# Policy Studies Program Annual Report 2019-2020













# LAFAYETTE COLLEGE

# From the Chair



In his 2019 book, *Range: Why Generalists Triumph in a Specialized World*, David Epstein provides a powerful thesis related to the benefits of a multidisciplinary course of study like the Policy Studies program. In brief, many of the world's most challenging problems involve ill-defined or incomplete rules and non-repetitive patterns. These so-called "wicked" learning environments contrast to "kind" learning environments that have defined rules, boundaries, and patterns that repeat. Generalists, or persons exposed to a broad range of experiences and

fields, have an advantage over specialists in solving wicked problems. Epstein goes further to argue that the advantage of generalists over specialists will grow because rule-based, repetitive environments are exactly the types of problems most readily solved by machine learning and AI algorithms. In essence, generalists who develop their capacity to solve wicked problems are not easily replaced by robots.

The Policy Studies program encourages students to explore a wide range of disciplines and fields and seek opportunities to transfer knowledge from one discipline that may prove useful in problem solving in novel contexts. The activities and events summarized in our 2019-20 Annual Report provide examples, including a deep exploration of the ethical, moral, and spiritual challenges tied to the proliferation of artificial intelligence, and a partnership for the economic and cultural redevelopment of West Baltimore.

A signature feature of the Policy Studies program is our partnership with Lehigh Valley Public Media to produce Lafayette Lens on PBS39, a half hour news magazine on topics at the intersection of policy, business, and technology. Policy Studies students produced two editions in the 2019-20 academic year. In addition, students in the Policy Studies Leadership course produced video essays that were aired during PBS39 coverage of the Pennsylvania primary elections. PBS39 reaches 12 million potential viewers.

The impact of the Policy Studies program remains strong. Roughly 250 students and faculty from various majors and departments participated in curricular and co-curricular activities sponsored by Policy Studies in 2019-20. The number of Policy Studies majors and pre-majors stands at about 50, and graduates in Class of 2020 bring the total number of Policy Studies alumni to 137.

Our colleague, David Veshosky, associate professor of engineering studies and longserving Policy Studies faculty affiliate, passed on July 5, 2020. When the Policy Studies major was under development, Prof. Veshosky championed the idea of making an engineering course a core requirement, a curricular innovation key to the program's success. In the 2017-18 academic year, he stepped up to serve as our acting program chair. David Veshosky was industrious, smart, nice, realistic, and forever hopeful. May you rest in peace, my dear friend.

I am grateful to alumnus George Jenkins for a generous gift to support our program and to our talented faculty affiliates who bring range, enthusiasm, and meaning to our academic enterprise.

W. Mark Crain William E. Simon Professor of Political Economy

# **Faculty and Staff**



W. Mark Crain William E. Simon Professor of Political Economy Chair of Policy Studies



**D.C. Jackson** Cornelia F. Hugel Professor of History



Professor of Economics

**Rexford Ahene** 



**Qin Lu** Associate Professor of Mathematics



**Eric Ho** Associate Professor of Biology



Andrew Vinchur Professor of Psychology



Gladstone Hutchinson Associate Professor of Economics



Alison Williams Administrative Coordinator

# **Major Events and Projects**

#### "God, Robots, and You," Kevin Kelly Lecture, October 1, 2019



In 1993, Kevin Kelly co-founded *Wired*, a nationally recognized magazine that explores the cultural, economic, and political implications of emerging technologies. Kelly visited campus to address major metaphysical questions surrounding the expansive applications of artificial intelligence: What does it mean to be human? What comes after being human? Kelly's lecture addressed current roles of artificial intelligence, as well as the potential capabilities of AI as the technology evolves. Kelly also described a framework for questioning who we want to become and how we

want to proceed in a future of advanced technology. Kelly's lecture at Lafayette was cited in a February 9th, 2020 *Medium* article entitled "AI needs love like everything does."

Link to video of Kevin Kelly's lecture: <u>https://www.youtube.com/watch?v=Jd0l-O2qxPk&feature=youtu.be</u>

#### "Exploring Artificial Intelligence," Fall 2019 Edition of Lafayette Lens on PBS39



Students in Professor Mark Crain's Policy Studies senior seminar created video essays exploring a broad spectrum of issues related to artificial intelligence. Policy Studies students worked with senior staff from Lehigh Valley Public Media in Bethlehem to perfect their video essays and compile them into a 60-minute broadcast. Through their research, students investigated the ethical and existential implications of AI through topics like religion, gender bias, hiring practices, and educational toys, among others. To learn about these diverse aspects of AI, students sought out experts from

a variety of academic and professional backgrounds. Christopher Ambrosio '20 interviewed biology and computer science professor Eric Ho about how humanity has evolved and acclimated itself to AI. For his essay on the role of AI in cybersecurity, Tim Barry '20 interviewed Kevin Mandia '92, chief executive officer at the cyber security firm FireEye, Inc. Danielle Thomas '20 interviewed Northampton County Judge Craig Dally '78 about AI applications in the criminal justice system. "AI is in our everyday lives without us truly knowing it," said Thomas. "It is interesting to see exactly how AI impacts society."

Link to video of the broadcast: <u>https://video.wlvt.org/video/lafayette-lens-exploring-artificial-intelligence-g93y2j/</u>

# "Vote Your Voice," Spring 2020 Edition of Lafayette Lens on PBS39



Students in the Policy Studies course, Leadership, collaborated with Lehigh Valley Public Media on two projects during the spring semester, both tied to the Pennsylvania primary elections. A new edition of Lafayette Lens on PBS39, entitled "Vote Your Voice," aired on May 21 and featured six video essays. Some examples include Drew Jansen's '20 interview with CNN panelist and former U.S. Rep. Charlie Dent and Pennsylvania House Speaker Mike Turzai about political polarization in American politics. In interviews with Erik Avakian, chief information security officer for the

Commonwealth of Pennsylvania, and Amy Cozze, chief registrar of elections for Northampton County, Katrina Ruggiero '20 explored the protection of election integrity in a political climate plagued by online misinformation and cyber threats. Tori Yordt '20 focused her video essay on why more women aren't running for political office, interviewing Rutgers University professor Kelly Dittmar, an expert and national spokesperson on the issue. In addition, eight student-produced video essays were aired on PBS39 during its live coverage of the primary elections on June 2. These included a panel of Lafayette students sharing their views on today's most important social challenges.

Link to video of the broadcast: https://video.wlvt.org/video/lafayette-lens-gsdmf6/

# Market-Based Solutions and the Economic and Cultural Redevelopment of West Baltimore

At the invitation of Maryland's Lieutenant Governor, Professor Gladstone Hutchinson commenced a multi-year partnership with the Arch Social Club Network in support of its goal of strengthening its contributions as an anchor institution in the economic and cultural redevelopment of West Baltimore. Lead by Professor Hutchinson, the Lafayette team consists of Professor Ute Schumacher and three students who are Gladstone Whitman '49 Summer Fellows: Ednetta Fullmore '23 (theatre and communications); Shaan Shuster '23 (econ/PS and data science) and Khalid Almotae '23 (computer science and data science). The Lafayette team will collaborate with stakeholders in the West Baltimore community, including the Offices of the Mayor, City Council and the Governor, to develop the ecosystem that would facilitate the development of their Black Arts and Entertainment District.



The West Baltimore initiative provides a new and substantial opportunity to inject market-based solutions into a community that faces enormous challenges. A foundational goal of the approach is to rebuild faith and trust in free markets as a culture and vehicle for pursuing prosperity. Professor Hutchinson, Director of the Economic Empowerment and Global Learning Project, has repeatedly demonstrated that empowered and strengthened capacity of Black America to exercise agency in free market capitalism is the fastest and most robust path to their building of economic and social wealth and achieving an economic and community development that they value.

# Learning Experiences that Engage Distinguished Alumni

The Policy Studies program aspires to bridge theory and practice, and to examine challenges at the intersection of business, policy, and technology. The Industry, Strategy, and Policy course in spring 2020 featured eleven guest commentators with distinguished careers representing the major sectors of the global economy. The guests and the topics explored are summarized below.

#### Robert E. Sell '84

Group Chief Executive, Communications, Media and Technology, Accenture (Retired)



#### The Career Journey: Success and Failure

Mr. Sell presented a host of examples and cases to illustrate how firms create value by solving problems. He offered insights and advice on how students can add value to organizations and cultivate a fulfilling career.

#### Susan Fox '88

# Vice President, Government Relations, The Walt Disney Company



#### Media and Entertainment

Ms. Fox discussed the rapid and massive changes in today's entertainment industry, as well as the importance of staying current with the evolving needs of consumers. She emphasized the importance of integrating government affairs into a company's strategic planning process, and highlighted some of the major public policy issues facing this sector.



#### NGOs/Not-for-Profits

Using her unique background in both the for-profit and not-for-profit sectors, Ms. Passman explained the current environment for not-for-profit organizations in the U.S. She illuminated differences between the for-profit and not-for-profit sectors, ways they can collaborate productively, and pointed out major challenges.

#### Peter D. Holran '87 Director, State Government Relations, U.S., Enbridge



# Energy

Mr. Holran delved into a major Enbridge project to replace the existing Line 5 dual pipeline at the Straits of Mackinac with a pipeline secured in a larger underground tunnel as a case study in the importance of corporate social responsibility and community engagement. He also offered insights about the effect of climate change on practices in the energy sector.

#### Peter S. Ruggiero P'20 Chief Operating Officer, Crayola LLC



#### Manufacturing

Mr. Ruggiero explained how diversified supply chains and competitive sourcing allow manufacturers to respond efficiently to disruptions such as those experienced because of COVID-19. Students learned about the challenges facing companies like Crayola, such as retailer pressure and the cost of diversification.

#### Robin Wiessmann '75 Executive Director and CEO, Pennsylvania Housing Finance Agency



#### Financial Services

Ms. Wiessmann related her experiences working in both the public and private sectors to discuss past financial crises, and how we can apply those lessons to mitigate future crises. She also presented an overview of current economic conditions and career opportunities. Ms. Wiessmann responded to a number of student questions about advice for women considering a career in the financial services sector.



# Technology and Business Services

Mr. Stephenson stressed the importance of focusing on customer needs as a key success factor, describing Amazon as "consumer obsessed." He highlighted the growing importance of cloud computing and discussed the benefits of a global cloud infrastructure, including data security, availability, and performance. He provided examples to illustrate the types of policy issues he addresses for AWS at the state and local government levels.

#### Donald E. Morel, Jr. '79 Chairman and CEO, West Pharmaceutical Services (Retired)



# Healthcare

Through his experience working on the diabetes treatment Exubera, which proved to be unsuccessful commercially, Mr. Morel described the myriad challenges of introducing new medical devices. He offered insights on lessons we are learning about the healthcare industry from the COVID-19 pandemic.



#### Communications

Mr. Jacoby provided a roadmap explaining the current state of the communications sector, along with predictions about where the industry is headed, especially as it relates to the COVID-19 pandemic. He provided critical context to massive changes in the sector by walking the students through the evolution of the telecommunications sector.

# J.B. Reilly '83

President, Landmark Communities and Center City Investment Corp.



#### Real Estate

Through his extensive experience in the real estate sector, Mr. Reilly explained how shifting demographics have shaped the real estate industry. He offered insights on the lasting effects that COVID-19 is likely to have commercial and residential real estate, including the potential impact the attractiveness of densely populated urban areas.



#### **Consumer Discretionary**

Using his experience on the Urban Outfitters board, Mr. Cherkin explained the unprecedented challenges facing retailers, many of which pre-dated the COVID-19 pandemic. He led a discussion about possible strategic and tactical steps that would allow retailers to succeed in the next five years.

# Policy Studies Alumni Focus: Katherine Stevens '17



Katherine Stevens '17 is employed at Merck Serono, the U.K. affiliate of the global pharmaceutical company Merck KGaA. As Oncology Brand Manager, she develops and implements the brand strategy for oncology products with upcoming approvals in the U.K. Considering current treatments and unmet needs, the strategy entails marketing messages and activities to maximize the number of patients benefiting from the drug. Internally, Stevens ensures adherence to this strategy by working with various teams, such as those working on supply chains or product distributions. Externally, she shapes the promotional conversations

between the sales teams and doctors after a drug is approved. Given the U.K.'s complex pricing and access system, Stevens ensures each product has the greatest possible impact within the government's strict policy guidelines.

Congratulations to the 2020 Graduates of the Policy Studies Program



Christopher Ambrosio Jazmyn Ball Casey Banta-Ryan Timothy Barry Kathryn Gonick Gabriella Juliana Chace Leuba Sonia Musso Meghan Rielly Katrina Ruggiero Danielle Thomas

# **Policy Studies Class of 2020 Receiving Special Recognition** Honors Theses



**Katrina Rugierro**, "The Value of Environmentally Friendly Initiatives," (Duel thesis in Policy Studies and Economics), Prof. Crain, Primary Advisor



**Casey Banta-Ryan**, "Measuring the Market Response to Changes in Sustainability: Evidence from the North American Dow Jones Sustainability Index," (Thesis in Economics), Prof. Swindler, Primary Advisor

#### Special Awards and Honors



Kathryn Gonick received the Robert I. Wiener Interfaith Award, and she was inducted into Pi Mu Epsilon.



**Tim Barry** graduated as a member of the National Theatre Honor Society, Alpha Psi Omega.

Examples of Jobs and Advanced Degree Programs, 2020 Graduates

- Analyst, Axtria, Inc.
- Area Manager, Amazon
- Network Engagement Associate, Fulfill
- Masters in Accounting, Lehigh University

# List of Attachments

Article by Katie Frost in *The Lafayette*, "The inevitable development of artificial intelligence: Kevin Kelly discusses future of technology, implications," describing the Kevin Kelly lecture.

Article by Bryan Hay, "Policy Studies Seniors Bring AI issues to TV," describing the Fall 2019 Edition of Lafayette Lens on PBS39

Article by Bryan Hay, "Exploring 2020 Politics," describing the Spring 2020 Edition of Lafayette Lens on PBS39

#### October 4, 2019

# The inevitable development of artificial intelligence: Kevin Kelly discusses future of technology, implications By Katie Frost, The Lafavette

Artificial intelligence (AI) is quickly developing, and humans don't have a choice in the matter. However, Kevin Kelly said humans do "have a tremendous amount of choice in developing the character, the policies, the nature of it [and] who owns it."

This past Tuesday, Kelly discussed the current and future roles that AI will have as technology continues to develop around the world, as well as questions that need to be asked over the upcoming years.

In 1993 Kelly co-founded and was the executive editor for Wired, a magazine that "illuminates how technology is changing every aspect of our lives—from culture to business, science to design," according to their <u>website</u>.

The "challenges" of artificial intelligence are "exactly the kind of issues that we like to study," policy studies chair Mark Crain said in his introduction to Kelly during the talk on Tuesday. "In most cases, we're not trying to replicate human thinking. The power of these minds is that they do not think like humans," Kelly said.

Current AI technologies with the likes of LettuceBot, a precision agriculture machine that inspects individual plants on a farm, and solar-powered weed bots are likely to become cheap in seven to 10 years, according to Kelly.

With the existence of robots, there will be new jobs for humans in which productivity is not important, as humans are "terrible for efficiency," Kelly said.

Kelly also discussed the possibility of programing creativity, emotion trackers and pain into robots. It's "pretty easy to teach ethics to AI" as ethics can be coded in, he said. Adding that since humans don't have "great ethics ourselves," it will prove to be difficult to teach what is not always agreed upon.

Kelly further suggested that "if we create 1% more than we destroy," we have "all we need to have civilization."

After the talk, one audience member asked about the possibility of AI developing free will and refuting humans to the point where they stop listening for commands.

Kelly answered their question by referring to AI created by humans as "mind children" that must be trained so that "when we let them go, they don't kill us." He added that there is proof that this strategy works.

Another audience member asked if AI will eventually be able to transition to an organic sense. Kelly said that in the long term, he predicts that people may attempt to modify human genes in the same way they have altered machines to make them more intelligent. He then predicted a division in those who want to modify genes and those who don't.

"It's a good take because you always think of AI as the way it works in video games," Nicholas Sabella '23 said. "But [Kelly] has a different view so it's actually pretty nice to hear a different side of it."

"Al is the most powerful technology of our time. Its growing presence inevitably transfers decisionmaking and the capacity for moral authority to algorithms and those who create them," Crain wrote in an email. "We have a responsibility to think critically about what happens when autonomous and intelligent systems make decisions that require ethical judgments and moral principles."

Video of Kevin Kelly's Lecture: <u>https://www.youtube.com/watch?v=Jd0l-</u> O2qxPk&feature=youtu.be

#### November 18, 2019 Policy Studies Seniors Bring Al issues to TV By Bryan Hay

Ten students in Prof. **Mark Crain**'s senior seminar for policy studies majors have sought experts across campus and the nation to take a deep look at the pervasive reach of artificial intelligence and its moral and existential consequences.

Their research, culminating in video essays on a broad spectrum of AI-related topics that will be broadcast on PBS39 7 p.m. Tuesday, is a continuation of Lafayette's collaboration with the community-owned station that serves eastern Pennsylvania and New Jersey. Over the past several weeks, senior staff at the station have been working with students to polish their scripts, identify soundbites, and edit their videos. <u>See the program.</u>

Crain, who originated the PBS39 partnership along with Prof. **Nicole Crain** in 2012, has explored cybersecurity, immigration, autism spectrum disorder, autonomous vehicles, gene editing, and, most recently, imbalances in the local labor market. PBS39 also worked with the Crains on a live two-hour program that covered the 2016 national elections, which received a nomination for a regional Emmy award.

By taking on the vast, uncharted implications of AI, Crain and his students continue to impress their colleagues at PBS39, which produces the Lafayette Lens program.

"No one else is really tackling this subject matter in the way Prof. Crain is going at it," says Yoni Greenbaum, chief content officer at PBS39. "Among our cohorts in the PBS world, this is cutting edge."

The staff at PBS39 is there to guide and mentor students in their work, he says, adding that the student videos will culminate in a 60-minute program.

"The enthusiasm we see from Professor Crain and his students is unique," Greenbaum says. "He's willing to experiment and innovate in a way that a lot of other professors who I deal with at other campuses are not. We're happy to tap into that."

In their exploration of AI, Crain's students are covering its implications on educational toys for children, gender bias, religion, hiring practices, and law enforcement, among other topics. "The students' creativity and progress has been remarkable," says Crain, William E. Simon Professor of Political Economy and chair of policy studies. "The inevitable megatrend of AI and autonomous and intelligence systems presents a vital opportunity to demonstrate why the bridge between technology and the humanities is so important. Applications of AI technologies raise critical ethical, spiritual, and societal implications. Governments and mediating institutions are not keeping pace with AI innovations. We are going to need future leaders, like these fine students, who can envision where these trends are taking society; what the major challenges will be; and then propose solutions."

In preparing the video essays for broadcast, Crain says the goal is to illuminate viewers about how AI is quietly affecting daily life.

"Most people are not aware of the ways AI is being used, and the extent to which intelligent systems are making ethical judgments," he says. "The potential benefits from applications of AI are vast. At the same time, these applications may bring risks and potential pitfalls."

For her essay on computer worship and the evolution of God, **Kathryn Gonick '20** (mathematics and policy studies) interviewed Jason Thacker, associate research fellow and creative director at

the Ethics and Religious Liberty Commission of the Southern Baptist Convention and **Rebecca Einstein Schorr**, Lafayette's Jewish chaplain.

"I focused on how IA has found its way into our faith traditions," she says. "I was expecting that there would be no expertise, that no one would have serious thoughts about this." But in talking with Thacker, she collected his concerns about how lack of awareness among believers and nonbelievers about connections to AI may lead to it making moral decisions.

"Rabbi Schorr has thought about it in the context of whether computers can participate in Jewish practices," Gonick says. "Can a computer be treated like it's the image of God in the way that we treat humans as being made in the image of God?"

Gonick has been so immersed in the topic that she's now leading a program at Hillel Society on what she's learned about AI and religion.

**Tim Barry '20** (policy studies) sought out **Kevin Mandia '92**, chief executive officer at FireEye Inc., a security software firm, and a Lafayette trustee, about how AI is being used in cybersecurity and how companies and governments safeguard systems from cyber threats.

**Danielle Thomas '20** (chemistry and policy studies) interviewed Northampton County Judge **Craig Dally '78** about AI applications in the criminal justice system and found that the same bias exhibited in humans also can be seen in AI as well.

"Al is in our everyday lives without us truly knowing it," she says. "It is interesting to see how exactly Al impacts our lives."

**Christopher Ambrosio '20** (economics and policy studies) interviewed **Eric Ho**, assistant professor of biology, who's also affiliated with the computer science department, about the context of AI and how humanity has evolved and acclimated itself with the technology. "It's a slippery slope," Ambrosio says. "Humans need to be cognizant of the risks of giving up power to intelligent machines."

Link to video of the broadcast: <u>https://video.wlvt.org/video/lafayette-lens-exploring-</u> artificial-intelligence-g93y2j/

#### May 18, 2020 Exploring 2020 Politics By Bryan Hay

Undeterred by limitations with technology and remote teaching, students in **Mark Crain**'s Policy Studies Leadership class interviewed national experts in a thorough examination of the political issues in this primary election season.

Six video essays will be featured in the next edition of *Lafayette Lens*: *Voting Your Voice*, which will be broadcast May 21, 7 p.m. on PBS39, a community-owned station that reaches 3.28 million households in eastern Pennsylvania and New Jersey. The others will air June 2, 10-11:30 p.m., during the station's primary election coverage.

Students aimed high throughout the semester.

Some examples of the far-reaching video essays include **Drew Jansen**'s **'20** interview with CNN panelist and former U.S. Rep. Charlie Dent and Pennsylvania House Speaker Mike Turzai about their views on political polarization at the state and local levels.

In interviews with Erik Avakian, chief information security officer for the Commonwealth of Pennsylvania, and Amy Cozze, chief registrar of elections for Northampton County, **Katrina Ruggiero '20** explored the protection of election integrity in a political climate plagued by online misinformation and cyber threats.

**Mark Anderson '20** interviewed Pennsylvania state Rep. Mike Schlossberg, D-132nd District, about what issues motivated him to get involved in politics.

**Tori Yordt '20** focused her video essay on why more women aren't running for political office, reaching out to Kelly Dittmar, assistant professor of political science at Rutgers University and a national spokesperson on the issue.

"Considering the many challenges we faced this semester with meeting remotely, the students displayed remarkable creativity and perseverance as they reached out to officials and experts across the political spectrum to produce compelling content for this latest edition of *Lafayette Lens*," said Crain, William E. Simon Professor of Political Economy and chair of policy studies at Lafayette College.

Crain's class met twice a week throughout the spring semester, meeting by Google Meet after classes moved to remote sessions in March.

As classes progressed, Crain and Monica Evans, PBS39 executive producer, provided equal measures of encouragement and tough love along the way to keep everything on track.

Crain made sure the content was unbiased and objective, and insisted his students read their scripts aloud for flow and clear pronunciation. Evans made sure they understood the importance of word choice and tight script writing to ensure that the most vital material would be delivered up front in each essay to immediately grab the attention of viewers.

"This is difficult work, even for professional journalists and production teams," Evans told the class near the end of the semester. "Your work is very good, and I've enjoyed the process. Most people don't have the opportunity to have their work showcased on television, especially on topics that are so impactful. Despite the challenges, you've worked through them. I'm proud of you."

"I can't thank the staff members at PBS39 enough for their professionalism and encouragement throughout the semester," Crain added. "They've been with us every step of the way, offering

advice and support as students in the Policy Studies Leadership course refined their storyboards and scripts. This will be a semester we will long remember."

Crain, along with Nicole Crain, who is now professor of economics at the National Defense University, formed a partnership with PBS39 in 2012 to produce coverage of the national elections. The partnership expanded with *Lafayette Lens*, a half-hour series covering issues of global importance, including cybersecurity, immigration, autism spectrum disorder, autonomous vehicles, and gene editing. The widening influence of artificial intelligence was the topic for the fall edition of *Lafayette Lens*.

Link to video of the broadcast: https://video.wlvt.org/video/lafayette-lens-gsdmf6/