

DIRECTOR'S MESSAGE

AUGUST 2021

Warm greetings from the newly renamed Peter F. Cowhey Center on Global Transformation (CGT) at the UC San Diego School of Global Policy and Strategy (GPS). The naming – a fitting tribute to Peter, who served as a visionary dean of GPS for nearly two decades — was made possible with a generous endowment gift from Joan and Irwin Jacobs.

We are tremendously grateful for the continued support from the Jacobs family. Their gift will permanently support the Center on Global Transformation's (CGT's) efforts to drive inquiry on two major transformations of the 21st century: how structures of the global economy and political governance are changing, and how advances in science, technology and analytic methods offer new opportunities to improve policy and alter the distribution of wealth around the globe.

Let me begin with the obvious. The COVID-19 pandemic has made this a most unusual year. At the same time, the crisis has served to underscore some of the big themes at CGT, which include:

- the importance of digital innovation in creating technologies that virtualized much of our life over the past year and facilitated remote work and personal connectedness;
- the value of science-based policies to protect us from public health harms;
- the power of financial, intellectual and policy investments to create novel and effective vaccines at record-breaking
- and the interconnectedness of the world in both a physical and economic sense, along with the strengths and weaknesses embedded in the ways in which we have constructed those social, political and economic ties.

Challenges notwithstanding, this past year has been a productive one at CGT. In lieu of the Pacific Leadership Fellowship (PLF) program that brings prominent leaders from around the world to campus, we launched Conversations for an Engaged San Diego, a webinar series that brought experts to our virtual campus. They discussed such wide-ranging topics as climate change policy, the future of high-skilled migration to the U.S. and the use of artificial intelligence in policing and criminal justice.

At the same time, we have continued to support research by a broad set of scholars engaged in work that complements the mission of the center. This includes timely scholarship on trade and global supply chains, climate change policy and the COVID-19 policy response in India. It also includes the exciting work being conducted by our flagship research centers: the Big Pixel Initiative (BPI), the Sustainable Development Goals Policy Initiative (SDGPI) and our newly formed Frontiers in Science and Innovation Policy (FSIP) Initiative, which is focused on the design of policies and institutions to reinvigorate the U.S. system of basic research and innovation in a world that is markedly different than even 30 years ago.

As travel restrictions are easing, we look forward to a re-energized PLF program in 2021-22. This will include visits from leaders drawn from the public, nonprofit and private sectors across the globe who will come to campus to exchange ideas about the urgent challenges confronting the world.

We are also delighted to host two PLFs that will be in residence full time. Robert Conn was the founding dean of the Jacobs School of Engineering (now emeritus), and subsequently led the Kavli Foundation, a path-breaking funder of basic scientific research globally, until his retirement in 2020. UC San Diego Professor Emeritus Peter Cowhey, who just recently retired as dean of GPS, will also serve as a PLF. He has served in policy roles for technology and international economics in the Obama and Clinton administrations. Together Conn and Cowhey will spearhead our FSIP initiative and help to enhance the reputation of UC San Diego as the place where rigorous science and social science meet to generate evidence and insights that guide policy.

To our founding supporters Joan and Irwin Jacobs, our dedicated staff and scholars, and our community of friends, collaborators and PLFs, thank you for your continued generosity and engagement. I hope to see you in person at our many public events this coming year.



CONVERSATIONS FOR AN ENGAGED SAN DIEGO

This new webinar series was launched during the COVID-19 pandemic and brought experts to our virtual campus. Videos can be found online at cqt.ucsd.edu/media-center.

THE RHETORIC AND APPLICATION OF AI IN POLICING & CRIMINAL JUSTICE | Nov. 18, 2020



The program welcomed two distinguished experts on the law, civil rights and AI to discuss the opportunities that new technologies present in the criminal justice system while also highlighting the potential for unintended consequences, differential impact on communities of color and possible misuse and abuse. Panelists included Alvaro M. Bedoya, founding director of the Center on Privacy and Technology and visiting professor at Georgetown University Law Center; Rashida Richardson, visiting scholar at Rutgers Law School and senior fellow at the German Marshall Fund; and R. Stuart Geiger, assistant professor at UC San Diego's Department of Communication and the Halıcıoğlu Data Science Institute.

MAKING DEEP CUTS IN WARMING EMISSIONS FROM THE UNITED STATES - A PLAN | Dec. 3, 2020

As part of this presentation, leading thinkers and practitioners on climate change discussed the challenges of achieving zero carbon emissions by 2050, while also putting Americans to work building a vibrant, clean and innovative economy. Panelists included Jeffrey Sachs, director of the Center for Sustainable Development at Columbia University; David Victor, GPS professor and co-director of the Deep Decarbonization Initiative at UC San Diego; and Gordon McCord, associate teaching professor and associate dean at GPS.



THE FUTURE OF HIGH-SKILL MIGRATION AND TECHNOLOGY IN THE UNITED STATES | Feb. 24, 2021



The U.S. has a long history of "importing" talented workers from around the globe while simultaneously providing world-leading training for the next generation of scientists, engineers, managers and medical professionals. Students and workers from India have been particularly visible in the recent U.S. technology boom. But recent trends in U.S. immigration policy, competitive forces from other countries and new outsourcing opportunities present challenges. These experts discussed how we got here and what we can expect in the near future. Panelists included Nirupama Rao, Indian Ambassador to the United States and former Pacific Leadership Fellow; William Kerr, professor at

Harvard Business School; and Gaurav Khanna, assistant professor at GPS.

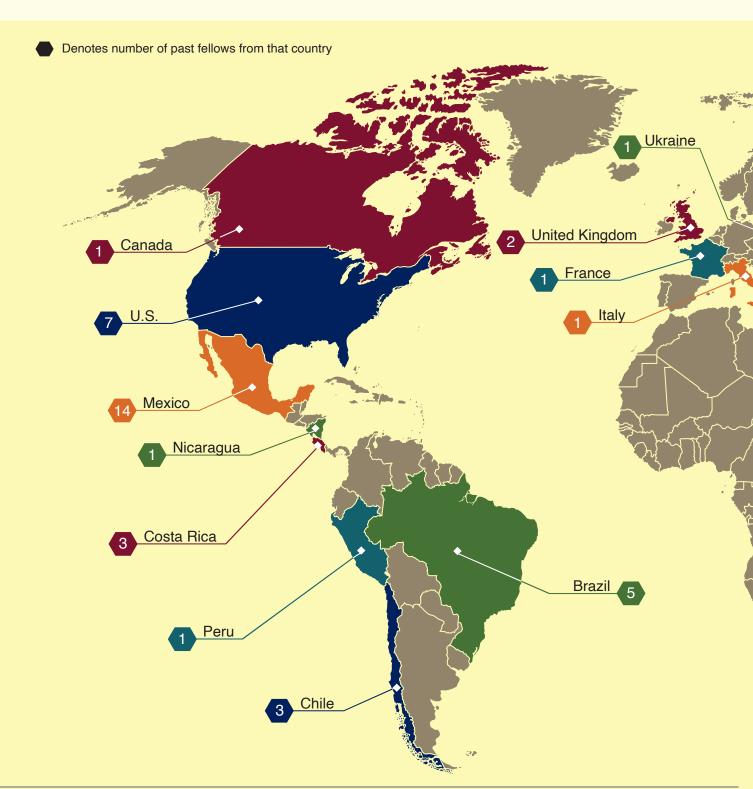


ACKNOWLEDGEMENTS

Joan and Irwin Jacobs' philanthropic support has had a significant impact on numerous cultural, medical, educational and civic organizations in San Diego. Since 2006, they have supported the vision and mission of CGT. We are so grateful for their most recent endowment gift to name the center in former GPS dean Peter Cowhey's honor. The Jacobs' continued support enables our campus and the Greater San Diego region to become a center for reflection and action by leaders from across the globe, as well as a catalyst for innovative research.

PACIFIC LEADERSHIP FELLOWS

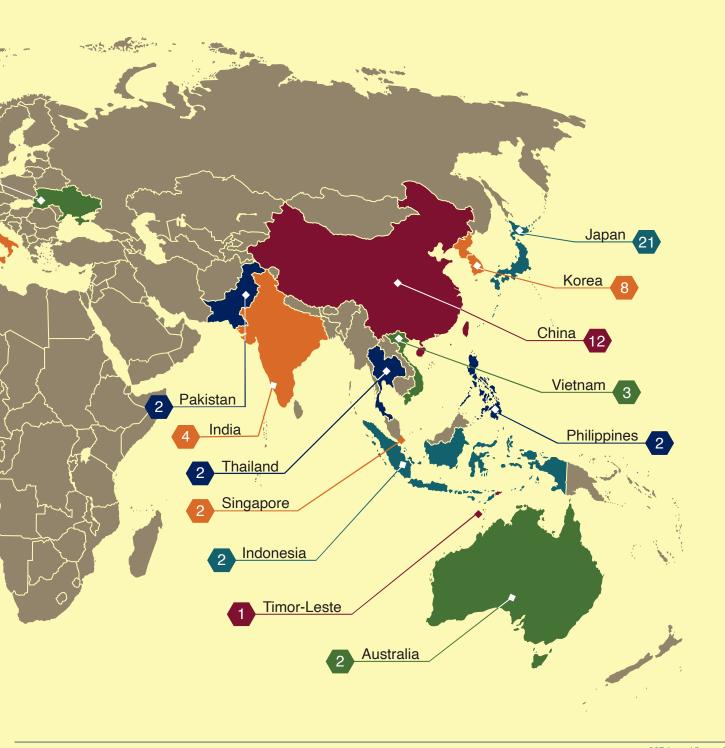
CGT's Pacific Leadership Fellows program brings leaders to UC San Diego from around the globe to engage in dialogue, research and instruction with students, alumni, faculty and the San Diego community. Fellows comprise remarkable scholars and policymakers who shape strategy in their own countries through government, private sector and academia, and provide valuable insight into how economic and political systems are evolving. CGT has hosted 101 fellows from 24 countries.



FELLOWS ACTIVITIES

While in residence, each fellow fulfills a number of responsibilities. Though their events and interactions vary based on interests and length of stay, each fellow will:

- COLLABORATE with a faculty partner on a project or initiative
- MENTOR students informally and in a classroom setting
- SPEAK at a public program or guest lecture at community events
- ENGAGE with other UC San Diego departments
- CONNECT with the broader San Diego community, and business, government or nonprofit leaders
- INTERACT with supporters and the local community



GENEROUS DONATION TO CGT WILL SPUR SCHOLARSHIP ON ECONOMIC AND TECHNOLOGICAL CHANGE

Joan and Irwin Jacobs have committed to provide a \$14 million endowed gift to the UC San Diego Center on Global Transformation (CGT), as it drives inquiry on two major transformations of the 21st century: how global economic and political structures are changing and how advances in science and technology improve policy and alter the distribution of wealth around the world.

In recognition of the gift and at the request of the Jacobs, the center has been renamed to the Peter F. Cowhey Center on Global Transformation. Cowhey served as dean of the School of Global Policy and Strategy for nearly two decades. On June 30, 2021, he retired to become professor emeritus.



In addition to furthering CGT's research addressing global economic and technological transformation, the gift supports the center's efforts to develop and maintain a network of global leaders through its signature Pacific Leadership Fellows program.

The Jacobs have supported the center since it was established in 2006. With their cumulative donations to the School of Global Policy and Strategy over the years, the Jacobs are the largest donors to GPS — one of the world's top professional schools in international relations and public policy. The Jacobs are also UC San Diego's biggest donors.

"We are incredibly thankful to Joan and Irwin Jacobs for their transformative gift to deepen the impact of the School of Global

Policy and Strategy's efforts to address challenges arising from global economic and technological change," said Chancellor Pradeep K. Khosla. "The Center on Global Transformation builds on UC San Diego's strengths in developing technologies that transform the world as well as the school's understanding of global economic and political developments. The center acts as the nexus where technology meets public policy."

The gift from the Jacobs recognizes the leadership of Cowhey, whose vision led to the creation of CGT and its Pacific Leadership Fellows program, which brings leaders from throughout the globe to the campus to exchange ideas about the pressing issues of the 21st century.

Recent fellows include Yoriko Kawaguchi, former minister for foreign affairs and minister of the environment of Japan; Gregory Lee, global president of Nokia Technologies; Enrico Letta, former prime minister of Italy and Nirupama Rao, former Indian ambassador to the U.S., among others.

"Joan and I are very proud of the Center on Global Transformation's accomplishments addressing questions of science, technology and the global economy through scholarship and policy analysis," said Irwin M. Jacobs. "With Dean Cowhey's innovative leadership, the center and School of Global Policy and Strategy have developed and maintained a network of leaders that will shape public policy over the coming decades."

The Pacific Leadership Fellows program has hosted more than 100 fellows from 24 different countries.



"I am incredibly grateful for the generosity of Joan and Irwin Jacobs who have supported CGT's excellent work since its inception," Cowhey said. "This remarkable gift will allow the center to make new discoveries on how technological innovation shapes economies and societies around the world. It will also support our recruiting efforts for the next wave of Pacific Leadership Fellows to bring leaders of thought and action from around the globe to engage in depth with our school and the broader San Diego region."

GPS and CGT have put UC San Diego and the region on the map as a hub for ideas on international policy.

CGT is under the leadership of Joshua Graff Zivin, an internationally renowned economist whose broad research interests include the environment, health, development and innovation economics.

"Each year, we provide seed grants to fund innovative research by professors and those working with master's degree and doctoral candidates across campus," said Graff Zivin. "The permanent support established by the Jacobs will increase our influence by supporting more timely and groundbreaking research from the center for years to come."

CGT's recent highlights included awards to support the work being done by the United Nations' Sustainable Development Solutions Network as well as research on how air quality affects



the occurrence of influenza hospitalizations and deaths. CGT also supported a study by Jennifer Burney, associate professor of environmental science, which found that the shutdown of coal-fired power plants between 2005 and 2016 saved more than 22,000 lives.

Graff Zivin added that the Jacobs' support will bring the Pacific Leadership Fellows program to new heights. "The program brings together dynamic thought leaders who shape strategy in their own countries through government, the private sector and academia for an extended visit to San Diego where they provide valuable insights about the urgent challenges confronting the world. They often work on projects that form the basis for policy dialogues with UC San Diego scholars."

UPCOMING PACIFIC LEADERSHIP FELLOWS

We are busy planning the visits of the next outstanding cohort of fellows while working diligently to protect our campus community amidst the global COVID-19 pandemic. Visit cgt.ucsd.edu for timely information about virtual events and future activities at the center.

ROBERT W. CONN, CEO Emeritus, Kavli Foundation and Dean Emeritus, Jacobs School of Engineering

TOOMAS HENDRIK ILVES, Former President (Estonia)

DAVID MALONE, Under-Secretary-General, United Nations (Canada)

JONG-WHA LEE, Professor, Korea University (South Korea)

MAURIZIO VECCHIONE, Chief Innovation Officer, Terasaki Institute for Biomedical Innovation (United States)

CARLOS VIANA DE CARVALHO, Deputy Governor for Economic Policy, Brazil Central Bank (Brazil)

KATE WILSON, CEO, Digital Impact Alliance (United States)

2020 SUMMER FELLOWSHIPS

CGT's summer fellowship program was established to assist GPS students in conducting high-caliber summer internships related to research on economic growth, equality and market change in the Pacific region.



ALEJANDRA CHAIDEZ, MPP '21 SEIU-United Service Workers West, San Diego, Calif.

"I served as a policy intern at a union for workers in the janitorial, security, airport and entertainment industries. All of these workers have been impacted by COVID-19 at different levels. I collected, processed and analyzed qualitative and quantitative data to support the efforts of SEIU-USWW in pushing for policies and regulations that protect unionized and non-unionized workers. We collected stories from our members, informed and prepared members with COVID-19 updates at the state and county level, organized and led lobbying meetings with senators and started discussing potential endorsements and additional involvement for the election."



MARIANNA GARCIA, MPP '21 Los Angeles Conservation Corps, Los Angeles, Calif.

"I interned with a nonprofit dedicated to providing youth with workforce development opportunities in conservation work. As part of a program called the Youth Adult Corps, people primarily ages 18-25 and from communities of color can participate in professional development and employment opportunities to help them prepare for careers in environment conservation. I implemented a Corpsmember Experience project where I evaluated the experience of program participants via surveys, data analysis and staff interviews. My final report included an analysis of program trends and recommendations to improve the program and overall engagement."



JOSH PAULL, MIA '21
U.S. Trade and Development Agency, Washington D.C.

"My internship was with the U.S. Trade and Development Agency (USTDA), an independent agency that assists the U.S. private sector connect with emerging global markets to construct their physical and digital infrastructure. I worked on the Latin America and Caribbean regional team and the Global Procurement Initiative, where I researched the procurement processes and identified export opportunities in Central, South American and Caribbean countries. As a result, I received public sector experience supporting the development of key industry sectors and promoting anti-corruption and lifecycle cost-analysis in partner nations around the world."



CAMILA URZÚA, MIA '21 Fundación Interpreta, Santiago, Chile

"Fundación Interpreta is a Chilean NGO dedicated to social listening and especially focused on hate speech and harassment towards women, immigrants, LBGTQI+ community, indigenous and black people. During my internship, I focused on social listening within the constituent process of Chile. The Chilean parliament proposed quotas for women and indigenous people who want to be constituents, so my first job was to analyze and make recommendations about the data already collected by Interpreta. I also coded a query (like an algorithm, but less complex) to be able to collect information about harassment towards women constituents."



YAOSHENG XU, MIA '21 Center for China and Globalization, Beijing, China

"I served as a research assistant for the Center for China and Globalization (CCG), a Chinese think tank based in Beijing. It is dedicated to the study of Chinese public policy and globalization, and conducts research in a wide range of social science disciplines, including global migration, foreign relations, international talent development, foreign trade and investment, homegrown multinational corporations and global governance. According to the "2018 Global Go To Think Tank Index" by the University of Pennsylvania Think Tank and Civil Society Program (TTCSP), CCG ranked 94th of the top think tanks worldwide, and the 119th Foreign Policy and International Affairs Think Tanks. My task was to do research on two topics: quality control measures of American think tanks and youth internet content management."

FRONTIERS IN SCIENCE AND INNOVATION POLICY

Scientific discovery and innovation are becoming much more dispersed and interdependent globally. China is a U.S. rival for leadership in science and economic strength in a way that the Soviet Union never achieved. The financial instruments propelling discovery and its translation are very different. The newly established Frontiers in Science and Innovation Policy (FSIP) program will take on the challenge of analyzing how best to reinvigorate the U.S. system of basic research and innovation in a world that is markedly different than even 30 years ago.

Why launch FSIP?

Simply put, the creation, translation, innovation and dissemination of knowledge are the keys to future economic growth. The U.S. government has a clear interest in understanding how policy can channel growth within our borders, even as borders become a thing of the past in terms of the global supply chain and innovation. The U.S. also has a clear interest in growth and discovery in countries or economic unions (such as the EU) with whom we have defense agreements, that is, our allies.

Identifying those frontiers and how they are likely to be categorized by the Biden administration will mean all the difference to stakeholders in those sectors – as will understanding the prerogatives and strategies of state allies such as India and state competitors such as China.

FSIP is equipped with an understanding of globalization of the past while looking to the globalization of the future. It is no longer enough to think of global exchange in terms of the movement of goods. Robust policy must also consider the movement of knowledge, how it is protected and how it proliferates.

An expert advisory group will convene to inform and shape FSIP research and policy dialogue, including two leaders in

FSIP approaches its research with the guiding premise that there are three primary strategic U.S. approaches to science and technology policy:

- » Maintain and benefit from the global system of research and innovation
- » Identify frontiers in which the U.S. and its allies must lead
- » Identify areas where broader global collaboration is desirable

the world of science and technology policy: Robert Conn, founding dean of the Jacobs School of Engineering and former president and CEO of The Kavli Foundation, and Peter Cowhey, former dean and Qualcomm Chair emeritus at GPS.

FSIP will produce reports that will inform and evaluate U.S. science and innovation policy under the current administration and its successors. Robust, data-driven analysis will be a valuable resource for policymakers as they consider options for investing resources and the potential outcomes of specific policies. The findings of the reports will also be valuable to industry stakeholders in science and innovation as they assess their choices for business development and acquisition.

In parallel to this effort, FSIP will convene a team of experts to assess the unique role of scientific philanthropy in the U.S. innovation system. Understanding the role of philanthropy is critical because it is a key differentiator between the discovery and innovation ecosystems of the U.S. and China, and most of the rest of the world.

For example, FSIP will launch an annual San Diego Forum designed to engage scholars and the world's most notable thinkers in science and innovation policy, and to complement work being done at the school's 21st Century China Center's West Coast Forum on Science & Technology.

Finally, the center will also create FSIP Science and Innovation Fellows. The program will support a group of emerging postdoctoral researchers in science and innovation policy and connect them with some of the most important leaders in this space on our campus.

Why UC San Diego?

UC San Diego is an innovation powerhouse. In 2019, it was ranked third among public research universities in the U.S. by Nature Index in terms of "high-quality science." FSIP launched in 2021 in the best place possible of the new tools informing science and technology policy — a campus where the fundamental capacities of technology are developing day by day.

FSIP will benefit from other UC San Diego programs, and will build upon the school's constellation of partnerships across campus and elsewhere.

RESEARCH GRANTS

CGT fosters academic inquiry by offering grants for innovative research for faculty and doctoral students. The following are a selection of major projects awarded and ongoing general support for the Big Pixel Initiative and SDG Policy Initiative.

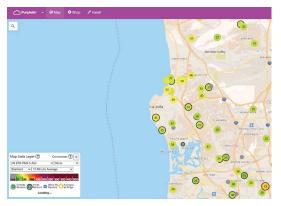
EMPLOYEE HARDSHIP FUNDS AS MUTUAL AID

JOHN AHLQUIST, PROFESSOR

Dozens of major U.S. companies now maintain programs that combine monetary donations from their employees and (tax deductible) corporate contributions to offer emergency cash grant programs for their own workers in times of need. These programs are known as "employee hardship funds" or EHFs. There is no academic or policy research on EHFs despite their apparently rapid growth. CGT provided seed funding to Ahlquist to support the design and pilot testing of a novel survey of workers matched to their employers. The survey will provide the first systematic evidence of employee awareness, experience and opinion about EHFs. Ahlquist



is also embedding experiments within the survey to identify the impact of EHFs on workers' opinions about their coworkers, employers, labor unions, government-provided social insurance and COVID-19 relief programs. The study has policy implications for the tax treatment of charity in the American political economy, the tools employers have for union avoidance and public opinion about major government relief programs.



WHAT'S OUTDOORS IS ALSO INDOORS

JENNIFER BURNEY, ASSOCIATE PROFESSOR AND JOSH GRAFF ZIVIN, PROFESSOR

Particulate matter (PM) is the largest environmental cause of mortality around the globe. Although PM is produced by a vast array of sources, most of the dominant contributors tend to be outdoors, including transportation, electric power generation, industry, forest fires and dust. And while the built environment provides shelter from the elements, it is an incomplete filter. The team used a full year of hourly data crowdsourced from the PurpleAir Real Time Air Quality Monitoring Network to explore the dynamic relationship between outdoor and indoor PM concentrations. The scale of this study, which pulled data from consumers across California, offers new

insight into both average penetration rates and drivers of heterogeneity in the outdoor–indoor relationship. The authors found that an increase in the daily outdoor PM concentration of 10% leads to an average increase of 4.2–6.1% in indoor concentrations. They also provide evidence that penetration rates are associated with building age and climatic conditions. The findings have significant implications for government policies to improve public health through reductions in exposure to ambient air pollution.

COVID-19 LOCKDOWN RELIEF IN INDIA

GAURAV KHANNA, ASSISTANT PROFESSOR

With support from a CGT, Khanna and his colleagues' research continues to support India's relief efforts by examining high frequency and high spatial data from the state government, plus other sources of firm level data. Of particular importance to the state was to know how easy it was to switch to alternative potential suppliers when a firm's primary supplier shuts down. The analysis allows us to quantify just how much governments should invest in facilitating such trade. The analysis suggests that as many supplier firms (e.g., steel mills) shut shop, their downstream buyers (e.g., car manufacturers) had great trouble finding alternative suppliers. This has



substantial implications for the shape of economic recoveries following such crises. In the longer run, we may expect there to be permanent consequences of this pandemic-induced crisis to both the steel and car industries.

COST OF LIVING INEQUALITY DURING THE GREAT RECESSION

MUNSEOB LEE, ASSISTANT PROFESSOR

For decades, economists have tried to study the patterns of poverty and inequality by focusing only on the disparities in nominal income. The measures of real income inequality that account for differences in the cost of living are arguably better measures of the differences in the standard of living. Lee finds that high-income households experienced a lower cost of living inflation than low-income households during the U.S. Great Recession (2007-13). He argues that these slower increases in prices for higher-income households arise because it was easier for them to visit



lower-priced retailers and purchase lower-priced products. His finding has important implications for the measurement of the poverty rate and inequality. Nominal income inequality, which does not consider income-group specific inflation rates, may have underestimated actual differences in the standard of living across households during the U.S. Great Recession. The research suggests that fiscal policy during the recession should target low-income households more to compensate for their higher inflation rates.



BIG PIXEL INITIATIVE SHOWS HEAT DISPARITIES

JENNIFER BURNEY, ASSOCIATE PROFESSOR AND SUSANNE BENZ

Excess urban heat is common within cities, but not all communities burden the consequences equally, according to new research by Jennifer Burney and Susanne Benz, who was a postdoctoral fellow supported by CGT and the Big Pixel Initiative while conducting the study. Low-income neighborhoods and communities with higher Black, Hispanic and Asian populations experience significantly more urban heat than wealthier and predominantly white neighborhoods within a vast majority of populous U.S. counties. The analysis of remotely-sensed land surface temperature measurements of 1,056 U.S. counties, which have 10 or more census

districts, was recently published in the journal Earth's Future. Burney and Benz made the data publicly available through the creation of an app, powered by Google Earth Engine, which community members can use to see how the temperatures in their neighborhood compare to surrounding areas.

SDG POLICY INITIATIVE FORGES LOCAL PARTNERSHIP TO REDUCE CARBON EMISSIONS

GORDON MCCORD, ASSOCIATE TEACHING PROFESSOR

The San Diego County Board of Supervisors unanimously voted on Jan. 27, 2021 to direct County staff to work in partnership with GPS to draft a plan that would establish a feasible framework for getting San Diego's carbon emissions to zero by 2035. Achieving decarbonization in San Diego requires coordinated action at every level of government. San Diego County has committed itself to meet this challenge through a Regional Decarbonization Framework (RDF) that will establish technical and policy pathways to deep



decarbonization in land use, power, buildings and transportation sectors. The SDG Policy Initiative is leading a coordinated effort of local universities, experts, stakeholders and local government officials. Beyond San Diego, the RDF can provide an example of how to plan for, and implement, deep decarbonization at the regional level. This work is supported by both CGT and the Deep Decarbonization Initiative at GPS.

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