



*Stony Brook University Chapter of
The National Academy of Inventors*

Annual Meeting

**NAI Member Induction
Award Ceremony and Reception**

Tuesday, May 6, 2025

**4:30-5:00, 6:30-7:15PM Reception
5:00-6:30PM Annual Meeting**

*Charles B. Wang Center
Stony Brook University*





**STONY BROOK UNIVERSITY CHAPTER
of
THE NATIONAL ACADEMY OF INVENTORS**



Imagination is more important than knowledge, for imagination embraces the world. – Albert Einstein

In universities across the nation and around the world, great scientists, scholars and educators are teaching the next generation of researchers and inventors.

The **National Academy of Inventors** (NAI) was founded at the University of South Florida to recognize and encourage inventors who have a patent issued from the U.S. Patent and Trademark Office (USPTO); enhance the visibility of university technology and academic innovation; encourage the disclosure of intellectual property; educate and mentor innovative students; and translate the inventions of its members to benefit society.

A researcher's contribution reaches the benchmark of inventorship as recognized by the USPTO because its discovery had no significant prior art, was not obvious to someone else skilled in the field, and had a specific use. Although every invention and every inventor is unique, some things are common to all. It takes imagination and ingenuity to be an inventor.

Without inventors we would not have our iPads, smart phones, automobiles or new sources of energy. As a society, we are eager in anticipation of the cure for cancer, HIV, diabetes, and neurological disorders such as Alzheimer's or Parkinson's disease. An inventor feels a sense of pride when the years of hard work come to fruition with either a miraculous discovery in medicine or the next generation of information technology.

Inventors truly should be recognized for their imagination and accomplishments, and called upon to share their special translational talents within the university and the wider community.

Therefore, the **Stony Brook University Chapter of the National Academy of Inventors** has been established to recognize the contributions of scientist-inventors across all disciplines in our university community.

The Stony Brook University Chapter of the National Academy of Inventors (NAI-SBU Chapter) is open to all members of the university community, including faculty, staff, alumni and affiliates, who have received an issued patent from the USPTO. An annual meeting and recognition ceremony will be held during the academic year and a list of members will be published, in order to enhance networking, recognition, and the opportunity to share your experiences.

Membership in the NAI is available through local university chapters only. Chapter members are automatically enrolled as members of the NAI, with all rights and privileges thereof.

The NAI-SBU Chapter is looking forward to working with the campus community and affiliated institutions for encouraging and bolstering academic inventions and entrepreneurship, as well as education cultivating the next-generation of academic inventors.

Sincerely yours,

Iwao Ojima, Ph.D.
President, NAI-SBU Chapter,
NAI Fellow

NAI-SBU Chapter

Chapter President: Iwao Ojima, Executive Director: Sean Boykevisch

Executive Committee: Arie Kaufman, Roger Johnson, Wei Zhao, Patrick Hearing, Anurag Purwar

Chapter Board: Ester Takeuchi, Benjamin Hsiao, Iwao Ojima, Jahangir Rastegar, Lorne Golub, Arie Kaufmann, Clinton Rubin, Stanislaus Wong, Sean Boykevisch

Administrator: Roxanne Brockner, Treasurer: Linda Galvin, Secretary: Maureen Case, Public Relations: Clifford Chandler



**Stony Brook
University**



SBU Chapter of the National Academy of Inventors

NAI Annual Meeting, Award Ceremony and Reception **Tuesday, May 6, 2025**

- 4:30 - 5:00 pm** **Annual Meeting Reception**
- 5:00 - 5:20 pm** **Opening Remarks**
Sean Boykevisch, Ph.D., Executive Director, NAI-SBU Chapter
Richard L. McCormick, Ph.D. Stony Brook University Interim President
- State of NAI-SBU Chapter**
Iwao Ojima, Ph.D., President, NAI-SBU Chapter
- 5:20 – 5:40 pm** **Induction of New NAI Members and NAI Honorary Members**
Announcement of NAI New Senior Members
(Moderator: Sean Boykevisch)
Presenter: Iwao Ojima, President, NAI-SBU Chapter
Message from NAI President, Paul Sanberg to New Inductees and Pin Ceremony
- 5:40 – 6:00 pm** **Keynote Lecture**
(Moderator: Iwao Ojima)
Devinder Mahajan, Ph.D. Professor of Chemical & Molecular Engineering,
Materials Science and Chemical Engineering; Inaugural Director, Institute of Gas
Innovation and Technology, NAI-Fellow Class of 2024
“Monetizing Stranded and Local Feedstocks: A Case Study to Produce Fuels in Modular
Systems”
- 6:00 – 6:15 pm** **Award Ceremony for Young Academic Inventors**
(Moderator: Sean Boykevisch)
Presenter: Iwao Ojima, President, NAI-SBU Chapter
Winners: *Christopher Ashdown*
 Lauren Maloney
 Aaron Sloutski
- 6:15 – 6:25 pm** **Words from New NAI Members, NAI Honorary Members and Young Academic
Inventors and NAI Chapter Members**
(Moderator: Sean Boykevisch)
- 6:25 – 6:30 pm** **NSF I-Corps, Anurag Purwar, PhD, Senior Member of National Academy of Inventors**
- 6:30 – 6:35pm** **Closing Remarks**
Michael Kinch, Ph.D. SBU Chief Innovation Officer
- 6:35 – 7:15 pm** **After Ceremony Reception**

NAI Fellows



Dr. Iwao Ojima received his B.S., M.S., and Ph.D. (1973) degrees from the University of Tokyo, Japan. He joined the Sagami Institute of Chemical Research and held a position of Senior Research Fellow until 1983. He joined the faculty in the Department of Chemistry, State University of New York at Stony Brook first as Associate Professor (1983), was promoted to Professor (1984), Leading Professor (1991), and then to Distinguished

Professor (1995). He served as the Department Chairman from 1997 to 2003. He has been serving as the founding Director for the Institute of Chemical Biology and Drug Discovery (ICB&DD) from 2003. He has a wide range of research interests in synthetic organic and medicinal chemistry as well as chemical biology, including discovery and development of anticancer agents and antimicrobials, targeted drug delivery, catalytic methodologies and asymmetric synthesis. His awards and honors include Arthur C. Cope Scholar Award (1994), E. B. Hershberg Award for Important Discoveries of Medicinally Active Substances (2001), the Medicinal Chemistry Hall of Fame (2006), ACS Award for Creative Work in Fluorine Chemistry (2013) from the American Chemical Society; the Chemical Society of Japan Award (1999); Outstanding Inventor Award (2002) from the Research Foundation of the State University of New York; Elected Fellow of J. S. Guggenheim Memorial Foundation, the American Association for the Advancement of Science, the New York Academy of Sciences, the American Chemical Society and the National Academy of Inventors.



Dr. Esther Takeuchi received her B.S. from the University of Pennsylvania in Chemistry and History and completed her Ph.D. in Chemistry at Ohio State University. She completed her post-doctoral research at the University of North Carolina and the State University of New York at Buffalo. Upon completing her post-doctoral research, Dr. Takeuchi was employed at Greatbatch, Inc. in Clarence, NY where she conducted research on batteries for unique environments, including implantable applications. She led the battery research team and was involved in the development of several battery systems including the lithium/silver vanadium oxide (Li/SVO) battery, which powers the majority of implantable cardiac defibrillators (ICDs). Dr. Takeuchi began her academic career at SUNY Buffalo where she held joint appointments in the Department of Chemical and Biological Engineering and the Department of Electrical Engineering. Dr. Takeuchi was awarded the National Medal of Technology and Innovation by President Obama (2009). She was inducted into the National Inventors Hall of Fame (2011), elected as a Charter Member of the National Academy of Innovation (2013), received the E. V. Murphree Award and the Astellas Award from the American Chemical Society and the Battery Division Technology Award from the Electrochemical Society. She is a Fellow of the Electrochemical Society (ECS) and the American Institute of Medical and Biological Engineering and a member of the National Academy of Engineering. A prolific inventor, Dr. Takeuchi holds over 150 patents.



Dr. Benjamin S. Hsiao received his B.S. degree from National Taiwan University, Ph.D. from the University of Connecticut, and post-doctorate training at the University of Massachusetts. He joined the DuPont Company as a staff scientist and spent 8 years in R&D before coming to Stony Brook University. He served as Chair of the Chemistry Department and as Vice President for Research at Stony Brook

University. Currently, Dr. Hsiao is a Founding Co-Director of Innovative Global Energy Solutions Center, aiming to prototype 'sustainability for off-grid communities of tomorrow', using the Turkana Basin Institute in northern Kenya as a living laboratory. He is also the Director of Center for Advanced Technology in Integrated Electric Energy Systems, with the mission to enhance the development and integration of advanced technologies into electric energy systems on multiple scales. Dr. Hsiao has a distinguished reputation in polymer science, and his research interests are mainly focused on the development of sustainable nanostructured materials for energy and water purification applications. He was elected as Fellow of American Association for the Advancement of Science, Fellow of American Chemical Society, Fellow of the American Physical Society, Fellow of Materials Research Society, Fellow of National Academy of Inventors, and received SUNY Distinguished Professor, Honorary Professor from University of Queensland in Australia, Chang-Jiang Scholar from Education Ministry of China, Co-operative Research Award from Division of Polymeric Materials Science and Engineering of American Chemical Society, NSF Special Creativity Award and DuPont Young Faculty Award.



Dr. Benjamin Chu received his B.S. degree, magna cum laude from St. Norbert College (1955) and his Ph.D., from Cornell University (1959). At the University of Kansas, he served as Assistant Professor of Chemistry (1962-1965) and Associate Professor of Chemistry (1965-1968). At the State University of New York at Stony Brook, he served as Chairman of the Department of Chemistry (1978-1985),

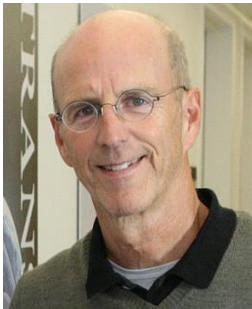
Professor of Chemistry (1968-1988), Professor of Materials Science and Engineering (1982-1992), Leading Professor of Chemistry (1988-Present) and Distinguished Professor (1992-Present). Dr. Chu has been awarded the Alfred P. Sloan Research Fellow (1966-1968), John Simon Guggenheim Fellow (1968-1969), Humboldt Award for Senior U.S. Scientists (1976-1977, 1992-1993), American Physical Society Fellow, American Institute of Chemists Fellow, High Polymer Physics Prize of the American Physical Society (1993), Langmuir Distinguished Lecturer Award, Division of Colloid and Surface Chemistry of the American Chemical Society (1994), Award for Distinguished Service in Advancement of Polymer Science by the Society of Polymer Science, Japan (1997), Gutenberg Lecture Award, Johannes Gutenberg University (2007), and National Academy of Inventors Fellow (2013). He is an Honorary Member of the Society of Polymer Science, Japan (2008). Dr. Chu has 650 publications, 41 patents/patent applications and written 6 books. His research is focused on environmental problems, especially those related to water and air.

NAI Fellows



Dr. Jahangir Rastegar received his B.S. from SMU in 1969 and his M.S. and Ph.D. degrees from the Mechanical Engineering Department of Stanford University in 1972 and 1977 respectively. He joined the General Engineering and Bioengineering faculty at the University of Illinois at Urbana-Champaign. He then worked five years in engineering firms designing

machinery for the steel industry. In 1987, he joined the Mechanical Engineering Department at SUNY at Stony Brook. His current research interests include the optimal design of structures for machinery and devices, kinematics, dynamics, biomechanics, vibration and control as related to high speed and precision machinery and robotics, passive and active vibration isolation and damping, the development of smart materials based actuators and systems, sensor and actuation devices. He is a co-founder of Omnitek Partners, LLC. He has published over 240 journal and conference papers. He is former Associate Editor of the ASME Journal of Mechanical Design for Mechanisms and Robotics and Associate Editor of the ASME Journal of Medical Devices. He has 206 U. S. and seven foreign patents issued and over 90 pending. He is a Fellow of the American Society of Mechanical Engineers (ASME). He is the recipient of the American Society of Mechanical Engineers (ASME) "2010 Machine Design Award," for "eminent achievements as an inventor and scholar in the field of machine design, particularly in the area of smart actuation and control." He is a fellow of the National Academy of Inventors.



Dr. Clinton Rubin received his B.A. in Physiology from Harvard University and a Ph.D. in Anatomy from University of Bristol, United Kingdom. Dr. Rubin is a SUNY Distinguished Professor of Biomedical Engineering, and Director of the Center for Biotechnology at Stony Brook University in Stony Brook, New York. Rubin's research is targeted towards understanding the cellular mechanisms responsible for the growth,

healing, and homeostasis of bone, and how mechanical stimuli mediate these responses through the control of mesenchymal and hematopoietic stem cell differentiation and proliferation, to establish non-drug treatment strategies for osteoporosis, obesity and diabetes. Dr. Rubin holds ~30 patents in the area of wound repair, stem cell regulation, and treatment of metabolic disease, and is a founder of Exogen, Juvent, and Marodyne Medical, which use physical signals to regulate biologic processes. He has published over 300 articles, has been cited ~24,000 times, with an H-index of 80. He is a fellow of AAAS and AIMBE, and a recipient of the Presidential Young Investigator Award from the NSF.



Dr. Lorne Golub received his D.M.D. (1963) and M.Sc. degrees (1965) from the University of Manitoba, Canada. With support from the National Research and Medical Research Councils (Canada), he completed his clinical specialty training (Periodontics) at the Harvard School of Dental Medicine, with additional research training at the Mass. Gen. Hospital, Harvard Medical School (1968). He returned to Manitoba to co-

develop the first specialty training program (Periodontics) combined with a Ph.D. in Oral Biology. He was a founding member of the faculty when the SUNY Stony Brook School of Dental Medicine opened in 1973. He was promoted to Professor in 1977, and SUNY Distinguished Professor in 2003. He served as Associate Dean for Research (1993-2003) and Interim-Dean of the Dental School (2008-2009). In 2006, his research was highlighted in "Technology Transfer Stories - 25 Innovations that Changed the World." AUTM, The Better World Report, Ch.24. He has generated innovations on matrix-metalloproteinases and their therapeutic inhibition by inventing FDA (and internationally)-approved novel NON-antibiotic tetracycline formulations as inhibitors of collagenolysis during a variety of oral and systemic diseases (periodontitis, arthritis, cancer, diabetes, heart and lung diseases). More recently, he, and his Department of Chemistry colleague, developed and patented novel chemically-modified curcumins as pleiotropic MMP-inhibitors. He holds 55 U.S. and 104 international patents which were licensed to and marketed by several corporations and is scientific co-founder of two start-up companies. He has published more than 300 scientific articles.



Dr. Arie Kaufman received his B.S. in Mathematics and Physics from the Hebrew University of Jerusalem, M.S. in Computer Science from the Weizmann Institute of Science, Israel, and a Ph.D. in Computer Science from Ben-Gurion University, Israel. He is a Distinguished Professor of Computer Science and Radiology, the Director of the Center of Visual Computing (CVC), the Chief

Scientist of the Center of Excellence in Wireless and Information Technology (CEWIT) at Stony Brook University (SBU). He joined the faculty at SBU in 1985 and served as Chair of Computer Science for 18 years (1999-2017). He also held posts at the Hebrew University, Tel-Aviv University, Florida International University, Ben-Gurion University, Columbia University and Harvard University. Dr. Kaufman is most well-known for developing virtual colonoscopy for colon cancer screening that has been licensed, FDA approved and commercialized; the Cube hardware for real-time volume rendering that has been licensed and commercialized, enabling 3D medical imaging on PCs; and the Reality Deck, the largest resolution immersive visualization facility, enabling visual analytics of big data. He received the prestigious IEEE Visualization Career Award and was inducted into the LI Technology Hall of Fame. He holds 99 patents, 52 of which have been licensed to 9 companies. He is the co-founder of Viatronix, Inc. He has published in excess of 330 refereed papers/books/chapters, and more than 300 conference presentations, and was the founding Editor-in-Chief of IEEE Transaction on Visualization and Computer Graphics (TVCG), 1995-98. He is a member of the European Academy of Sciences, IEEE Fellow, ACM Fellow, and NAI Fellow.

NAI Fellows



Dr. William Studier earned a B.S. in biophysics from Yale in 1958, followed by a Ph.D. from the California Institute of Technology in 1963. He worked as a postdoctoral fellow in the Department of Biochemistry at Stanford University School of Medicine, and then joined Brookhaven Lab's Biology Department in 1964 as an assistant biophysicist. Over the years, Studier rose through the department's ranks, receiving tenure in 1971 and becoming a tenured senior

biophysicist in 1974. He served as chair of the Biology Department from 1990 to 1999 and then returned to research. His achievements have been recognized by election to the American Academy of Arts and Sciences in 1990, the National Academy of Sciences in 1992, and as a Fellow of the American Association for the Advancement of Science in 2007. Retired from Brookhaven Lab in 2015, he retains the title of Senior Scientist Emeritus. He holds 15 patents of which 9 patents have been licensed and commercialized, including those on the T7 system, which is the most successful Brookhaven Lab technology invented to this day.



Dr. Kenneth Kaushansky Dean, Stony Brook School of Medicine, is a physician-scientist specializing in hematology, is known internationally for his seminal research on the molecular biology of blood cell production. He began his clinical and research career at the University of Washington, where he rose to become Section Chief of Hematology and received several NIH grants. While at the University of Washington, and subsequently at the

University of California, San Diego, Dr. Kaushansky and his research team cloned several of the genes important in the growth of differentiation of blood cells, including thrombopoietin, a key regulator of stem cell and platelet production. He and colleagues then established that thrombopoietin exerts a profound influence on hematopoietic stem cells and affects the expression of a number of transcription factors that influence stem cell fate decisions. This work also led to a better understanding of the pathobiology of several congenital disorders of platelet and stem cell production. Prior to coming to Stony Brook in 2010, Dr. Kaushansky was the Helen M. Ranney Professor and Chair of the Department of Medicine at the University of California, San Diego School of Medicine, where he grew the department's research, educational and clinical impact. During his tenure at Stony Brook thus far, Dr. Kaushansky has spearheaded the expansion of academic programs and training within the School of Medicine and Health Sciences and has overseen the development of the Medical and Research Translation (**MART**) Building. With its opening next month, the MART will serve as an incubator for new approaches to understanding the causes for, and treatments of cancer, using sophisticated imaging and informatics, work that is expected to lead to many more Stony Brook Medicine inventions.



Dr. Israel Kleinberg earned his Doctor of Dental Surgery degree from the University of Toronto and his Doctor of Philosophy degree from the University of Durham. Dr. Kleinberg founded Stony Brook School of Dental Medicine's Department of Oral Biology and Pathology. Dr. Kleinberg's devotion to discovery has informed and inspired his immense success which includes over 300 scientific publications, over 60 years of continuous research

funding, and the issuance of 21 patents and numerous foreign patents. Dr. Kleinberg's countless accolades include the William J. Gies Award for Vision, Innovation and Achievement of the ADEA Gies Foundation, ADEA, and Outstanding Inventor Award, State University of New York. Through innovative translational research and pioneering partnerships across the field of oral biology, Dr. Kleinberg developed and helped bring to market multiple products with the potential for the enhancement of human health and wellbeing. Of note, his inventions include Smartmouth™ Mouthwash and BasicBites® soft chews, both dentifrice products purchased by Colgate®, and the Ortek Electronic Caries Detector, an FDA-approved device for the early detection of caries.



Dr. Stanislaus Wong earned a B.Sc. in Chemistry from McGill University, Canada in 1994 followed by an A.M. in Chemistry from Harvard University in 1996. He earned a Ph.D. degree in Chemistry from Harvard University in 1999. He worked as a postdoctoral fellow in the Department of Chemistry at Columbia University. He then joined the Department of Chemistry at Stony Brook University as an Assistant Professor in 2000 with a joint appointment with

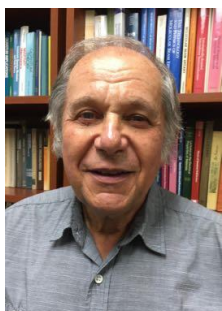
Brookhaven National Laboratory in the Condensed Matter Physics & Materials Sciences Division (9/1/2000 - 8/31/2017). He is currently a full Professor in the Department of Chemistry. Dr. Wong's work is characterized by impressive productivity and creativity. His inventions in the functionalization of carbon nanotubes, the synthesis of new multi-metallic metal oxide nanostructures, and the preparation of metal nanowires have enabled delivery of tailored 'nano' materials useful in energy storage, solar energy harvesting, catalysis, magnetism, and medical diagnostics and to further the development of innovative carbon nanotube enhanced products in industries such as aerospace, automotive, industrial, marine, and sports. Dr. Wong is a fellow of the American Association for the Advancement of Science and the Royal Society of Chemistry. Dr. Wong has received the American Chemical Society Inorganic Award, a Sloan Fellowship, the Buck-Whitney Award, and a National Science Foundation CAREER Award. In 2018 SUNY granted him the SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities and in 2019, he was named a SUNY Distinguished Professor.

NAI Fellows



Dr. Craig Lehmann is a registered clinical chemist and a Fellow in the National Academy of Clinical Biochemistry. He is also Dean of the School of Health Technology and Management at Stony Brook University. As Dean and Professor, Dr. Lehmann leads Undergraduate and Graduate Programs for Clinical Laboratory Sciences; Respiratory Care; Physician Assistant; Cytotechnology; Occupational Therapy; Physical Therapy; Health

Sciences and Healthcare Policy and Management. Under his direction, the School of Health Technology and Management is now the largest of all of the health professions schools at Stony Brook University. For the past several years, Dr. Lehmann has participated in national and international conferences, lecturing on emerging technologies that improve the aging experience. Dr. Lehmann presented at Capitol Hill in Washington, D.C., where he led President Bush's Advisor for Science and Technology in discussions that focused on the benefits of e-technology and the major disease states suited for application; principally, diabetes, cardiovascular disease and congestive heart failure. To that end, he invented a medication management device that assists clients and caregivers managing complex medication regimens and may help reduce the \$100-300 billion spent in the U.S. each year for medication non-adherence issues. He is the recipient of many awards including the "Outstanding Contributions in Education Award from the American Association for Clinical Chemistry, and the Stony Brook University Provost's Award for "Exceptional Service to Undergraduate Education" at Stony Brook University.



Dr. Serge Luryi is a Distinguished Professor of the SBU department of Electrical and Computer Engineering. He is also a Fellow of the American Physical Society, and a Fellow of the Optical Society of America. Dr. Luryi joined the faculty of Stony Brook University in 1994. From 1994 to 2016 he served as Chair of the Department of Electrical and Computer Engineering. Since 1998, he has been the Founding Director of the New York State Center for Advanced

Technology in Sensor Systems (Sensor CAT). The Sensor CAT was driven by needs of New York State industries that develop, manufacture, or employ sensors and supported science-based start-ups, especially those connected with university research. This support included universal modern prototyping facilities, assistance by the CAT's Entrepreneur-in-Residence, and the CAT's connections with the New York investment community. The Sensor CAT has developed an "All in One" Electrical Engineering Educational Kit, including laboratories, which allowed Stony Brook University to become the first research institution to offer a Bachelor of Science in Electrical Engineering online degree. Most of this activity was based on the patented inventions of Dr. Luryi and his associates in such diverse sensor-related fields as DNA sequencing and high-energy radiation detection. A preeminent research scientist, Dr. Luryi was elected to the Fellow of the IEEE *for contributions in the field of heterojunction devices*, Fellow of the American Physical Society *for theory of electron transport in low-dimensional systems and invention of novel electron devices*, and Fellow of the Optical Society of America *for outstanding and pioneering contributions to semiconductor optoelectronics, especially to the physics and photonic applications of low-dimensional semiconductor structures*.

In 2006, he received the IEEE Long Island Section's Papoulis Award for Excellence in Engineering and Technology Education. Dr. Luryi's most impactful invention to industry and society is the endowment of silicon chips with various capabilities, e.g. optoelectronics. In his impressive career, Dr. Luryi has been a pioneer in semiconductor research and its commercial application by translating research discoveries into new technologies.



Dr. Yuanyuan Yang received her Ph.D. and M.S. degree in computer science from Johns Hopkins University. She graduated from Tsinghua University in China and obtained her M.S. in computer science and engineering and her B.Eng. in computer science and engineering. She is currently a SUNY Distinguished Professor in the Department of Electrical & Computer Engineering and Department of Computer Science at Stony Brook University, where

she joined in 1999. From 2018-2022, she served as a program director in the National Science Foundation's Directorate of Computer and Information Science and Engineering. She directed the core computer architecture program and was on the management team of several cross-cutting programs. At Stony Brook, she served as the Associate Dean for Diversity and Academic Affairs of College of Engineering and Applied Sciences from 2016-2018, a Division Director of New York State Center of Excellence in Wireless and Information Technology (CEWIT) from 2007-2016 and the Graduate Program Director of Electrical & Computer Engineering Department from 2001-2016. Prior to joining Stony Brook in 1999, she held a tenured faculty position at University of Vermont. Dr. Yang is internationally recognized for her contributions in parallel & distributed computing systems and networking. She was named an IEE Fellow through Computer Society in 2009 and in 2022 she won the Outstanding Service Award of the IEE Computer Society Technical Committee on Distributed Processing. In over 30 years, Yuanyuan Yang has been credited with many breakthrough results and innovative inventions in the field of interconnection networks.



Dr. Wei Zhao received her BEng in Biomedical Engineering from Tsinghua University, and MSc and PhD degrees in Medical Biophysics from the University of Toronto. She joined Stony Brook University in 1999. Dr. Zhao is currently a Professor in the Departments of Biomedical Engineering and Radiology at Stony Brook University Renaissance School of Medicine. She is currently serving as the the Program Leader

for the Imaging, Biomarker Discovery, and Engineering Sciences (IBES) research program of the Stony Brook Cancer Center (SBCC). She has served on the board of associate editors for Medical Physics, the study sections of NIH, and as reviewer for major journals in medical imaging. She has been working on the development and advanced clinical applications of large area x-ray flat-panel imagers for more than 30 years. Her research is focused on: 1. Develop amorphous selenium direct detection technology for digital breast tomosynthesis; 2. Develop low dose image sensor using avalanche gain; 3. Investigate the intrinsic imaging performance of structured scintillators and optimize detector design for cone-beam computed tomography. She has 150 research articles and holds 87 patents/patent applications.



Dr. Devinder Mahajan is a Professor of Chemical & Molecular Engineering (CME) and serves as the Inaugural Director of the Institute of Gas Innovation and Technology (I-GIT) in the Research and Development Park, Stony Brook University. Dr. Mahajan has his Ph.D. and M.Sc. from the University of British Columbia, Canada, and post-doctoral training at Brookhaven National Laboratory (BNL). He started his career at BNL rising to

the rank of Scientist and then moving to Stony Brook University in 2002 to help establish the CME program. He served as the Inaugural Undergraduate Program Director (2004-2016) and Inaugural Graduate Program Director (2016-2022) of CME. He has won numerous awards, including Jefferson Science Fellow at the U.S. Department of State where he was awarded Certificate of Recognition from the Bureau of Energy Resources, Fulbright Specialist Scholar in Thailand, New Energy Development Organization (NEDO) Fellow, Japan, and twice Outstanding Mentor Award from the Office of Science, United States Department of Energy. Recently, he was awarded the SUNY TAF Class of 2024 grant for his work on hydrogen-methane separation. His work is focused on Hydrogen value-chain technologies for use in power, transportation, and marine sectors. Collectively, these molecules will help reshape over \$7 trillion global economy by 2050. Mahajan's groundbreaking work started at BNL with monetizing small remote gas fields by catalytic conversion to liquid fuels in mobile skid-mounted units. This seminal work led to patents such as: Method and Apparatus for Treating Wastewater using Non-Chemical Process; Liquid phase low temperature method for production of methanol from synthesis gas and catalyst formulations thereof; Method for low temperature catalytic production of hydrogen. His vision is to focus on technology commercialization for the benefit of society while training students in the next-generation technologies. His vision is to focus on technology commercialization for the benefit of society while training students in the next-generation technologies. He was elected the National Academy of Inventors Fellow in 2024.

Young Academic Inventor's Award Recipients



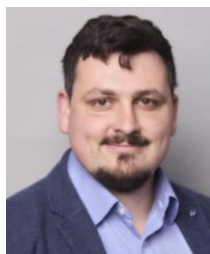
• **Dr. Christopher Ashdown**
Postdoctoral Research Fellow,
Department of Biomedical
Engineering, Stony Brook University
(Ph.D. 2025, Biomedical
Engineering, SBU).

“For his inventions related to non-invasive, in vivo enhancement of immune function and immunotherapy by use of low intensity vibration”.



• **Dr. Lauren Maloney**
Clinical Assistant Professor,
Department of Emergency Medicine,
Stony Brook Renaissance School of
Medicine. (M.D. 2016, Medicine,
SBU).

“For her invention of motion-adaptive training system to help improve prehospital ultrasound education for paramedics”.



• **Dr. Aaron Sloutski**
Postdoctoral Research Associate,
Department of Material Science and
Chemical Engineering, Stony Brook
University. (Ph.D. 2022, Biomedical
Polymer Chemistry, The Hebrew
University of Jerusalem).

“For his inventions related to treating brain aneurysms and drug delivery systems for endodontic treatment”.

NAI New Members



Dr. Eric Brouzes

Associate Professor
Microfluidics for Quantitative
and Genomic Biology,
Department of Biomedical
Engineering



Dr. Lorna Ehrlich

Department of Microbiology &
Immunology (retired)



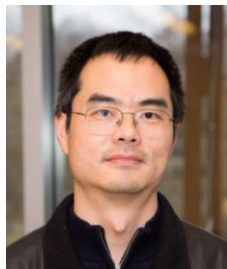
Dr. Eden Figueroa Barragan

Presidential Innovation Endowed
Professor
Department of Physics and
Astronomy



Dr. Fazel Kahn

Clinical Assistant Professor,
Chief Orthopedic Oncology
Department of Orthopedics
Renaissance School of Medicine



Dr. Fan Ye

Professor
Department of Electrical and
Computer Engineering

Senior Members



Dr. Amir Rahmati

Assistant Professor
Department of Computer
Sciences

Honorary Members



Seth Weinfeld, Esq., JD

Attorney at Law
Scully Scott Murphy &
Presser P.C.



Dr. Rong Zhao

Director, Software Systems
Division, Center of Excellence
in Wireless and Information
Technology (CEWIT)
Department of Computer
Science

TOP 100 WORLDWIDE UNIVERSITIES GRANTED U.S. UTILITY PATENTS

2024

INSTITUTION RANKING	# OF PATENTS
1 KING FAISAL UNIVERSITY	631
2 THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	540
3 MASSACHUSETTS INSTITUTE OF TECHNOLOGY	295
4 ZHEJIANG UNIVERSITY	266
5 KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS	265
6 THE UNIVERSITY OF TEXAS SYSTEM	234
7 PURDUE UNIVERSITY	213
8 STANFORD UNIVERSITY	199
9 ARIZONA STATE UNIVERSITY	180
10 KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	176
11 HARVARD UNIVERSITY	170
12 UNIVERSITY OF MICHIGAN	160
13 JOHNS HOPKINS UNIVERSITY	157
14 CALIFORNIA INSTITUTE OF TECHNOLOGY	142
15 IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY	141
16 TSINGHUA UNIVERSITY	139
17 NORTHWESTERN UNIVERSITY	135
18 SEOUL NATIONAL UNIVERSITY	134
19 WISCONSIN ALUMNI RESEARCH FOUNDATION (UNIVERSITY OF WISCONSIN)	131
20 UNIVERSITY OF FLORIDA RESEARCH FOUNDATION INC.	120
21 KOREA UNIVERSITY RESEARCH AND BUSINESS FOUNDATION	119
22 UNIVERSITY SYSTEM OF MARYLAND	114
22 UNIVERSITY OF PENNSYLVANIA	114
24 DUKE UNIVERSITY	111

INSTITUTION RANKING	# OF PATENTS
25 CORNELL UNIVERSITY	105
26 UNIVERSITY OF COLORADO	104
27 REGENTS OF THE UNIVERSITY OF MINNESOTA ...	103
28 UNIVERSITY OF PITTSBURGH	102
29 COLUMBIA UNIVERSITY	101
30 GEORGIA TECH RESEARCH CORPORATION	100
31 THE UNIVERSITY OF ARIZONA	96
32 CITY UNIVERSITY OF HONG KONG	95
33 OSAKA UNIVERSITY	89
34 UNIVERSITY OF MASSACHUSETTS	86
35 UNIVERSITY OF ILLINOIS	85
36 SUNGKYUNKWAN UNIVERSITY	84
37 YONSEI UNIVERSITY	83
38 UNIVERSITY OF SOUTH FLORIDA	82
38 WASHINGTON UNIVERSITY IN ST. LOUIS	82
40 DALIAN UNIVERSITY OF TECHNOLOGY	81
40 JIANGNAN UNIVERSITY	81
40 THE OHIO STATE UNIVERSITY	81
43 SOOCHOW UNIVERSITY	80
44 THE STATE UNIVERSITY OF NEW YORK (SUNY)	78
45 CASE WESTERN RESERVE UNIVERSITY	77
46 JIANGSU UNIVERSITY	73
47 CARNEGIE MELLON UNIVERSITY	72
47 SHANGHAI JIAO TONG UNIVERSITY	72
47 YALE UNIVERSITY	72
50 UNIVERSITY OF WASHINGTON	70
51 HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY	68
51 SOUTHEAST UNIVERSITY	68
51 UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION INC	68

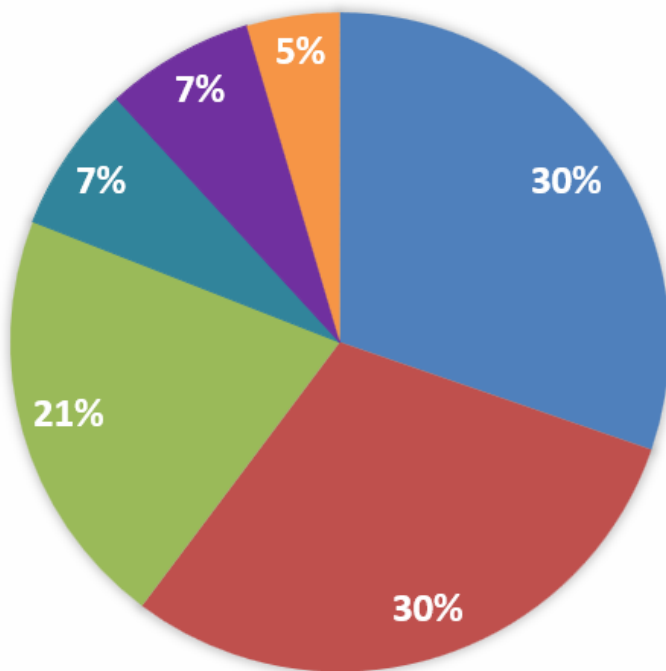
TOP 100 U.S. UNIVERSITIES GRANTED U.S. UTILITY PATENTS

2024

INSTITUTION RANKING	# OF PATENTS
1 THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	540
2 MASSACHUSETTS INSTITUTE OF TECHNOLOGY	295
3 THE UNIVERSITY OF TEXAS SYSTEM	234
4 PURDUE UNIVERSITY	213
5 STANFORD UNIVERSITY	199
6 ARIZONA STATE UNIVERSITY	180
7 HARVARD UNIVERSITY	170
8 UNIVERSITY OF MICHIGAN	160
9 JOHNS HOPKINS UNIVERSITY	157
10 CALIFORNIA INSTITUTE OF TECHNOLOGY	143
11 NORTHWESTERN UNIVERSITY	135
12 WISCONSIN ALUMNI RESEARCH FOUNDATION (UNIVERSITY OF WISCONSIN)	131
13 UNIVERSITY OF FLORIDA RESEARCH FOUNDATION INC.	120
14 UNIVERSITY OF PENNSYLVANIA	115
15 UNIVERSITY SYSTEM OF MARYLAND	114
16 DUKE UNIVERSITY	111
17 CORNELL UNIVERSITY	105
18 REGENTS OF THE UNIVERSITY OF MINNESOTA ..	104
18 UNIVERSITY OF COLORADO	104
20 UNIVERSITY OF PITTSBURGH	102
21 COLUMBIA UNIVERSITY	101
22 GEORGIA TECH RESEARCH CORPORATION	100
23 THE UNIVERSITY OF ARIZONA	96
24 UNIVERSITY OF MASSACHUSETTS	86
25 UNIVERSITY OF ILLINOIS	85
26 UNIVERSITY OF SOUTH FLORIDA	82
26 WASHINGTON UNIVERSITY IN ST. LOUIS	82

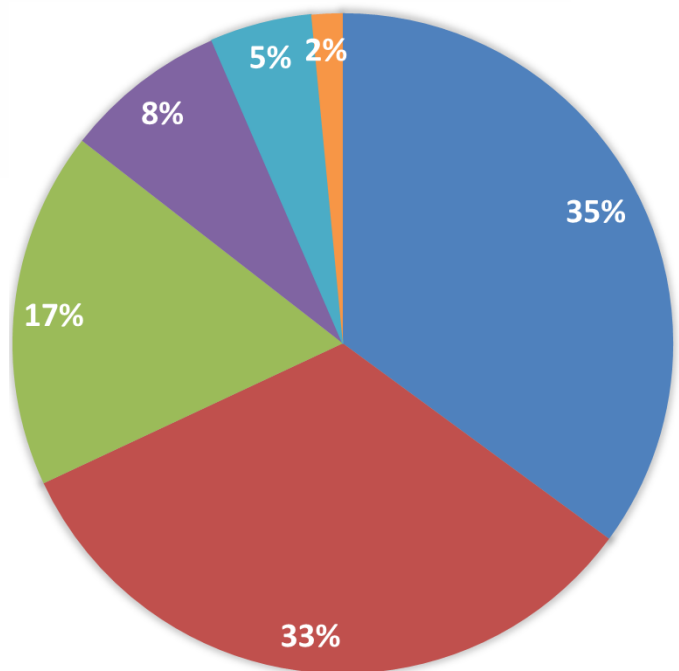
INSTITUTION RANKING	# OF PATENTS
28 THE OHIO STATE UNIVERSITY	81
29 THE STATE UNIVERSITY OF NEW YORK (SUNY)	78
30 CASE WESTERN RESERVE UNIVERSITY	77
31 YALE UNIVERSITY	75
32 CARNEGIE MELLON UNIVERSITY	72
33 UNIVERSITY OF WASHINGTON	70
34 UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION INC.	68
35 THE TEXAS A&M UNIVERSITY SYSTEM	61
36 IOWA STATE UNIVERSITY RESEARCH FOUNDATION INC.	60
36 MICHIGAN STATE UNIVERSITY	60
38 VANDERBILT UNIVERSITY	59
39 THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	57
40 NEW YORK UNIVERSITY	56
40 NORTH CAROLINA STATE UNIVERSITY	56
42 NORTHEASTERN UNIVERSITY	55
42 RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY	55
42 THE FLORIDA INTERNATIONAL UNIVERSITY BOARD OF TRUSTEES	55
45 VIRGINIA TECH INTELLECTUAL PROPERTIES INC. ..	54
46 TRUSTEES OF DARTMOUTH COLLEGE	52
47 THE UNIVERSITY OF CHICAGO	50
48 UNIVERSITY OF VIRGINIA	48
49 BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA	47
50 UNIVERSITY OF SOUTHERN CALIFORNIA	45
51 EMORY UNIVERSITY	44
52 UNIVERSITY OF SOUTH CAROLINA	41

Number of US Patents and Patent Applications Among Colleges and Schools at SBU (2025)



TOTAL US PATENTS ISSUED: 898

- College of Engineering and Applied Sciences
- School of Medicine
- College of Arts and Sciences
- School of Dental Medicine
- Collaboration Between Schools
- Other



TOTAL US PATENTS FILED: 3,529



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CONGRATULATIONS TO THE SBU INVENTORS ON THEIR PATENTS ISSUED IN 2024!

Mohammad Hassan Arbab, PhD
Biomedical Engineering

Fazel Khan, MD
Orthopaedics

Akshay Athalye, PhD
Electrical and Computer Engineering

Shan Lin, PhD
Electrical and Computer Engineering

Galina Botchkina, PhD
Pathology

Amy Marschilok, PhD
Chemistry

Eric Brouzes, PhD
Biomedical Engineering

Steffen Mueller, PhD
Microbiology and Immunology

Jian Cao, MD
Medicine

Iwao Ojima, PhD
Chemistry

Carol Carter, PhD
Microbiology and Immunology

Addolorata Pisconti, PhD
Biochemistry and Cell Biology

Samir Das, PhD
Computer Science

IV Ramakrishnan, PhD
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Petar Djuric, PhD
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Lorna Ehrlich, PhD
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Nicole Sampson, PhD
Chemistry

Eden Figueroa Barragan, PhD
Physics and Astronomy

Priyanka Sharma, PhD
Chemistry

Anatoly Frenkel, PhD
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Sunil Sharma, PhD
Materials Science and Chemical Engineering

Sonali Gera, PhD
Physics and Astronomy

Peter Michael Smith-Jones, PhD
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Todd Griffin, MD
Obstetrics, Gynecology and Reproductive Medicine

Milutin Stanacevic, PhD
Electrical and Computer Engineering

Zachery Harris
Biomedical Engineering

Esther Takeuchi, PhD
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Kenneth Takeuchi, PhD
Chemistry

Adrian Howansky, PhD
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Benjamin Hsiao, PhD
Chemistry

Eckard Wimmer, PhD
Microbiology and Immunology

Ken Johnson, PhD
Chemistry

Stanislaus Wong, PhD
Chemistry

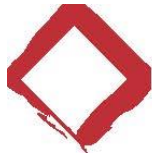
Imin Kao, PhD
Mechanical Engineering

Fan Ye, PhD
Electrical and Computer Engineering

Arie Kaufman, PhD
Computer Science

Wei Zhao, PhD
Radiology

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- INITIATIVE** *Transforming ideas into action*
- UNITING** *Building meaningful relationships*
- VERACITY** *Leading by example with integrity and reliability*
- ENGAGED** *Committing to success*
- SYNERGY** *Working as a team to achieve greater results*
- TRANSPARENCY** *Accepting responsibility and accountability*

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