

Application Results for 2022 Academia Sinica Sustainability Science Research Program

A total of 8 applications were submitted for 2022 Sustainability Science Research Program: 1 on “Societal and Economic Transformations under Global Climate Change;” 2 on “Community Health Impact under Environmental Deterioration;” 1 on “Decarbonization Strategies and Technologies in Response to Global Warming;” and 4 on “Change and Conservation of Water Resources and Ecosystems.” Of these, 5 were selected for funding, including 1 on “Societal and Economic Transformations under Global Climate Change;” 2 on “Community Health Impact under Environmental Deterioration;” and 2 on “Change and Conservation of Water Resources and Ecosystems.”

I. Societal and Economic Transformations under Global Climate Change (1 project)

Project No.	Project Title	(1) Project PI (2) Subproject PI (3) Co-PI	Affiliation
AS-SS-111-01	Targeting Net Zero in 2050: A Study of Carbon Pricing and Industrial Transformation Strategies in Taiwan	(1) Chang, Ching-Cheng (3) Yang, Zong-Han	IoE, Academia Sinica

II. Community Health Impact under Environmental Deterioration (2 projects)

Project No.	Project Title	(1) Project Director (2) Subproject Director (3) Co-director	Affiliation
AS-SS-111-02	Investigation of ambient air particulate matter oxidative potential as a critical respiratory health risk parameter	(1) Liang, Mao-Chang (3) Huang, Shau-Ku	IES, Academia Sinica National Institute of Environmental Health Sciences, NHRI
AS-SS-111-02-1	Oxidative potential of atmospheric particulate matters	(2) Liang, Mao-Chang (3) Lee, Chon-Lin	IES, Academia Sinica Dept. Marine Environment and Engineering, NSYSU
AS-SS-111-02-2	Chemical correlation analysis of atmospheric particulate matters and respiratory responses	(2) Lee, Der-Chuen (3) Huang, Kuo-Fang	IES, Academia Sinica
AS-SS-111-02-3	Investigating the role of particulate matter oxidative potential in the pathogenesis of airway inflammation	(2) Huang, Shau-Ku (3) Lin, Ching-Hsiung	National Institute of Environmental Health Sciences, NHRI Changhua Christian Hospital
AS-SS-111-03	Sustainable Health Strategy for Fine Particulate Matter Control in the Built	(1) Wang, Yu-Chun (3) Lung, Shih-Chun Candice	RCEC, Academia Sinica

	Environment of Southern Taiwan		
AS-SS-111-03-1	Attributable disease burdens associated with PM2.5 in Southern Taiwan: effects of environmental and social inequalities	(2) Wang, Yu-Chun	RCEC, Academia Sinica Chung Yuan Christian Univ.
AS-SS-111-03-2	Mitigation of air pollution enhanced respiratory tract infections through improving air quality	(2) Su, Huey-Jen (3) Chen, Nai-Tzu (3) Shen, Ching-Fen	Dept. Environmental and Occupational Health, NCKU Dept. of Pediatric, NCKU Hospital
AS-SS-111-03-3	Mitigation and health benefit evaluation to reducing indoor PM exposures by zero energy protection window screens	(2) Wu, Pei-Chih (3) Lin, Cheng-Yu (3) Liang, Sheng-Fu (3) Cheng, Tian-Junn	Dept. Green Energy and Environmental Resources, Chang Jung Christian Univ. Sleep Medicine Center, NCKU Hospital Dept. of Computer Science and Information Engineering & Institute of Medical Informatics, NCKU Dept. of Neurology and Occupational Medicine, Chi Mei Medical Center
AS-SS-111-03-4	Reducing health impacts of air pollution by empowering communities: strategies ranging from personal protection to neighborhood greenness	(2) Chan, Ta-Chien	RCHSS, Academia Sinica
AS-SS-111-03-5	Development of a Green Curtain System for Reducing PM by Net Zero Energy Approaches	(2) Tsay, Yaw-Shyan (3) Chung, Hsin-Ying	Dept. of Architecture, NCKU Dept. of Plant Industry, NPUST

III. Change and Conservation of Water Resources and Ecosystems (2 projects)

Project No.	Project Title	(1) Project Director (2) Subproject Director (3) Co-director	Affiliation
AS-SS-111-04	Trend-and-Variation Analyses on the Changes of Water Resources and the Eco-sociology Functions in Taiwan Watershed Ecosystem	(1) Shiah, Fuh-Kwo	RCEC, Academia Sinica

AS-SS-111-04-1	Impact of climate change on precipitation over Taiwan	(2) Lin, Chuan-Yao	RCEC, Academia Sinica
AS-SS-111-04-2	Current and Future Water Risk Indicators – Taiwan	(2) Tung, Ching-Pin (3) Hsu, Shao-Yiu	Dept. Bioenvironmental Systems Engineering, NTU
AS-SS-111-04-3	A pathway toward sustainable water resources management: Identification of water and nutrient transport via simulation and observation	(2) Huang, Jr-Chuang (3) Lee, Tsung-Yu	Dept. of Geography, NTU Dept. of Geography, NTNU
AS-SS-111-04-4	Constructing ecosystem network for assessing environmental impacts- Feitsui Reservoir as demonstration	(2) Hsieh, Chieh-hao (3) Ko, Chia-Ying	Institute of Oceanography, NTU Institute of Fisheries Science, NTU
AS-SS-111-04-5	Public Attitudes to and Awareness of Water Resource	(2) Liao, Pei-Shan	RCHSS, Academia Sinica
AS-SS-111-05	Coral Restoration: Construction of the First Coral Farm in North Taiwan and Development of New Techniques for Coral Cultivation	(1) Tang, Sen-Lin	BRC, Academia Sinica
AS-SS-111-05-1	Selection and Mass Cultivation of Corals with Stress Tolerance	(2) Shinya Shikina	Dept. of Marine Environment and Ecology, NTOU
AS-SS-111-05-2	Development and Application of Probiotics Consortium for Coral Cultivation	(2) Tang, Sen-Lin	BRC, Academia Sinica
AS-SS-111-05-3	Microfluidic Devices for Species Selection, Studying of Stress/Booster Factor Effects, and Enhanced Growth of Corals	(2) Jeng, Chih-Yen	RCAS, Academia Sinica