

CENTER FOR  
TECH DIPLOMACY

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AT PURDUE

2021  
Annual Report

**TECHNOLOGY MUST ADVANCE FREEDOM**

# PROMOTING A 21st CENTURY WHERE DEMOCRATIC PRINCIPLES AND TRUSTED TECHNOLOGIES ADVANCE FREEDOM

## 2021 Annual Report

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## Message from the Director



Welcome to the Center for Tech Diplomacy at Purdue. I like to say that “technology” and “diplomacy” are two words that one does not often hear together. But that is changing, and here at the Center for Tech Diplomacy at Purdue, we are leading that change.

As the nation’s first “tech tank,” our mission is to advance freedom by bridging the gap between innovators and policymakers through the cultivation of “tech-statecraft.” We focus on informing policymakers and the public about the critically important role played by the United States and its allies in developing and deploying technologies that advance freedom around the world. For example, our Senior Fellows highlight some of the ways in which technologies that were originally envisioned to make life better, to make industry more effective, or to make data more accessible are being turned on their

heads by authoritarian regimes to violate human rights and human freedom. Diplomatic engagement on critical, cutting-edge technologies and their applications is more important now than ever as we see an explosion of technologies that can be used for good, but that can also be manipulated for malign purposes.

Because of our close affiliation with Purdue University in West Lafayette, Indiana, we have access to some of the greatest technology and engineering minds in the country—and the world. In partnership with Purdue, we develop training curricula and workshops to engage policymakers in new ways. Our goal is to expand American leaders’ professional capabilities and equip them to advocate for America’s role as the world’s leading innovator and developer of technologies that improve life for everyone, no matter where they live. We also work closely with leaders from allied countries to partner in the universal cause of freedom through the deployment of technology.

We look forward to working with you in the year ahead to continue to advance the Center’s vision of promoting a 21st century where democratic principles and trusted technologies advance freedom and improve lives.

In partnership,

A handwritten signature in black ink that reads "Bonnie Glick". The signature is fluid and cursive.

**Bonnie Glick**

*Director*

*Center for Tech Diplomacy at Purdue*

## Center for Tech Diplomacy at Purdue Background



### **Technology must advance freedom.**

That is the mission of American tech diplomacy.

In 2020 I had the honor to serve as the Science and Technology Adviser to the U.S. Secretary of State. During my one-year tenure, we witnessed the bipartisan and rapidly growing appreciation of the intersection between technology and foreign policy. The interaction is bi-directional: technology is defining diplomatic policies while diplomacy is also influencing the development and deployment of technology. How we deliver foreign policy and how we develop critical technologies are intertwined. In contrast to the long-standing practice of science diplomacy, tech diplomacy also relies on engagement with the private sector. It is time for a clear vision, enduring strategies, and effective actions on tech diplomacy for the U.S.

Purdue's President Mitch Daniels suggested that I should bring back my Washington D.C. experience and institutionalize it in West Lafayette, where a unique intellectual bridge can be constructed to connect the Beltway and Silicon Valley. We consequently identified tech diplomacy as a non-partisan, emerging, and impactful focus. Upon returning to Purdue in December 2020 to continue serving the College of Engineering, now the largest-ever ranked top five in the U.S., we worked with many colleagues here, including Brian Edelman and David Reingold, to launch the Center for Tech Diplomacy at Purdue in the Purdue Research Foundation. Many people resonated with this idea early on and were enthusiastic to contribute as advisory board members, subject matter experts, or financial supporters since the first conversations. Now, with Bonnie Glick as the outstanding Director, an Advisory Board consisting of national leaders from diverse backgrounds and chaired by Keith Krach, and a rapidly growing list of Fellows, partners, programs, and training courses, Purdue is humbled to serve our country and its ideals as the cradle of tech diplomacy.

A handwritten signature in black ink that reads "Mung Chiang".

**Mung Chiang**

*Co-founder, Center for Tech Diplomacy at Purdue*

*Executive Vice President for Strategic Initiatives, Purdue University*

# The Center at a Glance

## People

- Advisory Board Members (12)
- Senior Fellows (11)
- Senior Advisors (4)
- Staff (3)

## 2021 Events

The Center has hosted or participated in many events since formally launching in September 2021. Through our events, we aim to inform stakeholders on critical emerging technology and provide opportunities to spark collaboration.

September 20-23	▶ Concordia Annual Summit
October 13	▶ Ambassador Distinguished Lecture Series (Swedish Ambassador)
October 15	▶ Inaugural Tech Salon
November 10	▶ Ambassador Distinguished Lecture Series (Bonnie Glick)
November 15	▶ Semiconductors Tech Salon with Fellows Edward Barth and Nazak Nikakhtar
November 17	▶ Public Interest Fellowship Dinner featuring Bonnie Glick
December 7	▶ Fireside Chat with Advisory Board Member Stanley McChrystal
December 8	▶ Diplomatic Reception and Dinner with Keith Krach
December 8	▶ Ambassador Distinguished Lecture Series (Fellow Rajendra Abhyankar)
December 16	▶ Trusted Connectivity Dinner Series with Fellow Kaush Arha

## Countries (15)



Australia



Colombia



India



Netherlands



Sweden



Bahrain



Estonia



Israel



Singapore



Taiwan



Brazil



Finland



Japan



South Korea



United Arab Emirates

# Highlighted Events

## Concordia Annual Summit



Center leaders Mung Chiang and Bonnie Glick spoke at the Concordia Annual Summit in September.

## Fireside Chat



The Center for Tech Diplomacy and the Bipartisan Policy Center (BPC) co-hosted a fireside chat between Advisory Board Chairman Keith Krach and Member General Stanley McChrystal (Retired).

## Tech Salons



Director Bonnie Glick poses with participants LTG Mark Bowman and Anurag Varma of Infosys following a November roundtable discussion on semiconductors, which brought together experts from both industry and government.

## Ambassador Distinguished Lecture Series



In partnership with Purdue's College of Engineering, we bring ambassadors from allied countries to Purdue's campus to educate students on the art of diplomacy. In the final quarter of 2021, we hosted Swedish Ambassador Karin Olofsdotter (pictured above), former Indian Ambassador Rajendra Abhyankar, and Center Director Bonnie Glick.

## Friends and Allies

At the Center for Tech Diplomacy at Purdue, our desire to build partnerships across industry, academia, think tanks, and with diplomatic partners, rests on an understanding of this key principle: "People support what they help create." From our official launch on the margins of last September's United Nations General Assembly at the Concordia Annual Summit in New York City to co-hosted events with DC-based think tanks and companies to media partnerships, the relationships created in our first year have both amplified our work and furthered our mission.

### In 2021 we created ties with over a dozen partners and allies, including:

- ▶ Atlantic Council
- ▶ Australian Strategic Policy Institute
- ▶ BGR Group
- ▶ Bipartisan Policy Center
- ▶ Bogota Chamber of Commerce
- ▶ Concordia
- ▶ Dentons DC Office
- ▶ Embassy of Australia
- ▶ Embassy of Brazil
- ▶ Embassy of Estonia
- ▶ Embassy of Finland
- ▶ Embassy of Israel
- ▶ Embassy of Japan
- ▶ Embassy of Singapore
- ▶ Embassy of Sweden
- ▶ Korea Foundation
- ▶ NineTwelve
- ▶ Purdue University
- ▶ Schmidt Futures Foundation
- ▶ Taiwan Economic and Cultural Representative Office
- ▶ U.S. Department of Commerce
- ▶ U.S. Department of State

# Tech Sectors Explored by the Center for Tech Diplomacy at Purdue

The Center for Tech Diplomacy is bridging the gap between emerging technology innovators and policymakers. While not an exhaustive list, below are several core tech sectors for focus.



## 5G/6G/Next Generation Wireless

- ▶ 5G now and 6G in the future represent the next generation of trusted connectivity.



## Artificial Intelligence (AI)/Quantum Computing

- ▶ Authoritarian regimes use AI to repress freedoms of their own citizens and export those technologies to other authoritarian nations.
- ▶ Positive applications of AI must advance rather than suppress freedom.



## Digital Currency/Cryptocurrency

- ▶ Security driven by blockchain.





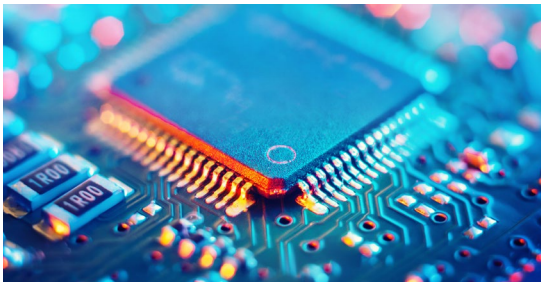
## Energy/Climate

- ▶ Climate goals in developed countries should be shared with developing countries.
- ▶ Responsible extraction of minerals must adhere to human rights.



## Hypersonic Technologies

- ▶ Hypersonic technology will play a vital role in the future of space exploration.
- ▶ Potential military use of hypersonics presents defense challenges and opportunities.



## Semiconductors

- ▶ Next generation chips designed and developed in the United States.
- ▶ On-shore, near-shore, and allied-shore multiple aspects of the supply chain.
- ▶ Semiconductor graduate degree offering at Purdue University.



## Synthetic Biology

- ▶ Harnessing bioengineering to create solutions for challenges today and in the future.
- ▶ Planning and preparing for the next epidemic or pandemic.

# Training

The Center for Tech Diplomacy at Purdue wants to ensure that U.S. lawmakers, policymakers, and diplomats are able to understand emerging technologies and make informed laws and policy decisions. In partnership with Purdue University, we are developing training programs focused on emerging tech sectors that are vital to U.S. foreign policy and national security interests. These include 5G/6G, the semiconductor industry, hypersonic systems, artificial intelligence, quantum computing, synthetic biology, and others. As new technologies emerge, we will enhance our training portfolio to keep up to date on the most relevant topics for international engagement.

The Center for Tech Diplomacy training programs are designed for busy professionals who are not technical experts. Technical subject matter experts and staff with policy backgrounds will design the courses together to ensure that relevant information is packaged and delivered with maximum efficiency.

Our training programs will be offered in a variety of ways, from asynchronous, self-paced, short-term courses, all the way to intensive, in person, instructor-led modules in which several trainees will have the opportunity to analyze issues and receive training as a cohort.

We welcome the opportunity to speak with interested partners to develop customized training programs.

## Tech Diplomacy Training Programs

### Asynchronous

- ▶ Self paced, individual progress
- ▶ Access online at any time, anywhere
- ▶ Available to one trainee at a time or for a group

### Hybrid

- ▶ Access online
- ▶ Instructor-led
- ▶ Offered on demand, based on client needs
- ▶ Available for a group of trainees
- ▶ Students benefit from discussion and learn from each other as a cohort

### In Person

- ▶ At client location or at one of the Center's locations (in Washington, DC or West Lafayette, IN)
- ▶ Customized content
- ▶ Subject matter experts facilitate exceptional training and thought-provoking discussion
- ▶ Networking opportunities among participants
- ▶ Participation in simulations
- ▶ Evaluation of technology understanding with pre- and post-course assessments

- Notes:**
- ▶ Training materials and delivery methods optimized for non-technical trainees working in diplomacy and foreign policy
  - ▶ Course materials updated continuously
  - ▶ Access to world class experts
  - ▶ Access to library of relevant reading materials, statistics, and data sources
  - ▶ Benefits from network of participants and alumni
  - ▶ Certificates available upon completion

# Center Advisory Board



## **The Honorable Bonnie Glick**

Center for Tech Diplomacy at Purdue Director, Former Deputy Administrator and Chief Operating Officer of the U.S. Agency for International Development



## **The Honorable Daniel S. Goldin**

Longest Serving NASA Administrator, Founder and CEO of Cold Canyon AI



## **Mung Chiang**

Center for Tech Diplomacy at Purdue Founder, Executive Vice President and John A. Edwardson Dean of the College of Engineering, Purdue University



## **The Honorable Robert Hormats**

Former U.S. Under Secretary of State, Managing Director of Tiedemann Advisors



## **The Honorable Keith Krach**

Center for Tech Diplomacy at Purdue Advisory Board Chairman, Former U.S. Under Secretary of State, Chairman and CEO of DocuSign and Ariba, Chairman of Purdue Board of Trustees



## **Mary Kissel**

Former Senior Advisor to the U.S. Secretary of State, EVP and Senior Policy Advisor of Stephens Inc.



## **The Honorable Susan W. Brooks**

Former Member of Congress



## **Stanley McChrystal**

Retired General, Founder and CEO of McChrystal Group



## **Marc Carlson**

Managing Director of 3 Points Partners



## **The Honorable Leon Panetta**

Former Member of Congress, U.S. Secretary of Defense, and Director of the Central Intelligence Agency



## **William Elmore**

Co-Founder and General Partner of Foundation Capital



## **David Reingold**

Justin S. Morrill Dean of the College of Liberal Arts, Purdue University

# Center Fellows

## Senior Visiting Fellows



### **The Honorable Rajendra Abhyankar**

Former Indian Ambassador to the European Union



### **Simone Ledeen**

Founder of Perimus Consulting LLC, Former Deputy Assistant Secretary of Defense for the Middle East



### **Dr. Kaush Arha**

Former Senior Advisor for Strategic Engagement and Clear Choice Coordinator at the U.S. Agency for International Development



### **The Honorable Nazak Nikakhtar**

Partner at Wiley Rein LLP, Former Assistant Secretary of Commerce



### **Dr. Edward Barth**

Business Development Executive at IBM Research



### **The Honorable Manisha Singh**

Former Assistant Secretary of State



### **Alexis Bonnell**

Emerging Technology Evangelist for Public Sector at Google Cloud, Former Chief Innovation Officer of the U.S. Agency for International Development



### **Bret Swanson**

Founder of Entropy Economics LLC



### **The Honorable Frank Fannon**

Managing Director of Fannon Global Advisors, Former Assistant Secretary of State

## Center Fellows *(Cont'd)*

### Senior Research Fellows



**Dan DeLaurentis**

Professor of Aeronautics and Astronautics,  
Purdue University, Chief Scientist,  
Department of Defense Systems  
Engineering Research Center (SERC)

### Senior Media Fellows



**Kevin Cirilli**

Former Bloomberg News Chief  
Washington Correspondent

## Center Staff



**Naofa Noll**

Director of External Relations



**Cristina Farmus**

Operations Director



**Kennedy Lee**

Special Assistant to the Director



## 2022 and Beyond

The Center for Tech Diplomacy at Purdue will launch exciting new programs in the year ahead as we continue our work to bridge the gap between innovators and policymakers. A core line of effort will be providing training to decision makers, lawmakers, diplomats, and other stakeholders to translate complex emerging technologies into digestible, actionable language that they can understand and communicate effectively. We will continue to engage the research and policy communities to highlight emerging technologies and their importance for America's diplomatic outreach.

America and its allies must continue to promote technology in ways that advance freedom. We will focus on areas such as hypersonic technology, artificial intelligence, synthetic biology, digital currencies, 5G/6G, advanced manufacturing, semiconductors, climate and clean energy, rare earth elements, and other cutting edge research that will change the world. At the Center for Tech Diplomacy, we will make the case for continued advanced research and for continued American and allied investment in it. Through the U.S. Innovation and Competition Act, America will demonstrate its commitment to lead in technology development and deployment around the world to make it a better and safer place for all people, no matter where they live.

We are the only tech tank uniquely focused on the cultivation of "tech-statecraft," and as we plan for the future, we are devoted to promoting a 21st century where democratic principles and trusted technologies advance freedom.

*“Tech diplomacy is a new frontier of foreign policy, as engineering and science drive innovations crucial to national and global policies today. Purdue is uniquely positioned to provide thought leadership in this emergent field, drawing together the best thinking of the Silicon Valley tech sector and policymakers in Washington, D.C. The Center for Tech Diplomacy at Purdue will be a ‘cradle of tech diplomacy,’ contributing to U.S. foreign policy debates with technology expertise.”*

**— Mitch Daniels**

President of Purdue University  
Chairman of the Purdue Research Foundation

*“Technology can, and should, make the lives of people living around the world fundamentally better. The United States and our allies have access to the greatest technological advances available. As they are deployed around the world, we have seen people’s lives improve. We should all be proud of this. The world’s most complex problems can be solved through collaborations between government, industry, academia, and our allies—this is called Tech-Statecraft, it’s what we’re all about.”*

**— Bonnie Glick**

Director, Center for Tech Diplomacy at Purdue





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