

MICHELSON PHILANTHROPIES

2023-2024 IMPACT REPORT

Investing in Changemakers
Spurring Progress With Public Policy
Democratizing IP Education



The Power of **20 MILLION MINDS**

Michelson 20MM has emerged as a leader
in the fight for textbook affordability.
Now it's working toward digital equity
and smart justice for all



SEC. 2. The Legislature

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ABOUT MICHELSON PHILANTHROPIES

Michelson Medical Research Foundation, founded in 1995, creates medical research infrastructure and drives a model for highly collaborative convergent projects and targeted science. This empowers researchers to translate bold ideas into therapies that save lives and provides vital boosts to people and programs through research grants and prizes, strategic investments, and other tools.

Michelson Found Animals Foundation, founded in 2005, directly provides animal welfare services and champions pets at every point they intersect with our society. The foundation operates a range of initiatives, including grants and programs that put resources in the hands of communities in need, and research that promotes pet-friendly policies.

Michelson 20MM Foundation, founded in 2010, seeks to improve educational access, efficacy, and equity for the nation's 20 million postsecondary students and invests in technology entrepreneurs, changemakers, and policy to catalyze scalable innovations in the knowledge economy and accelerate progress toward a more just world.

Michelson Center for Public Policy, founded in 2021, is a privately funded operating foundation that interacts with legislators and government officials to address criminal justice reform and anti-recidivism efforts, advocate for innovative policy solutions that advance medical research, increase access to education and careers for underserved communities, promote understanding of intellectual property, and protect animals.

LEADERSHIP

Gary K. Michelson, M.D.

Founder, President, and Co-chair

Alya Michelson

Co-chair

Geoffrey L. Baum

Executive Director, Michelson Philanthropies, Michelson Center for Public Policy, and Michelson Medical Research Foundation

Phillip Kim

CEO, Michelson 20MM Foundation, and Managing Director, Michelson Impact Ventures

Brett Yates

CEO, Michelson Found Animals Foundation, and CFO, Michelson Philanthropies



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Tribal leaders from across California gathered to discuss how to establish and maintain their own broadband networks.



Page 12
A Cincinnati Zoo researcher and feline colleague high-five during a breakthrough study toward a nonsurgical sterilant for cats.



Page 16
Dr. Aleksandar Obradovic is the 2023 recipient of the Michelson Philanthropies & Science Prize for Immunology.



Page 22
Michelson Institute for Pet Professions enrolled its 100th student in 2022. Seventy participants have completed the program.

**“You see things; and you say ‘Why?’
But I dream things that never were;
and I say ‘Why not?’”**

GEORGE BERNARD SHAW

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THE POWER OF 20 MILLION MINDS

Michelson 20MM has emerged as a leader in the fight for textbook affordability. Now it's working toward digital equity and smart justice for all

BY DICK ANDERSON

Dr. Gary K. Michelson understands the value—and cost—of a college education. As an undergraduate, he often worked two jobs to put himself through Temple University and later medical school. His education became the foundation of a boundless career as an orthopedic spinal surgeon, inventor, and philanthropist—and fueled a commitment “to leave the world a better place than we found it.”

In 2010, after learning that students at Santa Ana College had to suspend or outright abandon their pursuit of a college degree because they couldn't afford the cost of textbooks, Dr. Michelson contributed his own funds toward a textbook scholarship fund.

But his efforts didn't stop there.

He founded a nonprofit, Twenty Million Minds, pouring \$1.5 million of his own money into OpenStax, a nonprofit educational technology initiative that publishes free openly licensed textbooks. A decade after its founding, OpenStax is used by 70 percent of all colleges and universities in the United States.

While Twenty Million Minds has since rebranded as Michelson 20MM and expanded to include impact investing, grantmaking, and advocacy, Dr. Michelson remains steadfast in his original commitment to make college more affordable and accessible to all.

“We've been a consistent voice and expert in the space for over a decade—I think we understand the industry better than most,” says **Phillip Kim**, CEO of Michelson 20MM and managing director of Michelson

Impact Ventures. “Unfortunately, that means that we also understand the publishing industry's long-term and often hidden intentions.”

What might seem like a victory on the surface—the industry's move to offer a flat-rate, subscription-based textbook package—“is actually setting up a problematic universe of publisher-controlled systems,” Kim says. “We will continue to monitor that vigilantly. But the existence of OpenStax has created an additional check on the entire publishing industry and helped suppress prices across the board.”

In response to what he calls “the racket ... that is the textbook industry,” California Governor **Gavin Newsom** committed \$115 million in 2021 toward the state's 116 community colleges to implement a Zero Textbook Cost (ZTC) degree pathways program that largely relies on open educational resources (OER). Now comes what is arguably the hard part: implementation.

“Implementing a \$115 million ZTC program across the largest system of higher education in the country is a huge undertaking, so we have tried to be a consistent and knowledgeable resource for the Community College Chancellor's Office,” Kim says.

“OER has dozens of experts that have been immersed in this work for decades,” he continues. “They have learned some very hard lessons, and from that, they have begun to cultivate best practices and share their wisdom on facilitating a program like this.”



Connectivity as a Fundamental Right

At the outset of the pandemic, with the abrupt transition to remote learning for millions of students in California, the issue of digital equity quickly came to light. “We’ve known for years about the problem of digital redlining in low-income neighborhoods and communities of color,” Kim says. “There are studies that showcase significant price discrepancies where the same internet service in a predominantly Black and low-income neighborhood is priced higher and on different terms than the same offering in a predominantly white, more affluent neighborhood. And we still have significant percentages of the population that remain disconnected.”

Connectivity is “a fundamental right,” Kim continues—and at the outset of COVID-19, Michelson 20MM joined with other groups in facilitating some short-term solutions, such as getting 20,000 laptop devices into the hands of community college students. “But similar to how we evolved our thinking in the

textbook space, that ‘Band-Aid’ is not where we wanted to engage long term,” he says.

Noting that there is more than \$65 billion in federal and state funding earmarked toward addressing the digital divide, “We did not want those dollars to reinforce the broken broadband system,” says **Miguel Leon**, director of programs and strategic initiatives. “We wanted to challenge and change the industry narrative that nearly all Californians are connected to broadband. To do that, we built capacity in nonprofit ecosystems so that the voices of historically digitally redlined communities were being heard.”

The narrative change includes viewing broadband as a public utility, a human right, and a social determinant of health. Nowhere was this more evident than in tribal communities. During the pandemic, people living on tribal lands were dying at rates nearly double the national average. “Isolated and disconnected, many indigenous communities could not access the telehealth services to which we all have grown accustomed,” Kim says.

Digital sovereignty in action: Tribal leaders from across California learned about establishing and maintaining their own broadband networks at the Tribal Broadband Boot Camp in July 2022. Funded by Michelson 20MM and hosted by the Institute for Local Self Reliance, the boot camp welcomed members of the Hoopa Valley Tribe, Yurok Tribe, and Navajo Nation.

The Hoopa Valley Tribe secured **\$65 million** to put toward broadband investments for their community.

In June 2022, Michelson 20MM launched the Digital Equity in Tribal Communities Project. Michelson 20MM partnered with the Institute for Local Self Reliance, which convened nearly 50 leaders from four tribes for a series of boot camps. The boot camps were designed to provide the knowledge and tools needed to build and maintain broadband access

while also forging connections among attendees and developing a community of practice.

Equipped with the knowledge and expertise gained through the boot camps and established network, the Hoopa Valley Tribe secured \$65 million to

put toward broadband investments for their community.

“Similar to open publishing, we look for this sort of scalability in our work, where a catalytic seed investment can help position deserving organizations to go after tens of millions of dollars,” Kim says.

Bringing IP Into the Classroom

The owner of more than 950 patents, Dr. Michelson has long championed the value of IP protections. In 2016, he established the Michelson Institute for Intellectual Property. Housed at Michelson 20MM, Michelson IP provides free intellectual property educational resources for inventors and entrepreneurs, with a focus on underrepresented communities. Michelson IP produces free high-quality IP resources, including an introductory college textbook

that makes patents, copyright, and trademarks understandable for students and non-lawyers. Michelson IP also developed an animated video series that breaks down the content into digestible video shorts. Its online Udemy course—which makes the basics of intellectual property accessible to all—passed the 24,000-learner mark in 2022. In addition, course learners are eligible to receive a certificate of completion from the National Academy of Inventors.

In 2021, Michelson IP also partnered with Historically Black Colleges and Universities (HBCUs) to launch the **HBCU IP Futures Collaborative**, bringing IP curricula, resources, and \$175,000 in grants to participating institutions. The following year, one HBCU student who received IP education through the Collaborative invented a fast food automation machine and has since filed for a patent with the United States Patent and Trademark Office.

In recognition of his “extraordinary leadership in advocating for the value of intellectual property to stimulate the progress of innovation,” the Intellectual Property Owners Education Foundation awarded its annual IP Champion honor to Dr. Michelson in December 2022.

Smarter Justice, Better Outcomes

More than half of people released from prison in America are unemployed within a year of reentering society. Studies also show that approximately two-thirds of individuals released from prison likely will be rearrested within three years of release. These sobering statistics, and the realization that poor people and communities of color have been disproportionately impacted by mass incarceration in the United States, led to the creation of the Smart Justice Initiative.

“We see clear racial disparities in our justice system, with Black and Latinx communities over-represented and impacted,” says **Mayra Lombera**, chief operating officer at Michelson 20MM. “Our legal system has created a group of second-class citizens—locking out people of color from mainstream society and relegating them to the lowest rungs of the employment and education ladders.”

A key component of the initiative includes expanding access to post-secondary education for both currently and formerly incarcerated individuals. “We’ve been focused on identifying best practices that can support individuals on a prison to college path,” says Lombera. “Last year, we convened a think tank of experts to help us identify how to better tackle

Supported by 2020 and 2021 Michelson Spark Grants, the Forestry and Fire Recruitment Program prepares currently incarcerated firefighters for long-term employment in the fire services.



the unique challenges that prevent incarcerated and formerly incarcerated scholars from beginning or continuing their education.”

Access to education has been proven to have a positive impact on reducing recidivism rates. Studies also have shown that the children of incarcerated individuals who are enrolled in education programs are less likely to be imprisoned themselves. “It just shows you how education can change the multi-generational trajectory of entire families,” Kim says.

In addition to educational programs, Michelson 20MM seeks to foster workforce pathways for justice-impacted individuals. In 2022, more than 7,500 wildfires were recorded in California, covering more than 360,000 acres. To fight wildfires, the state turns to incarcerated laborers, who make up more than 30 percent of the state’s wildland firefighting crews. But when these men and women return home from prison, continuing their careers as firefighters has proven difficult.

“When incarcerated firefighters are released, their service is not appropriately recognized, and they are in no better position to pursue a career in firefighting despite their training and experience in fire camps,” Kim says. The Michelson Center for Public Policy endorsed the Formerly Incarcerated Recruits finding Employment (FIRE) Act of 2022 (AB 1908), authored by Assemblymember **Brian Maienschein** (D-San Diego), which would allow incarcerated firefighters to obtain the necessary certifications and proof of work experience that can improve their employment prospects upon release.

“To ignore the countless hours of training, field experience, and service on the perilous frontlines—and deny them a hard-earned pathway to certification and a meaningful career—is unduly harsh and discriminatory,” Dr. Michelson wrote in February 2022. “It is also incredibly shortsighted given California’s dire need for trained, experienced, and courageous professionals willing to risk their lives to protect us.”

The Year Ahead

“If there is a throughline to the work of Michelson Philanthropies, it’s investing in solutions that honor the communities we seek to serve, and brings us back to our mantra of ‘making life less unfair,’” Kim says.

“The \$115 million invested by Governor Newsom remains a top priority for us,” he adds. “We provide resources and expert guidance to exert whatever influence we can, but we don’t control anything. We want to make sure that at the end of the year, we’ve



done absolutely everything we can to make sure that those dollars were used in the best way possible.”

With a potential recession clouding the economic outlook, he notes, “There are many exceptional founders and companies—particularly that have a significant social impact dimension—that may not survive an economic downturn. They’re not going to be the easiest candidates for funding in this environment just because of the contraction. And the first ones that go will be those companies that are focused equally on doing good as they are on generating volume.

“Similarly, we expect that companies that are female-founded or have a founder of color will also be the first ones to suffer from the contraction.” Nearly 70 percent of **Michelson Impact Ventures’** portfolio companies have a diverse founder, Kim notes, “and we will double down on that dimension and continue to support them during this time.”

In recent years, Lomera says, “Michelson 20MM has honed its skills in bringing together all of these different levers—from grantmaking and investing to policy advancement and advocacy work—to effect change across a range of entrenched systemic issues. In the next five years, I see Michelson 20MM even more cohesively and effectively using all of those levers for the greater good. It’s the equity work we are deeply committed to—and we’re in it for the long haul.”

Phillip Kim, left, and members of the Michelson 20MM team at the 10th installment of the foundation’s “Connecting California: Solving the Digital Divide” learning series. The town hall was titled “California and the FCC Unite to Eliminate Digital Discrimination.”

GRANTS

Michelson Philanthropies awarded more than \$2.8 million in grants in 2022 to support a host of initiatives across its foundations

Animal Welfare Grantmaking



\$1.6M
Michelson
Found Animals
Foundation

■ **Spay/Neuter:** Michelson Found Animals Foundation is committed to funding programs that address two major sources of overpopulation in shelters: spay/neuter access and surrender prevention. MFA grants tackle both issues to make the greatest impact possible on reducing shelter euthanasia.



Since its launch in 2015, the Saving Pets Challenge has raised more than \$10 million.

■ **Saving Pets Challenge:** Hosted by Michelson Found Animals, the 2022 Saving Pets Challenge raised **\$1,035,770** online from 7,254 donors in one month to benefit organizations dedicated to improving the quality of life for companion pets and their humans. Organizations from around the country raise money and compete for \$150,000 in grant prizes each year.

140

Organizations across the United States participated in the 2022 Return to Home Challenge

10,324

Reunions were collectively completed from October 1-31 (5,536 dogs and 4,788 cats)



■ **Open Arms Challenge** brings together 23 national organizations to support animal shelters, foster-based organizations, and public charities. **\$420,000** in grant prizes will be contributed by Michelson Found Animals and its partners, including Adopt-a-Pet, California for All Animals, Maddie's Fund, and Ryan Animal Rescue Foundation.



■ **California Animal Welfare Funders Collaborative** (CAWFC), created in August 2019, brings together grant-makers, including Michelson Found Animals Foundation, to creatively and flexibly respond to the needs of animal shelters in California.

In 2022, **\$300,000** in grants were given to 19 organizations to help keep pets and people together. Previous CAWFC grant recipients include Inland Valley Humane Society & SPCA, City of San Bernardino Department of Animal Services, and Ramona Humane Society.

Spark Grant Programs

■ **Student Basic Needs:** In 2022, Michelson 20MM Foundation made tremendous strides in supporting the **50 percent** of community college students who are food-insecure; the **11 percent** of California State University students who are homeless; and the **20 percent** of students in California who are parents.

Michelson 20MM recently launched the **Michelson Pregnant and Parenting Student Project**, a platform for programmatic and policy efforts designed to increase support for pregnant and parenting students at colleges and universities. The CSU Student Parent Network co-hosted Michelson 20MM's virtual learning series, "The State of Pregnant and Parenting Students in California," and launched the CSU Student Parent Data Collection Landscape Analysis Project in partnership with the Education Trust-West. A report on the project's findings is expected in December 2023.

\$576K
Michelson
20MM
Foundation



■ **Textbook Affordability:** As the California Community Colleges prepare to roll out the Zero Textbook Cost degree program across the state, Michelson 20MM is awarding grants to ensure the system can build out internal capacity in technology, research, and other critical skills necessary to facilitate the intended goals of the program. Building off a prior OER Bay Area investment, Michelson 20MM supported a Creative Commons Boot Camp to build capacity in the region by allowing up to 15 individuals to earn CC certification. The American Association of Colleges and Universities (AAC&U) will support the participation of teams from five institutions from the California Community College system in AAC&U's upcoming Institute on Open Educational Resources (IOER), providing them with the framework to build out their OER programs.



■ **Smart Justice:** Project Rebound developed a data-informed toolkit that will guide how Project Rebound campuses provide tailored housing opportunities for their students.

■ **Digital Equity:** The Michelson Digital Equity Pooled Fund is a collaboration between multiple funders, each of which is focused on advancing digital equity in California. The fund aims to:

- Ensure that equity is at the forefront of how broadband infrastructure dollars are spent in California.
- Address the immediate, mid-, and long-term needs of digital equity advocates and practitioners in the state.

Partnerships include:

- The Voice for Broadband Equity Project, which brings technical assistance to BIPOC-led and low-income-serving community organizations.
- The Digital Equity Technical Assistance Project, which provides technical assistance to nonprofit organizations to bridge the digital divide and ensure access to affordable, reliable high-speed broadband service for all Californians.



Firefighters in training in February 2023.

Spark Grant Programs (continued)

Forestry and Fire Recruitment

Program: 1,600 incarcerated individuals selflessly volunteer to join the fire camps and fight on the front lines each year, but upon their release it is incredibly challenging for formerly incarcerated individuals to obtain careers in the fire service. In response, the Forestry and Fire Recruitment Program (FFRP), a 2020 and 2021 Michelson 20MM grantee, stepped in to recruit currently incarcerated firefighters for long-term employment in the fire services.

Most recently, FFRP was awarded a Michelson Spark Grant to expand its services into the Bay Area, welcoming its first regional cohort in November 2022. FFRP is directly responding to an overwhelming need, with an estimated 15,000 individuals having returned to the Bay Area in the last 10 years. As part of the expansion, FFRP identified four preliminary projects, which will train and ultimately prepare the cohort

for jobs with organizations such as Cal Fire, the United States Forest Service, and private fire prevention services. Once secured, salaries for former fire camp participants will range from \$40,000 to more than \$70,000. In the long term, FFRP intends to operate two cohorts a year.

In a historic moment, California recognized the vital role the fire camps play by passing legislation in 2020 that breaks down those barriers. Effective January 2021, formerly incarcerated individuals who served in a CDCR fire camp are eligible to have their records expunged. As Governor **Gavin Newsom** said, “This legislation rights a historic wrong and recognizes the sacrifice of thousands of incarcerated people who have helped battle wildfires in our state.” Coupled with FFRP’s training and ancillary services, the new legislation makes high-paying careers more accessible for thousands of individuals returning home.

Other Grants and Gifts

■ **FirstGen Grants:** In 2022, the FirstGen Initiative launched its new FirstGen Spark Grant cycle, calling for organizations that support and uplift immigrant women to apply for a \$25,000 grant to support their work. (Read more about FirstGen on page 17.)

■ **AmericaShare:** A gift of more than \$28,000 from Michelson Philanthropies to AmericaShare will sponsor the education of five children and purchase 20 computers for its computer center in Mukuru, an informal settlement on the

\$600K
Michelson
Prize &
Grants

outskirts of Nairobi, Kenya. The donation will cover all expenses for one year of a boarding school education. “Mukuru is a unique place, bursting with life, culture, and hope,” **Lorna Macleod**, executive director of AmericaShare, wrote to Gary and Alya Michelson. “Through the generosity of individuals like you, we can feasibly envision a Mukuru where children learn, grow, and pursue a brighter future.”



\$650K
Michelson
Medical
Research
Foundation

Dr. Aleksandar Obradovic, winner of the 2023 Michelson Philanthropies & Science Prize for Immunology, in his lab at Columbia University Irving Medical Center. Read more about this year’s prize recipients on page 16.

Michelson Impact Ventures Builds Social and Financial Prosperity

Michelson Impact Ventures (MIV), the social change venture fund of Michelson Philanthropies, this year added a milestone 60th direct investment into its portfolio of mission-aligned, for-profit startups. “Our impact ventures strategy continues to function as a critical and coordinated complement to our grant-making, programmatic, and advocacy work,” says **Phillip Kim**, managing director of MIV.

MIV has remained active across the Michelson organization’s myriad focus areas, spanning edtech, digital health, sustainability, human-animal bond, veterinary technology, future of food, future of work, govtech and more. “Moving the needle on some of the most intractable and systemic problems requires that we help activate scalable technologies that can adeptly leverage market forces toward sustainable, long-term change,” Kim says.

Portfolio companies like Mainstay, the nation’s leading student retention chatbot, or Beam, which is now expanding its exemplary work in emergency student aid to become a technological solution for all of a city or state’s anti-poverty strategies, have continued to set the standard in their segments. “As we enter into our seventh year, we are starting to see real validation that our companies can be category-defining and help elevate the impact-orientation of an entire sector,” says **Mayra Lombero**, chief operating officer at Michelson 20MM. In such cases, ventures can also carry implications for public policy. “In creating these leading-edge data systems, payment models, and other disruptive innovations, they are



Above: Secretary of State Antony Blinken, left, speaks with David Helene, founder and CEO of Beam (formerly known as Edquity), an end-to-end platform that streamlines equitable public benefit administration. Below: The Leap Venture Studio leadership team.

working to fundamentally improve the calculus and shape of legislative interventions,” says Kim.

Earlier this year, MIV also saw the latest of six exits to date with the acquisition of portfolio company Qualified, a skills-based hiring platform, by Andela, an edtech unicorn facilitating global job placement for software developers. This follows the 2021 acquisition of MIV portfolio company Osmosis, a health education platform making medical content more accessible, by Elsevier, the world’s largest scientific publisher. Additionally, nine MIV portfolio companies are now valued at more than 10 times their initial value at the time of investment.

“Despite the instability of the current macro environment, we are seeing strong performance across nearly all portfolio verticals—including animal welfare, where we continue to take exciting positions in the worlds of diagnostics, alternative protein, pharmaceutical, and sustainability,” Kim says. Such proof points are validation of the early thesis that these investments can generate financial returns, he adds, while delivering on core impact objectives: “We believe that the market will increasingly evolve to more accurately price a venture’s positive social impact, allowing us to generate mission-conscious returns that we can reinvest into our philanthropic grantmaking and operations.”



POLICY

Michelson Center for Public Policy (MCP) works with community partners, advocates, regulators, and elected officials to blaze new paths and eliminate existing barriers—and 2022 was a significant year of policy progress

Education, Equity, and Opportunity

Support for Student Parents Pursuing Higher Education: Michelson Center for Public Policy co-sponsored Assembly Bill 2881 by Assemblymember **Marc Berman**, which removes barriers student parents face at community colleges, California State University, and the University of California by providing them with priority registration, creating a parenting student webpage for each campus, and increasing awareness around availability of the California Special Supplemental Food Program for Women, Infants, and Children. The bill was signed into law by California Governor **Gavin Newsom** in September 2022.

Advocating for Effective Implementation of Zero Textbook Cost Program to Help Community College Students: MCP has served as a leading advocate before the California Community College Board of Governors for effective implementation of the historic \$115 million investment made in the program to develop Zero Textbook Cost (ZTC) degree pathways for associate degrees and career technical education certificate programs across California community colleges. Implementing the program will be critical in closing achievement gaps and addressing current inequities, creating a future where students and educators have access to free, high-quality, accessible course materials.



California Assemblymember Marc Berman.

Reducing Recidivism: MCP co-sponsored state Senator **Ben Hueso**'s bill to ease the pathway to success and reduce recidivism, smooth the parole transfer process, and give formerly incarcerated individuals more chances to start a new life. SB 990 was signed into law by Governor Newsom in September 2022.

In 2021, California passed SB 416 to protect incarcerated students from predatory institutions and prioritize education over work assignments. SB 990 goes a step further by taking steps to safeguard education and rehabilitation upon release, allowing those on parole to live, work, or get an education outside of the county where they previously resided.

"In recent years, California has made great strides in reducing recidivism among formerly incarcerated individuals," said Sen. Hueso, who also introduced SB 416. "SB 990 expands on this important work by specifically targeting those individuals



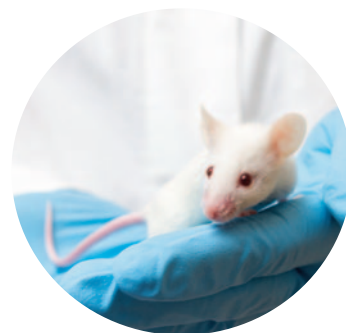
California State Senator Ben Hueso.

who have seized the educational and vocational opportunities available to them while in prison, and removing some of the barriers that remain upon being paroled so they have better chances to successfully reintegrate. By allowing formerly incarcerated individuals to be released to the county in which they have earned access to educational or employment opportunities, we can ensure that investments in their futures prove fruitful for them, their families, and all of California."

Underground Scholars Program: MCP supported increased funding to the University of California of \$4 million for the Underground Scholars Program in the 2022-23 budget to provide ongoing support to formerly incarcerated students. Underground Scholars helps create opportunities and removes barriers for incarcerated, formerly incarcerated, and system-impacted individuals to pursue higher education.



Animal Welfare



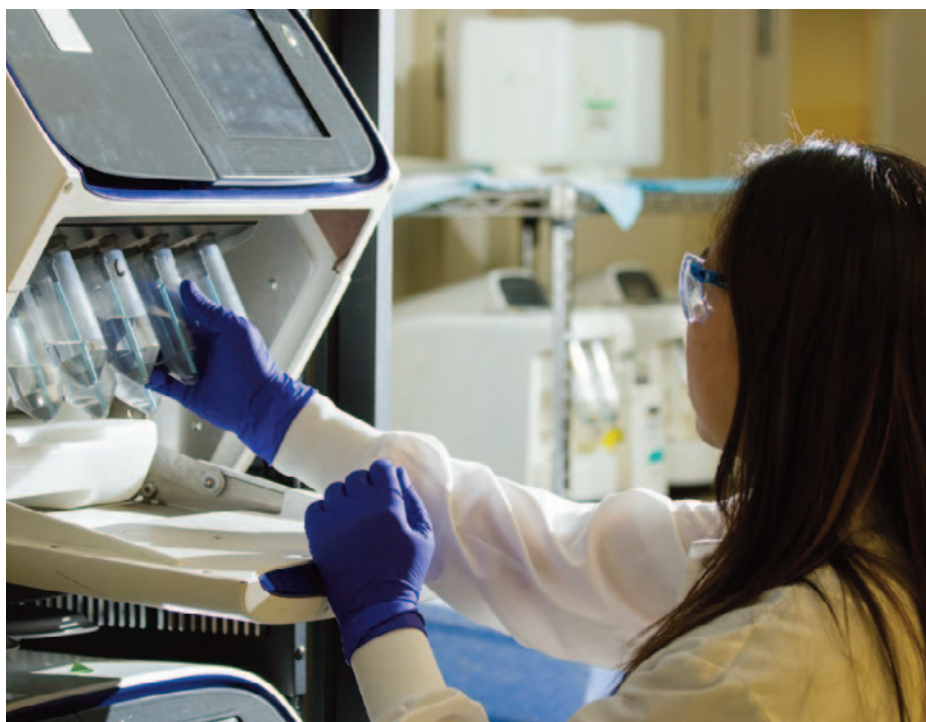
Modernize Testing to Be Humane and Cruelty-Free:

MCPPI supported and advocated for a provision in the FDA Modernization Act 2.0 to modernize testing to be more humane and effective. The legislation allows pharmaceutical companies to submit alternatives to animal data in establishing the drug's safety and effectiveness for the first time. These alternative methods may include cell-based assays, organ chips and microphysiological systems, sophisticated computer modeling, and other human-biology-based test methods. *Signed into law in December 2022.*

Pet-Inclusive Housing for All: MCPPI supported Senate Bill 971 by State Sen. **Josh Newman**, which increases the availability of pet-friendly housing for California's low-income renters by expanding pet-inclusive policies for housing financed through the Department of Housing and Community Development (HCD) and the Low Income Housing Tax Credit (LIHTC) Program. *Signed into law by Governor Newsom, September 2022.*

Health Innovation

Establishing the World-Class California Institute for Immunology & Immunotherapy (CIII): MCPPI advocated for and supported the allocation of \$500 million over the next three years toward establishing the California Institute for Immunology and Immunotherapy. Co-founded by **Dr. Gary K. Michelson**, the multidisciplinary research institute (approved in the FY 2022-23 budget) will harness and coordinate the extraordinary potential and accelerate immunology and immunotherapy's enormous health and economic benefits. The institute will maintain the state's stature as the unquestioned global leader in biotechnology while accelerating the career pipeline for California students in these emerging fields.



A BREAKTHROUGH IN FELINE CONTRACEPTION

Michelson-funded initiative yields single-dose sterilant for cats, delivering on the promise of more than a decade of research



Two of the “cat scientists” from the Cincinnati Zoo’s two-year study.

Photos courtesy The Center for Conservation and Research of Endangered Wildlife (CREW) at the Cincinnati Zoo & Botanical Garden

In response to the ongoing challenge of preventing unwanted reproduction in female cats, researchers at Massachusetts General Hospital and the Cincinnati Zoo’s Carl H. Lindner Jr. Family Center for Conservation and Research of Endangered Wildlife have demonstrated that a single dose of anti-Müllerian hormone (AMH) gene therapy can induce long-term contraception in the domestic cat, potentially providing a safe and effective alternative to surgical spaying.

In a recently published study in the journal *Nature Communications*, a single shot of a gene therapy prevented pregnancy in cats for at least two years. Over the course of the two-year study, none of the six female cats treated with the vector shot became pregnant, while all three controlled females became pregnant and had normal litters. (All nine “cat scientists” have been retired from the study and “get to go live in their forever homes,” says **Dr. Lindsey Vansandt**, a theriogenologist at the Cincinnati Zoo and lead author of the *Nature Communications* study.)

The work is led by principal investigators **Dr. David Pépin**, associate professor of surgery at Massachusetts General Hospital, and **Dr. Bill Swanson**, the Cincinnati Zoo’s director of animal research. Working in the lab of **Dr. Patricia K. Donahoe**, director of pediatric surgical research laboratories and chief emerita of pediatric surgical services at Massachusetts General Hospital, Pépin discovered that raising the level of the ovarian anti-Müllerian hormone (AMH, also

known as Müllerian inhibiting substance, or MIS) beyond a certain threshold suppressed the growth of ovarian follicles, effectively preventing ovulation and conception.

“I think it’s a case where we had a solution looking for a problem,” Pépin says. “We had something extremely effective. Maybe it was not so useful for humans. So, we thought, where can we get the most benefit from this discovery—where can this do some good?”

Pépin and his team learned about the Michelson Prize & Grants in Reproductive Biology, a \$75 million initiative launched by the Michelson Found Animals Foundation in 2008 to create a nonsurgical sterilant for cats and dogs to eliminate shelter euthanasia of healthy, adoptable companion animals and reduce populations of free-roaming cats and dogs. Pépin went through the traditional channels of submitting a letter of intent and grant application in 2014.

“A nonsurgical sterilant for community and companion animals is long overdue and will transform animal welfare,” **Dr. Gary K. Michelson**, founder and co-chair of Michelson Philanthropies, which hosts the Michelson Prize & Grants program. “This breakthrough discovery is a major milestone.”

Over the last 15 years, the Michelson Prize & Grants program has funded 41 projects totaling more than \$19 million in committed funds for this specific area of research. “We have figured out a lot of things that don’t work, which in itself is progress,” says **Becky Cyr**, program manager of the Michelson Prize & Grants program since 2012.



Left: Dr. David Pépin, associate professor of surgery at Massachusetts General Hospital, and Dr. Patricia K. Donahoe, director of pediatric surgical research laboratories and chief emerita of pediatric surgical services at Massachusetts General Hospital.



Dr. Lindsey Vansandt, left, director of the Imperiled Cat Signature Program at the Cincinnati Zoo, and Dr. Bill Swanson, above, the zoo's director of animal research.



According to the Best Friends Animal Society, about 4.4 million cats and dogs entered U.S. shelters in 2022. Many of those result from unplanned litters—a single domestic cat could have 50 to 100 kittens in her lifetime, Swanson says—and millions more cats are living outside with inadequate care. If there was a means of dramatically reducing unwanted reproduction, Dr. Michelson reasoned, “Every municipal animal shelter could successfully find a live outcome for every healthy dog and cat. That is the holy grail.”

Without the support of Michelson Found Animals, Pépin says, “This work would have never happened.”

“There’s not a lot of funding in this space to begin with,” says **Dr. Thomas Conlon**, chief scientific officer of Michelson Philanthropies and Michelson Found Animals. “The work that we have funded, the peer-reviewed publications that grantees have put out, and the presentations that they’ve given at conferences are adding to the scientific literature in this area of research. That wouldn’t be occurring without Dr. Michelson’s funding.”

To read more about the project, including a link to the *Nature Communications* study, please visit michelsonphilanthropies.org.

The Cat’s Out of the Bag

Since news broke on June 6, 2023, of the development of a single-dose sterilant for cats, Michelson Found Animals has received more than 200 media mentions creating more than **1.4 billion media impressions** worldwide.

Top media hits reached:

168,879,495 

136,908,727 

134,967,286 

86,932,073 

7,992,863 

6,116,087 



PRIZES

Meet the Michelson Prizes: Next Generation Grants recipients

Michelson Medical Research Foundation and Human Immunome Project have announced the recipients of the 2022 Michelson Prizes: Next Generation Grants. **Dr. Noam Auslander, Dr. Jenna Guthmiller, Romain Guyon, and Dr. Brittany Hartwell** were selected by a committee of internationally renowned scientists and represent the next generation of innovators in human immunology and vaccine research.

Awarded annually, the \$150,000 Next Generation Grants support early-career investigators working to advance human immunology, vaccine discovery, and immunotherapy research for major global diseases.

"It is beyond difficult for young scientists to get funding to conduct their own research and to pursue out-of-the-box, high-risk/high-reward ideas that will disrupt the status quo. The Michelson Prizes are changing this dynamic," says **Dr. Gary K. Michelson**, founder and co-chair of Michelson Philanthropies and Michelson Medical Research Foundation. "When we empower brilliant minds and invest in bold, creative research, it is with the belief that a single breakthrough discovery could improve billions of lives."

Established in 2017, the Michelson Prizes have quickly attracted researchers from all over the world. "It is inspiring to see so many young scientists with a passion for innovation and courage to think out of the box," says **Dr. Wayne Koff**, chairman of MyImmunome Inc. and founder and CEO of the Human Immunome Project. "I look forward to seeing how their research contributes to our understanding of the human immune system—and helps further our mission to develop the first AI model of the human immunome, transforming the way we diagnose, treat, and prevent diseases for everyone."

Auslander, Guthmiller, Guyon, and Hartwell were honored at a virtual award ceremony in collaboration with Keystone Symposia on March 24, 2023.

\$150K
Next Generation
Grants awarded
annually



Noam Auslander, Ph.D.
Assistant Professor
The Wistar Institute

"Artificial intelligence-based identification of microbes associated immune responses in cancer and immune diseases."

Auslander is developing an artificial intelligence-based approach to efficiently detect microbial expression in cancer and immune diseases. Her approach outperforms existing strategies and allows the detection of new microbes in human disease tissues whose expression correlates with patients' immune responses and disease outcomes.

Why did you choose to become a scientist?

"I am easily bored but I love learning new things and thinking about new problems. Scientist is the ideal job for me because it allows me to constantly pursue new directions and ask new questions."



Jenna Guthmiller, Ph.D.
Assistant Professor
University of Colorado

"Mapping preexisting mucosal B cell specificities engaged by potential universal influenza vaccines."

Universal influenza vaccines have the potential to provide broad protection against circulating and emerging influenza viruses. However, the preexisting B cell repertoires that can be stimulated by these vaccines at the site of infection remain uncharted. Guthmiller's successful proposal will map the preexisting human B cell repertoire within the draining lymph nodes of the upper and lower respiratory tract that bind and respond to next-generation influenza vaccines.

Why did you choose to become a scientist?

"I grew up in a very small town and I didn't understand what a scientist even was or that it was a career path that was open to me. It was really thanks to the numerous professors during college that showed me a career in science was a possibility, particularly the professors that allowed me to do research in their lab."



Romain Guyon, Ph.D.
University of Oxford

“Demonstration of new single-dose vaccine technology toward a first-in-man clinical application.”

Single-dose immunization could provide an effective solution to improving global vaccination coverage and easing the logistical and cost burdens during outbreaks. Guyon uses a novel microfluidics system to generate biodegradable particles encapsulating the vaccine booster dose to be delivered with the priming vaccine dose in a single injection, delaying the booster release in the body.

What drew you to your field of study? “Vaccination has not only an impact at the individual level but also at a population scale, making it a very interesting subject to work on. Due to the complexity of vaccine development and its need for expertise across multidisciplinary skill sets, I find the area highly intriguing.”



Brittany Hartwell, Ph.D.
Assistant Professor
University of Minnesota

“Engineering albumin-hitchhiking intranasal vaccines with enhanced transmucosal uptake to promote immunity.”

To combat the global HIV epidemic and evolving threats such as SARS-CoV-2, immunization strategies are needed that elicit protection at mucosal portals of entry to halt transmission. Hartwell’s winning proposal uses a strategy of “albumin hitchhiking” that enables an intranasal vaccine to efficiently bypass mucosal barriers in the nose in order to promote stronger mucosal immunity.

What is the ultimate motivation that keeps you going? “I want to devote my time to a career that is purposeful, fulfilling, and will ultimately help others. Pursuing applied research in immunoengineering is interesting, exciting, and challenging, so I find a sense of fulfillment here on a daily basis—and I truly cannot think of anything more fascinating to study than immunology.”

What is the potential impact of your research on people’s health?

Auslander: Finding new infections that lead to tumors can help develop early detection methods and vaccinations to prevent cancer. Knowing which microbial components enhance immune responses will not only improve selection of patients who are more likely to benefit from immunotherapy but it can also help develop strategies to overcome resistance.

Guthmiller: The impact of our research is that we will provide a better understanding of the antibody specificities within the respiratory tract and how to optimize vaccines to preferentially induce protective humoral immunity. This study has direct implications for human health, as it will inform how to design mucosal vaccines that can provide protection at the site of infection.

Hartwell: Developing albumin-hitchhiking intranasal vaccines that can more efficiently deliver vaccine components across mucosal barriers has the potential to address an urgent unmet need for effective mucosal vaccines against a broad range of infectious diseases, including HIV, SARS-CoV-2, influenza, respiratory syncytial virus (RSV), and cytomegalovirus (CMV).

Guyon: More than 60,000 people die of rabies annually, mostly due to inadequate or incomplete access to the post-exposure

prophylaxis vaccine, which requires four injections within four weeks post-exposure. Developing a single-injection vaccine to replace the current multi-injection regimen would be an effective solution to reduce the logistical and cost burden, thereby improving immunization against rabies across the world.

How will the Michelson Prize help you with your future research and career?

Auslander: Some of the questions that we ask are risky, such as searching for new microbes in tumors, and it is not always clear why machine learning and computational methods can improve our current knowledge. The Michelson Prize is a tremendous help because it allows us to pursue those more challenging directions.

Guthmiller: The Michelson Prize allows me to expand our research into the field of mucosal immunology, which will doubtless lead to new research directions within my laboratory. This prize allows us to use the tools already used in my lab to study humoral immunity against influenza viruses at the site of infection.

Hartwell: The Michelson Prize will provide critical funding to help launch my independent lab’s research on intranasal vaccines that use a strategy of albumin-hitchhiking for enhanced uptake across mucosal barriers. We will be investigating vaccine design,

Next Generation Grants Q&A (continued)

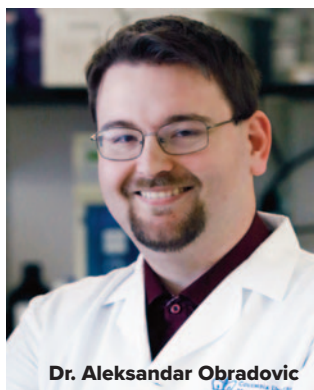
defining uptake and mucosal immune responses, and correlating this with functional immune protection.

Guyon: It's a wonderful opportunity for me to establish my independence as an early-career researcher and drive forward an ambitious research project that can transform future vaccination strategies. The financial support of the Michelson Prize will allow me to conduct different *in vitro* and *in vivo* studies, encapsulating the rabies vaccines inside the delayed delivery particles, to identify the most promising formulations that maximize the immune response in a single injection.

What's the ultimate motivation that keeps you going?

Guthmiller: As a scientist, my main motivation is to improve vaccines to prevent the next pandemic, which includes a comprehensive knowledge of how humans and animals generate protective immunity. In addition, my career in science is due to my prior mentors and I hope to instill a passion for science within the next generation of scientists.

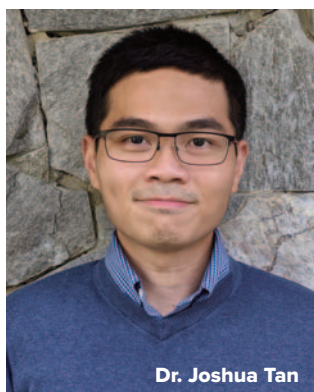
Guyon: It has been highly rewarding driving the development of this project from the theoretical concept to successful proof of principle in animal models. Knowing this, the potential of this technology being assessed in human trials which in turn could result in its use in global vaccination campaigns is hugely motivating.



Dr. Aleksandar Obradovic



Dr. Roser Vento-Tormo



Dr. Joshua Tan



2023 Michelson Philanthropies & Science Prize for Immunology Recipients Named

Dr. Aleksandar Obradovic of the Department of Systems Biology at Columbia University Irving Medical Center was awarded the 2023 Michelson Philanthropies & Science Prize for Immunology for his essay “Precision Immunotherapy—A Mechanistic Approach to Overcoming Treatment Resistance.” His research focuses on the development of novel tools to understand the complex immune makeup of cancers and their escape mechanisms in response to treatment. Obradovic’s approach delivers a tailored combination of drugs to treatment-resistant cancer patients with the potential to critically improve immunotherapy efficacy.

“The *Science* editors and judges were exceedingly impressed with Dr. Obradovic’s cutting-edge work, which has important implications well beyond its original focus on cancer immunotherapy,” says **Seth Thomas Scanlon**, senior editor at *Science*. “Moreover, we found his essay tremendously compelling, as he highlighted his accomplishments in an exciting and very accessible way.”

As the grand prize recipient, Obradovic was awarded \$30,000. In addition, finalists **Dr. Roser Vento-Tormo** of the Wellcome Sanger Institute and **Dr. Joshua Tan** of the National Institutes of Health received the \$10,000 finalist awards.

“No field of medical research has more potential to transform the trajectory of human healthcare than does immunology,” says **Dr. Gary K. Michelson**, founder and co-chair of Michelson Philanthropies and the Michelson Medical Research Foundation. “We established the Michelson Philanthropies & Science Prize for Immunology in partnership with the American Association for the Advancement of Science to support brilliant and imaginative early-career researchers, so they can revolutionize the field of immunology.”

The recipients were selected by a distinguished committee of international scientists chaired by *Science* editors, who judged the editorial essays based on research conducted over the last three years, and the long-term impact on vaccine and immunotherapeutic discovery. All three essays were published on February 17, 2023, in *Science*, and Obradovic, Vento-Tormo, and Tan were honored at a virtual award ceremony in collaboration with Keystone Symposia on April 11, 2023.

“Like *Science*/AAAS, Michelson Philanthropies believes in recognizing and supporting researchers in what may be the most critical phase of their career,” says **Bill Moran**, publisher of the *Science* family of journals. “We are pleased to partner with Gary Michelson and his foundation to foster discovery and celebrate breakthrough research.”

Alya Michelson on FirstGen

“When we invest in immigrant women, we are investing in the future of our communities.”

FirstGen is a new program within Michelson Philanthropies that I am incredibly proud of. Although we started small, we recognized a significant problem facing first-generation immigrant women and saw a solution for better assimilating and supporting female immigrants, who happen to be among the most vulnerable populations of newcomers to the United States. We partnered with **Upwardly Global**, a wonderful organization that provides training, consulting, and other resources to immigrants looking to pursue their original careers after immigrating. However, they did not have anything specifically tailored to females or operate in Southern California. When we approached them with the proposal to establish a female cohort in Los Angeles, they were surprised and excited—but, like us, they didn’t know what to expect.

As it turned out, the demand for our program was tremendous. The number of applicants exceeded our initial expectations, and we even doubled the size of our next partnership. Upwardly Global continues to accept a steady stream of applicants from countries such as Afghanistan while seeing a significant increase in new job seekers from Ukraine, Venezuela, Ethiopia, and Nigeria, reflecting broader immigration trends. Every success story from our program feels personally fulfilling to me.

In 2022, Dr. Gary K. Michelson and I had the privilege of hosting two Ukrainian families. We saw firsthand how difficult it is for immigrants to assimilate into a new country, especially with an outdated and broken immigration system. With this experience in mind and my background with FirstGen, I am enthusiastic about the future of this program. I see numerous opportunities for growth and advocacy. Many solutions facing these individuals

could be found by changing laws and advocating for the rights of these new Americans who often do not know how to advocate for themselves. They are embarking on a new journey to become citizens, and I am thrilled that FirstGen is part of Michelson Philanthropies' efforts. When we invest in first generation immigrant women, we are investing in the future of our communities.



Alya Michelson was a shortlisted nominee for the B2B Los Angeles Times' Inspirational Women Forum and Leadership Awards in 2022.



FirstGen Spark Grants Awarded to Women's Advocate Groups

To mark International Women's Day 2023, FirstGen announced the recipients of its inaugural **\$25,000 FirstGen Spark Grant**. The Foundation for California Community Colleges and the Society of Refugee Healthcare Providers both advocate for women who identify as refugees, immigrants, and migrants by providing access to services they are often denied—the resources, support, and care that give these women the greatest chance to thrive in their new home.

Founded in 2015, the Society of Refugee Healthcare Providers comprises doctors, nurses, social workers, and other professionals dedicated to the health care needs of refugees and asylum seekers. The \$25,000 FirstGen

grant will support the Society of Refugee Healthcare Providers in its work to jumpstart a sexual and reproductive health and rights working group/committee; provide member scholarships to 60 health professional women identifying as refugees, immigrants, or migrants (RIM); and develop open source education materials regarding key topics in RIM women's health for healthcare providers.

The Foundation for California Community Colleges supports and enhances the California community colleges. The vision is to help people achieve a better future through education and create a more just, equitable, and thriving world. With FirstGen support, the Foundation of California Community Colleges will launch “The Determined Voices: Stories of Immigrant Women.” The video project is an 18-month public awareness campaign that will profile a cohort of diverse immigrant women who have launched successful careers after attending California community colleges. Their stories will document the hopes, struggles, and triumphs of immigrant alumnae during their journey from college to career.

PROGRAMS

From Open Educational Resources to solving the digital divide, Michelson Philanthropies programs stir conversation and action

Michelson 20MM Foundation

Education and Equity

Pregnant and Parenting Students: How does the California State University system serve pregnant and parenting students? How are they being reached, and how are their voices being heard and incorporated into equity work across the state? These are questions the Michelson 20MM Foundation, in partnership with Ascend at the Aspen Institute, Blue Shield of California Foundation, California Competes, the Education Trust-West, and Tipping Point Community sought to answer during *Parenting Students in California: A Look at the CSU System*. Part one of a three-part virtual learning series, this conversation presented a landscape analysis of the California State University system.

Connecting California: Solving the Digital Divide: When the COVID-19 pandemic struck and everyone had to stay home, communities like City Heights, Watts, and Boyle Heights were hit hard. Many families in these historically marginalized communities didn't have the technology or infrastructure needed to access online learning, healthcare, and job opportunities. In response, Michelson 20MM joined forces with trusted



From left, Cailyn Nagle, OER program manager for Michelson 20MM Foundation, James Glapa-Grossklag, dean of College of the Canyons, and Allen Kuo, student trustee for the San Diego Community College District, addressed the topic “College Textbooks Are Still a Racket ... But They Don’t Have to Be” at a recent policy lunch in Sacramento. Legislative, administrative, and agency staff gathered to discuss the new costs that students face, such as homework paywalls and automatic textbook billing.

nonprofit leaders to invest in the agents of change organizing in their communities to address digital inequity. Now, these communities and advocates are using their influence to shape broadband policy in California. Their actions were the focus of *The Power of Advocacy: How Nonprofits Are Shaping Broadband Policy in California*, part of Michelson 20MM’s *Connecting California: Solving the Digital Divide* virtual learning series.

1,000 OER Advocates Attend OpenEd Conference

In October 2022, more than 1,000 individuals attended the Open Education Conference (OpenEd22), co-sponsored by the Michelson 20MM Foundation. OpenEd not only brings together hundreds of Open Education Resources (OER) advocates and champions as they share ideas and resources but also renews the community’s commitment. “OpenEd is one of the first places I felt like my passion for students was not only recognized but also honored,” says **Dr. Amy Nusbaum**, assistant professor of psychology at Heritage University in Washington. “It’s the place where I met colleagues who became friends—the place my heart lives.” The 2023 OpenEd conference is scheduled for November 7-9.

Spark Grants Build on ZTC Work

Within the Michelson 20MM Foundation’s Open Educational Resources (OER) program, Spark Grants awarded in 2022 focused on two main areas of interest: building capacity within the California community college system for the Zero Textbook Cost (ZTC) degree program and better understanding the national impacts of automatic textbook billing.

Following Governor Gavin Newsom’s historic \$115 million investment in ZTC degree pathways within the California Community Colleges (CCC) system, Michelson 20MM is focused on supporting

this project across the finish line. Both Creative Commons and the American Association of Colleges and Universities' capacity-building initiatives support the rollout of this ambitious program by providing faculty and staff with resources and skills.

With the pandemic accelerating the uptake of inclusive access, equitable access, and other forms of automatic textbook billing, Michelson 20MM continues to monitor the impacts of these practices on students. Building on previous Spark Grants, the foundation continues to support the work of SPARC, an advocacy organization that promotes open access, as it looks into how large publishers use student data harvested through automatically billed digital course materials.

In January 2023, Creative Commons, the CCC Academic Senate's OERI committee, Skyline College, and Michelson 20MM teamed up for a boot camp at which educators from 12 Bay Area colleges earned a certification in Creative Commons licensing, a key underpinning of the open ecosystem. More recently, Michelson 20MM completed another Spark Grants funding cycle focused on Open Educational Resources. **The Institute for the Study of Knowledge Management in Education (ISKME), Creative Commons, and SPARC** are among the latest recipients. In addition, Michelson 20MM will continue to advocate directly for the rollout of a program centering on the needs of educators and students and based on best practices laid out by faculty and other OER experts.

Michelson Institute for Intellectual Property

Dr. Michelson: Equity, Education, Perseverance Are the Keys to a Successful IP Ecosystem

Equity is critical when it comes to the implementation of intellectual property and copyright law, **Dr. Gary K. Michelson** said at the First Look SoCal Innovation Showcase, an annual conference celebrating early-stage startups in tech and life sciences presented by the Alliance for SoCal Innovation and L.A. Venture Association. "Women's names only appear on about 18 percent of patents and they have 50 percent of the brains," he said. "We're cheating our GDP and our country out of many of our best brains, so we need to do something to make sure we recruit women and people of color."

A good start is having colleges and universities incorporate IP education into student curricula, said Dr. Michelson. "If you look at the wealthiest companies in the world today—Facebook, Apple, Netflix—all these companies were started by people who were in the college demographic, so why would colleges not be teaching intellectual property?" he argued.

Dr. Michelson added, "If you want to start a business, give yourself an edge" by educating yourself about IP. That's why he founded the Michelson Institute for Intellectual Property—to provide access to intellectual property education and empower young inventors, students, women, and people of color.

"Inventing is an iterative process, and it goes to the nature of failure and perseverance," he said. "When one attempts something and you don't succeed at first, it truly is only a failure if you stop right then and there. But if you continue on to success, each one of those times you did not succeed is simply a step in the process."



Michelson IP's HBCU IP Futures Collaborative—a community of practice aimed at evangelizing IP education on campus—was the subject of a 2022 *Inventors Digest* cover story.

Keystone Symposia Conference Highlights Vaccine Development for Infectious Diseases

Michelson Philanthropies celebrated this year's winners of its **Michelson Prizes: Next Generation Grants** and **Michelson Philanthropies & Science Prize for Immunology** during a Keystone Symposia conference: Progress in Vaccine Development for Infectious Diseases. These awards honor young investigators who break the status quo by applying disruptive concepts and innovative processes to advance human immunology, vaccine discovery, and immunotherapy research.





Dr. Gary K. Michelson, center, outside Michelson Hall on the USC campus.



USC's new cryogenic electron microscopy (cryo-EM) facility, featuring state-of-the-art instrumentation capable of imaging molecules, garnered the spotlight during a March 2022 symposium celebrating the facility's official grand opening. The event was held at the USC Michelson Center for Convergent Bioscience, where the cryo-EM facility is housed at the Core Center of Excellence in Nano Imaging.

Michelson Medical Research Foundation

USC Michelson Center for Convergent Bioscience Celebrates Five Years of Interdisciplinary Innovation

Since opening its doors in November 2017, the USC Michelson Center for Convergent Bioscience has become a beacon of innovation and a testament to the power of convergent research. The center was realized through the vision of Gary and Alya Michelson, who donated \$50 million to construct the largest academic building on the USC campus. Its creative architecture and design fosters interdisciplinary collaboration and integrates diverse technologies, methodologies, and tools, enabling researchers to translate bold ideas into therapeutics. In turn, USC Michelson has attracted leading researchers from around the world to join this dynamic community of scientists and engineers.

Today, Michelson Center is home to five core laboratories supporting research in imaging,

biomolecular characterization, and the development of new peptides and antibody-like proteins, among many others. There are now 36 USC professors named "Michelson faculty," working across disciplines to form new, integrative research frameworks that allow faculty, postdocs, staff, and students to work more efficiently and intuitively.

Michelson faculty have submitted 1,160 proposals as principal investigators (PIs) or co-PIs. Of those, 320 proposals have been awarded more than \$230 million, with funding expected to exceed \$300 million.

Recognition of research conducted by Michelson Faculty is demonstrated by the continued number of national and international awards and accolades received. **Dr. Carl Kesselman** was named 2023 IEEE Fellow by the Institute of Electrical and Electronics Engineers; **Dr. Remo Rohs** was elected American Association for the Advancement of Science Fellow; and **Dr. Stacey Finley** received the Cancer Warrior Award from the University of Colorado Comprehensive Cancer Center.

Dr. Steve Kay, director of the Michelson Center, notes the importance of the center's convergent approach, "What you need to do is build runways, not fences. This building is a runway that brings together people who might never meet."



Summit Addresses Philanthropy's Role in Advancing mRNA Technology

Hundreds of medical experts and healthcare industry leaders came together at the Salamander hotel in Washington, D.C., for the 2022 Milken Institute Future of Health Summit. The majority of sessions looked at how the pandemic has reshaped approaches to treatment, research, and public health policy.

Michelson Philanthropies' Chief Scientific Officer **Dr. Thomas Conlon**, *above*, joined a panel on the future and potential of messenger RNA (mRNA) technology. Known for the rapid development of COVID-19 vaccines, mRNA also has the potential to improve treatments for a range of conditions, including cardiovascular disease.

"When it comes to cardiovascular diseases, especially acute cardiac events such as myocardial infarction," Conlon said, "it's important to add in new genes or proteins immediately after the event." Messenger RNA technology, he explained, could introduce genes that prevent cell death, promoting the regeneration of cardiac tissue and improving the heart's ability to function in the long term.

The panelists all highlighted the promise mRNA represents, noting that research into the technology has ramped up largely thanks to the success of COVID vaccines. Maintaining this momentum will require continued investment, effective collaboration, and philanthropic contributions.

"Philanthropy's role is to provide opportunities for innovation that you may not get through other funding sources," Conlon said. When it comes to fulfilling the potential of mRNA technology and changing the future of healthcare, he added, "Profit isn't the ultimate goal. It's getting the job done."

Michelson Philanthropies

Upwardly Global Career Skills Program Hits Record Highs

Upwardly Global's Career Skills Program for Immigrant Women continues to grow. Last year, Upwardly Global placed more job seekers in its direct service work than ever in its 22-year history. It also expanded its work with employers and connections with government agencies and other front-facing immigrant and refugee organizations through its Jobversity program. Upwardly Global did high-impact training and individualized coaching with more than 2,250 immigrants and refugees through its individualized coaching and skills program and thousands more through its capacity building and direct online learning supports.



2,250
Immigrants
and refugees
trained

Where the job seekers are
In 2022, Upwardly Global's job seekers came from 113 countries

Professional backgrounds
Information technology: 12%
Healthcare, engineering, accounting/finance, and business: 9.5% each

Demographically speaking
More than 50 percent of all job seekers are between ages 30 and 39, with 20 percent a decade older or younger

Work experience
On average, job seekers had six years of professional experience in their field



Wagna cum laude: The Michelson Institute for Pet Professions (MIPP) launched in 2021 to provide training, certification, and job placement resources in the pet care industry in Los Angeles. The program enrolled its 100th student in 2022, and to date 70 have graduated with a certification.

“Every day gives me an opportunity to give something back.”

Michelson Found Animals

Michelson Institute for Pet Professions Enrolls 100th Student

The Michelson Institute for Pet Professions (MIPP) has now graduated more than 100 graduates since its launch. Student Arlecia learned about the MIPP program from a reference at A New Way of Life, a reentry project that provides housing, case management, pro bono legal services, advocacy, and leadership development for people rebuilding their lives after incarceration.

“MIPP has impacted me by giving me more skills and training in the field I want to pursue, which is dog training and grooming. Every day that I come here, it makes me better. Every day gives me an opportunity to give something back. I love being here. What I hope to do when I finish the program is give back to my community by going downtown to the mission and servicing the dogs there and change their attitudes the same way when we go to the beauty shop and it changes ours.”

MIPP operates with the support of West Coast Grooming Academy’s training program at Annenberg Pet Space in Playa Vista. Students are accepted into a 12-week, hands-on pet grooming certification course and provided a toolkit of supplies upon graduation, with the cost fully covered by MFA.



“Judge Judy” Bellack and friend.

MFA-Sponsored 2022 Pet Awards Celebrate Pet Inclusivity

While most rental housing operators consider themselves pet-friendly, about the same number of renters find it difficult to locate pet-friendly housing, according to the national 2021 Pet-Inclusive Housing Initiative report.

Removing breed and weight restrictions set the grand prize winners apart at the **2022 Pet Awards**, presented on April 26 at the Apartment Innovation and Marketing Conference by Michelson Found Animals Foundation to showcase pet-inclusive communities. The Management Group of Atlanta was named the Most Pet-Inclusive Company, while the Bottling Plant/Oculus of Maryland took three awards, including Most Pet-Inclusive Community.

Like Oculus and the Management Group, more and more rental housing operators are considering the removal of weight and breed restrictions to be more attractive to pet owners, who now account for about 68 percent of U.S. households.

“Renters are moving after the pandemic, and rental housing operators looking to create stickiness are thinking about the advantages of reaching out to pet owners,” says **Judy Bellack**, who represents Michelson Found Animals’ Pet-Inclusive Housing Initiative to create more inclusive pet communities. She presented the awards along with **Heidi Sirota**, chief pet officer of Nationwide Insurance.

“We need to go beyond being pet-friendly and think about how we can be pet-inclusive,” says Michelson Found Animals Foundation CEO **Brett Yates**. “Acknowledging the important place animals have in our lives just makes good business sense.”

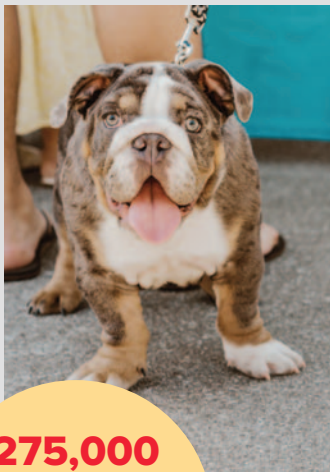
Better Neighbor Project Delivers the Good

The **Better Neighbor Project** continued to provide much-needed services across Los Angeles in 2023, all possible thanks to the support of local animal and human service organizations and elected officials across the city, district, and state levels. BNP's events happen weekly and monthly across Southern California. This year there were 10 Pet Wellness Day events held in locations such as East Los Angeles, Pacoima, Boyle Heights, Lincoln Heights, Paramount, Burbank, and Inglewood, California. BNP also provides a free weekly pet food pantry in several locations in the Los Angeles area.

"In 2023, our goal is to reach more communities than ever before," says Michelson Found Animals Foundation CEO **Brett Yates**. "We will continue our signature pet wellness events in hopes of expanding to areas that haven't been reached yet and grow our partnerships to provide even more needed resources to families. We'll also continue our weekly pet pantries to make sure people are getting the food for their pets that they need."



Above: Alya Michelson hands out pet food and accessories at a Better Neighbor Project pet wellness event in 2021. Below: Dr. Gary K. Michelson at a Better Neighbor Project event with Los Angeles City Council Councilmember Bob Blumenfield on April 29, 2023, in Winnetka. Blumenfield represents the 3rd Council District, which spans the northwest portion of Los Angeles.



275,000
Lbs.
of food
distributed
to date

84,067
total pets
served

Better Neighbor Project by the Numbers

2,252
Families receiving services
through BNP events in 2022

3,372
Pets receiving wellness
and hygiene services in 2022

35,011
Pets served in 2022

117,052
Lbs. of food distributed in 2022

Since January 1, 2022, BNP Pet Wellness Days have been held more than a dozen communities, including Boyle Heights, Burbank, Crenshaw, Downey, Downtown L.A., East L.A., Inglewood, Koreatown, Lincoln Heights, Pacoima, Paramount, Skid Row, and Winnetka.



Michelson in the Community

Inner City Law Center Honors Michelsons' Humanitarian Work

The far-reaching impact of **Alya and Gary Michelson's** broad philanthropic efforts in Los Angeles and beyond was on full display during the Inner City Law Center's 22nd annual awards ceremony, which raised funds and awareness of the ICLC's efforts to help those struggling with homelessness.

The nonprofit social justice organization chose the Michelsons for this year's Humanitarian Award for their support of unhoused people and their pets, their efforts to help uplift the voices of underserved populations, and their advocacy for justice-involved individuals pursuing an education.

Lande Ajose, vice president and senior fellow at the Public Policy Institute of California and former higher education policy adviser to Governor Gavin Newsom, was one of three presenters who witnessed and shared the impact of the Michelsons' philanthropy. "The Michelsons have focused on bringing education to others who are often forgotten," Ajose said. "Gary Michelson does not sit on the sidelines and he does not wait for others to act. He gets in the arena. He invests his time, energy, and resources to push for the change that is needed."

"While my wife and I are honored, the award goes to the people who work for us," Dr. Michelson said. "Every one of them is personally passionate about the work that they're doing. What our organizations and the Inner City Law Center have in common is we're both trying to help people who have so very little and to make life just a little less unfair."



Alya and Gary Michelson with Judie Mancuso, founder of Social Compassion in Legislation.

MFA, Brunson Fund Speed Up Spay and Neuter Surgeries

L.A. pet care providers and other organizations are partnering with **Los Angeles Animal Services**, **Michelson Found Animals Foundation**, and the **Los Angeles Chargers Impact Fund** to provide spay and neuter surgeries to help get shelter pets into homes more quickly.

"The country's animal shelters are full," says **Brett Yates**, CEO of Michelson Found Animals. "Leveraging our collective resources in Los Angeles makes us more effective and allows us to have an even greater impact than we would on our own, freeing up valuable kennel space in the process."



The Robert and Erika Brunson Spay & Neuter Fund at the Michelson Found Animals Foundation and the Chargers Impact Fund are underwriting this program. "The Chargers Impact Fund is proud to partner with Michelson

Found Animals to support spay and neuter efforts for L.A. City Animal Services," says **Alexis Ruhl**, Chargers owner, special adviser to the Chargers Impact Fund, and a lifelong animal welfare advocate. "We are thankful for the veterinarians and supporting organizations who are helping these animals get home to their new families and free up shelter space—and we look forward to future opportunities to create an impact for animals in the L.A. region."



The Michelson Philanthropies team at an all-staff retreat in June 2023.

Michelson in the News

“‘This Is Just the Start’: Research Into COVID-19 Opens Doors to Understanding Other Diseases and Conditions” *CNN/Kaiser Health News, March 18, 2022*

Antibodies that disable interferon may explain why a fraction of patients succumb to viral diseases, such as influenza, while most recover, said **Dr. Gary Michelson**, founder and co-chair of Michelson Philanthropies, a nonprofit that funds medical research and recently gave **Dr. Paul Bastard**, a researcher at Rockefeller University, its inaugural award in immunology.

“In L.A.’s Russian diaspora, feelings of pride jostle with shame, guilt, and fear”

Los Angeles Times, March 9, 2022

To **Alya Michelson**, a philanthropist and former journalist born in Russia, watching the war in Ukraine feels like “a child watching two parents arguing while trying to get a divorce.” She feels angry and lost, she said, because there is nothing she can do to end the violence.

“California 2-Year Colleges to Begin \$115 Million OER

Experiment” *Inside Higher Ed, February 4, 2022*

Geoffrey Baum, executive director of Michelson Philanthropies, which advocated for the state’s open educational resources investment, called Governor Gavin Newsom’s commitment “a watershed moment for OER and for educational equity.”

“Caps for Pet Rent, Deposits Pass Colorado Legislature” *Colorado Politics, August 1, 2023*

A bill to cap the amount of money landlords can charge tenants for having a pet passed its final vote



L-R: Dr. Paul Bastard, Alya Michelson, and Cailyn Nagle.

in the Colorado legislature, and now only needs the governor’s signature to become law. A 2019 national survey from the Michelson Found Animals Foundation found that damages were reported for only 9% of pets, with the cost averaging \$210.

“Opinion: In tribal nations, broadband is more than just internet. It’s a pathway to a better life.” *San Diego-Union Tribune, March 2, 2022*

Dr. Traci Morris, executive director of the American Indian Policy Institute at Arizona State University, and **Dr. Gary K. Michelson** call for federal legislation to bridge the digital divide in California’s 109 tribal nations.

“How Candy Conglomerate Mars Is Investing in Pet Tech, One of the Few Areas VCs Still Love”

Crunchbase, February 16, 2023

Mars Inc., the world’s largest pet food manufacturing company, has been steadily investing in dozens of pet tech startups in recent years. In 2018, Mars founded Leap Venture Studio with Michelson Found Animals and R/GA Ventures to fund pet-related startups. “The pet space was totally void of a good venture capital foundation,” said **Brett Yates**, CEO of Michelson Found Animals.

“Newsom’s bid to make textbooks free delayed in community colleges central office” *EdSource, July 18, 2022*

More than one year after California lawmakers set aside \$115 million to expand free textbook programs across the state’s system of 116 community colleges, the money remained stalled in the state chancellor’s office. “If the tradeoff is doing it right or doing it on time, I’d much rather they do it right,” said Michelson 20MM Program Manager **Cailyn Nagle**.

“Boosting science is a good investment,” by **Dr. Gary K. Michelson** *The Hill, May 5, 2022*

Dr. Michelson makes the case for Congress to dramatically increase its investment in science and innovation to 5 percent of the overall federal budget—“lest we leave the next transistor on the table, or worse, somebody else invents it and reaps the rewards.”

“In Los Angeles, Wellness Is Going to the Dogs” *Town & Country, May 13, 2022*

Better Neighbor Project and Michelson Institute for Pet Professionals were featured in a magazine story that highlighted the Inner City Law Center’s Humanitarian Award given to Alya and Dr. Gary K. Michelson.

MICHELSON PHILANTHROPIES

3000 S. ROBERTSON BLVD., SUITE 105
LOS ANGELES, CA 90034
MICHELSONPHILANTHROPIES.ORG

