we now interact with over 120 companies), developing competitive start-up packages for new faculty, and starting an incentive-based mentoring program that engaged the senior faculty with the junior faculty. Ten year goals for the plan were $20M in research expenditure, 112 faculty, 600 graduate students and 3000 undergraduate students. Within four years we had increased our research expenditure from $4M to $17M thereby improving our US News ranking from 139 to 117. Accompanying this growth was increasing the faculty from 59 to 93, graduate students from 250 to 430 and UG students from 1700 to 3000.
**Hiring the best faculty, budget experience and commitment to diversity**

A VPR should work closely with the Provost and the Deans to hire the best faculty and then create an environment for their future success. When I came in to the university, I negotiated generous start-up packages for incoming faculty. During my tenure in the Dean’s office we hired 35 faculty members at different ranks. Start-up packages were approximately $400K for Assistant Professors, $500K for Associate Professors and $750K for Full Professors. For an endowed Chair, I was able to put together a $1M package thanks to the support I had from the VPR. The success rate of these incoming faculty members getting their own grants with 3 years was almost 80%, and the Endowed Chair now heads a center that routinely brings in $500-$750K/year.

I have helped run the Dean’s office for six years that had a budget of about $24M, but I was overall in charge of the research enterprise that had grown to $17M in external expenditure in addition to about $10M of internal support thru start-up funds and matching allocations. When I moved to the Provost’s office, I was involved in the development of the academic and research part of the budget of the university which was approximately $250M out of a total of $450M. As Associate Vice President for Innovation, I was also in charge of the review of all centers and institutes at the university.

I was also part of an NSF sponsored Multi-University effort on *Institutions Developing Excellence in Academic Leadership (IDEAL)* wherein a strategy was developed to increase diversity in the UA faculty. Many of the recommendations after the 3-year effort have been incorporated at all participating universities including UA, Case Western, Toledo, Kent and Bowling Green.

**Vision**

I believe that the position/office of the VPR has three potentially distinct components and responsibilities: a) Research enterprise, b) Graduate programs, and c) Regional economic development.

Obviously, the overarching job is that of increasing the quantity and quality of the research enterprise. The VPR must lead and manage pre-award activities, compliance and research integrity issues, post award accounting and intellectual property (IP) creation, management and licensing. All of these activities will have personnel associated with them, and some may be only one-deep, and he/she must provide inspired leadership to all of them. Having experience in all of the above areas is important for the normal functioning of the University Research Office, but becomes critical components of the skill-set, if the VPR would like to take the university on an ambitious trajectory over and beyond “normal”.

Secondly, the VPR should have experience in graduate education, and a true understanding of the role of the Graduate College in a) increasing research funding, b) increasing industry engagement, c) becoming an economic engine and d) increasing the ranking of the University in national metrics used by US News, NSF, NRC and others. In my mind the research productivity of a University is very closely tied to the quality of the graduate program, and any overarching vision for the University must include a plan for the growth of the program.

Thirdly, the VPR must be cognizant of the role of the university in regional economic development in today’s changing global economy. Using the opportunities available through a stand-alone 501(c)3 Foundation, we have been able to cut times from signing NDAs with industry to solving all legal issues to invoicing from months/years to days. I know that in my previous life as a Professor, it took me 18 months for this process with a Formula One racing company (Toyota F1) and over 12 months with Caterpillar. Cutting that process to weeks, if not days, has been unprecedented for me, and I have been able to help accelerate these steps for many of our faculty members in the past six years, thereby significantly increasing our engagement with industry and working on many multi-million dollar deals. The College of Engineering at UA now has standing research relationships with 120 companies, up from about 25 a few years ago. We also now have seven research centers, up from two a few years ago. The ability to spin out companies with University and non-University IP, holding equity, indemnification, starting venture funds, etc. are all but some examples of the power of a Research Foundation, and on the national platform we are just starting to scratch the surface here.
Action Plan
In my first year, I would take a serious look at the following:

1. Identify the university strengths and see how they match up with the regional/national trends. Identify and support some key niche areas for growth. These areas would be selected by the faculty and then vetted by experts before executing any growth plan.

2. Develop a “university story” that ties scholarly activities, research funding, technology transfer and the arts into an “innovation” environment that is open to all.

3. Develop a plan to create multi-institution enterprises (a good example is the Austen BioInnovation Institute of Akron that is a partnership of U. Akron, three area hospitals and the area medical school and has collected more than $80M from the partners, Foundations, etc.; the Broad Institute in Boston that is a partnership between MIT, Harvard and MassGen is another good example).

4. Develop new models for open innovation and IP management. Remove the single greatest obstacle to industry wanting to work with academia, i.e. IP issues (I am a champion of simple term sheets, low upfronts, modest royalties, but get the IP out). Move industry research and development into the University and free up industry resources for commercialization, marketing and supply chain development. Use Universities for what they do best and let companies do what they do best.

5. See if a Research Foundation could work as a fiduciary agent of the university, as well as a facilitator for increasing the research activity in the University and regional economic growth.
   a. Certain states are limited by the state constitutions in areas such as intellectual property management, indemnification and equity in start-ups. In such states a stand-alone 501(c)3 becomes a way forward. Ohio is certainly one such state and there are others that I have looked at that have similar provisions in their constitution.
   b. Opportunities to buy/lease land and buildings around campus through the research foundation, and using those as growth incentives for the University.
   c. Using the research foundation to start venture funds (including student funds) that tie regional angels, VC funds, large corporations and universities into a network.
   d. Expand the network to neighboring states, if there is a growth opportunity.

6. Really understand the channels of flow of external money through the University, whether it is grants, contracts, donations or earmarks. Portions of the IDC returns should flow back to the University, the research office, the college, the departments and the PIs. I believe strategic use of the IDC returns distinguish progressive universities from mediocre ones.

The story...
I have certainly been fortunate to have been at the right place at the right time to truly learn how a University can become a tool chest of economic development opportunities, and can lead the resurgence of a city like Akron. Akron, at one time was an economic giant (the rubber capital of the world), and then declined in the late 20th century, and is now resurging as the polymer capital as well as a booming biomedical corridor in the country. Like many in the country, I envision a resurgence in US manufacturing enabled by innovation, the hallmark of the US story. In many ways, I have lived that story, having had the opportunity to convert high-tech research into start-up companies. As I look towards the next chapter in my career, this position would be of great interest to me since such a position would allow me the opportunity to use my experiences and skill sets on a larger platform to make a significant contribution to the region and the state. My grand vision is to create an environment within a University where students, faculty and staff are immersed in new models of education, such as curriculum embedded public service and/or entrepreneurial activities, sponsored trips to conferences vying with trips to business plan competitions, strategic faculty hires with joint appointments across colleges, innovations clusters that marry the arts with the sciences, and a real excitement about building and travelling on a road that leads to well visualized and articulated goals. And all of this would be done while being fiscally responsible.

I currently sit, or have sat, on many regional Boards that are part of the NE Ohio ecosystem, but some of things I am very proud of are my connections to the community…. I have helped the Symphony Conductor
at SIU Carbondale develop a business plan for the Southern Illinois Music festival (www.sifest.com), that helped lock up multi-year funding. My wife and I have been extremely fortunate in being deeply embedded in the community in Carbondale and now in Akron/Canton. My wife has organized many benefits that have generated thousands of dollars for the Carbondale community including organizations such as the Women’s Center, Klassics for Kids and the SIUC Symphony. We recently donated funds to the North Canton Middle School to buy a 3D printing machine to instill an interest in STEM in the students, especially girls. I also arranged for some of the students to use the larger University machines based on internal competitions. It is gratifying to us to see how many more girls in the middle school now take an interest in the sciences due to the very simple and modest actions.

The single most important characteristic that should emerge about me, through this letter, is **strategic planning and execution**. I am very big on creating a strategic plan and then executing it. I believe my success as a researcher, entrepreneur and administrator was not just by coincidence, but by making all decisions based on some overarching principles, being flexible and having the vision and ability to change with time. Let me also assure you that on a personal level my family is very happy here, so for us to move it would have to be a unique position that aligns with my interests/experiences and the institution believes that I am the right person for the position. Please do not hesitate to contact me for any additional information. I certainly look forward to hearing from you.

Sincerely,

[Signature]

Ajay Mahajan