

15 | October 2020
Virtual Event

U.S. NATIONAL
ACADEMY OF MEDICINE

**Healthy
Longevity**



**Healthy Longevity Global Competition:
Announcement of International Catalyst Award Winners**



Round 1 Catalyst Award Overview

As a leading research institution in Taiwan, one key mission of Academia Sinica is to achieve global peaks of excellence and benefit human society by focusing on critical issues with pioneering research. Academia Sinica joins forces with the global community in the Healthy Longevity Grant Challenge Competition initiated by the US National Academy of Medicine. We support the spirits highlighted by this Competition to promote breakthrough innovations that lead to paradigm-shift discoveries to prevent or cure diseases, increase quality of life, and minimize the negative impacts of an aging population. In Taiwan, Academia Sinica and the Ministry of Science and Technology have formed an alliance to promote this project.

In 2020, the call for the Catalyst Award received 118 proposals with a broad coverage of disciplines, ranging from diagnosis and management of diseases, development of medical devices to policy-making. Five awardees were selected after a double-blind review process. Starting in August 2020, these awardees have received seed funding to advance their innovative ideas for the development of medical devices for caregivers, the detection and early diagnosis of diseases, and the investigation of gut microbiota in diseases. We plan to include additional emphases on "disease prevention and management" and "response to pandemics" in the call for the 2021 Catalyst Award.



Round 1 Catalyst Award Overview

The Japan Agency for Medical Research and Development (AMED) participates in the Healthy Longevity Grand Challenge (HLGC) proposed by the National Academy of Medicine (NAM) in collaboration with eight institutions in seven countries and regions. Japan is a global leader of the super aging society, and healthy longevity is a big topic in Japan. This global competition is an excellent opportunity to seek solutions for our future. We currently support as many as 2,000 projects, ranging from basic life science researches to advanced developments towards commercialization. From these projects, we had an in-kind selection within the scope of the NAM-HLGC. AMED will issue up to 60 Catalyst Awards between 2020 and 2022.



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Under the NAM Grand Challenge, as one of the global collaborators, the Chinese Academy of Medical Sciences (CAMS) has launched the Catalyst Award competition nationwide in China, aiming at catalyzing bold, new ideas and innovations from all disciplines to advance healthy aging and longevity. CAMS is expected to fund 30 awardees per year in the coming years (2020-2022).

CAMS takes the responsibility for administration process which includes the call for applications, receipt of applications, review and evaluation of applications, selection and announcement of awardees and the follow-up assessment of funded awards.

Due to this year's global pandemic, the initiation of the Catalyst Award in China has been dramatically postponed from its originally scheduled February to September. Thus we will finalize the awardees in November 2020.

CAMS is accelerating the pace of the Catalyst Award competition in China. Three rounds of review including administrative review, first level scientific review and final face-to-face scientific review will be promptly implemented after current applicants collection period, and 30 awardees will eventually be finalized according to the criteria of innovativeness, potential for impact, scope and quality. According to our plan, CAMS is designed to announce the awardees and start the funded projects in December 2020.

Round 1 Catalyst Award Overview

The EIT Health Headstart Programme provides emerging companies with mentorship and funding opportunities to accelerate the development and time-to-market of innovative products and services to improve the lives of European patients and citizens.

Mentored by EIT Health's regional teams of Business Creation Managers, the programme offers support to the companies as they navigate the steps required to bring their solution to market including, crucially, verification of the clinical, patient or system need for the product or service. The selected start-ups will have access to mentoring and business support, and financial support of up to €50,000, and will make valuable contacts within the health innovation ecosystem via EIT Health's vast network.

This year, EIT Health Headstart Programme offers an added opportunity for ventures with a focus on physical, mental, and social well-being for people as they age, joining the U.S. NAM Healthy Longevity Global Competition. The Competition includes a three-tiered structure of awards: a first phase of Catalyst Awards, a second phase of Accelerator Award, and a third Grand Prize phase. Through Headstart, EIT Health is administering and funding its own Catalyst Award, participating in the first phase of the Global Competition expanding the scope of Headstart to assist in the immediate need for solutions to combat aging around the world.

EIT Health, as Global Collaborator, will award 20-21 Headstart Catalyst Awards per year to those highly ranked Headstart selected start-ups with a focus on physical, mental, and social well-being for people as they age. Those awarded Headstart projects focused on longevity will enter the Healthy Longevity Global Competition receiving the Catalyst Awardee's mention and will be eligible to compete in later phases of the competition. Moreover, top-performing Headstart Catalyst Awardees will be strongly encouraged to attend the Awardee Innovator Summit in summer of the following year in Washington D.C. organised by NAM.

In 2020, EIT Health has selected 21 start-ups that will develop innovative products and services that will help Europe to improve the health of older population. Addressing a number of significant health challenges facing Europe's today, the start-ups will develop products and services in areas such as cancer, geriatrics, ophthalmology, wound care, women's health, genetic and neurological conditions, cardiology and digital tools to assist healthcare services in the management of patients as well as research and development.



Round 1 Catalyst Award Overview

1. Number of Awards

Singapore will be supporting a total of 45 awards across three rounds.

2. Topic Areas

The Catalyst Awards will reward bold, innovative ideas from any discipline that could extend the human health span through disease prevention, mobility, functionality, social connectedness, longevity, and more. Examples of topic areas to be considered include:

- Biology of ageing and molecular pathways;
- Health care delivery;
- Housing, such as smart-enabled homes, intergenerational housing models;
- Technology, such as artificial intelligence, robotics, medical technology, assistive devices, and information technology; and
- Productive longevity at workplaces – technology or job redesign solutions which enable older workers to continue in employment to a later age.

3. General Eligibility

The HLCA is open to teams representing public and/or private sector institutions or organisations across all disciplines. Individuals are not eligible to apply. While there is no restriction on the nationality of members in the project team, the entity represented must be legally registered in Singapore. Consortiums with Singapore-registered entities are also eligible to apply.

4. Research Funding

Funding support of up to SGD 69,600 per project, inclusive of 20% indirect costs¹, will be provided for a period of up to two years.

5. Evaluation

Applications will be evaluated by an evaluation panel comprising reviewers from multidisciplinary backgrounds, according to the criteria listed below.

Component	Evaluation Criteria
Innovativeness	The extent to which the proposed idea challenges existing paradigms and employs new methodologies or concepts.
Potential for Impact	The extent to which the proposed idea may have a significant impact on the physical, mental, or social well-being of people as they age.
Quality	The extent to which the proposed idea and the research methodology are clearly explained and includes a compelling or well-defined outcome metric.
Scope	The extent to which the proposed idea represents a challenge impacting the entire field, and not solely the interests of the applicant.

¹ Only Singapore-registered institutions that are institutes of higher learning (IHLs) or non-profit entities, including public healthcare providers, may qualify for support for indirect costs.

Healthy Longevity Global Competition

NATIONAL ACADEMY OF MEDICINE

U.S. NATIONAL ACADEMY OF MEDICINE



ABOUT

As part of the Healthy Longevity Global Competition, the U.S. National Academy of Medicine ("NAM"), with support from Johnson & Johnson Innovation, will issue up to 24 Catalyst Awards per year between 2020 and 2022. Each Catalyst Award includes a \$50,000 cash prize as well as travel costs to attend an annual Innovator Summit, beginning in summer 2021.

Catalyst Awards will reward bold, new, potentially transformative ideas to improve the physical, mental, or social well-being of people as they age, in a measurable and equitable way. In particular, we seek ideas that aim to extend the human healthspan through innovative approaches. Applications may originate from any field or combination of fields (e.g., biology, chemistry, medicine, engineering, infrastructure, behavioral and social sciences, technology, and policy). Ideas may focus on any stage of life, as long as they ultimately promote health as people age.

Examples of topic areas include but are not limited to:

- Biology of aging and molecular pathways
- Physical health (e.g., mobility and functionality)
- Built environment and urban planning
- Disease prevention, including biomarkers and indicators of disease
- Health care delivery
- Housing (e.g., smart-enabled homes, intergenerational housing models)
- Policy (e.g., economic, health, and science policy)
- Behavioral health (e.g., social connectedness, engagement, and well-being)
- Technology (e.g., artificial intelligence; robotics; medical, assistive, and information-technology)

The U.S. NAM Catalyst Awards will be open to any person or team of any discipline or background and from any organization. Among for-profit companies, there is a strong preference for early stage endeavors (e.g., seed investments, startups, social enterprises, and spinouts). Applicants do not need to be affiliated with an institution to submit an application. Applicants must reside in the U.S. but do not need to be a U.S. citizen.

The application is limited to two pages and consists of two sections:

- Section I: Explanation of idea. Why is it innovative and potentially transformative?
- Section II: How would you test or implement your idea?

EVALUATION CRITERIA

Through a multi-step review process, applications will be assessed against the following criteria:

- **Innovation:** The extent to which the proposed idea challenges existing paradigms and employs new methodologies or concepts.
- **Potential for Impact:** The extent to which the proposed idea may have a significant impact on the physical, mental, or social well-being of people as they age.
- **Quality:** The extent to which the proposed idea and the research methodology are clearly explained and the application includes a compelling or well-defined outcome metric.
- **Scope:** The extent to which the proposed idea represents a challenge impacting the entire field, and not solely the interests of the applicant.

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WITH ANY QUESTIONS



Round 1 Catalyst Award Overview

Aligned with the U.S. National Academy of Medicine (NAM) Healthy Longevity Global Competition initiative [launched in 2019](#), NIA has announced seven [Innovations to Foster Healthy Longevity in Low-Income Settings](#) awards. The NIA support is aimed at improving the functioning and quality of life for older adult populations, particularly the disabled, living in low- and middle-income countries; and low-income, disabled, and isolated older populations living in high-income countries. The NIA awards will provide each grant recipient with up to \$50,000 for each of two years. NIA grantees will have the opportunity to work with global competition awardees from around the world on further efforts to yield meaningful benefits for older adults in low income settings world-wide.



**UK Research
and Innovation**

Round 1 Catalyst Award Overview

The Healthy Ageing Catalyst Awards are part of the [ISCF Healthy Ageing Challenge](#) portfolio of activities, and are offered in collaboration with the US National Academy of Medicine (NAM) [Healthy Longevity Global Grand Challenge](#), in order to catalyse transformative innovation and inform policies and priorities to advance healthy ageing and longevity globally.

The Catalysts Awards will provide approximately 20 grants per year until 2023 for academics based at UK Research Organisations to explore new, innovative, ideas with the potential to transform the physical, mental or social well-being of people across the world as they age.

For more information on the 2021-22 Awards, please visit <https://www.zinc.vc/catalyst>

**Healthy Longevity Global Competition:
Announcement of International Catalyst Award Winners**
Speaker Biographies



Victor Dzau, MD, President, U.S. National Academy of Medicine

Victor J. Dzau, M.D., is the President of the National Academy of Medicine (NAM), formerly the Institute of Medicine (IOM). In addition, he serves as Vice Chair of the National Research Council. Dr. Dzau is Chancellor Emeritus and James B. Duke Professor of Medicine at Duke University and the past President and CEO of the Duke University Health System. Previously, Dr. Dzau was the Hershey Professor of Theory and Practice of Medicine and Chairman of Medicine at Harvard Medical School's Brigham and Women's Hospital, as well as Chairman of the Department of Medicine at Stanford University. He is an internationally acclaimed leader and

scientist whose work has improved health care in the United States and globally. His seminal work in cardiovascular medicine and genetics laid the foundation for the development of the class of lifesaving drugs known as ACE inhibitors, used globally to treat hypertension and heart failure. Dr. Dzau pioneered gene therapy for vascular disease and was the first to introduce DNA decoy molecules to block transcriptions in humans *in vivo*. His pioneering research in cardiac regeneration led to the Paracrine Hypothesis of stem cell action and his recent strategy of direct cardiac reprogramming using microRNA. He maintains an active NIH-funded research laboratory.



James C. Liao, PhD, President, Academia Sinica, Taipei, Taiwan

Dr. James C. Liao, currently serves as the President of Academia Sinica, Taiwan. He is an elected Member of the US National Academy of Engineering, US National Academy of Sciences, and Academician of Academia Sinica in Taiwan. Dr. Liao, a pioneer in Metabolic Engineering and Synthetic Biology, received his BS degree from National Taiwan University and PhD from University of Wisconsin-Madison. After working as a research scientist at Eastman Kodak Company, Rochester, NY, he started his academic career at Texas A&M University in 1990 and moved to UCLA in 1997. He received numerous awards and recognitions, including the US EPA

Presidential Green Chemistry Challenge Award (2010), the White House "Champion of Change" for innovations in renewable energy (2012), the ENI Renewable Energy Prize bestowed by the President of Italy, and the US National Academy of Sciences Award for the Industrial Application of Science (2014).



Mishima Yoshinao, PhD, President, Japan Agency for Medical Research and Development (AMED), Japan

Professor MISHIMA became President of the Japan Agency for Medical Research and Development (AMED) in April 2020. He earned his degree in engineering at the Tokyo Institute of Technology, and completed postgraduate studies at the University of California, Berkeley. After completing his Ph.D., Professor MISHIMA developed his professional career at the Tokyo Institute of Technology. He became professor of the Department of Materials Science and Engineering in 1997 and served as Dean of the Interdisciplinary Graduate School of Science and Engineering from 2006 to 2009. He served as President of the Tokyo Institute of Technology from 2012 to 2018 and remains affiliated as Professor Emeritus of the Tokyo Institute of Technology. Prior to joining AMED, Prof. MISHIMA was Executive Director of the Technology Strategy Center at the New Energy and Industrial Technology Development Organization (NEDO). He has also served as President of the Japan Society for Heat Treatment since 2013.



Chen Wang, MD, PhD, Vice President, Chinese Academy of Engineering, President, Chinese Academy of Medical Sciences - Peking Union Medical College, China

Dr. Wang has long been engaged in the clinical practice, research and teaching of respiratory medicine and has special expertise in pulmonary embolism, pulmonary hypertension, respiratory failure, pulmonary heart disease, chronic obstructive pulmonary diseases (COPD, Chronic Bronchitis Emphysema), new respiratory infectious diseases and tobacco epidemiology. He has contributed many important innovations, including the development of thrombolysis therapy and sequential mechanical ventilation, both of which have been added to international treatment guidelines. He oversees multiple national research projects and international programs. At the beginning of 2020, an unprecedented outbreak of coronavirus disease 2019 (COVID-19) emerged in China. As a prominent expert on respiratory and critical care medicine, Dr. Wang was selected to serve on a high-level team convened by the National Health Commission to guide the COVID-19 epidemic response in Hubei province. As part of his COVID-19 work, Dr. Wang proposed a novel "Fangcang shelter hospital" approach in Wuhan, which obviated the risk of within-household and community transmission. Fangcang shelter hospitals isolated thousands of patients with mild to moderate COVID-19, provided high-quality medical treatment and care, and fulfilled an important triage function. Evidence suggests that the Fangcang shelter hospitals were a major reason for the successful COVID-19 control in China. Dr. Wang has published more than 250 articles in authoritative international medical journals, such as the New England Journal of Medicine, The Lancet and Annals of

Internal Medicine. He has been honored as the winner of the WHO's Outstanding Contribution Award for Tobacco Control, the Ho Leung Ho Lee Foundation's Scientific and Technological Progress Award, and the First Prize (once) and Second Prize (three times) of the National Science and Technology Progress Award. As a former senior administrator of multiple medical institutions—including the Beijing Chao-Yang Hospital, Beijing Hospital and the China-Japan Friendship Hospital—Dr. Wang made major advances in subject development and hospital management. He also previously worked as the Deputy Director-General of the Department of Health Sciences, Technology and Education of the National Health Commission of P.R. China; in his time presiding over the Department, Dr. Wang promoted medical education and research at the national level.



Kurt Höller, PhD, MBA, Director of Business Creation, EIT Health e.V.

Since December 2015, Kurt is Director of Business Creation at EIT Health, one of the largest healthcare initiatives worldwide with 150 leading organizations spanning key areas of healthcare such as Pharma, MedTech, Payers, Research Institutions and Universities. Kurt is leading the EIT Health Accelerator supporting more than 500 startups with close access to all leading players in health industry and a budget of more than 15mio€ per year. Within Innolife, the preparation consortium of EIT Health, Kurt was part of the Executive Committee as a spokesperson for all German academic partners. From 2009 to 2015, Kurt has been the managing director of the Central Institute of Healthcare Engineering (ZIMT) at Friedrich-Alexander-University (FAU). Since then he has gone on to found and direct several other companies: CiNNAMED GmbH (2013, CEO and co-founder), Portables GmbH (2014, CFO and co-founder), and HOELLER ELECTRONIC GmbH (CEO in 2015). Since May 2015 he has been a member of the city council in Erlangen and member of the supervisory board of ESTW AG. After attaining his Diploma of Electrical Engineering at Friedrich-Alexander-University (FAU), he gained his Doctorate at FAU with research stays at TU Munich and Johns Hopkins University (JHU), USA. His research activities focused heavily on health innovation, with his thesis on "Novel Techniques for Spatial Orientation in Natural Orifice Translumenal Endoscopic Surgery (NOTES)". He has published 30 journal articles, conference papers and patents. Kurt went on to earn an MBA with focus on Entrepreneurship at Deggendorf Institute of Technology (THD) with a research stay at Santa Clara University in the Silicon Valley.



Tan Chorh Chuan, MBBS, PhD, Executive Director, Office of Healthcare Transformation, Chief Health Scientist, Ministry of Health of Singapore, with the National Research Foundation

Professor Tan Chorh Chuan was appointed as the inaugural Chief Health Scientist and concurrently, Executive Director of the new Office for Healthcare Transformation in Singapore's Ministry of Health with effect from 1 January 2018. Prof Tan was President of the National University of Singapore from 2008 to 2017. He has served in senior leadership roles in the healthcare and biomedical sciences sectors including as Chairman of the National University Health

System from 2011-18, and Deputy Chairman of ASTAR from 2004 to 2018. A renal physician-scientist, Prof Tan obtained his medical training at NUS, and research training at the Institute of Molecular Medicine, University of Oxford. He is the first Singaporean to be elected as an international member of the US National Academy of Medicine.



John Phillips, PhD, Chief, Population and Social Processes Branch, Division of Behavioral and Social Research, U.S. National Institute on Aging, National Institutes of Health

Dr. John W. R. Phillips serves as Chief of the Population and Social Processes Branch of the NIA Division of Behavioral and Social Research. During a career spanning over 20 years, John has worked to produce research and data resources on aging related topics. Prior to joining BSR in 2018, John was Associate Commissioner for Research, Evaluation, and Statistics at the US Social Security Administration, leading one of the 13 principal federal statistical

agencies charged with producing research and data to inform policy-makers and the public about the nation's retirement and disability programs. He previously served in other research roles in the federal government including Health Scientist Administrator for NIA, as well as Research Economist and Director of the Office of Policy Research at SSA. His research examined aging issues ranging from retirement security, intergenerational transfers, and distributional effects of retirement and disability programs. Both his pre-doctoral research and his post-doctoral fellowship at the University of Pennsylvania were supported by NIA. John's current area of emphasis at NIA are the economics of aging and the development of international comparators to the US Health and Retirement Study to support aging research. John received a PhD in Economics from Syracuse University.



**George MacGinnis, MBA, MA, Healthy Ageing Challenge
Director, UK Research and Innovation**

George MacGinnis leads the £98 million research and innovation programme supporting the UK Government's Ageing Society Grand Challenge to ensure that people can enjoy at least 5 extra healthy, independent years of life by 2035, while narrowing the gap between the experience of the richest and poorest. He has a varied background in health and care innovation including recent work on the future capacity needs for a reformed health and social care system in the Republic of Ireland, a review of the impact on the NHS

of Small Business Research Initiative in Healthcare, a landscape review of the MedTech sector for the Academic Health Science Networks and leading the user group for a global industry alliance to enable a consumer-friendly market for digital wellness and health products and services through standards and accreditation.



Michele Toplitz, MA, Program Officer, U.S. National Academy of Medicine

Michele Toplitz, Program Officer at the National Academy of Medicine, manages the operations of the Healthy Longevity Global Competition – a multi-year, multi-million dollar international competition seeking bold and transformative innovations to extend the human healthspan. Previously, Michele was a Senior Policy Associate at the Research Foundation of the City University of New York (CUNY), Institute for State and Local Governance, where she managed a portfolio of grant-funded programs providing supportive services to survivors of crime from underserved groups. Michele also worked for a decade in social and behavioral research at the American Institutes for Research in Washington, D.C. Michele earned her M.A. in Psychology from The New School for Social Research and B.A. (summa cum laude) in Spanish and Anthropology/Sociology from Lafayette College.