Good evening. It is an honor and a privilege to be with you this evening as you pay tribute to the Whitehead fellows on the thirtieth anniversary of the fellows program; you have so much to celebrate! It is especially good to be out of Washington right now, where it is depressing to watch our increasingly dysfunctional government up close. I relish being here, in the company of researchers who are making a difference for our world in ways elected officials can only dream about! Congratulations to all the Whitehead fellows, and a special shout out to Sebastian Lourido and David Pincus, for being named recipients of the NIH Director’s Early Independence Award. The very existence of the Early Independence Award program is a tribute to the Whitehead Institute. Dr. Collins has cited the Institute as his model. But this model -- your model -- is just one part of the extraordinary Whitehead Legacy, rich in many ways. And it is indeed Whitehead leadership and Whitehead legacy that I want to talk to you about this evening.

In anticipation of visiting the Institute I reflected on a part of the Whitehead legacy that I share with you, namely being inspired by Jack Whitehead’s determination to make a difference for science, and for the nation. As you may know, after founding the Whitehead Institute, Jack went on to found the organization I lead, Research!America. I met Jack in the mid-eighties when I headed an independent research institute with lofty ambitions but without a Jack Whitehead; Jack and I quickly discovered we had a mutual resolve to better inform the American people - and those whom they elect to office - as to the worthiness of the biomedical research enterprise. The research enterprise was poised back in the late 1980s — as it is even more so now — to deliver on its remarkable promise, to the benefit of individuals and our society, assuming it were given the resources to do so. Jack and I knew this would be difficult work, advocacy for research, as it has indeed proven to be, but we entered it with determination.

Not long after Jack died, I came across an aphorism attributed to Abraham Lincoln that I think would have resonated with Jack. President Lincoln said: “Public sentiment is everything. Without it, nothing can succeed; with it, nothing can fail.” “Public sentiment is everything.” As you may know, President Lincoln chartered the National Academy of Sciences, whose 150th anniversary we celebrate this year. Lincoln saw the wisdom of providing for scientific advice to the nation; he also had the wisdom to know that science doesn’t advance in a vacuum; that there is a public and political frame for science, which must serve and be perceived to serve, the public’s interest. Jack Whitehead knew that too.

But back to the Institute. Worthy of Jack’s legacy and leadership, the Whitehead Institute has proven itself to be a very special home for science, offering challenge and opportunity, as well as support, to a fortunate band of outstanding individuals whose careers it has nurtured. And just as Jack hoped, the contributions to fundamental understanding that Whitehead fellows and faculty have made over the years have in turn fostered therapeutic breakthroughs that have led, and will continue to lead, to the cures and preventions every individual, every family, longs for.

People all over this country, and indeed all over the world, long for you to succeed — for your work to succeed as you discover critical, foundational, elements of the “ecosystem” of research and innovation;
people everywhere long for your success in pointing the way to health solutions like the defeat of cancer and diabetes; the prevention of Alzheimer’s; the effective treatment of mental illness. People long for you to banish the heartbreak of the many diagnoses that all families fear. I am not, by the way, just guessing that your work—what you do every day—and what you aspire to accomplish—is well-aligned with the hopes and dreams of people everywhere. Public opinion polls Research!America has commissioned regularly over the years confirm what our life experience tells us: people have high hopes and expectations for the research community, and will even give us a “pass” when we occasionally get in our own way by failing to describe our alignment with the public’s hopes and expectations. But we can and must do a better job of articulating that alignment, because how we articulate alignment with public hopes and aspirations is foundational to overcoming the ways we are not so well aligned with the public. Let me explain...

It’s tempting to talk about this general alignment in a different way, saying that biomedical science has “won” the hearts of the public—but I don’t believe that this is the case. To say we have won the hearts of the public would be to imply that we have worked at it. In fact, researchers rarely work to win the heart and minds of the public; rarely put effort into demonstrating accountability to the public in ways non-scientists can understand; rarely talk about how science affects the quality of life of all Americans in ways both seen and unseen. To the contrary, researchers rely on that assumption of unspoken alignment, and, worse, when questions arise, researchers are too quick to marginalize and malign those who don’t immediately align. But let’s stipulate for the moment that we have mostly “won the hearts” of the public. It’s pretty clear that we haven’t won the minds of those who are making decisions about the future of the science enterprise in this country. And it’s those minds we must win if we expect to win the votes we need to assure that American preeminence in science continues. The challenge of winning hearts, minds and votes is our collective challenge as stakeholders in medical research. This is your challenge, especially, because you are the best spokespersons for research. You also have the most at stake.

Right now, we can all agree that members of the Congress are surely “out of their minds,” not just about the science enterprise, but in refusing to work together to advance American priorities of all kinds. But it isn’t enough that we agree they are out of their minds and that we agree, as I’m sure we do, that failure to prioritize science is bad national policy and dangerously shortsighted. And it isn’t enough that we agree that there is a crisis for science, due not just to the shutdown, but to sequestration and all the cuts that have preceded sequestration. It is not enough that we agree because it is by no means obvious to the general public and the public’s elected officials that there is in fact a crisis. No matter where you travel in this nation, if you drive by a university, a research institute, a pharma or bio headquarters or R&D center, or a hospital or academic health center—indeed if you drive by pretty much any science-based institution, you will be looking at building cranes and sparkling new facilities. Most eyes would see a thriving enterprise. And there’s a further problem, too, since, ironically for all this buzz of activity around science in so many communities, most people will tell you—they have in fact told our pollsters—that they can’t name a living scientist Let’s face it, the optics are off. Which is why we must put a human face on science and why we must talk often about the value of research—its value to individual people’s lives. We have to make the link over and over again; we have to keep
science in the public eye if we want to win public hearts and minds. We have to align with public hopes and dreams; align with their aspirations, anywhere and anytime we can do so.

Let me tell you a story. Thirteen years ago, in October 2000, Paul Greengard was announced as the winner of the Nobel Prize in Physiology or Medicine. His sister, a journalist, penned an opEd in the New York Times a few days later that simply glowed with pride in her brother’s achievement. She talked about growing up with a genius for a brother, and talked about how every time he scaled a new height in science she would ask about it—but was quickly discouraged by what she perceived as her failure to speak the rarified language of science. She spoke of the irony that it took a fellow journalist writing about the Nobel to tell her what her brother’s work was all about; that his work might someday lead to a cure for Alzheimer’s.

Now, I ask you, how hard is it to tell one’s sister that your work might—emphasis— one day—second emphasis, might one day—lead to a cure? No promises being made here; there’s no undue heightening of expectations. And also, no scientific jargon required. Just an aligning of human aspiration.

As you know, Greengard’s work, like that of Whitehead fellows and faculty over the years, has been to a significant extent made possible by strong investment in science by the American public. That investment has been threatened from time to time, including in the late 1980s when Jack founded Research!America. It was threatened again in the mid 1990s, and it is sorely threatened right now. For a combination of reasons, be they economic, ideological/anti-science, general skepticism of the government, or the assumption that science is doing just fine—for one or more of these reasons, science can fall off the public and policy-maker radar screen. Votes for science disappear or turn negative. Champions are fewer. Scientific opportunity is squandered and sometimes lost altogether. What has changed the equation in the past, and can change it again, is setting an ambitious goal that rests on the dual pillars of demonstrated opportunity in science and demonstrated public support. If we are to win the votes we need for research to thrive at the level of scientific opportunity, we have to talk about that opportunity in words the non-science trained public can relate to; we have to stir and unite our shared aspirations. “Scientific opportunity” is, I think, the only metric that makes scientific as well as common sense, far more sense than even the “regular inflationary increases” that are sometimes proposed. Pursuing science at the opportunity level makes scientists excited and can excite the public, too. The “regular sustainable increases argument” is just plain boring. As Bono once said, “[calling for] incremental advances puts the audience in a snooze.” Making sure science is thriving at the level of scientific opportunity is the goal we must champion if we expect to deliver the fundamental understandings that will lead to therapeutic breakthroughs and cures.

I realize that “operationalizing” scientific opportunity is a challenge; but there is a precedent for it. Harold Varmus, Mike Bishop and Marc Kirschner, made the case in SCIENCE in the early 1990s that the NIH should be doubled. They said that, given the resources—that is, double the then-available resources otherwise known as the NIH budget, the opportunity in biomedical science was ready to make many more meaningful contributions to foundational science and to health. Armed with what we might then call the scientific case for doubling the NIH budget and alarmed by the then-threat to NIH, a delegation headed by then-Congressman John Porter (now Chair of the Board of Research!America) took a group of science leaders and business leaders to see then-House Speaker Newt Gingrich and
persuaded him to reverse course away from his plan to cut medical research brutally. Then-Senators Mark Hatfield, Arlen Spector and Connie Mack led a charge in the Senate to double the NIH budget. Research!America commissioned public opinion polls that demonstrated strong public support for doubling the budget for medical research. The ingredients were in place so that, under the vigorous leadership of John Whitehead, the research stakeholder community mounted a unified several-year advocacy and lobbying campaign to double the budget of the NIH over five years. It took many years of hard work, and it worked.

We can do this again, and I think we must. Operationalizing the optimal level of scientific opportunity is an important component of any plan. The case might not be for “doubling” again; we should let the opportunity in science determine the goal. Perhaps it will be Whitehead Institute scientists who write the necessary white paper this time; perhaps it will be the Whitehead family that again works to assure victory in Washington; afterall, it’s part of the Whitehead DNA and would be a fitting addition to the Whitehead legacy.

Simultaneously, there is another job to do to help turn the tide for science, for you, for your careers, and for all of us who long for you to succeed.

Everyone in the science community must pledge to stop wasting time in the echo chamber of talking to each other, and get out into the heartland. I mean that both literally and electronically, through your networks of family and friends. Most of us have at least a few friends, family and colleagues who live and work in states that are not in the top ten of NIH and NSF support. Those are the states in which we must focus a campaign to win hearts and minds, since federal budgeting for science does not work like the peer review process; it works on assuring a compelling answer to every lawmaker’s question: “what will providing more funding for NIH or NSF or CDC do for my state?” It works on assuring that elected officials hear from so many of their constituents that science becomes a voting issue for them.

The good news is that great science and great scientists don’t just live and work in a handful of states. There is outstanding research underway all over our nation – in Great Falls, Montana and Augusta, Georgia and Birmingham, Alabama and in Richmond, Virginia. The problem is that not enough people know that. Right now only 19% of Americans realize that NIH-supported – that is taxpayer-supported - science is being conducted close to everyone’s home, that is, in every state in the nation. It’s time to substantially increase the percentage of Americans who are able to name a living scientist from just 34% to closer to 100%. If voters don’t hear about research from researchers who are close to home, if they don’t know that research is being conducted at their state’s university and at independent research institutes in their state, why would those voters demand that it be a priority for their state’s Congressional delegation?

Science is in the news for a few days when the Nobel prizes are announced but that public recognition for science and the award winners is fleeting at best, because the public doesn’t connect to the science enterprise. There is even evidence that only about half the public can identify any prize for science. What we should set as our goal isn’t one or two-day stories in any case; we should be driving toward a constant awareness of science and scientists. People know where military bases are; they know there are active duty and retired military in their state, and in their hometown. They know someone who is
active or retired military. Why don’t they know that there are scientists in their community as well? I think the answer to that question is that it has not been a part of the culture of science to self-identify outside the science community, much less the social norm in science to be an advocate for science. This is what has to change. And I think it is in IRIs that it is most likely to change, rather than in degree-granting and/or patient-focused academia, with the multiple agendas those institutions must serve. IRIs can lead the charge toward defining and living a new social norm for science when it comes to public engagement. To name another Whitehead, Susan, it has been her leadership that assures the Whitehead Institute takes its responsibility to the public very seriously. The Institute has pioneered a number of public outreach programs. It’s part of the Whitehead legacy to engage the community. But the Whitehead model is neither the norm in science, nor is not enough. There is a role for every scientist in every institution in every state when it comes to engaging the public. This is the way we assure that our enterprise is not invisible; not easy to cut, because every lawmaker will be able to put a hometown face on the science enterprise, and every lawmaker will see and listen to influential constituent voices every day that tell her she is in synch with her community when she votes to support science.

What I’m describing is a “heartland” campaign that will be a be a long campaign; we have to expect that it will take years before we see significant results...which is all the more reason why we have to start right now winning hearts and minds and ultimately, many more votes. It’s a bit like foundational science -- it takes time, commitment, and lots of hard work, before it pays off. But as Jack Whitehead knew, public advocacy is essential to scientific success. Remember Lincoln’s aphorism: “public sentiment is everything.” So let’s work together to set an aspirational, breath-taking goal that reflects true scientific opportunity something that will excite the science community and empower every scientists to speak out. Properly linked to health, the public will embrace this goal, I am confident of that. Let’s do it together. Let’s start now. I am asking you to start today to put a human face – your face – on science. Start today to say and convey your commitment to serving the public’s interest – say it to every non-scientist you know, from your family members and friends to people you meet for the first time: when they ask what you do for a living, say “I work for you.” “I work for YOU.” Because you do – you work on goals the public longs for you to achieve and you work on those goals with the public’s money. And then listen and learn and respond to the questions non-scientists actually ask after you say you work for them. I think you will find out that, like Paul Greengard’s sister, the non-scientist doesn’t necessarily want to know scientific chapter and verse, he or she wants to know that someday your work may lead to the cure and prevention of cancer, Alzheimer’s, diabetes, autism and more. Start the conversation with “I work for you” and find out, as others like you have found out, that members of the non-science trained public long for you to succeed and will welcome suggestions of how they can help. You might suggest that someone newly interested in your success go on-line and look for Research!America’s “curesnotcuts” campaign on social media; you might suggest learning more about what is at stake by our failure to prioritize research as we used to in this nation; you might find that more than one person wants to help you succeed. And it wouldn’t be the first time that if you say “I work for you” to a stranger, that person becomes your friend and a friend of science. I hear those stories every day.
Now it’s time for me to close by saying “I work for YOU.” That’s what my job is all about as an advocate for the enterprise you epitomize – an enterprise that has always promised better health and quality of life and a stronger, vibrant economy based on research and innovation. That’s the enterprise I have committed my career to. It’s the enterprise the Whitehead family has committed to. It’s the enterprise the Whitehead Institute and its fellows and faculty have committed to. I am proud to join you as part of the extended Whitehead family and the Whitehead legacy. I long for success – yours and mine – I am indeed proud to work for you and most deeply honored to address you this evening. Thank you.