

A Y E A R O F
F O R W A R D
T H I N K I N G



»»»»»»»» What Is A Year of Forward Thinking? »»»»»»»»

A Year of Forward Thinking spans the 2020–21 academic year and engages the entire Princeton University community — alumni, students, faculty, staff and friends — in a global conversation about pioneering solutions for today’s challenges.

forwardthinking.princeton.edu

F O R W A R D >>>>>>>>>>>>>>> F E S T

What Is Forward Fest?

Forward Fest is a monthly online series of discussions with Princeton faculty, students, staff, alumni and other interested thinkers who will explore, engage and develop bold thinking for the future.

How to Use This Resource Guide

Binge as background reading to prepare for the Forward Fest discussions, follow along during the programming and use the information to fuel conversations with Princetonians and others about ideas that merit Thinking Forward together.

forwardthinking.princeton.edu/festival

Schedule of Events

SATURDAY, FEBRUARY 20

10:00 AM – 11:15 AM EST
Alumni Forward Thinkers
on Resilience

12:00 PM – 1:15 PM EST
Alumni Forward Thinkers
on Exploration

[forwardthinking.princeton.edu/
forwardthinkers](http://forwardthinking.princeton.edu/forwardthinkers)

FORWARD THINKERS



Julia Boorstin '00
CNBC Senior Media and
Entertainment Reporter;
Forward Fest moderator



Josh Brankman '99
Executive Director, Outward
Bound USA



Majka Burhardt '98
Professional climber;
conservation entrepreneur,
author and filmmaker



Karen Roter Davis '94
Director, Early Stage Projects,
X, Alphabet's moonshot factory



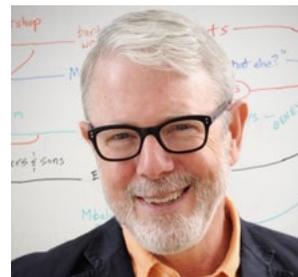
Heather Gerken '91
Dean and Sol & Lillian Goldman
Professor of Law, Yale Law School;
Forward Fest moderator



**Elizabeth R. Henry '88
(Dr. Liz)**
Pediatrician, parent coach,
author and workshop facilitator



Suleika Jaouad '10
Journalist, author and advocate



Richard Preston *83
Author and science/environment
communicator



Roy Swan '86
Director, Mission Investments,
Ford Foundation

THINKING FORWARD: RESILIENCE AND EXPLORATION

PRINCETON ALUMNI know that complexity is challenging. But it is also inspiration to move forward. Resilience and the inquisitive spirit of exploration are qualities that often enable real progress. In the best of times, a willingness to ask new questions and a refusal to be thwarted by temporary failure are drivers of change. But in more difficult times, they become essential tools for recovery. It is no coincidence that some of humanity's greatest advancements emerged from our darkest hours, when the stakes were the highest and the outcome uncertain.

In the face of all that has threatened us in the past year, the Princeton University community has redoubled its efforts to meet the challenges of its day, pushing against barriers, racing against time and imagining a better world. Princetonians who have overcome great obstacles in their lives have mined their resilience – and strengthened that of others – while channeling the courage to be bold and lead the way forward.

“The important thing is not to stop questioning. Curiosity has its own reason for existing.”

– ALBERT EINSTEIN



ALUMNI FORWARD THINKER ON RESILIENCE

Josh Brankman '99

Josh Brankman '99 is the executive director of Outward Bound USA, the national organization governing safety, risk management, national partnerships, strategy and scholarship fundraising for the network of regional Outward Bound schools that serves more than 35,000 students per year. "Our educational framework is built on these outcomes: leadership, character and service," Brankman [wrote](#). "The challenges faced in the outdoors push students into their authentic learning zone." Brankman grew up exploring the outdoors of his native New England, and at Princeton, he worked as a trainer and leader in Outdoor Action, on whose advisory board he still serves. He joined Outward Bound in 2009, as the founding director of Outward Bound California, and he assumed his national role in 2018.



Outward Bound

[Outward Bound](#) was established in 1941 and its success became a template for the Peace Corps. More than a million Americans have participated in Outward Bound USA, which is currently made up of 11 regional schools across the country that offer more than 1,000 courses annually.



Photo courtesy of Outward Bound California

» Outward Bound creates learning opportunities for students by asking, encouraging and supporting them to step into the uncomfortable. »

ALUMNI FORWARD THINKER ON RESILIENCE

Elizabeth R. Henry '88

Elizabeth R. Henry '88, known as Dr. Liz, is a board-certified pediatrician, parent coach, speaker, author and workshop facilitator with more than 20 years of experience. She is the founder of Dr. Liz Consulting, which provides one-on-one virtual coaching sessions, webinars and courses that provide parents with tools and resources to communicate with their children. "I was passionate about empowering parents and enthusiastically would try to squeeze everything they needed to know in the 15-minute time slot," she wrote, referencing her two decades as a practicing pediatrician. "I now can fully spend time [doing what I love to do](#) — guiding parents and bridging the communication gap between the generations." She can be heard on her podcast, "Ten Going on Twenty: Parenting Preteens to Young Adults with Dr. Liz," and her book, "You Are Not a Bad Parent: A Pediatrician's Guide for Reducing Conflict and Connecting with Your Teen," will be published in 2021.



The Princeton Perspective Project

A campus initiative founded in 2014, the [Princeton Perspective Project](#) provides a space where students can share stories of failures, rejections and struggles through videos, writing and creative expression, challenging the all-too-prevalent culture of "effortless perfection."



Photo: Timetta Bell

» Everyone faces challenges. The difference lies in how you choose to overcome those challenges. »

ALUMNI FORWARD THINKER ON RESILIENCE

Suleika Jaouad '10

Suleika Jaouad is a writer whose aspiration to become a war correspondent was cut short soon after her graduation, when, at age 22, she was diagnosed with leukemia. She began writing about her experience with cancer from her hospital room at Memorial Sloan Kettering, and her reports became the Emmy Award-winning New York Times series, “Life, Interrupted.” She has since become a fierce advocate for those living with illness and enduring life’s many other interruptions. In [her TED Talk](#), “What Almost Dying Taught Me About Living,” which has more than four million views, she said: “Being cured is not where the work of healing ends. It’s where it begins.” She is also the creator of [The Isolation Journals](#), a community creativity project founded during the COVID-19 pandemic to help others convert isolation into artistic solitude. Over 100,000 people from around the world have joined. Her debut memoir, “[Between Two Kingdoms](#),” was published by Random House on February 9, 2021.



Photo: Beowulf Sheehan



Photo courtesy of Seamus McKiernan

“Life, Interrupted”

Jaouad was initially reluctant to chronicle her illness, but she began to blog as a way to update friends about her condition. SecretsofCancerhood.com was noticed by The New York Times, and they hired her to continue her project. “[Life, Interrupted](#)” became a 40-part column and 6-part video series that [won an Emmy Award](#).

» We inherit resilience. Our ancestors had to survive all kinds of things for us to be here. But I also think of resilience as a muscle that you have to exercise. »

FACULTY FORWARD THINKERS

ON RESILIENCE



Elizabeth Gould

The Dorman T. Warren Professor of Psychology and professor of psychology and neuroscience

Gould's lab focuses on understanding structural plasticity in the adult brain with particular interest in what impact changes in brain structure have on cognition and anxiety regulation. One key finding is that physical activity helps reorganize the brain to be more resilient to stress and to make anxiety less likely to interfere with normal cognitive function.



Photo: Edward Baring

Katja Guenther

Associate professor of history; director of the Center for Collaborative History

Guenther is currently incorporating environmental humanities, the history of science and the study of systems to trace the history of the concept of resilience across disciplines as varied as psychology and ecology. Examining the way resilience has been used in the past, Guenther hopes to discover how resilience can best be translated into policy decisions today.



Structures of Coastal Resilience Team

A team of faculty, students, alumni and postdoctoral researchers including Professor of Architecture Guy Nordenson, Associate Professor of Civil and Environmental Engineering Ning Lin *10, and Michael Oppenheimer, the Albert G. Milbank Professor of Geosciences and International Affairs and the High Meadows Environmental Institute, are exploring multi-faceted ways to build [resilience in coastal communities](#) in the face of changing weather patterns and rising seas.

FORWARD FEST

MODERATORS



Photo: John Nienhuis

Heather Gerken '91

*Dean and Sol & Lillian Goldman
Professor of Law, Yale Law School*

Heather Gerken has been dean of Yale Law School since 2017 and is one of the country's leading experts on constitutional law and election law. After graduating from the University of Michigan Law School, Gerken clerked for Justice David Souter of the United States Supreme Court and then served as an appellate lawyer in

Washington, D.C. At Yale, she founded and runs the country's most innovative clinic in local government law, the San Francisco Affirmative Litigation Project (SFALP). A trustee for Princeton University, she returns to her alma mater frequently for events such as the [2018 She Roars](#) conference, at which she moderated a conversation with associate justices of the U.S. Supreme Court, Sonia Sotomayor '76 and Elena Kagan '81. Gerken will moderate the Forward Fest session on resilience.

Julia Boorstin '00

*CNBC Senior Media and
Entertainment Reporter*

Julia Boorstin covers media and entertainment for CNBC's Los Angeles bureau, with a special focus on the intersection of media and technology. In 2013, she created and launched the CNBC Disruptor 50, an annual list highlighting the companies pulling the economy into the future and challenging established blue-chips with new technology and innovation. (Stripe, a digital payments platform, topped the [2020 list](#).) In 2018, she helped create "[Closing the Gap](#)," a CNBC franchise that spotlights corporate efforts to close the gender and diversity gap. "Taking steps to address unconscious bias and pay disparities ... pays huge dividends," she told the [Princeton Alumni Weekly](#). "I hope that telling these stories inspires other companies to look at how more diversity could really boost their bottom lines." Boorstin will moderate the Forward Fest session on exploration.



Photo courtesy of CNBC

ALUMNI FORWARD THINKER ON EXPLORATION

Majka Burhardt '98

Majka Burhardt is a professional climber, author and environmental entrepreneur. As a junior at Princeton, she crafted her own independent study program in anthropology that enabled her to file field reports while climbing in Nepal. She's never stopped reaching for adventure. After an expedition to Mount Namuli in Mozambique, she established [Legado](#), a "thriving futures" nonprofit dedicated to protecting the world's most threatened mountain ecosystems by working hand-in-hand with the people who call them home. "I really wanted to create a way for this local mountain community to envision a legacy for themselves, to benefit from the incredible biodiversity in a way so it had ownership over the choices that were being made on a global scale," Burhardt said. Boosted by the Namuli documentary she co-directed, Legado is exporting its blueprint for economic and environmental partnership to other countries with similar needs.



"Namuli"

The [2016 documentary](#) doubles as an origin story and an adventure, with a look back at Burhardt's youth in Minnesota combined with spectacular visuals of one of the world's least explored and most threatened habitats. Her team's expedition in Mozambique led to the discovery of new and rare species of reptiles, amphibians and insects.



Photo: Jordan Luciano

» I didn't want to wrap a fence around the mountain and just create a new conservation area. I wanted to contribute to a new way of doing conservation. »

ALUMNI FORWARD THINKER ON EXPLORATION

Karen Roter Davis '94

Karen Roter Davis is director of Early Stage Projects at X, Alphabet's moonshot factory, where she helps develop and translate experimental technologies into successful products. In a previous stint at Google, she oversaw internal operations for the company's groundbreaking 2004 IPO and scaled early-stage businesses, such as Google Transit and AdSense. In between, she worked at GE Ventures, Software and Analytics, kickstarting their Internet-of-Things strategy, and was general manager for Urban Engines, an urban mobility analytics startup. She has built a sterling career in innovative tech, but the experiences have given her appreciation for all aspects of a company. "An [organization that relies on imagination alone](#) may be at risk," she wrote. "Without the experience and observation accompanying it to reduce an idea to practice — an imagined idea remains trapped behind the brick wall instead of inventing and implementing ways around it."



Princeton Innovation

Since Rodney Priestley was named vice dean for innovation in 2019, Princeton has ramped up entrepreneurship activities across campus, enabling faculty and researchers to translate their work into commercial or nonprofit ventures at facilities such as the [Princeton Innovation Center BioLabs](#), and through expanding partnerships with the likes of Google and Microsoft.



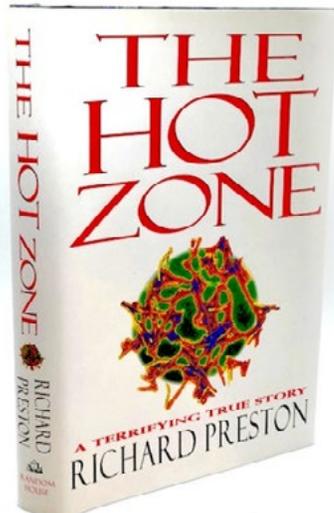
Photo: Weinberg Clark Photography

»» You can't teach innovation — that's counterintuitive. You can only do your best to cultivate an environment for it for those receptive to it. »»

ALUMNI FORWARD THINKER ON EXPLORATION

Richard Preston *83

Richard Preston is the bestselling author of 10 books, including “The Hot Zone,” “The Wild Trees,” and his most recent, “Crisis in the Red Zone,” a gripping account of the 2013-14 Ebola epidemic that in many ways foreshadowed the current pandemic. His books explore little-known worlds of nature, science and the human experience, and have been published in more than 35 languages. “I’m fascinated with nature in its own right as the ‘other,’” he told the [Princeton Alumni Weekly](#). “Nature is not human. Nature is incredibly beautiful, sometimes immensely terrifying and powerful. But we’re human and we have the ability to perceive and understand the universe. That quest to understand it is the subject of my writing.” Preston has taught nonfiction writing at Princeton University and the University of Iowa, and he is the only non-physician to receive the Champion of Prevention Award of the U.S. Centers for Disease Control.



“The Hot Zone”

Preston’s first book about the Ebola virus became an immediate bestseller when it was published in 1994. The chilling nonfiction account of the virus’s stealth lethality became the basis for the 1995 film, “Outbreak,” and clearly influenced a wave of other apocalyptic Hollywood films. In 2019, National Geographic adapted the book into a [six-episode series](#) starring Julianna Margulies.

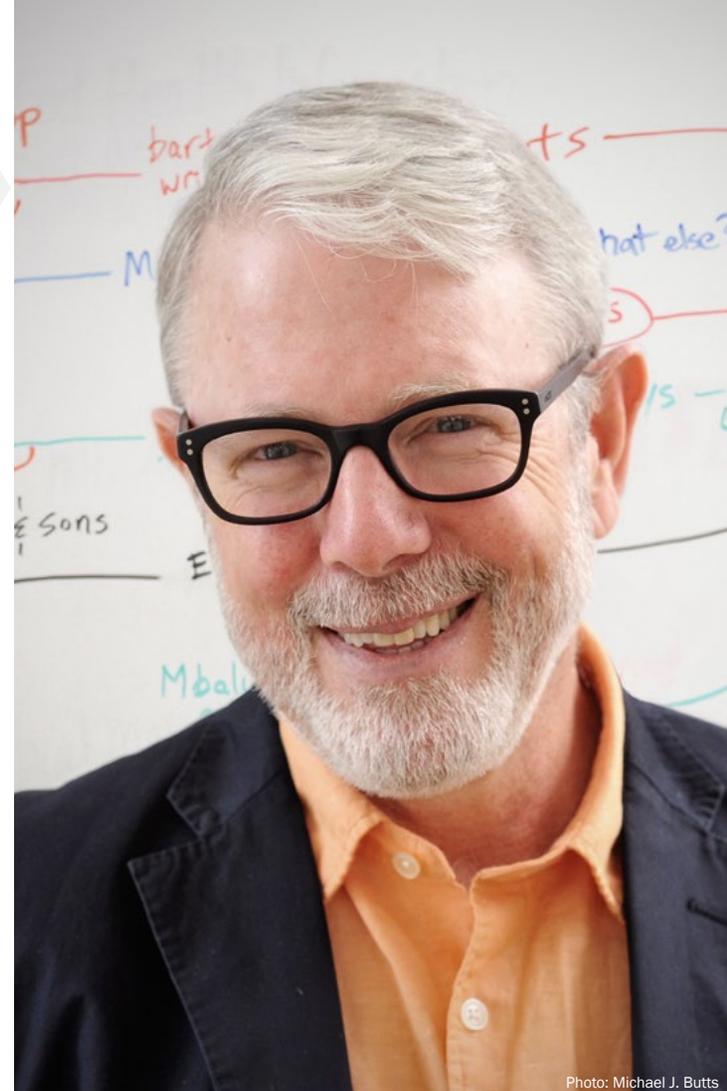


Photo: Michael J. Butts

» Viruses we’ve never encountered before as humans are leaking out of the earth’s ecosystems. And the epidemics and outbreaks are getting bigger. »

ALUMNI FORWARD THINKER ON EXPLORATION

Roy Swan '86

Roy Swan is the Ford Foundation's director of Mission Investments, responsible for the foundation's \$1.35 billion commitment to impact investments and grants globally. Prior to joining the Ford Foundation in 2018, Swan was managing director and co-head of Global Sustainable Finance at Morgan Stanley. His team committed more than \$13 billion of the firm's capital to community development transactions. Swan was the founding chief investment officer of New York City's Upper Manhattan Empowerment Zone, which played a key role in Harlem's economic rebirth, and he also served as chief financial officer at Carver Bancorp, the nation's largest African American managed bank at the time. "Every sector of society should be held to account and pushed to create a space for people of color to succeed and build wealth," Swan wrote in [Business Insider](#). "The asset management industry is no exception and plays, in fact, a pivotal role in the wealth creation that can lead to lasting change."



Photo courtesy of Ford Foundation



Photo: Fotobuddy

Tiger Challenge

Coordinated by Princeton's Keller Center for Innovation in Engineering Education, [Tiger Challenge](#) connects students with community partners and advisers for multiyear projects addressing complex societal issues, such as education, health, sustainability, social justice and civic life. Using design thinking, an approach that emphasizes empathy, creativity, and open-mindedness, teams create innovative solutions that can make a lasting impact.

» The asset management industry wields tremendous influence over the economy, but its professionals do not reflect the gender, ethnic, or racial diversity of the world around them. »

FACULTY FORWARD THINKERS

ON EXPLORATION



Photo: Frank Wojciechowski

Marcus Hultmark *11

Associate professor of mechanical and aerospace engineering

Hultmark's Fundamental and Applied Studies in Turbulence (FAST) Lab has generated an assortment of innovative nano-wire sensor technology. With one of his former graduate students, Gilad Arwatz *15, Hultmark cofounded **Instrumems**; their faster and cheaper sensors are specifically designed for "smart" products that demand split-second measurements in fast-changing conditions, such as drones, weather monitoring instruments and autonomous cars. More recently, the FAST Lab has developed sensors that measure fluid velocity in a revolutionary way – a technology the team patented and began to manufacture through their new company, **Tendo Technologies**.



Photo: David Kelly Crow

Lynn Loo

Director, Andlinger Center for Energy and the Environment; Theodora D. '78 and William H. Walton III '74 Professor in Engineering; professor of chemical and biological engineering

Loo and engineers at Princeton's Organic and Polymer Electronics Laboratory invented a window system with transparent solar cell technology that can simultaneously generate electricity and lower heating and cooling costs. The **self-powered smart window** laminates, once applied to existing windows, can control the transmission of visible light and infrared heat into a building to improve comfort and efficiency. In 2017, after more than a decade of research and development, Loo and Nicholas Davy *14 launched **Andluca Technologies** to maximize energy efficiency and help cities reduce carbon emissions.



Stephen Chou

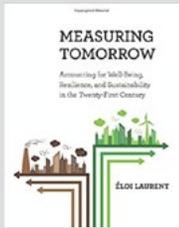
Joseph C. Elgin Professor of Engineering

Robert Austin

Professor of physics

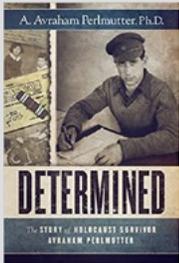
About two decades ago, Chou and Austin, along with two postdoctoral fellows, Han Cao and Jonas Tegenfeldt, developed a new chip-based technology that revolutionized how scientists sequenced the human genome. The **Irys genome-mapping system** enabled high-resolution, single-molecule analysis of long strands of DNA that provided more detail about genetic structure and activity. In 2003, Cao founded **BioNano Genomics**, and since then, the Irys system has been widely adapted by genomics research centers around the world.

RECOMMENDED READING



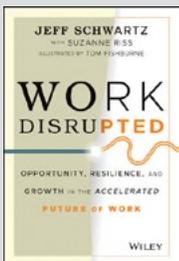
MEASURING TOMORROW: ACCOUNTING FOR WELL BEING, RESILIENCE, AND SUSTAINABILITY IN THE TWENTY-FIRST CENTURY, by **Éloi Laurent** (2018):

In this Princeton University Press book, Laurent makes the argument that the data now exist to shift focus toward social justice and quality of life — metrics that are likely more crucial to real progress than GDP.



DETERMINED: THE STORY OF HOLOCAUST SURVIVOR AVRAHAM PERLMUTTER, by **Avraham Perlmutter** *56 (2014):

Only 10 years old when the Nazis annexed his native Austria, Perlmutter evaded capture, survived the war to fight for Israeli independence, and built a life for himself and his family in America after studying engineering at Princeton.



WORK DISRUPTED: OPPORTUNITY, RESILIENCE, AND GROWTH IN THE ACCELERATED FUTURE OF WORK, by **Jeff Schwartz** *87 (2021):

Schwartz, a founding partner of Deloitte Consulting's U.S. Future of Work practice, reimagines the 21st-century workplace in the post-COVID world. One takeaway: Resilience is key to better identify and seize opportunities.



BECOMING, by **Michelle Obama** '85 (2018): The former First Lady's memoir not only chronicles her years in the political spotlight, but digs into her first-generation Princeton student experience and early professional life, where she learned to persevere and ultimately thrive.

MY SQUIRREL DAYS, by **Ellie Kemper** '02 (2018):

The Emmy-nominated TV star from “The Office” and “Unbreakable Kimmy Schmidt” traces her path from Missouri to Hollywood, self-deprecatingly celebrating her missteps while maintaining a positive outlook.



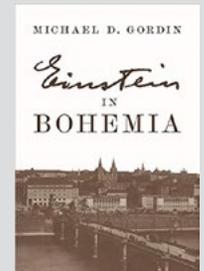
DISCOVERY: RESEARCH AT PRINCETON: Each

academic year, the Office of the Dean of Research publishes a magazine chock full of the University's research advances, initiatives, projects and honors. With stories on data science, environmental initiatives and bioengineering, it's a sneak peek at the future's headlines.



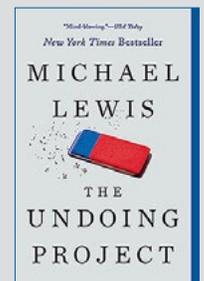
EINSTEIN IN BOHEMIA, by **Michael D. Gordin** (2020):

Long before he fled Europe and settled in Princeton, 32 year-old Albert Einstein spent 16 consequential months in Prague that would shape his personal relationships and professional achievements for decades. Gordin summarized his research in a recent Princeton Journeys [Live Lecture](#).



THE UNDOING PROJECT: A FRIENDSHIP THAT CHANGED OUR MINDS, by **Michael Lewis** '82

(2016): The author of “Moneyball” and “The Big Short” profiles Daniel Kahneman and Amos Tversky, the Israeli psychologists who invented the field of behavioral economics in the 1970s with a series of research papers that changed how people think about how people think.



WATCH AND LISTEN



Photo: Frank Wojciechowski

WE ROAR PODCAST, ANDREW CHIGNELL: Princeton's Laurance S. Rockefeller Professor of Religion and the University Center for Human Values addresses the complicated emotions that many people have wrestled with during the pandemic and recent political strife. Staying positive, he differentiates between "bad hope" and "good hope," the latter being the force that compels people to get or stay engaged.

PAWCAST, NICHOLAS JOHNSON '20:

The first Black valedictorian in the University's 274-year history, Johnson discusses his historic achievement, the impact of the pandemic on his last semester at Princeton, and the message of his commencement speech.



Photo: Lisa Festa, Center for Career Development



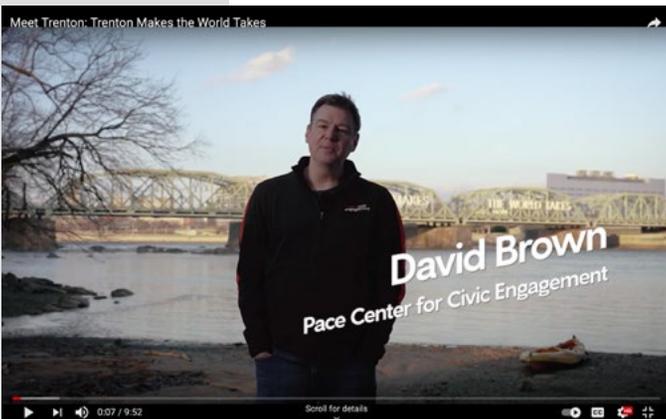
MEET TRENTON: A new video series from the Pace Center for Civic Engagement provides greater understanding of the capital city's history, the current state of the community and its plans for the future.

THE HOT ZONE: LESSONS FROM PAST OUTBREAKS:

Author Richard Preston appeared on CNBC to discuss how coronaviruses work and why COVID-19 is likely not the last pandemic the planet will face in the near future.



Photo courtesy of Richard Preston



NOD: In response to COVID-19, Margaret Laws '86 and her company, HopeLab, developed a new app to help students combat isolation and maintain meaningful connections by offering them easy-to-follow prompts.



DISCUSSION

As you continue to think forward about resilience and exploration, brainstorm these questions in order to extend and deepen the conversation.

1. How does one develop resilience?
2. When have you had to draw on your own reserves of resilience to overcome a barrier?
3. What examples of resilience do you see exercised within your community and where have you identified the need for developing greater resilience?
4. How can universities and companies build a culture that encourages and rewards creative risk-taking and exploration?
5. What is the relationship between resilience and exploration? How does one complement the other?

A YEAR OF FORWARD THINKING



Forward Fest is a monthly online event series open to the public.

THINKING FORWARD BIOENGINEERING

Thursday, March 18, 2021 | 3:30 PM EDT

THINKING FORWARD THE ENVIRONMENT

Thursday, April 15, 2021 | 4:00 PM EDT

What Are YOU Thinking Forward?

Share it now.

forward@princeton.edu

[#PrincetonForward](https://twitter.com/PrincetonForward)

For more information on future programming, visit

forwardthinking.princeton.edu/festival

forwardthinking.princeton.edu

