

**National Robotics Initiative (NRI) PI Meeting  
October 1-2, 2013**

**Letter to PIs**

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Good morning. On behalf of my colleagues at the National Science Foundation, I am pleased to welcome you to the first National Robotics Initiative, or NRI, Principal Investigators' meeting.

It has been a pleasure working across the NSF, and with NASA, NIH, and USDA to build a partnership to advance U.S. leadership in robotics. We also look forward to working with other agencies as the NRI grows.

Our partnership will allow the initiative to play a catalytic role in the development of smart technologies that enhance America's productivity.

Let me just say a few words about the genesis of the NRI. In 2009, building on decades of progress in robotics, over 140 experts from industry, laboratories, and universities from across the country developed a report, *A Roadmap for US Robotics-From Internet to Robotics*. The importance of robotics as a national imperative was echoed in the 2010 report by the President's Council of Advisors on Science and Technology (PCAST) on the Networking and Information Technology Research and Development program; and again, in the 2011 PCAST report on Advanced Manufacturing.

The recommendations from these reports all arise from the accelerated demand and increasing technical challenges robotics bring for new capabilities and services across a broad spectrum of sectors.

And, just recently, a McKinsey Global Institute report identified 12 disruptive technologies that will transform "life, business, and the global economy" by 2025; it's worth noting that 3 of the top 10 are in areas that are directly pertinent to the NRI:

- Advanced robotics;
- Autonomous and near-autonomous vehicles; and
- 3-D printing.

As, of course, this audience recognizes, achieving next-generation robotics requires bringing experts from many sectors and disciplines together.

Indeed, the diverse expertise represented in this room is outstanding! This meeting brings together approximately 200 researchers, practitioners, and thought leaders from academia, industry and government.

I'm pleased to let you know that the NRI has funded over 100 awards and committed more than \$90M over the past two years.

Your work will enable next-generation operational systems in areas such as:

- Advanced manufacturing;
- Healthcare and rehabilitation;
- Space and undersea exploration;
- Disaster mitigation and response;
- Food production, processing, and distribution; and
- Education and outreach.

And, as you know, accelerating the development and use of collaborative robots, or co-robots, that work cooperatively as partners with, or beside, people requires pushing beyond state-of-the-art robotics.

1. It requires advancing knowledge in fundamental research in robotics science & engineering.
2. It also requires a better understanding of the long-term social, behavioral, and economic implications of co-robotic technology across all areas of human activity.

As such, the NRI not only invests in the fundamental research necessary for next-generation robotics, but also aims to advance the capability and usability of such systems and artifacts and will encourage existing and new research communities to focus on innovative application areas.

It also includes the use of robotics to facilitate and motivate STEM learning across the K-16 continuum:

- Learning across all disciplines,
- Engaging learners, and
- Evolving robotics-centric pedagogy and outreach.

Cooperation among academic, industry, and non-profit organizations are key to achieve successful linkages between foundational research and development, deployment, and use of next generation robots.

And, cooperation across agencies has helped to build a broad federal portfolio of R&D in this area, with the potential to impact many different sectors. A separate solicitation from each participating agency would not have resulted in the rich portfolio that you represent today.

The work you do today will lay the groundwork for new enterprises, promote economic growth, improve our citizens' quality of life, and fortify the foundations for U.S. competitiveness for decades to come.

Best wishes for a successful meeting.