TECH POLICY: THE NEXT TEN YEARS

DECEMBER 2024

EXECUTIVE SUMMARY

In October 2024, Princeton University's Center for Information Technology Policy (CITP) convened leading scholars, practitioners, and policymakers to examine the trajectory of technology policy over the next decade. The conference featured two main panels, a keynote address by Federal Communications Commission (FCC) Chairwoman Jessica Rosenworcel, and a showcase of current research by CITP fellows and students. This report summarizes the main takeaways from the conference. Videos of the conference are available for viewing on the CITP website.

We are at a pivotal moment in technology policy: While significant progress has been made in recognizing and addressing technology's societal impacts over the past decade, fundamental challenges remain in developing effective governance frameworks for emerging technologies.

CITP Director Arvind Narayanan opened the conference by observing that 2024 is a good time for tech policy in the United States: despite persistent challenges, there has been meaningful progress in enforcement, state-level regulation, and corporate responsibility. While there are myriad challenges to address, he noted that this also means that there are many opportunities for smart, competent, well trained and enthusiastic and energetic people to enter into the space.

FCC Chairwoman Jessica Rosenworcel sharing keynote remarks

A COLLABORATIVE APPROACH

A core insight from the conference is that **effective technology policy** emerges through actions taken in multiple complementary channels. These actions include:

Academic research identifying emerging issues and shaping public understanding;

Policymakers building new regulatory frameworks and leveraging existing authorities to promote accountability;

Mission-driven companies demonstrating the viability of alternative business models;

Industry developing responsible practices and self-regulatory frameworks;

Engineers developing technical solutions to seemingly intractable problems;

Civil society participating in research, advocacy, and direct engagement.

There are also significant challenges in promoting effective policy. These include gaps in technical expertise in government, continuing legislative gridlock at the federal level, balancing innovation with responsible development, and the challenge of international cooperation amid geopolitical competition.

Success in the next decade will require leveraging all available pathways to change while building new models of governance that can adapt to rapid technological evolution.

I. THE CURRENT STATE OF TECH POLICY

Evolution from Techno-Solutionism to Tech Realism

The technology policy landscape has transformed dramatically over the past decade. Narayanan talked about how 2014 represented a markedly different era - one where the power and responsibility of tech companies was not yet clear to the public and policymakers. At the time, for example, researchers who raised concerns about algorithmic bias were often met with skepticism. "How could math be biased?" was a common response. The period since has seen a shift from uncritical techno-optimism to a more nuanced understanding of technology's impacts and the need for governance.

Major developments include:

Growing recognition that poorly designed digital technology can harm individuals, businesses and communities;

Widespread adoption of computing ethics and tech policy courses in universities;

Increased enforcement action by federal agencies, state attorneys general, and regulators;

Emergence of state-level privacy legislation and AI regulation, with 700 AI-related bills introduced in state legislatures in 2024 alone.

CITP Director Arvind Narayanan sharing opening remarks

Emerging Regulatory Frameworks

Several speakers highlighted areas of recent initiatives in regulating technology. These include:

State-Level Innovation: States have become "laboratories of democracy" amidst federal gridlock. Colorado, California, and Virginia in particular have emerged as leaders in privacy and AI regulation. Twenty states have passed comprehensive privacy legislation in recent years.

Executive Action: At the federal level, despite the general lack of Congressional action, the executive branch has demonstrated significant engagement through multiple strategic initiatives. These efforts include the introduction of the AI Bill of Rights, a comprehensive Executive Order on Safe, Secure, and Trustworthy AI that directs 30 different agencies to take specific actions, the CHIPS and Science Act aimed at jumpstarting semiconductor manufacturing, the creation of the AI Safety Institute, the AI Talent Surge which has brought over 250 AI practitioners into federal government roles, and targeted enforcement actions addressing antitrust and consumer protection issues. These varied approaches reflect a proactive stance in shaping the technological landscape and ensuring responsible AI development and deployment.

International Frameworks: The recent UN Global Digital Compact recognizes the need for multi-stakeholder governance of digital technologies. Anne-Marie Slaughter highlighted how, for the first time, all 193 UN member states have formally acknowledged the need to collaborate with non-governmental actors - including private sector companies, civil society organizations, academic institutions, and technical communities - in shaping digital policy. She explained that this departure from traditional state-centric diplomacy, while seemingly subtle, marks a significant change in UN protocol.

Persistent Gaps and Challenges

Despite this progress, the conference panelists observed that significant challenges remain:

1. Limited Federal Legislation
The continued lack of federal data privacy legislation in the United States represents a significant gap in our digital governance framework. As Alondra Nelson points out, while members of Congress have repeatedly introduced *"smart, appropriate technology legislation",* the challenge lies not in the quality of these bills but in the political gridlock preventing their passage. This legislative paralysis has made the U.S. a notable outlier, with other countries and the European Union viewing America as significantly behind the curve. Nelson argued that a comprehensive federal privacy law should be viewed as a fundamental digital Bill of Rights for citizens - a basic set of protections that has become essential in our modern, data-driven world.

2. Technical Expertise Gap
Ed Felten highlighted a critical deficit of technical expertise in government that often results in broad-brush policy approaches that may miss important technical nuances, while also causing policy making to devolve into mere negotiation among companies. Felten cites the example of the idea that all applications of facial recognition are bad and is used to paint a very broad brush about particular areas of technology. When we do that, he argued, we *"not only risk landing on the wrong policy, but we also undermine important policy goals because even these cutting edge, dual use, high risk, high reward type of technologies can provide a lot of solid value if they're applied to certain problems in certain ways."* Additionally, this expertise gap has led to missed opportunities for technology-enabled solutions that could benefit society. The problem is further compounded by the difficulty government officials face in evaluating company claims about technical capabilities, particularly due to a lack of transparency in these assessments.

3. **Weak Incentives for Corporate Responsibility**
   Chloé Bakalar, drawing on her experience as Chief Ethicist at Meta explained that *"as the rate of technological advancement far outpaced the speed with which regulation could reasonably be passed, companies started leaning on self regulation based on normative principles and values to help guide their impact on people, groups and societies."* The tech industry has faced significant structural changes in the aftermath of the COVID-19 pandemic. Companies of all sizes, from large enterprises to small and medium-sized firms, have undergone notable contractions and shifts in their operational models. The pendulum also appears to be swinging away from increased AI responsibility and accountability. This raises concerns that the tech industry is backsliding on crucial issues of AI safety, ethics, and societal impact at a critical juncture as we enter the era of widespread use of generative AI systems.

4. **Policy Engagement Gap for Small and Medium Tech Companies**
   A significant but often overlooked issue is the exclusion of small and medium-sized tech companies from policy discussions. These discussions tend to be dominated by larger tech firms. Except for mission-driven companies, most smaller firms lack the personnel and resources to actively participate in policy making. This results in a policy agenda heavily influenced by larger companies that have dedicated policy teams. These teams are equipped to effectively package and communicate their policy positions, identify and engage with relevant stakeholders, and ultimately shape policy outcomes through various means. Ed Felten and **Pablo Chavez** emphasized that it is crucial for smaller companies to develop a practical understanding of how to interact with the government and the policy ecosystem. This goes beyond basic civic knowledge and is essential for their effective participation in policy discussions.

5. **Changed Government Incentives for Oversight:**
   Alondra Nelson highlighted a fundamental shift in the technology landscape: unlike previous eras when government agencies like DARPA led technological innovation, most research and development now happens in the private sector. This shift creates several challenges, including decreased public oversight, limited government influence over early-stage development, and reduced transparency as innovation occurs within corporate environments rather than public institutions. The situation becomes more complex with "dual use" AI and quantum technologies that serve both civilian and military purposes, particularly as the new AI Safety Institute (AISI) forms closer ties with the Department of Homeland Security and gains access to advanced AI models from companies like OpenAI and Anthropic.

   Nelson warns that this blurring of lines between civilian and military applications could threaten civil liberties and democratic transparency, as national security imperatives may be used to justify expanded surveillance capabilities. Looking ahead, she emphasizes that the next decade will require careful balance between competing priorities: maintaining robust governance and transparency while addressing legitimate concerns around intellectual property protection and national security. Without this balance, Nelson cautions, we risk enabling the growth of widespread surveillance systems that erode traditional boundaries between public and private spheres.

6. **Changes in Legal Review**
The Supreme Court's recent Chevron decision has created new uncertainties about regulatory authority. As Paul Ohm noted, ***"50-plus years of believing in the expertise and necessity of expert administrative agencies has now seemingly been thrown away."*** This poses particular challenges for technical regulation where agency expertise is crucial.

7. **Environmental Sustainability**
The perception of technology has shifted dramatically since 2014, when the climate impact was viewed as something inconsequential. Today, particularly with the emergence of large language models and data centers, the significant energy demands of digital infrastructure have come into focus. This reality makes sustainability an critical component of technological development, including efforts to find alternative energy solutions such as small nuclear reactors, fusion technology, and hydrogen power. Technology policy spans both national and global scales, with energy consumption at its core, making it impossible to separate technological advancement from environmental considerations.

8. **Digital Divide**
The FCC is working to close the digital divide, recognizing it as an urgent issue for the agency to address. Anne-Marie Slaughter noted that the digital divide is just as big within the U.S. as it is between the U.S. and other countries. Highlighting the agency's enduring principle of universal communications access, Chairwoman Rosenworcel emphasized that enabling all Americans to participate in the digital economy and civic life is not just an equity imperative, but vital for the nation's economic and security interests, stating that "nothing is more fundamental than the principle that communications should be available for all."

The FCC has invested in developing more precise maps of broadband coverage. It has also developed programs that support broadband in areas where the infrastructure is lacking in rural and urban areas. Unfortunately, Chairwoman Rosenworcel noted, the agency's Affordable Connectivity Program (ACP) which helped low income households get online and stay online, was not renewed by Congress. The FCC also revamped the E-Rate program, making it possible for schools and libraries nationwide to loan out wireless hotspots to anyone who needs them.

9. **New Domains: Space Infrastructure**
In her keynote address, FCC Chairwoman Jessica Rosenworcel explained that in the next 10 years, communications in space will be a key priority for the FCC. The skies above us are a shared global resource, and the agency will need to collaborate closely with international partners to navigate these emerging challenges. The integration of space and terrestrial networks will require substantial spectrum coordination through international bodies like the International Telecommunications Union.

Currently, there are over 10,000 satellites already in orbit, with an astounding five times that number of satellite applications pending before the FCC. In the not-too-distant future, the agency envisions integrating space-based communications seamlessly into our terrestrial networks. This could include using satellite connectivity as a backup for mobile devices when ground-based systems are unavailable, such as during disasters.

II. THEORIES OF CHANGE: MULTIPLE PATHS TO INFLUENCE POLICY

The conference panelists discussed how there are multiple pathways to influence tech policy, each with distinct advantages and challenges. Through case studies and personal experiences shared by speakers, several models emerged for achieving meaningful policy change through complementary pathways.

Academic Research and Public Voice

Zeynep Tufekci shared a personal anecdote from her early work at CITP that illustrated both the power and challenges of independent voices. In 2012, she published a New York Times op-ed calling for regulation of Facebook because it could manipulate voters at a time when the platform was being celebrated as a democratizing force. She subsequently heard that the Obama White House attempted to silence her criticism of the potential political misuse of social media. Tufekci recalled being told that her concerns about manipulation by conservatives were not credible because **"data scientists were all in climate science."** Yet by 2016, Tufecki's original observations were vindicated by conservatives using social media effectively.

This experience highlighted several key insights about achieving change through academic work:

Zeynep Tufecki (left) speaking during Panel 2: Theories of Change

The importance of institutional protection (tenure, academic freedom) in enabling critical voices

How change often appears impossible until it suddenly becomes inevitable

The value of maintaining independence from corporate funding

The need to look beyond immediate metrics to systemic impacts

Government and Regulatory Innovation

Ed Felten emphasized that effective technology policy requires moving beyond what he termed *"thinking like a regulator"* - focusing solely on what needs to be stopped or controlled. Instead, he argued for approaches that identify opportunities to enable positive technological development, build technical capacity within government, create frameworks that work for companies of all sizes, not just tech giants, and address the "long tail" of technology impact across all sectors.

Recognizing the finite nature of electromagnetic spectrum, a core FCC domain, Chairwoman Rosenworcel called for the agency to develop more dynamic and flexible models of spectrum allocation and usage. She explained that the FCC will need to move beyond the traditional licensed-versus-unlicensed divide, envisioning hierarchies of spectrum rights, real-time access assignment, and incentives for sharing, in order to unleash the full potential of wireless connectivity.

This flexibility is especially crucial as the total number of wireless connections is poised to grow exponentially, not just between people, but also between people and devices, as well as among the devices themselves. The FCC will need to implement these more dynamic and adaptive spectrum management approaches to keep pace with the explosion of wireless connectivity.

Combined, these efforts are pioneering work to create a "single network future" that leverages both satellite and ground-based connectivity to deliver ubiquitous, high-quality wireless access for all.

> **"We're going to have to be creative and develop far more dynamic spectrum access models...Just having a binary system with one model for exclusive use and another model where we let everyone in - we're going to have to explore what else we can do with hierarchies of rights within spectrum bands, systems that assign access to spectrum in real time, and incentives to share airwaves that are underutilized."**
>
> **- Chairwoman Jessica Rosenworcel**

Corporate Leadership and Ethics

Chloé Bakalar highlighted how corporate ethics work can be meaningful when:

Ethics and policy teams maintain some independence within companies

External academic appointments provide additional perspective

Interdisciplinary expertise is brought to bear on emerging challenges

Early intervention prevents problems before they scale

However, as multiple speakers noted, corporate incentives often work against meaningful change. Pablo Chavez described this as finding *"the intersection of your idealism and pragmatism"*, while acknowledging that corporate structures and incentives can make this challenging. Both Ohm and Tufekci noted the ways that good, privacy minded people go into companies and get lost under the incentive structure. Tufekci explains how at companies like Meta, even the smallest junior level engineering decision can end up having enormous impacts. She encourages people who work in this space to *"take the time to really assess their own red lines, their own moral boundaries, their own values, and to do it regularly."*

Alternative Models:
Technical Solutions and Mission-Driven Companies

Several speakers highlighted the importance of demonstrating alternative approaches through technical solutions and business models.

Technical solutions such as Apple's Secure Enclave service as an example of privacy-preserving technology. We need privacy-enhancing technologies that change fundamental trade-offs, as well as open-source alternatives to proprietary systems.

Mission-Driven Companies
Early in his career, DuckDuckGo founder Gabriel Weinberg observed that many peers were gravitating towards traditional paths like academia, large corporations, and government, but far fewer were choosing to work at small, mission-driven tech companies. Seeing a significant gap in the market for search engines that respected user data, he launched DuckDuckGo.

His theory of change was that smaller, purpose-driven firms could potentially serve as high-leverage agents of change. At DuckDuckGo, Weinberg and his team have drafted legislation, developed industry standards, and pursued other unconventional avenues aligned with their mission. Weinberg is driven by a desire to achieve meaningful, large-scale impact - the kind that can only come from dedicated teams at mission-driven startups, rather than more traditional tech companies. By filling this gap and empowering smaller, purpose-led companies, Weinberg believes they can catalyze important changes that might not have happened through more conventional channels.

Public Interest Technology
Anne-Marie Slaughter emphasized the need to build a field of public interest technology, similar to that of public interest law, which was created by the Ford Foundation and other funders in the 80s. Slaughter explains that it didn't just exist. *"It was the idea that if you were a lawyer, you of course could go to a big firm, you could go to the government, but you could also go to any number of nonprofits to pursue policy and law. And we wanted to do and are part of the movement to build that in technology."*

To build a public interest technology field, we must prioritize creating sustainable career paths, building institutional support, and developing funding models.

Civil Society and Multi-stakeholder Engagement

Civil society has emerged as crucial actors in shaping technological accountability, playing pivotal roles in building public interest technology, informing the public about critical digital issues, and holding companies responsible through strategic engagement.

The conference underscored this impact by highlighting successful collaborative models, such as labor organizations partnering with researchers to drive platform accountability and the development of international governance frameworks that recognize the importance of multi-stakeholder approaches. These examples demonstrate how collaborative efforts across different sectors can create more transparent, ethical, and responsive technological ecosystems, moving beyond traditional adversarial dynamics to foster meaningful dialogue and structural change.

However, Slaughter noted that stakeholder inclusion is just a first step. While the stakeholder model has been valuable in broadening policy participation, emerging technologies also offer opportunities to engage citizens directly in democratic processes. Rather than limiting ourselves to institutional intermediaries, there is an opportunity to use digital tools to enable more direct forms of democratic participation over the next decade.

Key Lessons for Achieving Change

Several core principles emerged for effective policy impact throughout the day.

1. **Multiple Leverage Points:** Change requires simultaneous action through multiple channels and stakeholders, different approaches can reinforce each other with a need for both inside and outside strategies.

2. **Incentive Structures:** To achieve meaningful structural changes, we must recognize how corporate profit motives and competitive pressures shape institutional behavior. While individual good intentions matter, effective policy interventions will be essential to drive real transformation. Zeynep Tufekci gave a solar example to compare: ***"If you want solar panels, you do not go back to Exxon Mobil to be nicer. You change the taxation, you subsidize some things, you create a market."***

3. **Technical Solutions:** Different business models like DuckDuckGo can demonstrate the possibilities for companies to grow with public interest intentions, alternatives to the incentive structure in most companies today.

4. **Long-term Perspective:** This effort must be sustained over time via expanded institutional capacity and incremental progress while pursuing systemic change.

II. CROSS-CUTTING THEMES AND CRITICAL INSIGHSTS

The Changing Nature of Technology Policy

Tech policy has quickly become a central area of policy from the U.S. and international governance perspective. A fundamental insight that emerged throughout the conference was how technology policy has evolved from a specialized domain to what Alondra Nelson termed both a "vertical" and "horizontal" concern. As she explained, *"Today and in the next decade, nearly every domestic and international policy issue is at the same time a technology policy issue."* This spans domains including:

Healthcare: Questions of electronic health records and AI in clinical practice

Agriculture: AI-driven crop optimization and bioengineering

Criminal justice: Facial recognition and algorithmic decision-making

National security: State-level surveillance and geopolitical competition

Education: Educational technology and student privacy

Climate and energy policy: Green technologies and energy efficiency

Housing: Algorithmic access to mortgages and rental housing

Labor rights: Automation and algorithmic management

Democratic processes: Election security and information integrity

Transparency Requirements

As multiple panelists highlighted, current transparency measures governing the development and deployment of AI technologies are often woefully inadequate. There is a pressing need for meaningful disclosure requirements that work in practice, providing external stakeholders and the general public with a clear window into the capabilities and limitations of these systems. Moreover, the ability for independent auditors and researchers to access and assess AI systems is crucial for building public trust and ensuring alignment with the broader public interest.

Building Public Trust

Disclosure-based approaches are an essential starting point for responsibly managing the rise of generative AI and maintaining public trust in digital information. Building on this, the FCC has proposed disclosure requirements for the use of AI in robocalls, robotexts, and political advertisements on radio and television. Chairwoman Rosenworcel explained that by focusing on transparency first, the agency is not seeking to restrict speech or technology, but rather to create a new legal and social norm - the principle that when AI is being used, the public deserves to know.

Rosenworcel addressed the surge of public attention on generative AI, emphasizing transparency as the essential starting point. She outlined the FCC's proposals to require disclosure whenever AI technology is used in certain applications, arguing that this is crucial for maintaining public trust in the digital information ecosystem. Specifically, the FCC has unanimously adopted a rule making clear that artificial or prerecorded robocalls using AI voice cloning technology violate the law. One individual who sent such a call is now subject to a $6 million FCC fine as well as prosecution by the New Hampshire Attorney General.

Institutional Development and Capacity: Evolution of Technical Education

Paul Ohm highlighted a fundamental tension in how we train technologists today. The core computer science curriculum emphasizes rigid, formalistic thinking, with efficiency being the paramount concern - exemplified by the mandatory algorithms course that every undergraduate takes. While there is growing recognition of the need for ethical training, this technical focus collides with sporadic attempts to introduce humanistic, flexible thinking through isolated courses. This raises questions about whether we're "trying to teach ethics to students who normally wouldn't kind of find ethics to be their calling." While this tension occasionally produces innovative solutions, such as differential privacy or research on dark patterns, more often it results in a frustrating clash of priorities. Unfortunately, the emphasis on technical efficiency typically prevails over humanistic considerations, highlighting a persistent challenge in preparing future technologists to consider broader social implications of their work.

Iterative Approaches

To regulate the tech space, we need to develop a totally different collaborative strategy for how we craft and build laws that are meant to last shorter periods of time and are able to be iterated upon. Alondra Nelson argued for a fundamental shift in how we approach technology regulation:

Moving away from the assumption that good laws should last decades. Policies are particularly anchored to a moment in time, as seen in examples such as the Communications Act of 1996.

Adopting iterative versioning approaches similar to NIST's AI frameworks with strong technical foundations and definitions.

Creating more flexible and adaptable regulatory tools.

Recognizing the rapid pace of technological change.

Role of Standards and Technical Solutions

Princeton Provost Jennifer Rexford's discussion of her work on Internet infrastructure security demonstrates an alternative approach to traditional regulation, including the use of technical standards to achieve policy goals, the importance of sustained advocacy and stakeholder engagement, the role of public interest technology in creating solutions, and the need for technical expertise in policy development. She emphasized that not only technology and policy makers, but domain expertise in important areas is needed where these technologies are being applied.

Rexford explains to the audience that looking back on her 20 years at Princeton, she is very excited about how nobody would question today how important it is for technologists and policy makers to come together.

Provost Jennifer Rexford sharing opening remarks

International Dimensions and Approaches
Contrasting Regulatory Models

U.S. Model: the U.S. approaches tech policy with sector-specific regulation, focusing on demonstrated existing harms and emphasizing enforcement. State-level regulation has a strong role. In the United States, the First Amendment's protection of free speech has been leveraged to challenge and obstruct certain legislative efforts to address emerging digital issues. Organizations such as NetChoice, as well as rulings by the Supreme Court, have utilized free speech arguments to oppose or enjoin laws targeting concerns like deepfakes.

European Model: the EU, in contrast, has created comprehensive regulation like the GDPR and AI Act that takes a precautionary approach, and implements stronger privacy protections, weighing the balance of mitigating harm against upholding free speech principles. This value framework has enabled Europe to enact more comprehensive technology regulations compared to the United States.

Anne-Marie Slaughter (left) speaking during Panel 1: The Opportunity Ahead and Paul Ohm (right)

Global Cooperation Challenges

Anne-Marie Slaughter highlighted the tension between competition and cooperation, especially in the context of U.S.-China relations. While global challenges such as climate change necessitate increased international cooperation, there is a risk of technology nationalism undermining collaborative efforts to develop solutions. Slaughter emphasizes the critical importance of maintaining open scientific collaboration across borders, as diverse global perspectives are essential for informing effective policy responses.

II. LOOKING AHEAD: RECOMMENDATIONS FOR ACTION

Drawing on the multiple theories of change discussed at the conference and the concrete challenges identified through research and practice, several clear priorities emerge for the next decade of technology policy.

Short-term Priorities

Several core principles emerged for effective policy impact throughout the day.

1. **Building Technical Capacity in Government**
   To bolster the government's ability to effectively navigate the technology policy landscape, a multi-pronged approach is needed. First, policymakers should expand programs like the AI Talent Surge, which aim to attract top technical talent to serve in government roles. Complementing this, the development of comprehensive training programs for existing government staff will be crucial to upskilling the current workforce. Additionally, creating attractive career paths for technical experts within government can help retain this valuable expertise.

2. **Supporting State-Level Innovation**
   The government should continue to support state-level policy experimentation, recognizing that states can serve as laboratories for innovative approaches. Facilitating knowledge sharing between states on successful tech policy initiatives will enable the scaling of best practices. Building robust mechanisms to scale successful state-level programs to the national level can accelerate the adoption of effective policies.

Alondra Nelson (left) speaking during Panel 1: The Opportunity Ahead and Ed Felten (right)

Long-term Strategic Initiatives: Fostering Multi-stakeholder Engagement

1. **Education and Training**
To cultivate a pipeline of technology policy experts, it will be necessary to rethink computer science education, integrating ethical considerations more deeply. Developing interdisciplinary technology policy programs at universities can prepare the next generation of policymakers. Creating clear pathways for technologists to engage in the policy sphere will be crucial.

2. **Public Interest Technology**
Investing in the development of public interest-aligned technology solutions can help ensure that innovation serves the broader societal good. Sustainable funding models for this work, building institutional support structures, developing career pathways, supporting research and development of alternatives, as well as support for research institutions tackling policy-relevant technical challenges, will be essential.

3. **International Coordination**
As technology issues transcend national borders, developing frameworks for global technology governance will be critical. Building on momentum from the UN Global Digital Compact, this involves developing frameworks for global technology governance, balancing national interests with global needs, supporting international technical standards, and creating mechanisms for cross-border oversight. Building mechanisms for international collaboration on shared challenges, while balancing national interests with global needs, will be a key long-term priority.

4. **Civil Society Engagement**
Strengthening the role of civil society organizations includes supporting independent research and oversight, building capacity for technical analysis, creating channels for public participation, and facilitating partnerships with researchers.

A counterpoint to stakeholderism is instead of relying on stakeholder representation, a more direct and effective approach would be to simply listen to people directly, given the ubiquity of the internet as a medium for gathering public input.

Strengthening Traditional Policy Levers and Enforcement Mechanisms

Effective enforcement of tech policy will require a collaborative effort between federal and state agencies. Supporting state attorneys general in their technology policy enforcement efforts can amplify impact. Equipping regulators with specialized technical tools for oversight and monitoring will also be critical. Enhancing coordination between federal and state agencies working on these issues will be key to ensuring coherent and impactful enforcement.

Even without new legislation, agencies can use existing authorities more effectively through the creative application of unfair practices authority, the development of technical tools for oversight, enhanced coordination between federal and state agencies, and the use of rulemaking authority to establish clear standards.

Creating Alternative Models and Solutions

1. **Technical Solutions to Policy Challenges:** As demonstrated by several examples at the conference, this includes developing privacy-preserving technologies, creating open-source alternatives, building auditing and oversight tools, and demonstrating the feasibility of alternative approaches.

2. **Market Alternatives:** Supporting the development of mission-driven alternatives involves creating space for smaller players through antitrust enforcement, supporting public benefit technology companies, and developing sustainable business models for ethical technology.

Alternative Regulatory Approaches:

Tufekci suggested that we can create alternative structures to regulate AI, such as FDA-style oversight. The AI sector requires clear "rules of the road," where products could be recalled promptly upon the detection of potential harms or safety risks, akin to the way the FDA regulates food and drug safety.

Prudent regulation, modeled on successful precedents, can in fact enable the responsible advancement of transformative technologies.

FCC Chairwoman Rosenworcel underscored the imperative of investing in digital trust, particularly as the number of internet-enabled devices is poised to reach one trillion in the coming years. To address this challenge, the FCC has introduced a new Cyber Trust mark labeling program.

> "It is very, very hard to keep mass food production from killing people all the time. In the beginning, it was killing people all the time. When people say AI is very hard, it can't be regulated, I'm like, have you ever looked at a plant inspection report of a food plant?"
>
> - Zeynep Tufecki

Rosenworcel asserted that this initiative will empower consumers to make informed choices about the security and privacy of smart home products. When the Cyber Trust mark is displayed on a device, it will signify that the product has been certified to meet certain robust cybersecurity standards. Today, there are already billions of Internet of Things (IoT) devices in circulation, and Rosenworcel expects that number to multiply dramatically over the next decade, potentially reaching as many as one trillion.

She drew a parallel to the Energy Star program, explaining that just as that label helps consumers identify energy-efficient products, the Cyber Trust mark will guide purchasing decisions by providing clarity on the security and privacy safeguards of IoT devices entering homes and businesses. Manufacturers who take pride in the security and quality of their products will welcome this new Cyber Trust certification program. It offers a way for them to differentiate their offerings in the crowded IoT marketplace and give consumers greater confidence in the tech they bring into their most personal spaces.

Immediate Actions for Different Stakeholders

The conference identified specific steps different actors can take immediately:

Academic Institutions: Expand technology policy research programs, develop new models for industry engagement, support independent research on emerging technologies, and create pathways for technical experts to engage in policy.

Government Agencies: Invest in technical capacity building, develop creative approaches to existing authorities, build partnerships with academic institutions, and support state-level innovation.

Companies: Engage constructively with regulatory frameworks, support the development of technical standards, demonstrate commitment to responsible development, and participate in multi-stakeholder initiatives.

Civil Society Organizations: Build technical capacity for oversight, develop partnerships with researchers, engage in policy development processes, and support public education and awareness.

The path forward requires sustained commitment from all stakeholders, working through multiple channels to create change. Success will require both strengthening traditional policy approaches and developing new models for technology governance that can adapt to rapid technological change while maintaining democratic oversight and public accountability.

Conference attendees speaking during reception

CITP RESEARCH SHOWCASE: CURRENT RESEARCH IN TECHNOLOGY POLICY

The conference featured a series of lightning talks by CITP fellows and students, demonstrating the breadth and depth of current research at the intersection of technology and policy. These presentations highlighted both emerging challenges in technology policy and innovative approaches to addressing them.

Platform Accountability and Algorithmic Impact

Online Targeting and User Control - Jane Castleman presented research on Facebook's shift to AI-mediated ad targeting through their Meta Advantage Plus system. Her work revealed significant gaps between user controls and actual platform practices:

• 67% of local ads displayed only generic explanations for targeting criteria used to send ads.

• The "See Less" ad control proved largely ineffective.

• User-facing controls and explanations haven't kept pace with advances in AI-mediated targeting.

• Platform prioritization of advertiser tools over user control mechanisms.

Auditing Social Media Algorithms - Basileal Imana discussed his work investigating discriminatory practices in Meta's ad delivery. Key findings included:

• Evidence of discrimination in ad delivery across multiple domains including housing, employment, and education.

• Development of "paired ad" methodology to isolate algorithmic bias - comparing ad delivery of two concurrent ads for similar jobs, but for a pair of companies with different de facto gender distributions of employees.

• Contribution to legal actions leading to Meta's Variance Reduction System.

• Proposal for "platform supported auditing" using differential privacy to enable meaningful external oversight while protecting user privacy.

Rideshare Platform Transparency - Varun Rao presented research on algorithmic opacity in rideshare platforms, conducted in partnership with labor organizations:

• Development of the "Fairfair" app to help drivers understand platform take rates and provide transparency about their pay.

• The research's influence on Colorado Senate Bill 2475, the Transportation Network Company Transparency Act.

• Documentation of how algorithmic opacity affects worker earnings and agency.

• Advocacy for broader transparency requirements in platform labor.

AI Safety and Evaluation

Evaluating AI Agents - Nitya Nadgir presented work on evaluating AI systems' ability to automate research tasks:

• Development of CoreBench, a benchmark for testing AI agents' ability to reproduce research.

• Finding that even the best-performing agents could only solve about 20% of tasks.

• Implications for claims about AI's ability to automate scientific work.

• Importance of rigorous evaluation frameworks for AI capabilities.

Adversarial Challenges in AI Safety - Xiangyu Qi's research revealed fundamental vulnerabilities in current AI safety approaches:

• Demonstration of how adversarial attacks can bypass safety mechanisms.

• Evidence that fine-tuning can remove safety guardrails for less than 12 cents.

• Implications for AI regulation and liability.

• Need for deeper, more robust safety mechanisms.

Regulatory Perspectives

State Attorneys General in Tech Policy - Justin Curl, drawing from his experience with the New Mexico Attorney General's office, highlighted:

• Growing importance of state AGs in tech policy enforcement.

• Broad enforcement mandate through unfair practices authority.

• Role in proposing and shaping legislation.

• Need for technical expertise in AG offices.

FTC Experience and Technical Capacity - Sujay Swain and Brooke McCarthy shared insights from their work at the Federal Trade Commission:

• Growing need for technical expertise in regulatory agencies.

• Challenges in evaluating complex technical systems.

• Evolution of consumer protection approaches for new technologies.

• Importance of technical staff in understanding industry claims.

These presentations collectively emphasized several key themes: the need for rigorous, independent research to inform policy; the importance of combining technical and policy expertise; the value of partnerships between researchers and advocacy organizations; and the growing role of technical tools in policy enforcement.

CONCLUSION: THE PATH FORWARD

Technology policy is no longer a specialized domain but rather an infrastructure underlying all policy areas. This reality demands new approaches to governance and new models for achieving change. The next decade of technology policy will require sustained effort through multiple channels to achieve meaningful change.

Success in the next decade will require new models of governance that can adapt to rapid technological change, strong technical capacity within government institutions, effective collaboration between public and private sectors, robust mechanisms for public participation and oversight, and international cooperation on shared challenges. This will require sustained effort from all stakeholders - government, industry, civil society, and academia - working together through multiple channels to create a technological future that serves the public interest.

Conference attendees applauding .

The Tech Policy: The Next Ten Years conference demonstrated both the complexity of achieving meaningful change in technology policy and the variety of pathways through which such change can occur. The challenge ahead is to create a future where technology serves the public interest, supporting democratic values while driving innovation and progress.

Videos of the conference are available for viewing on the CITP website.

Appendix: Conference Speakers

Chloē Bakalar
Chief Ethicist, Meta

Pablo Chavez
Adjunct Senior Fellow, Technology & National Security, Center for New American Society

Ed Felten
Co-Founer & Chief Scientist, Offchain Labs, Emeritus, Robert E. Kahn Professor of Affairs, and the Founding Director of CITP

Arvind Narayanan
Director, CITP and Professor of Computer Science, Princeton University

Alondra Nelson
Harold F. Linder Professor, Institute for Advanced Study

Paul Ohm
Professor of Law; Chief Data Officer, Georgetown Law

Jennifer Rexford
Provost, Professor of Computer Science, and Gordon Y. S. Wu Professor in Engineering, Princeton University

Jessica Rosenworcel
Chairperson of Federal Communications Commission

Anne-Marie Slaughter
CEO, New America

Gabriel Weinberg
Founder & CEO, DuckDuckGo, Inc.

Appendix: Lightning Talk Speakers

Jane Castleman
Computer Science Graduate Student, Princeton University

Justin Curl
Technology Law & Policy Advisor, New Mexico Department of Justice and J.D. Candidate, Harvard Law School

Basileal Y. Imana
CITP Postdoctoral Research Associate, Princeton University

Brooke McCarthy
The Princeton School of Public and International Affairs Undergraduate Student, Princeton University

Nitya Nadgir
CITP Emerging Scholar, Princeton University

Xiangyu Qi
Electrical and Computer Engineering Graduate Student, Princeton University

Varun Nagaraj Rao
Computer Science Graduate Student, Princeton University

Sujay Swain
Electrical and Computer Engineering Undergraduate Student, Princeton University

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