



## **NPI calls for a National Quantum Initiative in testimony before the House Science Committee, meets with Rep. McSally for in-district visit and publishes Cancer Moonshot recommendations in *Cancer Research***

Good morning and happy fall,

It has been a busy and exciting few months for our community as the National Photonics Initiative has made significant strides this past quarter, cultivating new congressional champions while advancing our priorities before Congress and the administration. Here are some of the highlights:

### **Testifying Before Congress to Push for a National Quantum Initiative**

One of our high points came just weeks ago. After months of engagement with US House Science, Space and Technology Committee, on October 24, the Subcommittee on Research and Technology and Subcommittee on Energy held a joint hearing titled, "[American Leadership in Quantum Technology](#)," bringing together a group of witnesses from academia, industry and government to share insights into how the US can remain competitive as the practical applications of quantum technologies become more evident.

Dr. Chris Monroe, professor of physics and the University of Maryland and founder and CEO of IonQ, Inc. [testified on behalf of the NPI](#). Chris, along with Mike Raymer, founding director of the Oregon Center for Optics, now the Center for Optical Molecular and Quantum Science at the University of Oregon, spearheaded the NPI's white paper, "[Call for a National Quantum Initiative](#)," published at the request of the House Science Committee in July. Other witnesses included many familiar names: Dr. Carl J. Williams, acting director, Physical Measurement Laboratory, National Institute of Standards and Technology; Dr. Jim Kurose, assistant director, Computer and Information Science and Engineering Directorate, National Science Foundation; Dr. John Stephen Binkley, acting director of science, U.S. Department of Energy; Dr. Scott Crowder, vice president and chief technology officer for quantum computing, IBM Systems Group; and Dr. Supratik Guha, director, Nanoscience and Technology Division, Argonne National Laboratory; professor, Institute for Molecular Engineering, University of Chicago.



*Photo courtesy of Sara Castellanos/The Wall Street Journal*

The hearing was a great success and very well attended. Nearly 20 members participated including House Science Committee Chair Lamar Smith (R-TX-21) which signifies the Committee's support for quantum. Many of the core recommendations of the NPI's white paper were discussed at length by Committee members, including Subcommittee and Research and Technology Subcommittee Chairwoman Barbara Comstock (R-VA-10) and Ranking Member Eddie Bernice Johnson (D-TX-30). The NPI is calling for \$500 million of new public funding over five years in four "Quantum Innovation Labs." The labs will serve as proving grounds and testbeds for quantum technologies, and will follow the proven model of academia, government and industrial scientists and engineers working collaboratively on shared objectives.

In one of the more promising exchanges of the hearing, as reported by [The Wall Street Journal](#) – an article in which NPI witness Chris Monroe is quoted and the National Quantum Initiative is referenced – Chairwoman Comstock indicated her potential support for legislation directing federal investments in quantum technologies, saying that Congress was "at the beginning of the process" when it comes to tapping the potential of quantum technologies. We believe there will be significant opportunities to advance our legislative goals as lawmakers begin deliberations on a potential bill, and we look forward to continuing to work closely with the House Science Committee as the legislation advances.

### **Promoting Optics and Photonics Applications for Infrastructure at OSTP and on the Hill**

In conjunction with the quantum hearing, the NPI attended a series of meetings to discuss with Hill and White House staff the value of a National Quantum Initiative in addition to other optics and photonics applications for infrastructure. As we all know, optics and photonics can be applied to existing, new and future infrastructure to promote security and US economic and technological leadership. This extends to optical sensing for structural infrastructure, broadband for communications and IT infrastructure and quantum technologies as the future of computers, networks and sensors, among other applications.

While an infrastructure package has yet to be released and the timeline for such an

announcement continues to be pushed, the administration and congressional offices remain in “in-take mode” – consulting individuals, businesses and organizations like the NPI about what should be included in a future bill. To push for optical sensing, broadband and quantum, the NPI met with majority and minority staff for the key committees with jurisdiction over infrastructure, including the House Transportation and Infrastructure Committee and the Senate Commerce, Science and Transportation Committee. The NPI also held its first Trump White House meeting, connecting with Michael Kratsios, US deputy chief technology officer and de facto OSTP director, and Jack Wilmer, senior advisor for cybersecurity and IT modernization at the White House. The NPI was extremely well received at all meetings and doors were opened to future engagement and collaboration. While much work remains ahead of us as we continue to advance our quantum and infrastructure goals, there is also great promise for our agenda.

### **Showcasing Arizona Optics and Photonics to Rep. Martha McSally**

Not to be overshadowed by Washington activities of late, on September 21, the NPI and [Edmund Optics \(EO\) welcomed Rep. Martha McSally](#) (R-AZ-2) to the company’s Tucson Research and Design Center to showcase Southern Arizona’s strength in optics and photonics. The facility houses a custom optical and opto-mechanical research and development group, applications engineering, sales and customer support. Through this Center, EO collaborates closely with the University of Arizona College of Optical Sciences and the Arizona Technology Council to promote optics and photonics R&D and technical training. It was obvious that Rep. McSally took a great deal away from the informative visit, [tweeting](#) out, “#Photonics is critical to American manufacturing and national security.” We are eager to continue to work with Rep. McSally’s office given her unique background as a veteran and her current role as a member of the House Armed Services Committee.

If you are interested in organizing an in-district visit to showcase the value of optics and photonics to your member of Congress, reference [this handy guide](#) and reach out to the NPI who can assist at every step of the process.



## Improving Cancer Detection Through Biophotonics

Following an April workshop held by the NPI in Rockville, MD entitled, “Strategies for Improving Early Detection of Cancer and Response to Therapies through Imaging Technologies,” NPI Biophotonics Task Force Chair Dr. Eva Sevick worked to summarize the meeting recommendations alongside workshop participants from the medical imaging industry, academia and government. [Published in \*Cancer Research\*](#) on October 9, the article summarizes the recommendations to improve cancer detection outcomes by: (i) accelerating innovations in cancer research; (ii) translating these innovations economically and rapidly into a nation-wide health care delivery system; and (iii) developing the nation’s “cancer knowledge network,” which can be used for research, regulatory issues and delivering personalized care. Conventional (nuclear, CT, MRI, US) and emerging biophotonics-driven medical imaging technologies – when coupled with advanced computing and data management tools – will be essential for accelerating the translation of medical discoveries and innovations.

Congratulations to Eva and her co-authors on the article, Richard A. Frank, Siemens Healthineers; Maryellen L. Giger, Department of Radiology, University of Chicago; and, James Mulshine, Department of Internal Medicine, Rush University. A special thanks to workshop participants including leadership from Prevent Cancer Foundation, Accumetra, Medical Imaging and Technology Alliance, National Cancer Institute Center for Cancer Research, Society of Nuclear Medicine and Molecular Imaging, Lung Cancer Alliance, Icahn School of Medicine at Mount Sinai, University of Wisconsin School of Medicine and Public Health, Duke University, National Cancer Institute, Harvard Medical School, Beth Israel Deaconess Medical Center, American College of Radiology, Food and Drug Administration Division of Imaging and Applied Mathematics, Colon Cancer Alliance, AdMeTech Foundation, University of Maryland Medical Center and the National Cancer Institute Frederick National Laboratory for Cancer Research.

It has been a thrilling few months for our community as we have reached new levels of recognition and awareness. Given the unwavering dedication of our entire team, I know that we will continue to build on our successes in the coming months. To learn about becoming more involved in the NPI’s efforts, visit [www.lightourfuture.org](http://www.lightourfuture.org) or contact Laura Kolton at 202.416.1499 or Krisinda Plenkovich at 360.483.8786.

Sincerely,



Ed White,

Chair, National Photonics Initiative Steering Committee

### Contact Us

The NPI is interested in hearing from you. Are you interested in joining our efforts? Do you have questions? Need additional information? Please contact Laura Kolton at (202) 416 1499 or [lkolto@osa.org](mailto:lkolto@osa.org), or Krisinda Plenkovich at (360) 685 5518 or [krisindap@spie.org](mailto:krisindap@spie.org).

Please visit the NPI website for more information: [www.lightourfuture.org](http://www.lightourfuture.org).



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