

Climate · Environment · Health Lab

Protecting human health in a changing climate

We bring together environmental epidemiology, climate data and public health to quantify climate impacts on health — and to build actionable early-warning and adaptation strategies.

Principal Investigator · Prof. Yu-Chun Wang

PROF. YU-CHUN WANG · CYCU

Agenda

In this briefing

01 The Lab & the PI

02 Four Research Themes

03 Research Impact & Outcomes

04

05 International Network

06 Grants & Awards

07 Publications

08 Join Us



Principal Investigator

Yu-Chun Wang

Yu-Chun Wang

Professor, Dept. of Environmental Engineering, CYCU

Dean of Institutional Research & Sustainable Development

Joint Research Fellow, RCEC, Academia Sinica

Steering Committee, Future Earth Health KAN

77

Journal articles

60

Funded projects

65

Theses supervised

10+

Countries

02 / RESEARCH

Four Research Themes

From local data to planetary-scale health challenges — spanning environmental epidemiology, exposure science and climate services.

01 *Research Theme*

Extreme Temperature & Human Health

Using nationwide health records and meteorological data, we build temperature–health exposure-response relationships and assess how heatwaves and cold spells affect mortality, ER visits and ambulance dispatches.

Heatwaves

Vulnerable groups

Ambulance dispatch

Key question

“For every +1°C, who is harmed first?”

Nationwide
health-data linkage

3 ministries
adaptation policy

02 *Research Theme*

Air Pollution & Health Risk

We disentangle the effects of PM2.5, ozone and their constituents on cardiopulmonary health, estimating the mortality burden and disparities in an ageing society.

PM2.5

Exposure science

Mortality burden

Key question

“Same air — why unequal harm?”

Cardio
pulmonary impact

Ageing
society burden

03 *Research Theme*

Climate-Sensitive Disease Early Warning

Drawing on temperature, rainfall and ENSO signals, we build seasonal risk models for dengue and diarrhea, deploying early-warning systems in the Solomon Islands, Indonesia and Taiwan.

Dengue

ENS
O

Climate services

Key question

“Can we warn a season ahead?”

Seasonal
risk forecasting

3 countries
deployed platforms

04 *Research Theme*

Climate Adaptation & Policy

We project health risks under future climate and ageing scenarios, working through the Future Earth network to turn evidence into actionable adaptation plans.

Future Earth

Risk projection

Policy linkage

Key question

“Taiwan in 2050 — how do we prepare?”

Future
scenario projection

Global
knowledge-action net

Research Impact & Outcomes

SoSAFE

Solomon Islands Dengue Warning Platform

A weather-based outbreak-forecasting model and national platform that automates data linkage and early warning, strengthening the country's disaster-prevention and public-health capacity.

National platform · auto-warning

Policy

Temperature– Health Risk Evidence

Identifying temperature–health associations for susceptible groups, providing the evidence base for adaptation plans across Taiwan's health, environment and labor ministries.

3 ministries · adaptation

Asia-Pacific

Asia-Pacific Diarrhea Warning & Education

A seasonal-to-subseasonal early-warning system for weather-related diarrheal risk across Asia-Pacific, paired with community education programs.

Seasonal warning · community

International Network

Collaborating with institutions, governments and international organizations across five continents
— linking local questions to a global network.

NORTH AMERICA

University of Maryland School of Public
Health

EUROPE

Lund University · LSHTM Sweden ·
UK

EAST ASIA

Seoul National Univ. Univ. of Tsukuba

SOUTH ASIA

IIPH Gandhinagar India

SOUTHEAST ASIA

ITS · UNAIR · Hue Univ. Indonesia ·
Vietnam

PACIFIC · TAIWAN

Solomon Islands Government
Academia Sinica · NTU

Grants & Awards

60

Funded projects (PI)

112M

Total funding (NT\$)

NSTC / MOST

21

Government-commissioned

20

Industry & non-governmental

17

Ministry of Education

2

Awards & Honors

- ◆ Distinguished Research Award · Research Contribution Faculty
- ◆ Outstanding Industry-Academia Teacher (multiple years)
- ◆ Patent, Tech-Transfer & Industry Excellence Award
- ◆ College of Engineering Teaching Excellence
- ◆ Keynote Speaker, international conferences (Indonesia)
- ◆ ISO 14064-1 / 14067 Lead Verifier

Publications

77
Journal articles

72
SCI / SSCI indexed

43
Corresponding author

23
h-index (WoS)

1,598
Web of Science total citations

Mainly published in Science of the Total Environment 、 Urban Climate 、 Climate Services 、 PNAS
Nexus 、 BMC Infectious Diseases and other international journals.

08 / JOIN US

Join Us

Whether you are from Taiwan or anywhere on the map, if you are curious about where climate, environment and health meet — you will find an international team, real data and real-world impact here.

01

Master's Students

Apply through Environmental Engineering or the International Master's Program in Sustainable Environment & Energy, and join real climate-health projects.

02

PhD Students

Lead an international research theme, publish in indexed journals, and work with partners across the US, Europe and Asia-Pacific. International applicants prioritized.

03

Project Assistants

Support government and international projects — data analysis, air-quality and health data processing, and platform operations.

What we offerReal international projects · co-supervision · publication training · overseas exchange

Looking forward to meeting you

Together, turn science into action.

Contact the PI

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Prof. Yu-Chun Wang

PROF. YU-CHUN WANG