NAI Annual Activities Report

2020-2021

Looking Back, Thinking Forward

10th Anniversary

About the National Academy of Inventors

The National Academy of Inventors (NAI) is a member organization comprising U.S. and international universities, governmental and non-profit research institutes, and federal agencies with over 4,000 individual inventor members, Fellows, and Senior Members spanning more than 250 institutions. It was founded in 2010 to recognize and encourage inventors with patents issued from the United States Patent and Trademark Office, enhance the visibility of academic technology and innovation, encourage the disclosure of intellectual property, educate and mentor innovative students, and translate the inventions of its members to benefit society. The NAI publishes the multidisciplinary journal *Technology & Innovation* and the annual *Top 100 Worldwide Universities Granted U.S. Utility Patents* report.

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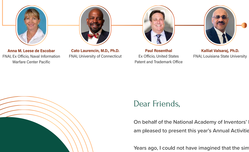

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FNAI, Ex Officio, Naval Information Warfare Center Pacific

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FNAI, University of Connecticut

Paul Rosenthal
Ex Officio, United States Patent and Trademark Office

Kalliat Valsaraj, Ph.D.
FNAI, Louisiana State University

A Message From Our President

Dear Friends,

On behalf of the National Academy of Inventors' Board of Directors, I am pleased to present this year's *Annual Activities Report*.

Years ago, I could not have imagined that the simple idea to connect academic inventors would eventually morph into the organization that NAI is today.

But as inventors, that's what we do, isn't it? Take a concept and figure out how to make it a reality.

> "OVER A DECADE LATER, WITH OVER FOUR THOUSAND MEMBERS, NAI HAS NOW BECOME THE VOICE OF AUTHORITY ON ACADEMIC INVENTION."

We stand on the same global stage with academies created hundreds of years before us. We are one of three honorific organizations connected to the United States Patent & Trademark Office.

Now that NAI's foundation is firmly established, our next challenge lies in fulfilling our mission for the future.

- We are enhancing our strategic partnerships, like that of the USPTO, to spearhead initiatives to break down barriers in the innovation ecosystem
- We continue to advocate for diversity and inclusion as well as provide our Members valuable resources to aid them in their careers
- Finally, we are calling on our increased influence and visibility to facilitate the speed of discovery to market and define the future of innovation.

None of us knows what the 'new normal' will be following this pandemic. What we do know is that NAI members will be at the forefront of it all, helping to define society's next decade and beyond.

Thank you for your continued support of the Academy.

Sincerely,
Paul R. Sanberg, Ph.D., D.Sc., FNAI
President

NAI: America's Newest Academy

FOUNDED BY SERENDIPITY

In 2010, more than two hundred years after President George Washington signed the first U.S. patent, a recession in America was in full swing, and universities were asked to invent new technologies to help with economic development in their communities, and across the nation.

Also at that time, information on faculty intellectual property and entrepreneurship was not as readily available as other faculty endeavors, like faculty publications and grants. Paul Sanberg, a prolific academic inventor and entrepreneur, was serving as Vice President for Research and Innovation at the University of South Florida (USF) and wondered how many other inventors might be working at the university.

Having the curious mind of an inventor, he invited colleagues holding at least one U.S. issued patent to attend a campus luncheon.

Unsure who would come, if any, he was surprised to find over one hundred lunch guests. Their enthusiasm planted a seed to take his idea one step further.

Next, he reached out to Vice Presidents for Research and senior administrators at universities across the U.S. to identify more innovative kindred spirits. With the support of their USF president Judy Genshaft, Sanberg crafted the initial framework of what is now the National Academy of Inventors (NAI).

Along with a colleague, Howard Federoff, M.D., Ph.D. of Georgetown University, he reached out to Richard Maulsby, Associate Commissioner of the U.S. Patent and Trademark Office (USPTO), and later with David Kappos, Under Secretary of Commerce and Director of the USPTO, and found both shared his enthusiasm for the development of a national academy of inventors.

> "THE NAI IS A BREAKTHROUGH FOR OUR COUNTRY. IT COULDN'T BE MORE TIMELY TO HAVE AN ORGANIZATION LIKE THIS TO BE CHAMPIONING INNOVATION."
>
> - DAVID KAPPOS, FORMER DIRECTOR OF THE USPTO

AMERICA'S NEWEST ACADEMY

That same year, NAI held its first meeting at USF (in Tampa, FL) with Under Secretary David Kappos in attendance to officially inaugurate the Academy.

The mission of this new modern academy was uniquely tailored for academic inventors to support them in the common challenges of academic discovery.

As it now enters its second decade, NAI has broadened its mission to include recognizing rising stars in inventing; providing education, programming and useful tools to its Members; championing diversity and inclusion; and offering a virtual platform for Members to pass their knowledge and experience on to the next generation. It is one of three honorific partner organizations of the USPTO, along with the National Inventors Hall of Fame and the National Medals Foundation.

CONNECTIVITY, RESOURCES, AND THE COMPANY YOU KEEP

Fast-forward ten years from its inception, NAI now stands as the authority on academic invention with these goals:

- Enhance strategic partnerships, like that of the USPTO, to spearhead initiatives to break down barriers in the innovation ecosystem
- Continue advocating for its members and provide valuable resources to aid them in their careers
- Use its increased influence, visibility, and alliances to facilitate the speed of discovery to market, increase diversity and inclusion and define the future of innovation.

In its Membership today, the academy now includes:

- 1,567 Fellows from over 275 prestigious research universities, not-for-profit research institutions, and government agencies collectively holding over 42,000 issued U.S. patents and 13,000 licensed technologies and companies, resulting in 19.5 million jobs and generating 3 trillion in revenue.
- Over 200 World-class Institutional Members, innovation powerhouses across the U.S. and the globe.
- More than 2,000 individual Chapter and Senior Members in its inventor network.

Defining a new future, NAI blazes ahead, with new programs and resources to facilitate its member's groundbreaking work, expand the organization's global network, expedite the path of discovery to market and advocate for support of innovation that benefits our world.

Learn About NAI's Member Resources

NAI History

1790

George Washington signs the for US issued patent "IX" for Making Pot And Pearl Ashes

2009

The idea for a national academic inventor organization is conceived and shared with the USPTO

2010

The National Academy of Inventors is founded

2012

The NAI Fellows Program is launched

The inaugural NAI Annual Meeting is held Tampa, Florida

2013

NAI releases the first *Top 100 Universities Granted U.S. Utility Patents* report

2015

NAI Celebrates five years of promoting academic invention

2016

A Memorandum of Agreement is signed by NAI and USPTO at the NAI Fifth Annual Meeting

NAI takes over as owner and publisher of the multi-disciplinary journal, *Technology & Innovation*

2017

Congressman Dennis Ross introduces bill H.R. 976 to recognize the NAI's role in advancing academic innovation

2018

The Global Academic Inventors Network (GAIN) is launched

The NAI Senior Member Program is launched

The 1000th Fellow is Inducted into the NAI

The NAI is recognized by Senate Resolution 620, honoring the organization reaching 200 member institutions

2019

NAI launches the video series From Campus to Commerce

2020

NAI launches the ScholarShare webinar series

2021

NAI launches the Intellectual Property Curriculum in partnership with the Michelson Institute for Intellectual Property

USPTO

I am delighted to extend my congratulations as the National Academy of Inventors (NAI) embarks on its second decade. Since its inception, the NAI has been an important national advocate for innovation through its recognition of academic inventors and researchers. In just a short time, more than 250 academic institutions and over 4,000 individuals have joined its ranks globally. The United States Patent and Trademark Office (USPTO) is proud to partner with the NAI to recognize the remarkable contributions academic inventors make to our society.

Our partnership was enhanced in 2016 when the USPTO and the NAI signed a Memorandum of Understanding to solidify our collaboration to advance outreach and recognition of NAI members and institutions. The fruits of that collaboration include the USPTO hosting NAI events at its headquarters in Alexandria, Virginia; participating in NAI conferences and induction ceremonies; and submitting articles to the NAI's "*Technology and Innovation*" journal.

Last year, we announced the installation of a new NAI exhibit at the USPTO headquarters. Notwithstanding the global pandemic, work on the project progressed, and we are excited that this new installation will welcome employees and the public alike when the USPTO campus reopens. The exhibit will feature plaques listing the names of NAI fellows and additional materials that highlight the significant impact of these innovators on our society and economy.

Our strong partnership continues to grow. The USPTO recognizes the value of the programs and outreach offered by the NAI to the academic inventor community, especially the Global Academic Information Network (GAIN) mentoring program and the development of the Intellectual Property (IP) Curriculum Program for member organizations. This year, the USPTO will sign a Joint Project Agreement with the NAI to support the ongoing development of the GAIN and IP Curriculum Programs, the expansion of access to these programs for under-resourced inventors, and strategic initiatives to nurture the programs well into the future.

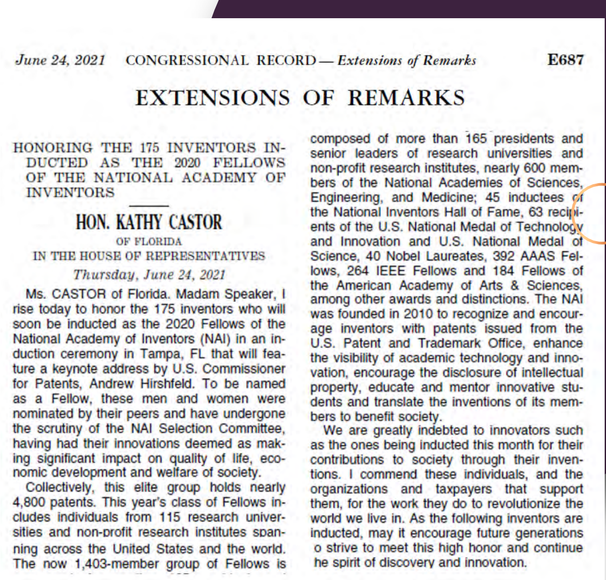
> "WE LOOK FORWARD TO OUR CONTINUED PARTNERSHIP WITH THE NAI, AND WE ARE EXCITED ABOUT THE INNOVATIONS AND OPPORTUNITIES THE COMING YEARS WILL BRING."

Sincerely,

Andrew Hirshfeld

Performing the Functions and Duties of the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office

NAI Lauded in Washington



June 24, 2021 CONGRESSIONAL RECORD — *Extensions of Remarks* E687

EXTENSIONS OF REMARKS

HONORING THE 175 INVENTORS INDUCTED AS THE 2020 FELLOWS OF THE NATIONAL ACADEMY OF INVENTORS

HON. KATHY CASTOR
OF FLORIDA
IN THE HOUSE OF REPRESENTATIVES
Thursday, June 24, 2021

Ms. CASTOR of Florida. Madam Speaker, I rise today to honor the 175 inventors who will soon be inducted as the 2020 Fellows of the National Academy of Inventors (NAI) in an induction ceremony in Tampa, FL that will feature a keynote address by U.S. Commissioner for Patents, Andrew Hirshfeld. To be named as a Fellow, these men and women were nominated by their peers and have undergone the scrutiny of the NAI Selection Committee, having had their innovations deemed as making significant impact on quality of life, economic development and welfare of society.

Collectively, this elite group holds nearly 4,800 patents. This year's class of Fellows includes individuals from 115 research universities and non-profit research institutes spanning across the United States and the world. The now 1,403-member group of Fellows is composed of more than 165 presidents and senior leaders of research universities and non-profit research institutes, nearly 600 members of the National Academies of Sciences, Engineering, and Medicine; 45 inductees of the National Inventors Hall of Fame, 63 recipients of the U.S. National Medal of Technology and Innovation and U.S. National Medal of Science, 40 Nobel Laureates, 392 AAAS Fellows, 264 IEEE Fellows and 184 Fellows of the American Academy of Arts & Sciences, among other awards and distinctions. The NAI was founded in 2010 to recognize and encourage inventors with patents issued from the U.S. Patent and Trademark Office, enhance the visibility of academic technology and innovation, encourage the disclosure of intellectual property, educate and mentor innovative students and translate the inventions of its members to benefit society.

We are greatly indebted to innovators such as the ones being inducted this month for their contributions to society through their inventions. I commend these individuals, and the organizations and taxpayers that support them, for the work they do to revolutionize the world we live in. As the following inventors are inducted, may it encourage future generations o strive to meet this high honor and continue he spirit of discovery and innovation.

NAI was honored to be recognized on the floor of the U.S. House of Representatives this year by State Representative Kathy Castor. In her statement, she recognized the importance of the work done by NAI Members and listed each inductee of the 2020 class of Fellows.

Read the full announcement noted in the Congressional Record

> "WE ARE GREATLY INDEBTED TO [THESE] INNOVATORS...FOR THEIR CONTRIBUTIONS TO SOCIETY THROUGH THEIR INVENTIONS. I COMMEND THESE INDIVIDUALS...FOR THE WORK THEY DO TO REVOLUTIONIZE THE WORLD WE LIVE IN."
>
> – HON. KATHY CASTOR, U.S. STATE REPRESENTATIVE (FLORIDA)

NAI Member Resources

Out of This World Banking with NASA

Through a special arrangement, NAI members can now enjoy "Boundless Banking" with exclusive offers and preferred rates from NASA's official Federal Credit Union.

Take advantage of the same financial perks offered to members of the National Academy of Science and the National Science Foundation!

Get the 'out-of-this-world' details now!

Learn More

Intellectual Property Curriculum Certificate Program

Knowledge is power! Today's inventors need to protect their discoveries with a thorough understanding of intellectual property and patent laws.

In our effort to help these innovations, NAI is pleased to offer an online intellectual property curriculum and certification program.

Provided in partnership with the Michelson Institute for Intellectual Property, this online curriculum offers a deep-dive into both historical and practical information on patents, trademarks, copyrights, and trade secrets.

This course is ideal for students, staff, and faculty members in innovation fields. Upon successful course completion, participants receive a certificate and digital badge.

Get Started!

The Global Academic Information Network (GAIN)

The Global Academic Information Network (GAIN) was created by the National Academy of Inventors to provide a networking and mentoring resource for students, staff and faculty at NAI member institutions.

This intimate platform links mentors to mentees providing advice and guidance on research, intellectual property protection, the commercialization of patented technology, and career direction.

Additionally, users of the GAIN Platform can form groups to further enhance networking and knowledge sharing, either for their institutions or for specific subject matters.

To Find Out More About GAIN, Give this tour a spin!

Watch Tour

"STEVE HELPED ME REALIZE THAT THE ABILITY TO START INVENTING DOESN'T DEPEND SO MUCH ON YOUR ACADEMIC BACKGROUND BUT MORE SO ON YOUR WILLINGNESS TO PURSUE YOUR PASSIONS WITHOUT HESITATION."

– Thomas Spencer, 2020 University of Georgia Environmental Engineer

Commemorative Membership Seals

Display these credentials on your website, publishings, or correspondence.

Designed exclusively for our Members, these downloadable seals are for you to show your affiliation to the National Academy of Inventors.

Four designs are available: Member Institutions, Fellows, Senior Members, and Chapters.

Download Your NAI Seals Now!

Member Institutions Seal

Fellow Seal

Senior Member Seal

Chapter Seal

NAI Space at USPTO Headquarters

In recognition of our long and valued partnership with the USPTO, the Academy has been given a prominent space in their Alexandria, Virginia headquarters to display NAI materials and Member inventions.

This space includes our logo, cities plaques displaying each Fellow's name, and signage that will demonstrate the Academy's partnership with USPTO and Member inventions. Additionally, NAI will have a display case containing actual Member inventions, which can be rotated throughout the year.

We are thrilled for this incredible opportunity to gain wide public exposure of the Academy as the site is visited by hundreds of thousands each year! We are truly grateful to the USPTO for making this happen.

Details

Top 100 Report

The Top 100 Worldwide Universities Granted U.S. Utility Patents in 2020 report has been produced by the National Academy of Inventors and the Intellectual Property Owners Association. The report uses data obtained from the U.S. Patent and Trademark Office and highlights the vital role patents play in university research and innovation.

Published annually since 2013, the report ranks the top 100 universities named as the first assignee on utility patents granted by the USPTO in the 2020 calendar year.

This year 55 NAI Member Institutions are included in the Top 100 list with a collective total of 4,864 U.S. Utility Patents!

View the Report

ScholarShare Webinars

What started as an alternate platform for our Annual Meeting quickly resulted into a popular tool for our Members to collaborate and learn from each other, share their research, or discuss an aspect of the inventor ecosystem they felt most passionate about.

The Academy has hosted eleven webinars to date, with over 250 participants, and has more webinars coming! All NAI ScholarShare sessions are recorded and posted on the NAI YouTube channel, where they have reached an even wider global audience.

Watch for upcoming webinars and check out any you may have missed on our YouTube channel.

Contact the Academy to schedule your webinar.

View Webinar Playlist

"THANK YOU FOR A WONDERFUL WEBINAR EXPERIENCE. I'M GETTING REQUESTS NATIONALLY AND INTERNATIONALLY FOR THE RECORDING ESPECIALLY FROM GERMANY. WHERE I COMPLETED MY MS. & PH.D. DEGREES."

– Dean M Amon, Ph.D., Professor, Michigan State University

From Campus To Commerce

To share our Members' discovery stories with the world over social media, NAI created this engaging animated video series to show the real inventors behind the products they use every day.

The series also allows viewers to hear directly from the inventors about what inspired them to create the technology and how they were able to persevere in their work.

The Academy has produced six episodes of the series so far, featuring discovery stories from Duke University, University of Georgia, University of Missouri, University of South Florida, and University of Utah.

Watch them now on our YouTube channel.

Watch Now

Technology & Innovation

Technology & Innovation (T&I), journal of the NAI, is the only multidisciplinary journal dedicated to highlighting topics that are relevant to academic invention and innovation. Over the past year, we have published issues with relevant themes such as Bending the Future Arc: Access to Capital for Funding Innovation and COVID-19: Crisis as Spur to Innovation. T&I continues to support our Member network and beyond by highlighting the important innovations and research being done within the within the academic innovation arena.

Read T&I

Submit to T&I

Resources for Authors

About T&I

"Brand" New: NAI Gear!

Use these tasteful and terrific practical items to help you throughout your day.

Need something to hold your morning brew? Check!
Or a comfy no-brainer wardrobe? Check!

How about a reusable grocery bag or tell-tribute gift? Check and check!

Plus, all proceeds from the NAI Gift Shop support our academic innovation programming!

Start Shopping Here

Learn More About NAI's Member Resources

Member Resources

NAI 10th Annual Meeting

NAI Recognizes, Honors & Celebrates at the 10th Annual Meeting in Tampa

The Academy hosted its tenth Annual Meeting with a packed speaker line-up featuring legendary inventors such as Robert Langer, Co-Founder of Moderna; Sethuraman Panchanathan, Director of the National Science Foundation (NFS); Ellen Ochoa, Chair, National Science Board and former director of NASA's Johnson Space Center; Ming Hsieh, Founder Fulgent Genetics; James Howard, Executive Director Black Inventors Hall of Fame; Cato T. Laurencin, Distinguished Professor at the University of Connecticut; George Smith, Nobel Laureate, from the University of Missouri and Paul R. Sanberg, NAI President, amongst others.

Director of Black Hall of Fame receives honorary membership

The three-day event also included keynote speakers Rhea Law, President of the University of South Florida (USF) and Paul Sohl, CEO of the Florida High Tech Corridor; a Signature Gala, and induction ceremonies for the newest classes of NAI Fellows and Senior Members.

One important topic at the hybrid-style conference, attended by over 400 guests, was to discuss to critical role academic discovery played throughout the pandemic and will play moving forward concerning our society and planet's health.

This was clearly demonstrated in NAI Fellow Langer's presentation on the rapid development of his company's Moderna vaccine (against covid-19) and Fellow Panchanathan's passionate speech outlining the NSF's organizational priorities to address the most urgent and complex issues we face today.

Richard Maulsby presents Founder's Award to NAI President Paul Sanberg

The event also feature its inaugural presentation of NAI's Founders' Awards, given to individuals who were instrumental in the establishment and success of the Academy. Awards recipients included: FNAI Panchanathan Sethuraman (NSF); the United States Patent and Trademark Office's former Director, David Kappos, and former Associate Commissioner, Richard Maulsby; Judy Genshaft, former President of USF; FNAI Robert V. Duncan, President's Distinguished Chair in Physics, Texas Tech and FNAI Paul Sanberg, founder of the NAI.

The Annual Meeting was enjoyed by all and especially meaningful since for many, it was the first event attended since the onset of the pandemic in 2020.

NAI's Career Recognition Program

In our effort to establish an elite network of inventors and a community of innovation, the Academy has created a number of membership designations to best address an individual's career stage.

NAI Fellows

THE HIGHEST DISTINCTION ACCORDED SOLELY TO ACADEMIC INVENTORS

PIONEERS IN THEIR FIELD & HOLD A MEDIAN OF 20 PATENTS

NAI Fellows are individuals whose patented innovations have made a longstanding, remarkable impact on society. They are often recognized as pioneers in their field and have reached professional maturity.

NAI Senior Members are individuals affiliated with NAI Member Institutions whose patented innovations have great potential impact. Senior Members are typically active scientists who are recognized as rising leaders in their field.

This year's Fellows and Senior Members were inducted at the 10th Anniversary Annual Meeting in Tampa, Florida in November 2021.

NAI Senior Members

EARLY-STAGE INNOVATORS AFFILIATED WITH AN NAI MEMBER INSTITUTION

HAVE PRODUCED AT LEAST ONE U.S. PATENT THAT HAS BEEN COMMERCIALLY LICENSED OR 5 U.S. ISSUED PATENTS

Fellows Program

The impact of NAI Fellows cannot be overstated. Since the first elected class in 2012, the number of Fellows has grown to 1,403 distinguished academic inventors, who are considered pioneers in their fields.

Their contributions are monumental to both society and the economy and have been recognized and honored by some of the most prestigious organizations within the innovation ecosystem.

> "IT WAS TRULY AN HONOR TO BE ELECTED. AS A 6-YEAR-OLD CHILD WHEN ASKED WHAT I WANTED TO BE WHEN I GREW UP I ALWAYS SAID, AN INVENTOR. THIS SHOWS THAT ASPIRATIONS OF EVEN 6-YEAR-OLDS CAN BE REALIZED."
>
> - ROBIN A. FELDER, PH.D., PROFESSOR OF PATHOLOGY, AND ASSOCIATE DIRECTOR LABORATORY OF MEDICINE, THE UNIVERSITY OF VIRGINIA

TO DATE, NAI FELLOWS REPRESENT OVER 275 PRESTIGIOUS RESEARCH UNIVERSITIES AND GOVERNMENTAL AND NON-PROFIT RESEARCH INSTITUTES WORLDWIDE.

PATENTS
MORE THAN 42,700
PATENTS HELD

LICENSED
OVER 13,000 LICENSED TECHNOLOGIES

UNIVERSITIES
OVER 275 UNIVERSITIES REPRESENTED

IEEE
264

AAAS
404

AAAS
(American Academy of Arts & Sciences)
241

NATIONAL INVENTORS HALL OF FAME INDUCTEES
43

National Academy of Science (NAS)
Engineering (NAE)
Medicine (NAM)
603
MEMBERS

NOBEL PRIZE
42

MEDALS
63
U.S. Medals of Science, Technology and Innovation

REVENUE
$3 TRILLION
REVENUE GENERATED

STUDENTS
OVER 50,000 STUDENTS INVOLVED IN RESEARCH

JOBS
1 MILLION
JOBS CREATED

5-Star Fellows

Over a dozen NAI Fellows are recognized by all five national academies, earning them the moniker "5-Star Fellows." We are so proud to have these outstanding inventors as Fellows in our academy!

Kristi Anseth, *University of Colorado Boulder*

Frances H. Arnold, *Caltech*

J. Michael Bishop, *University of California, San Francisco*

Emery N. Brown, *Massachusetts Institute of Technology*

James J. Collins, *Massachusetts Institute of Technology*

Joseph DeSimone, *Stanford University*

Leroy E. Hood, *University of Washington*

Cato T. Laurencin, *University of Connecticut*

Robert Lefkowitz, *Duke University Medical Center*

Stephen Quake, *Stanford University*

Terry Sejnowski, *Salk Institute for Biological Studies*

David A. Tirrell, *Caltech*

* American Academy of Arts and Sciences, National Academy of Sciences, National Academy of Engineering, National Academy of Medicine, National Academy of Inventors

Fellow Spotlight

John Spirk

2018 Fellow

John Spirk holds 337 patents, licensed to 50 companies. Those patented products have combined sales of over $50 billion. Spirk holds 7 patents in the field of health care, of which all 7 have been licensed. His most significant health care patent is #US8596392, the first telemedicine kiosk system with connected diagnostic devices, acquired by Rite Aid. His most significant oral hygiene patent is #US6000083, Crest SpinBrush licensed to P&G, which is the largest selling electric oral care appliance, with sales in the billions of dollars. Spirk holds 24 patents in the fields of paint and coatings containers. His most significant paint container patent is #US6983862, Dutch Boy Twist & Pour container licensed to Sherwin-Williams. Requiring no tools to open & close, and no dripping, it is one of Brand Packaging's "10 Best Packages of the Decade." Spirk holds 24 licensed patents in the field of personal care. His most significant personal care patent is #US7508193, Axe Bullet pocket sized aerosol, licensed to Unilever, resulting in hundreds of millions of dollars in sales.

NAI Fellow Class of 2020

In December 2020, 175 distinguished Fellows were elected to the Academy. This year's class represents 115 institutions worldwide.

WE WILL SHOWCASE THE FELLOW CLASS OF 2021 IN OUR NEXT ANNUAL REPORT

See the full 2020 class list of NAI Fellows

NAI Fellows List

Learn more about the NAI Fellows program

NAI Fellow Program

Go To Our Fellow Directory

NAI Fellow Directory

The NAI Senior Member Program

The NAI Senior Member Program offers Member Institutions the opportunity to recognize early-stage inventors who are rising stars in their fields and have produced technologies that have brought, or aspire to bring, real impact on the welfare of society. The Senior Member elections are held on National Inventors' Day (February 15) of each year.

The Academy is honored to now include 251 individual Senior Members who are collectively named on 3,379 patents.

Meet the 2021 Senior Member Class

2021 Class

Go to the Senior member Directory

Directory

Learn more about NAI's Senior Member program

Senior Member Program

Growing Our Global Network

> WE ARE MOVING TOWARD A MORE INNOVATIVE AND INVENTION FOCUS COMPLEMENTING OUR RESEARCH ENTERPRISE AND ENTREPRENEURSHIP EFFORTS. WE BELIEVE NAI CAN BUILD UPON OUR MOMENTUM AND WE CAN BUILD UPON NAI'S."
>
> – **Miami University (Ohio)**

NAI Institutional Members

NAI is proud to have 243 institutions of higher learning in our global network, representing 42 American states and 11 countries. Fifty of our Member Institutions also belong to the Association of American Universities (AAU), an organization of American research universities devoted to maintaining a strong system of academic research and education.

These world-class learning institutes are committed to facilitating discovery for societal progress and are invaluable as the world looks more and more toward academic discovery to solve our most pressing issues.

New Member Institutions

This year, the Academy welcomed six new Member Institutions into our innovation community: Georgia Institute of Technology, Terasaki Institute for Biomedical Innovation, University of Illinois Chicago, The University of Ohio, The University of Oklahoma, and University of Texas Health Science Center – Houston

Learn about the benefits of becoming an NAI Member Institute

> THE NATIONAL ACADEMY OF INVENTORS IS THE ONE (ACADEMY) THAT HONORS THE HOLISTIC EFFECT OF PEOPLE WHO ACTUALLY DRIVE THE INVENTION FORWARD."
>
> **– Al Pisano, Dean of the UC San Diego Jacobs School of Engineering, during an interview by Tacos and Tech Podcast powered by Fresh Brewed Tech**

From Our Sustaining Members

NAI Sustaining Membership supports NAI at the highest level and is ideal for universities with large NAI Chapters - as this designation provides an unlimited number of chapter memberships.

Sustaining Member Institutions also receive added benefits such as institutional recognition on the Academy's website and premier VIP seating and promotional materials at the NAI Annual Meeting, plus the opportunity for a special feature in our Annual Activities Report.

> "OUR RELATIONSHIP WITH NAI HAS BEEN INSTRUMENTAL IN ELEVATING OUR FACULTY INNOVATORS VIA THE SENIOR MEMBER AND FELLOWS PROGRAMS, BECOMING A SUSTAINING MEMBER WILL ALLOW US TO FURTHER ENGAGE WITH THE BROADER INNOVATION COMMUNITY"
> – NORTH CAROLINA STATE UNIVERSITY

This year we are pleased to welcome four new Sustaining Members to our global network: **Miami University (OH), North Carolina State University, Prince Mohammad Bin Fahd University, and University of California Riverside.**

Current NAI Sustaining Members:

- Arizona State University
- Auburn University
- The Chinese University of Hong Kong
- Miami University (OH)
- New York University
- North Carolina State University
- Prince Mohammad Bin Fahd University
- Texas Tech University
- University of California Riverside
- University of Central Florida
- The University of Florida
- University of Nebraska-Lincoln
- University of South Florida

Here are the latest highlights from NAI Sustaining Members!

SUSTAINING MEMBER:

Arizona State University

ASU's Biodesign Institute plays critical role in combating COVID-19

The Arizona State University Biodesign Clinical Testing Laboratory (ABCTL) was launched in March 2020 to quickly and accurately detect coronavirus for individuals who may have been exposed to the SARS-CoV-2 virus. To do this, the academic team retooled their expertise and high throughput diagnostic testing capabilities established during a $40M project for the Biomedical Advanced Research and Development Authority, and immediately adapted an FDA emergency use authorized diagnostic test.

Read More

SUSTAINING MEMBER:

Auburn State University

Licensed AU technologies improve detection time and efficiency for home blood testing

Blood test data is required for 70% of clinical medical decisions. For patients with chronic conditions like heart disease or failing kidneys that means frequent trips to a doctor's office or lab. In-person appointments can be difficult to arrange, lead to delays in diagnosis and treatment, and expose patients to other illnesses.

Read More

SUSTAINING MEMBER:

The Chinese University of Hong Kong

The Inventor of Non-Invasive Prenatal Testing: Professor Dennis Lo

As a pioneer in the field of non-invasive diagnostics, Professor Dennis Lo leads a multidisciplinary team to develop the next generation tools for the analysis of cell-free nucleic acids and to study the biology and pathological characteristics of cell-free fetal nucleic acids that have not been unravelled to date. His research covers an enormous scope with a wide-range of applications and impact in healthcare.

Read More

SUSTAINING MEMBER:

Miami University (Ohio)

Researchers at Miami University have been awarded a $1.5 million grant from PsyBio Therapeutics Corp. to expedite progress toward clinical trials of a portfolio of neuropsychiatric drugs. Last year, PsyBio and Miami joined forces to develop and test a new class of molecules to treat mental health challenges such as depression, anxiety, PTSD, and substance dependency.

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SUSTAINING MEMBER:

New York University

New York University startup Manifold Robotics simplifies data collection with drones

Manifold Robotics is a spin-off company from New York University (NYU) that is developing specialized drones to tackle data collection in complex environments. The company was founded in 2017 by Jeffrey Lwo, who earned a PhD in Mechanical and Aerospace Engineering from NYU Tandon School of Engineering, and his doctoral advisor Maurizio Porfiri, Institute Professor at New York University. Dr. Lwo serves as the company's CEO and lead engineer, and Prof. Porfiri is involved as a technical advisor and consultant to the company.

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SUSTAINING MEMBER:

The Patent Center at Prince Mohammad Bin Fahd University

Two years of inventions: From the research and invention to the patent and its successful marketing

There is growing awareness among policymakers that innovation is a key driver of economic growth and that it can help in the search for solutions to global challenges. The capacity to innovate and to bring innovation successfully to market is likely to be a crucial factor in economic competitiveness over coming years.

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SUSTAINING MEMBER:

University of California Riverside

Situated on nearly 1,200 scenic acres in Inland Southern California, UCR's diverse, inclusive, and globally focused community is creating a new model for what a great public research university can achieve.

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SUSTAINING MEMBER:

University of Nebraska – Lincoln

NAI member Wilhelm helps lead Nebraska's COVID mitigation efforts

It was in January of 2020 that Robert "Bob" Wilhelm remembers a novel coronavirus that originated in China first coming up in conversation among University of Nebraska-Lincoln administrators.

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SUSTAINING MEMBER:

University of South Florida

Florida Inventors Hall of Fame Inductee Norma Alcante Turns Family Wisdom into Trailblazing Career

University of South Florida Engineering Professor Norma Alcante's induction into the Florida Inventors Hall of Fame this year is an honor that transcends countries, cultures, and her family's history.

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Chapters

> THE LAUNCH OF OUR NAI CHAPTER PROVIDED A VERY COHESIVE WAY OF BRINGING FACULTY TOGETHER, WHICH IS A VITAL BENEFIT FOR A NEW INSTITUTION LIKE FLORIDA POLY. WE LOOK FORWARD TO THIS GROUP OF NAI MEMBERS ENGAGING WITH EACH OTHER TO GROW THE CHAPTER AND SEEK OUT INNOVATIVE INITIATIVES THAT WILL BENEFIT THE FACULTY AND STUDENTS OF OUR UNIVERSITY."
>
> **—Jeanne Viviani, Contracts and Grants Manager, Florida Polytechnic University Chapter of the NAI**

NAI Chapters play an important role in our innovation ecosystem. In addition to serving their respective university communities, chapters highlight the achievements of NAI Members and promote innovation through events, ceremonial inductions, activities, and more.

The Academy's Chapter network currently includes 53 official chapters which offer the unique benefit of local collaboration, support, and honor for individual inventors. The Chapters are also essential vehicles to nurture and engage students, as well as institutional and community leaders who facilitate innovation.

If you are interested in starting your own NAI Chapter, start with our Chapter Tool Kit or visit our Chapter Resource Page.

News from NAI's Chapters

We are pleased to recognize five new NAI Chapters established this year:

- Jackson State University
- Medical University Of South Carolina
- New Jersey Institute Of Technology
- University of California, San Diego
- University Of Oregon

> ESTABLISHING A LOCAL NAI CHAPTER WILL HELP FURTHER DEVELOP OUR STUDENTS, CREATE STRONGER CONNECTIONS TO THE REGION'S FLOURISHING COMMUNITY OF INVENTORS AND SHOWCASE UC SAN DIEGO'S GROWING RESEARCH ENTERPRISE."
>
> **- University of California San Diego Chapter of the NAI**

Arizona State University

ESTABLISHED 2017, 66 MEMBERS

ASU's Global Futures Laboratory designing solutions to our planet's systemic challenges

The Julie Ann Wrigley Global Futures Laboratory at Arizona State University is the world's first comprehensive institution dedicated to the health of our Earth and all of its inhabitants. The lab is making significant strides toward creating innovative solutions to grand challenges around our most critical planetary systems issues. Most pressing is the improvement of the habitability of our planet born out of opportunity, not sacrifice.

Built on a framework of ASU researchers and facilities leveraging an extensive global network of partners, the goal of the Global Futures Laboratory is to develop viable, implementable applications and approaches to mitigating environmental and societal damages. Researchers have developed ongoing and wide-ranging exchanges across all knowledge domains to address the complex social, economic, environmental, ethical and scientific challenges spawned by the current and future threats from the planet's degradation. This platform positions a new world headquarters for an international array of scientists, scholars and innovators in a new facility designed especially for transdisciplinary collaboration. It also lays the foundation from which we can anticipate and respond to existing and emerging challenges. In short, the Global Futures Laboratory is harnessing the power of innovation to purposefully examine, shape and inform our future.

"The future health of our planet is the most significant challenge humans have ever faced," says Sally C. Morton, ASU's executive vice president of Knowledge Enterprise, which oversees the laboratory. "One of the reasons I decided to join ASU is because I believe this is the best place to address these challenges and develop viable solutions. The Global Futures Laboratory is using novel research methodologies, testing nature-inspired approaches and creating collaborative partnerships that bring together the most talented experts across critical areas of study. I am incredibly proud that ASU is playing a leading role in ensuring a livable planet for generations to come."

"Humans are the one species on the planet that can either wreck it or keep it healthy for a future of opportunities," said Peter Schlosser, vice president and vice provost of the Global Futures Laboratory. "We are pushing the limits of our planet, and it is our responsibility to recognize the impacts we have made on the planet's systems and work to repair them back to a place where we, and the rest of the planet's inhabitants, not simply exist, but thrive."

The Global Futures Laboratory is home to the first and only College of Global Futures, which includes three unprecedented schools - the School of Sustainability, the School for the Future of Innovation in Society and the School of Complex Adaptive Systems. Alongside this college is the Global Institute of Sustainability and Innovation, a singular hub of more than 30 centers conducting research across a variety of areas including water, heat, food systems, cities and urban centers, public engagement, biodiversity and biomimicry, among many others. The laboratory also provides networking and engagement opportunities for research pioneers, business and public leaders, and the general public to explore, discuss and design implementable solutions for sustainable global habitability.

"We are honored to be a sustaining member of the National Academy of Inventors," says Morton. "And we are especially gratified by the impact our membership has on our students. We are in the process of launching a student NAI chapter that I am confident will provide opportunities for students to access mentors, develop relationships with renowned inventors from across the globe, and build networks that will serve them well throughout their academic and professional careers."

Florida Atlantic University

ESTABLISHED 2018, 24 MEMBERS

Member Recognition & Awards

Dr. Herbert Weissbach was awarded the 2020 BioFlorida Lifetime Achievement Award, an honor reserved for recognizing an individual's outstanding leadership in life sciences throughout their career that has significantly contributed to the growth of the biotechnology industry. Dr. Weissbach was also appointed to the inaugural class of fellows for the American Society of Biochemistry and Molecular Biology.

Dr. Gregg Fields was appointed the co-director of a research partnership formed by Memorial Healthcare System and FAU that was designated by the state as a "Florida Cancer Center of Excellence". The partnership was formed in 2020 to combine the expertise of physicians and researchers under Memorial Cancer Institute, Office of Human Research at Memorial Healthcare System, and FAU's clinicians and researchers to bring clinical trials that will lead to advances in patient care and treatments for a variety of diseases, including melanoma, lung cancer, breast cancer, pancreatic cancer, and blood cancers.

Dr. Megan Davis successfully launched the Naguabo Queen Conch Hatchery in Puerto Rico as part of a partnership with the FAU Harbor Branch Oceanographic Institute, Conservacion ConCiencia, and the Naguabo Fishing Association and supported by the National Oceanic and Atmospheric Administration. The conch will be grown for one year at the hatchery and then released for restoration or ranched for sustainable seafood.

Medical University Of South Carolina

98 MEMBERS

We have 17 honorary members and 5 fellows with Dr. Nancy DeMore being inducted as our 6th this October in FL.

MUSC's Innovator's of the Year for the past three years have been Dr. Amanda Giles (2019), Dr. Brandon Welch (2020), and Dr. Cephus Simmons (2021).

Member Hightlights:

1. Dr. Bashar Badran: The BabySTRONG device received FDA Breakthrough Device Designation. The device, invented by Doe Jenkins, M.D., Bashar Badran, Ph.D., and Mark George, M.D., is a neonatal feeding aid for premature and at-risk infants who present feeding issues.

2. Dr. G. Hamilton Baker: Created MUSC AI Hub

3. Dr. Nancy DeMore: She received rare pediatric disease designation from the FDA for new osteosarcoma treatment

4. Dr. Carol Feghali-Bostwick: She received a U.S. Patent for her plant-based system to produce anti-fibrotic peptides.

5. Dr. Mark Semler: The FDA approved his guardian needle which helps reduce the risk of accidental needlesticks during intraoperative monitoring

6. Dr. Cephus Simmons: He received a Canadian Patent for his double-balloon catheter

7. Dr. Brandon Welch: Dr. Welch is the founder of doxy.me, a free telemedicine solution used by healthcare providers worldwide.

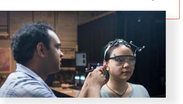
The New Jersey Institute of Technology

ESTABLISHED 2021, 41 MEMBERS

The New Jersey Institute of Technology (NJIT) launched their NAI Chapter on July 30, 2021, with a ceremony that inducted 32 faculty members and nine honorary members. The chapter was established with the goal of promoting translational research and its commercialization, offering invention-focused networking and educational activities, and providing mentoring and advising services to faculty and student inventors on further development of IP assets. These goals will be achieved through initiatives and projects such as campus R&D programs, grants, clubs, acceleration programs, and workshop and seminars on innovation and intellectual property development. The NJIT NAI Chapter will also continue to recognize and celebrate inventors with annual NAI-NJIT chapter awards and events such as Innovation Day and the Summer Research Symposium.

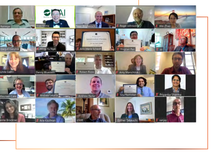
School Website

> "NAI SEEKS TO RAISE THE IMPORTANCE OF INVENTION – WITHOUT WHICH WE WOULD NOT HAVE MODERN COMMUNICATION NETWORKS, CURES FOR DISEASES OR NEW SOURCES OF CARBON-FREE ENERGY – AND TO HELP BUILD NETWORKS AND RESOURCES THAT WILL FURTHER THIS WORK. THIS IS A STRATEGIC PRIORITY OF NJIT AS WELL, WITH ITS EMPHASIS ON APPLIED RESEARCH AND TECHNOLOGY TRANSLATION."
>
> **– Atam Dhawan, NJIT Senior Vice Provost for Research and President of NJIT NAI Chapter**



Stony Brook University Chapter of NAI

New Members of the National Academy of Inventors Were Inducted During the NAI-SBU Chapter Annual Meeting Held in May 2021



The Stony Brook University Chapter of the National Academy of Inventors (NAI) 6th annual meeting and New Members Induction Ceremony was held in May 2021. NAI Assistant Director Yashira Cabrera was able to join in the virtual event from Florida to provide her greetings along with the letter from the President of NAI Dr. Paul Sanberg.

This year, the NAI-SBU chapter welcomed nine new SBU members from various departments across campus recognizing outstanding and talented inventors who were issued patents from the US Patent and Trademark Office, as well as two honorary members selected for their support and contributions to the SBU academic community. Along with these stellar awardees, three early-stage innovators received the Young Academic Inventor Award 2021, honored with a certificate and a check for $1,000. They will appear in person at the Young Academic Inventor Symposium held later this year to present an overview of their research.

Stony Brook University President Maurie McInnis gave introductory remarks citing the significance and need for timely, forward-thinking inventions, especially during the challenging moment of social transition. She highlighted the university's outstanding track record in providing scientific research and inventions, not only in the fight against COVID but throughout the university's history. "The very idea of researching and innovating is at the core of Stony Brook University's mission: that's why the Stony Brook Chapter of the National Academy of Inventors was established in 2016", added President McInnis.

VP for Research Dr. Richard Reeder spoke about the sense of importance that Stony Brook attaches to its innovations and inventions; an importance that has grown during the last year as the entire world looked to science for solutions and hope. "Looking forward, I am just excited to think about future inventions that are yet to come, and this is a lot of inspiration for Stony Brook", said Dr. Reeder. Drs. Iwao Ojima, Distinguished Professor in Chemistry and President of the NAI-SBU chapter, and Sean Boykevisch, Director of IPP and Executive Director of the NAI-SBU Chapter, provided their congratulations to new members as well.

The keynote speaker of the meeting was NAI Fellow and the holder of more than 200 patents, Dr. Jahangir Rastegar, Associate Professor of Mechanical Engineering. Dr. Rastegar gave an engaging talk about his experience as an inventor and systematic approach to solving engineering problems.

The NAI mission is "to enhance the visibility of academic technology and innovation; to encourage the disclosure of intellectual property; to educate and mentor innovative students; and to translate the inventions of its members to benefit society". The NAI has more than 4,000 individual members and over 200 member institutions throughout the world

The Stony Brook University Chapter of NAI was established in 2016 and prides itself in fostering the Stony Brook inventor's community, and in increasing visibility of the Stony Brook innovations and research both nationally and internationally. Today, the Stony Brook University NAI chapter includes 114 members.

Congratulations to:

New members of the National Academy of Inventors

- Dr. Danny Bluestein, *Department of Biomedical Engineering*
- Dr. Amy Marschilok, *Department of Chemistry*
- Dr. Ming-Yu Ngai, *Department of Chemistry*
- Dr. Yingtian Pan, *Department of Biomedical Engineering*
- Dr. Robert Rizzo, *Department of Statistics and Applied Mathematics*
- Dr. Milutin Stanacevic, *Department of Electrical and Computer Engineering*
- Dr. Priyanka Sharma, *Department of Chemistry*
- Dr. Emre Salman, *Department of Electrical and Computer Engineering*
- Dr. Dr. Kenneth *Takeuchi, Department of Chemistry*

Honorary Members

- Mr. Gary J. Gershik, Esq., *Cooper & Dunham LLP;*
- Dr. Ann-Marie Scheidt, *Economic Development, Stony Brook University*

Young Academic Inventor Award winners

- Dr. Andrew LaBella, *Department of Radiology (Ph.D. 2020, Biomedical Engineering, Stony Brook University)*
- Dr. Andrew Fesler, *Curamir Therapeutics (Ph.D. 2018, Molecular and Cellular Biology, Renaissance School of Medicine, Stony Brook University)*
- Dr. Sina Rashidian, *Harvard Medical School (Ph.D. 2020, Computer Science, Stony Brook University)*

University of California San Diego

ESTABLISHED 2021, 15 INAUGURAL MEMBERS

At UC San Diego, invention is in our DNA. We are home to 13 NAI fellows, including current and emeritus faculty, and last year, our research program generated more than 500 new invention disclosures, including over 200 new patents. The university's commitment to innovation and entrepreneurship runs deep and goes beyond the campus borders.

UC San Diego inventors and founders Dr. Leanne Chukoskie and Dr. Jeanne Townsend are prime examples. BrainLeap Technologies provides brain-training software that helps children with autism spectrum disorder (ASD) improve their concentration and motor skills. It is the only research-based, gaze-driven system designed to train foundational attention skills.

With funding from the National Science Foundation and the National Institutes of Health, the BrainLeap team has expanded its reach to make attention training broadly accessible for children and adolescents. This coming year, they will expand research efforts to older adults via cognitive enhancement training, providing people a powerful tool in the fight against dementia.

While programs like Institute for the Global Entrepreneur, The Basement and StartR at the Rady School of Management support students and faculty in their startup endeavors, capital projects like the Design and Innovation Building and UC San Diego @ Park & Market are another way UC San Diego promises to strengthen the connection between the campus and industry partners, government entities and community members.

The University of California San Diego is the first University of California campus to establish a chapter of the National Academy of Inventors (NAI), a move that will help the campus build and sustain a more robust innovation ecosystem. This designation provides tools and resources to help UC San Diego raise the profile of its inventions and technologies, encourage innovations on campus and educate student entrepreneurs.

Establishing a local NAI chapter will help further develop our students, create stronger connections to the region's flourishing community of inventors and showcase UC San Diego's growing research enterprise. The university's commitment to innovation and entrepreneurship runs deep and goes beyond the campus borders.

We hope this chapter will allow us to connect with world-renowned inventors, while nurturing and mentoring innovators, business owners, and the workforce of tomorrow. As informed by indicators from the World Intellectual Property Organization, we are exploring correlations in data across annual invention disclosures, research funding, and industry points engagement.

We are further deepening our understanding of how invention impacts society through startup formation and survivorship coupled with demographic data analysis to continue building a more inclusive innovation ecosystem. Within our first year we will execute our annual awards event, continue building chapter membership up to 35, and make contributions to the NAI Journal: Technology and Innovation.

University of South Florida

ESTABLISHED 2009, 644 CHAPTER MEMBERS

The University of South Florida is the founding chapter of the National Academy of Inventors. With 595 inventor members and 49 honorary members, the USF Chapter has 644 members and is the largest chapter in NAI.

Located on three campuses in Tampa, St. Petersburg, and Sarasota-Manatee, USF is the fastest rising university in America, rising to #46 among public universities in the 2021 *U.S. News and World Report* National University Rankings. USF ranks 8th in the nation among public universities and 15th worldwide for granted U.S. patents among all universities, ranking among the Top 10 public universities for nine consecutive years (IPO/NAI 2020).

In 2020, 134 patents were awarded to USF inventors, bringing the total number of U.S. patents held by USF Chapter members to 2,825. We are proud of the six USF inventors elected as NAI Senior Members and three USF inventors elected as NAI Fellows in 2020. USF is home to a total of 18 NAI Senior Members and 26 NAI Fellows.

The Chapter hosted online the first "Innovation Luminary Speaker Series" event, featuring Dr. Steven Currall, author of *Organized Innovation*, plus workshops, panels and seminars that included SBIR/STTR and Department of Defense grant writing and consultation, an introduction to available GMP facilities, and *Molekule: A Success Story.*

Learn More

In Memoriam

Friends,

Sadly, we share news of the recent passing of five distinguished and admired NAI Fellows.

We extend our deepest condolences to their families, friends, and colleagues. The impact of their work in their respective fields was beyond measure.

We will mourn their absence, but the world will continue to benefit from their pioneering discoveries.

David Ahlquist, Mayo Clinic

1951-2020, 2019 NAI Fellow

Dr. David A. Ahlquist was Emeritus Consultant in Gastroenterology & Hepatology and Professor of Medicine at Mayo Clinic and scientific advisor to Exact Sciences Corporation. Dr. Ahlquist's research dealt primarily with novel approaches to cancer detection. He is co-inventor of the multi-target stool DNA test for colorectal cancer screening (Cologuard, Exact Sciences), and his most recent scientific focus was on molecular approaches to universal cancer screening. Dr. Ahlquist had over 400 total publications, served as research mentor to more than 50 fellows and residents, and received academic awards including Distinguished Inventor (Mayo Clinic), Investigator of the Year (Mayo Clinic), William Beaumont Award for Contributions to Medicine (American Gastroenterological Association), and Lifetime Achievement Award (Inventions & Innovations Symposium, Israel 2019). He held 44 issued U.S. patents (many are also internationally issued); all are licensed to Exact Sciences. He has held numerous leadership positions within Mayo Clinic (including staff president) and professional organizations.

Craig C. Beeson, Medical University of South Carolina

1958-2019, 2016 Fellow

Craig Beeson, a beloved mentor and accomplished research scientist at the Medical University of South Carolina College of Pharmacy, was professor of Drug Discovery and Biomedical Science at MUSC and president and CEO of both MitoChem Therapeutics and MitoHealth. He joined MUSC in 2002, rising to the rank of full professor and acting as director of the Metabolomics and MUSC/Seahorse Biosciences Development Core. He held 10 U.S. patents. His research has resulted in more than 100 peer-reviewed publications funded by over 30 grants on which he was the PI or co-PI, with additional NRSA grants obtained by post-doctoral fellows in his laboratory.

Juan C. Lasheras, University of San Diego

1951-2021, 2014 NAI Fellow

Juan Lasheras was instrumental in founding the University of San Diego Aerospace Engineering program and in forming the Department of Mechanical and Aerospace Engineering. He was also the founding director of the Center for Medical Devices, and was a member of NAE and the Spanish Royal Academy of Engineering. He held 50 U.S. Patents.

Thomas A. Lipo, Florida State University

1938-2020, Charter NAI Fellow (2012)

Thomas Lipo was the Research Professor at Florida State University's (FSU) Center for Advanced Power Systems (CAPS) whose pioneering innovations in the field of electrical machinery and power electronics have improved the technology that runs subway cars as well as paved the way for hybrid and electric vehicles. Lipo was known worldwide as an industry authority on the design and analysis of electric machines and power electronic drives that have helped move power technology from concept to practical application. Lipo was an Institute of Electrical and Electronics Engineers (IEEE) Life Fellow, National Academy of Inventors Fellow, and member of the National Academy of Engineering and UK Royal Academy of Engineering. In 2014, he received the IEEE Medal in Power Engineering, the highest award presented by IEEE for research in the field of power engineering. Lipo held 45 U.S. patents and 20 foreign patents.

John C. Spence, Arizona State University

2019 NAI Fellow, 1946-2021

John C. Spence FRS was Regent's Professor of Physics at Arizona State University. Spence devoted his career to the invention and development of new forms of microscopy and new electron microcopy techniques in condensed matter physics. He was Director of Research for the seven-campus "BioXFEL" Science and Technology Center, funded by NSF for a decade for applications of the recently-invented X-ray laser to structural biology. He was the recipient of the Buerger Medal of the American Crystallographic Society, the Cowley Medal of the International Federation of Societies for Microscopy, and the Distinguished Scientist Medal of the Microscopy Society of America. He held seven U.S. patents (four pending) and one foreign patent (3 pending) that have been licensed to one company. He served as a board member of the Xradia company for many years. He published over five hundred peer-reviewed scientific publications, four books, and served as editor of IUCrJ. He served on many journal editorial boards and was editor for North American of Acta Crystallographica A (Diffraction Physics) for a decade. Spence was a Fellow of the Royal Society, the Australian Academy of Science, the American Association for the Advancement of Science, and the American Institute of Physics.

Nongjian (NJ) Tao, Arizona State University

1963-2020, 2020 NAI Fellow

NJ came to Arizona State University in 2001 where he joined the faculty in the School of Electrical, Computer and Energy Engineering. He quickly established himself as an expert in personal sensing technologies and in 2008 became the founding director of the Biodesign Center for Bioelectronics and Biosensors (BCBB). Known around the world, NJ was an influencer in the fields of molecular electronics, nanoelectronics, chemical and biological sensors, and wireless devices for mobile health. He received more than 25 U.S. patents, published over 300 papers and has been cited thousands of times. But what might be his greatest professional legacy are the teams of scientists who trained under him. Scientists, who are now improving the world in labs around the globe. His work lives on in them.

Thomas A. Waldmann, National Institute for Health

1930-2021, 2017 NAI Fellow

Considered a giant in the field, Tom was a renowned immunologist whose more than 60-year career at the National Cancer Institute led to numerous high-impact discoveries that advanced the fields of organ transplantation, autoimmune disease and cancer. He was a leader in the study of cytokines and their receptors and of monoclonal antibodies, now a dominant form of cancer immunotherapy.

He received his MD from Harvard Medical School in 1955 and joined NCI in 1956 after residency at Massachusetts General Hospital. At NCI, he started by studying how the body metabolizes proteins, including immunoglobulins, in the blood.
Tom's pivotal studies revolutionized our understanding of the roles played by the interleukin-2 (IL-2) receptor and interleukin-15 (IL-15) receptor cytokine systems in the life and death of T lymphocytes.

In 1994, Tom and his team co-discovered the cytokine IL-15. Like IL-2, IL-15 triggers the production of immune cells that attack and kill cancer cells. Tom's group initiated the first-in-human IL-15 clinical trial in 2011. Furthermore, Tom initiated clinical trials to evaluate IL-15's capacity to augment antibody-dependent cellular cytotoxicity when administered with tumor directed monoclonal antibodies. This work exemplifies his passionate pursuit for developing therapeutics for cancer and AIDS.

Many consider Tom's greatest legacy to be the vast number of outstanding scientists in their own right who owe their success at least in part to Tom's mentoring.

Collaborators

Investing in the Future of Innovation

On behalf of the NAI leadership and Board of Directors, we wish to extend our sincere thanks and heartfelt gratitude to these outstanding organizations for their generous sponsorship of the Academy.

It is with their contributions that NAI is able to continue our mission of supporting academic innovation and providing valuable resources to our inventor Members.

Thank you to each of our generous supporters.

Thank You!

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