CHINA MEDICAL UNIVERSITY

中國醫藥大學

A World-Class University

Top 1% of Universities Worldwide

Liang-Yo Yang, DVM, PhD

Dean of Global Affairs

China Medical University

Taichung, Taiwan

仁 慎 勤 廉

Compassion Prudence Diligence Integrity

China Medical University, Taiwan, is one of the top 1% universities in the world

中國醫藥大學
China Medical University
TAIWAN

China Medical University, TAIWAN

- **Year Founded:** 1958
- **Location:**
  - Main Campus : Taichung City
  - Satellite Campus: Beikang
- **Medical Centers & Teaching Hospitals**
  - Taichung Hospital
  - Beikang Hospital
  - Tainan An-Nan Hospital
  - Hsinchu Hospital
  - Children Hospital

6,000 beds: The 2nd largest healthcare system

中國醫藥大學
China Medical University
TAIWAN

Academic Ranking of World Universities 2020

No. 201
National Taiwan University

No. 225
China Medical University, TAIWAN

No. 387
National Cheng Kung University

No. 431
National Tsing Hua University

No. 469
National Chiao Tung University

SHANGHAI RANKING

中國醫藥大學
China Medical University
TAIWAN

2020 QS World University Rankings by Subject

Subject: Medicine

QS WORLD UNIVERSITY RANKINGS

China Medical University, TAIWAN

No. 151 - 200

中國醫藥大學
China Medical University
TAIWAN

2020 QS World University Rankings by Subject

Subject: Pharmacy & Pharmacology

QS WORLD UNIVERSITY RANKINGS

No. 101 - 150

China Medical University, TAIWAN

中國醫藥大學
China Medical University
TAIWAN

THE World University Rankings 2021

Subject: Clinical and Health

THE WORLD UNIVERSITY RANKINGS

China Medical University, TAIWAN

No. 176 - 200

中國醫藥大學
China Medical University
TAIWAN

China Medical University, TAIWAN

- **Top 1% of universities worldwide**
- **One of the top 300 universities in the world**
- **2nd in Taiwan and 1st among private universities**

QS WORLD UNIVERSITY RANKINGS by subject

THE WORLD UNIVERSITY RANKINGS

軟科 SHANGHAI RANKING

中國醫藥大學 China Medical University TAIWAN

China Medical University, Taiwan, has quite a few world renowned faculty members

中國醫藥大學
China Medical University
TAIWAN

New CMU Campus (40 Acres)

The Plan of Taichung International Health Industrial Campus

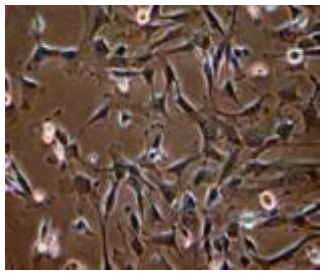
CMU is investing 1.3 billion USD to build this new campus

中國醫藥大學
China Medical University
TAIWAN

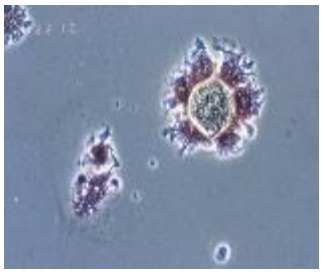
Der-Yang Cho, MD – Immune Cell Therapy

- **Research：**
  - The Research Team on Immune Cell Therapy focus research on dendritic cell vaccine treatments on clinical uses as well as understanding the interactional between immune cells and tumor microenvironment. This research is designed to structure the platform on multiple immune cell therapy on malignant brain tumors and strengthen the clinical treatments.

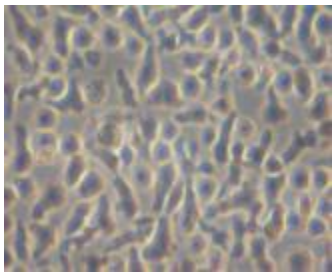
- **Highlights：**
  - In Taiwan, CMUH is the only medical center to perform the dendritic cell-based immunotherapy trial. So far, the phase-II trial had been finished.
  - The completed trial-II study has shown the increasing survival of patients with malignant brain tumors.
  - Results from translational studies had been published in two journals and have brought good responses and discussion from international scientific community (World Neurosurgery 2012).



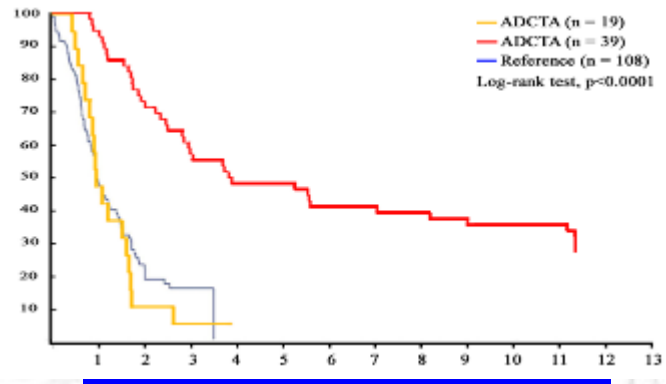
GBM Tumor Cells



DC-tumor vaccine



T cells in culture



Kaplan-Meier curves in the trial study

Hung-Chi Chen, MD－Reconstructive Surgery

- **Features**
  - Severe Case of Lymphedema or Abnormal Lymphatic System
  - Reconstruction of Phonatory Organ using intestinal tissues (World Renowned)
- **Research Focus**
  - The Physiology Research on Jejunum and Ileum as well as the plasticity of the enteric nervous system
  - Drafting and Publishing of the 4th Book

Through Accurate Emerging of Multiple Division to Reach the New Frontier of Surgical Reconstruction

- **Highlights**

- 2016 Discovery Channel "Taiwan Revealed: Medical Elite"
- 2014 National Biotechnology & Medical Care Quality Gold Award Awardee
- 2013 National Biotechnology & Medical Care Quality Silver Award Awardee
- 2012 Executive Yuan Award for Outstanding Science and Technology Contribution

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China Medical University
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Mien-Chie Hung, PhD – Cancer Biology and Therapy

Academician, Academia Sinica; President of China Medical University

Research

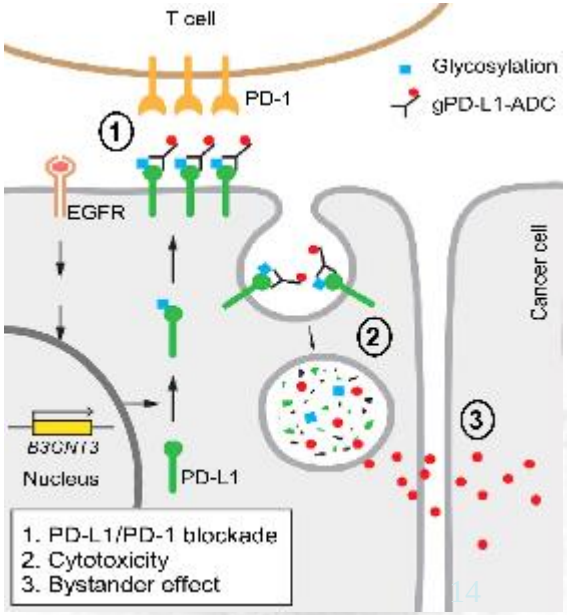
Over 500 publications; H index = 120

- Receptor tyrosine kinases in human cancer.
- Cancer development, progression and drug resistance.
- Novel Therapy to overcome difficult malignancies.
- Personalized precision medicine.

Highlights

- Unraveling novel signal pathways of receptor tyrosine kinase family (***Nature***, 2013; ***Cancer Cell***, 2005, 2008, 2013; ***Nature Cell Biology***, 2001)
- Identification of crosstalk signaling pathways in cancer cells to predict resistance for targeted therapy (***Cell***, 2004, 2007, 2013; ***Cancer Cell***, 2012; ***Nature Cell Biology***, 2008)
- Discovery of signaling pathways and key regulators that are specific and critical to cancer stem cells proliferation (***Science***, 2005; ***Nature Cell Biology***, 2010, 2011; ***Cancer Cell***, 2007, 2011)
- Exploiting target therapy and immune checkpoint blockade as therapeutic approaches to overcome challenging malignancies (***Nature Medicine***, 2016; ***Cancer cell***, 2018a, 2018b, 2019; ***Nature Communication,*** 2016, 2018; ***Molecular Cell***, 2018)

Synergistic cytotoxicity and bystander effects of tumor suppression by treatment of anti-gPD-L1 antibody conjugated with chemotherapeutic drugs.



(*Cancer Cell*, 2018)

Center of Excellence for Chinese Medicine

Ministry of Education's top university project

- 03.21.2014 Ministry of Education's Top-Notch University Execution Funding

University	Remarks
China Medical University Traditional Chinese Medicine Research Center	Newly Established Center

MOE's Cultivation of Higher Education Project

- 02.13.2018 Ministry of Education's Cultivation of Higher Education Project Funding

University	Remarks
China Medical University Traditional Chinese Medicine Research Center	

國醫藥大學
ina Medical University
TAIWAN

Center of Excellence for New Drug Development

Ministry of Education‘s Cultivation of Higher Education Project Funding

- **02.13.2018 Ministry of Education’s Cultivation of Higher Education Project Funding**

University	Remarks
China Medical University New Drug Development Research Center	Newly Established Center

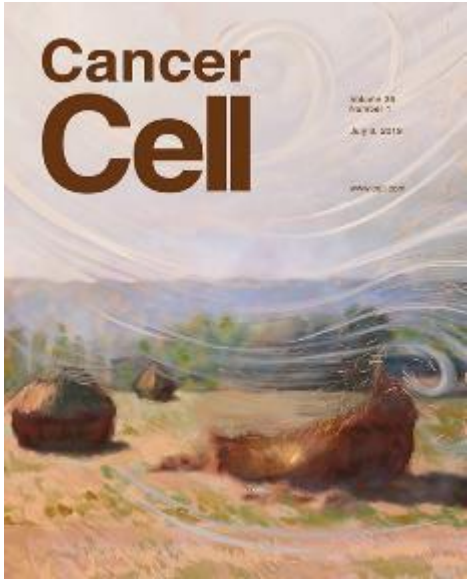
中國醫藥大學
China Medical University
TAIWAN

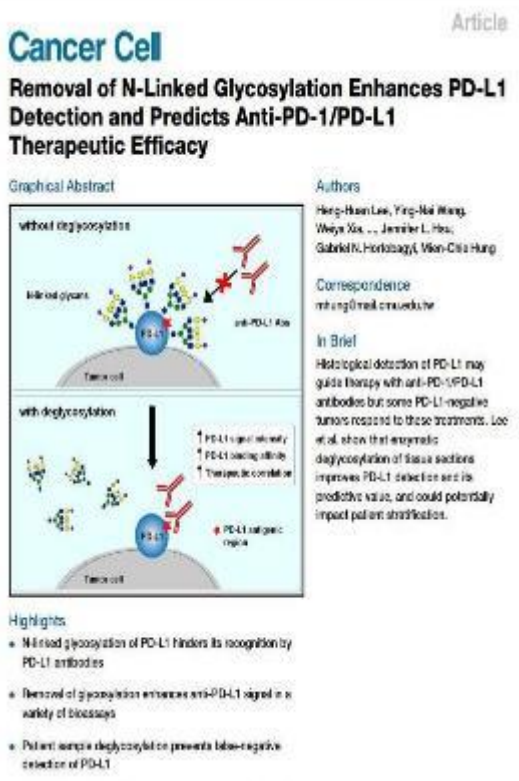
President Mien-Chie Hung

Research Breakthroughs.

Good News for Target Therapy Treatment: President Mien-Chie Hung's Research Team Published on ***Cancer Cell Journal (IF:23.916)***

The Study "Removal of N-linked glycosylation enhances PD-L1 detection and predicts anti-PD-1/PD-L1 therapeutic efficacy" was published in Cancer Cell July 19th , 2019. It received high attention and praise from the international medical community.




Article

Cancer Cell

Removal of N-Linked Glycosylation Enhances PD-L1 Detection and Predicts Anti-PD-1/PD-L1 Therapeutic Efficacy

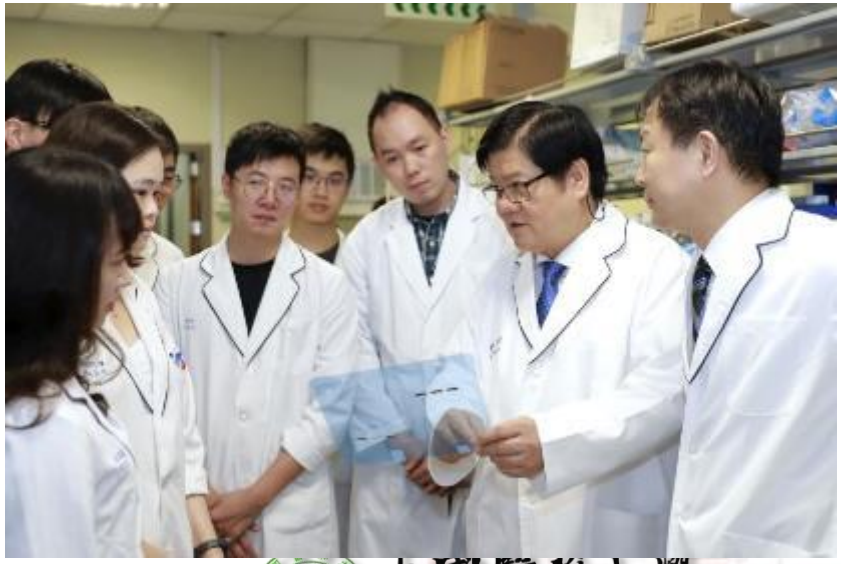
Graphical Abstract

Authors

Correspondence

In Brief

Highlights

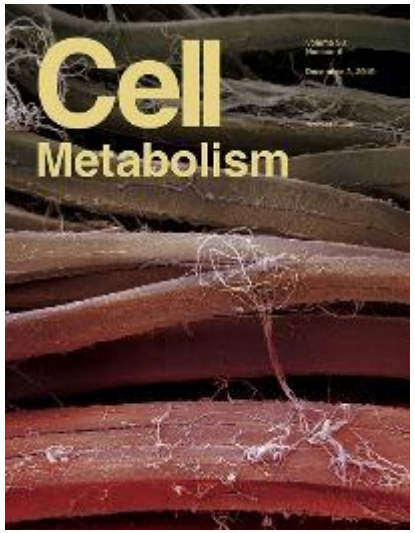


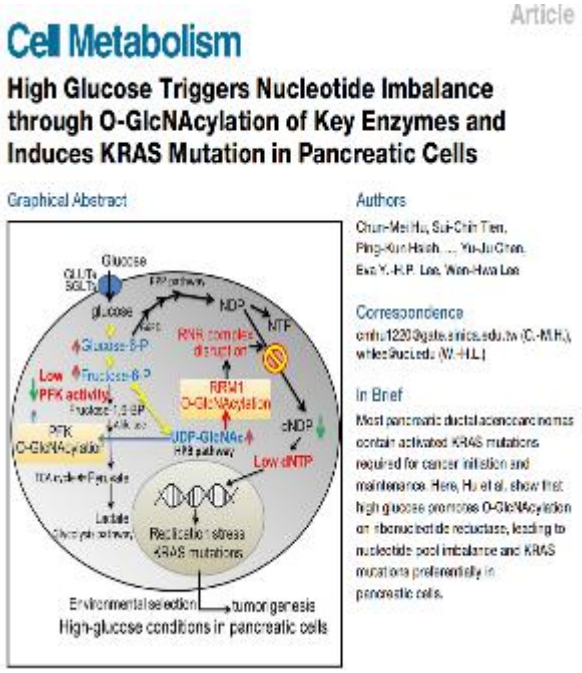
Professor Wen-Hwa Lee

The Key Cause of Pancreatic Cancer is Abnormal Metabolism of Glucose.

Wen-Hwa Lee, an academician of Academia SINICA and a Chair Professor of China Medical University, made a break-through with the research team at CMU showing that sugar is a risk factor for pancreatic cancer. Avoiding taking high sugar diet and protect the pancreas from the damage cause by abnormal metabolism and reduce the risk of pancreatic cancer.

This research was published in the high impact journal" ***Cell Metabolism*** " ***(IF:22.415)*** on March 7, 2019.





Article

Cell Metabolism

High Glucose Triggers Nucleotide Imbalance through O-GlcNAcylation of Key Enzymes and Induces KRAS Mutation in Pancreatic Cells

Graphical Abstract

Authors

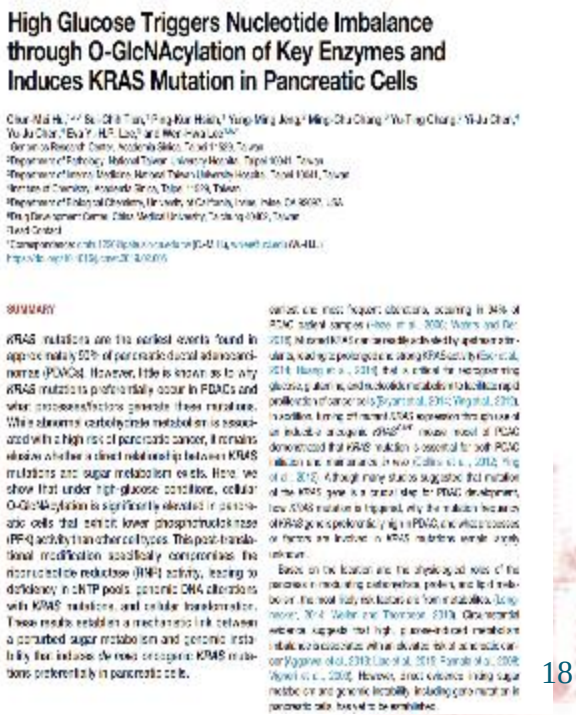
Chun-Mei Hu, Sui-Chih Tien, Ping-Kun Hsieh, ... Yu-Ju Chen, Eva Y.-H.P. Lee, Wen-Hwa Lee

Correspondence

cmhu1220@gate.sinica.edu.tw (C.-M.H.), whlee@ucdavis.edu (W.-H.L.)

In Brief

Most pancreatic ductal adenocarcinomas contain activated KRAS mutations required for cancer initiation and maintenance. Here, Hu et al. show that high glucose promotes O-GlcNAcylation of ribonucleotide reductase, leading to nucleotide pool imbalance and KRAS mutations preferentially in pancreatic cells.



Article

High Glucose Triggers Nucleotide Imbalance through O-GlcNAcylation of Key Enzymes and Induces KRAS Mutation in Pancreatic Cells

Chun-Mei Hu, Sui-Chih Tien, Ping-Kun Hsieh, Yung-Ming Jeng, Ming-Chu Chang, Yu-Ting Chang, Yi-Ju Chen, Yu-Ju Chen, Eva Y.-H.P. Lee, and Wen-Hwa Lee

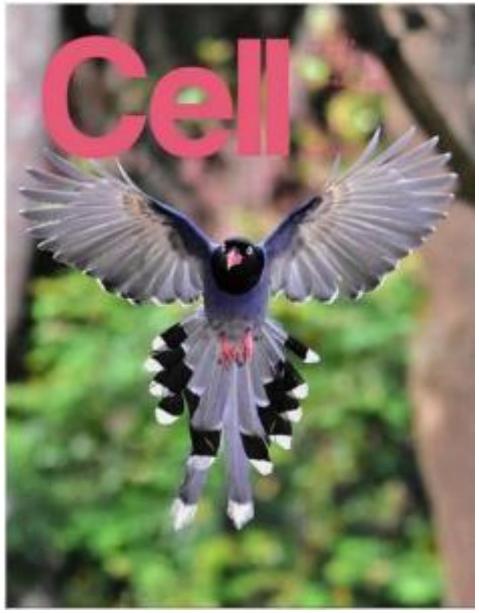
SUMMARY

KRAS mutations are the earliest events found in approximately 90% of pancreatic ductal adenocarcinomas (PDACs). However, little is known as to why KRAS mutations preferentially occur in PDACs and what processes/factors generate these mutations. While abnormal carbohydrate metabolism is associated with a high risk of pancreatic cancer, it remains elusive whether a direct relationship between KRAS mutations and sugar metabolism exists. Here, we show that under high-glucose conditions, cellular O-GlcNAcylation is significantly elevated in pancreatic cells that contain lower phosphofructokinase (PFK) activity than other cell types. This post-translational modification specifically compromises the ribonucleotide reductase (RNR) activity, leading to deficiency in dNTP pools, genomic DNA alterations with KRAS mutations, and cellular transformation. These results establish a mechanistic link between a perturbed sugar metabolism and genomic instability that induces diverse oncogenic KRAS mutations preferentially in pancreatic cells.

Professor Wen-Tau Juan

The Making of a Flight Feather: Bio-architectural Principles and Adaptation.

This finding was published on the world's most authoritative international journal of ***Cell (IF:36.216)*** on November 27, 2019 and with the cover of Taiwan's national bird, the bluebird, it has leapt onto the world academic stage.

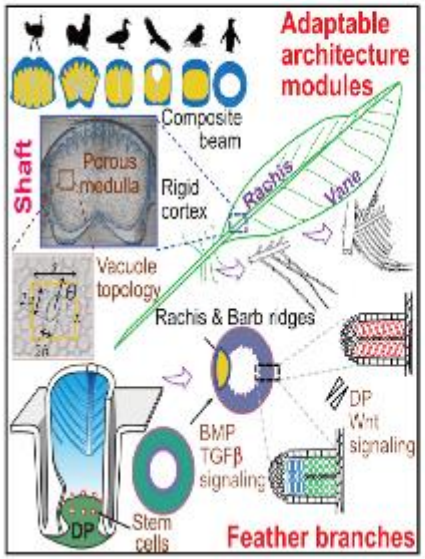


Article

Cell

The Making of a Flight Feather: Bio-architectural Principles and Adaptation

Graphical Abstract



Authors

Wei-Ling Chang, Hao Wu, Yu-Kun Chiu, ..., Ping Wu, Wen-Tau Juan, Cheng-Ming Chuong

Correspondence

cmchuong@usc.edu (C.-M.C.), wtjuancmu@gmail.com (W.-T.J.)

In Brief

The design and developmental paradigms of flight feathers are explored using a combination of bio-physical analyses, molecular characterization, and evolutionary comparisons across a broad range of birds with different flight modes, revealing a modular architectural design that can accommodate diverse eco-spaces.

SUMMARY

The evolution of flight in feathered dinosaurs and early birds over millions of years required flight feathers whose architecture features hierarchical branches. While barb-based feather forms were investigated, feather shafts and vanes are understudied. Here, we take a multi-disciplinary approach to study their molecular control and bio-architectural organizations. In rachidial ridges, epidermal progenitors generate cortex and medullary keratinocytes, guided by Bmp and transforming growth factor β (TGF-β) signaling that convert rachidies into adaptable bilayer composite beams. In barb ridges, epidermal progenitors generate cylindrical, plate-, or hooklet-shaped barbule cells that form fluffy branches or pennaceous vanes, mediated by asymmetric cell junction and keratin expression. Transcriptome analyses and functional studies show anterior-posterior Wnt2b signaling within the dermal papilla controls barbule cell fates with spatiotemporal collinearity. Quantitative bio-physical analyses of feathers from birds with different flight characteristics and feathers in Burmese amber reveal how multi-dimensional functionality can be achieved and may inspire future composite material designs.

INTRODUCTION

During feather evolution, fluffy plumaceous branches evolved for thermoregulation and pennaceous vanes for flight and display (Chen et al., 2015; Lin et al., 2013; Prum, 1999; Xu et al., 2014). Fossils of feathered dinosaurs and Mesozoic birds show diverse intermediate feather forms, highlighting the paths taken early in the evolution of avian flight (Benton et al., 2019; Xu et al., 2014). Through at least 150 million years of evolution, the coupling of function and form optimized feathers for birds to adapt to diverse environments (Bartels, 2003; Chuong et al., 2003; Prum and Brush, 2002).

The pennaceous functions of feathers are based on the prototypic hierarchical branched architecture composed of rachis, barbs, and barbules (Figures 1A, S1A, and S1B) (Chen et al., 2015; Lucas and Stettenheim, 1972; Maderson et al., 2009; Prum and Brush, 2002). Feathers on a single bird show remarkable macro-region-specific across the body axis architectural

中國醫藥大學
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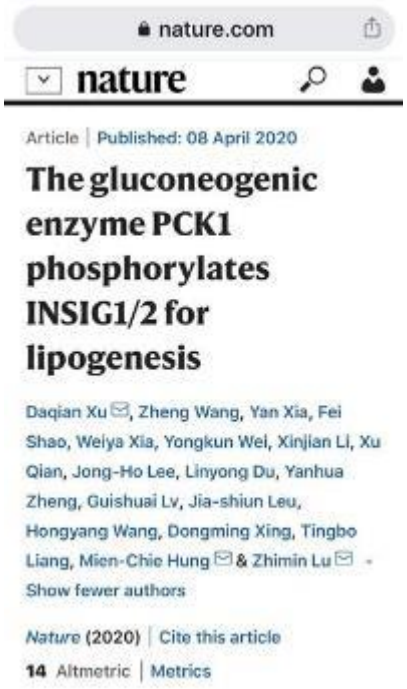
President Mien-Chie Hung

Research Breakthroughs：

The gluconeogenic metabolic enzyme PCK1 has protein kinase activity and can be used as a **new target for liver cancer treatment.**

This research "The gluconeogenic enzyme PCK1 phosphorylates INSIG1/2 for lipogenesis" was published in the journal ***Nature (impact factor 43.07)*** and has pointed out a new direction for precision treatment for liver cancer.


nature.com

nature

Article | Published: 08 April 2020

The gluconeogenic enzyme PCK1 phosphorylates INSIG1/2 for lipogenesis

Daqian Xu, Zheng Wang, Yan Xia, Fei Shao, Weiya Xia, Yongkun Wei, Xinjian Li, Xu Qian, Jong-Ho Lee, Linyong Du, Yanhua Zheng, Guishuai Lv, Jia-shiun Leu, Hongyang Wang, Dongming Xing, Tingbo Liang, Mien-Chie Hung & Zhimin Lu - Show fewer authors

Nature (2020) | Cite this article

14 Altmetric | Metrics

中國醫藥大學
China Medical University
TAIWAN

China Medical University, Taiwan, has very active global collaboration

中國醫藥大學
China Medical University
TAIWAN

CMU forms a close tie with National University of Singapore

1. Signed MOU
2. Joint Research and Co-publication
3. NUS hosted the 1st NUS-CMU Joint Symposium (Sep 22, 2017)
4. CMU hosted 2nd CMU-NUS Joint Symposium (May 21-22, 2018)
5. The 3rd CMU-NUS Joint Symposium
6. Co-mentoring of PhD students







CMU and Nanyang Technological University establish a strong partnership

1. AI research
2. Stem cell research
3. Chinese medicine
4. Co-mentoring of PhD students

CMU forges a strong relationship with Seoul National University

1. Cancer research 2. Stem cell research 3. Dentistry
4. SNU held the 1st CMU-NUS Joint Symposium on Dec 5, 2017
5. SNU hosted the 2nd CMU-SNU Joint Symposium on Sep 7, 2018


SNUCM-CMU SYMPOSIUM

Seoul National University College of Medicine
China Medical University

September 7th 13:30~17:10, 2018

Administration Bld. Conference Hall (#208)

Agenda

Friday - September 7, 2018

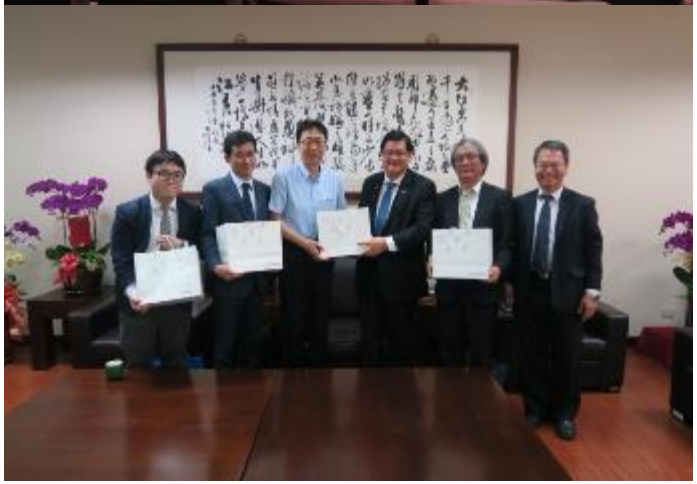
13:30	Welcome Remarks:	
	Opening Remarks: Liang-Yo Yang, Dean of Global Affairs, China Medical University	
Session 1: Cancer	Moderator: Hyang-Ae Moon, Associate Dean for International Affairs, Seoul National University College of Medicine	
13:50	Adoptive Transfer of IL-17 cells elicits anti-tumor immunity through [illegible] plasticity	
14:10	A New Methyltransferase That Mediates DNA and [illegible] to regulate [illegible] RNA expression	
14:30	Blockade inactivation of TP53 and RB1 in transformed small cell lung cancer	
	Break	
Special Lecture	Moderator: Hyun Joo Yang, Associate Dean for Planning Affairs, Seoul National University College of Medicine	
15:00	Does Reporter Journal Coverage of Pediatric Cancer ? Who could explain ?	
Session 2: Aging	Moderator: Liang-Yo Yang, Dean of Global Affairs, China Medical University	
15:30	HSF-1 signaling regulates longevity by elevating histone H4 levels to control mtDNA transcription	
15:50	UV rays on your skin may cause brain aging as well as skin aging	
16:10	Cell to Cell Propagation of Protein Aggregation in Aging	
	Break	
16:40	Discussion on Collaboration between SNUCM and CMU	
17:10	Symposium Adjourns	
17:20	Banquet Dinner	

CMU forms a strong collaboration with University of Tokyo

1. Biomaterials 2. Stem cell research 3. Cancer 4. Public Health

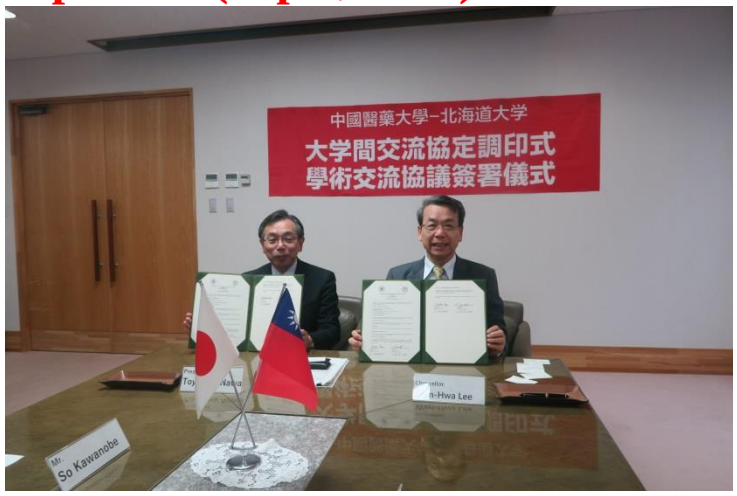
5. CMU and UT held the 1st CMU-UT Joint Symposium (Jun 19, 2018)

6. CMU hosted the 2nd CMU-UT Joint Symposium (Sep 12, 2019)



CMU collaborates closely with Hokkaido University

1. Cancer
2. Radiation oncology
3. Stem cells
4. Cell therapy
5. 3D Printing
6. Co-mentoring PhD students
7. CMU and HU held the 1st CMU-HU Joint Symposium (June 21, 2018)
8. CMU hosted the 2nd CMU-HU Joint Symposium (Sep 3, 2019)



CMU establishes a strong collaboration with MD Anderson Cancer Center

The Cancer Center has signed the only one sister institution agreement in Taiwan with the University of Texas MD Anderson Cancer Center and participates in academic exchange.

中國醫藥大學
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China Medical University, Taiwan, has attracted global talents from all over the world

中國醫藥大學
China Medical University
TAIWAN

CMU attracts international medical students from all over the world

CMU students study at world-class universities


University of Amsterdam, Holland

Seoul National University, South Korea


Osaka University, Japan


University of Washington, U.S.A


University of Vienna, Austria


National University of Singapore


University of Sydney, Australia


University of Melbourne, Australia


University of Texas MD Anderson Cancer Center, U.S.A

中國醫藥大學
China Medical University
TAIWAN

All international students can apply for scholarships offered by Taiwan Government

- **Scholarships for International Students to Apply**

Taiwan Government Scholarships

- **Taiwan Scholarship**: https://taiwanscholarship.moe.gov.tw/web/index.aspx
  Apply through Taiwan Embassy or Taipei Representative Office in your country.

- **ESIT (Elite Study In Taiwan) Southeast Asian Scholarships**:
  https://www.studyintaiwan.org/esit
  Apply through ESIT's online application system.

中國醫藥大學
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CMU offers stipend to PhD students and free tuition to graduate students

- **Scholarships provided by CMU**

Target Students	Tuition waiver	Monthly stipend	Outstanding students
PhD	2 years	NT$ 20,000 (US$ 671)	Up to NT$ 44,000/month (US$ 1,467) plus President Scholarship (up to NT$60,000 per month)
Master	1 year		NT$ 10,000/month (US$ 335)

中國醫藥大學
China Medical University
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CMU offers Scholarships to students with good academic performance

Other CMU Scholarship

Requirements:

1. Full-time international students who have completed 1 semester study at CMU.
2. No Demerit Record.

Other CMU Scholarship						
Target Students	**Credit/ Semester**	**Academic Performance**	**Behavior Grade**	**Amount**	**Maximum of students**	**The Award Period**
Undergraduate	9	>3.0	80	A Termly Stipend up to US$ 1660. (NT$50,000)	15-25	Depends on Regulations of Each Department
Graduate	-	>3.7	80		15-25	Master's Degree program: 1 ~ 2 years. Doctoral program: maximum 4 years.

- **Application**: https://web81.cmu.edu.tw/Std_international/
- **Contact**

  Office: Office of Global Affairs

  Website: https://english.cmu.edu.tw/admission/letter.php

  E-mail: intelstu@mail.cmu.edu.tw (For admission questions) Phone: +886-4-22053366 EXT.1176

  E-mail: cmucia@mail.cmu.edu.tw (For scholarship questions) Phone: +886-4-22053366 EXT.1613

Online Application

Application for 2021 Fall: Nov 25th 2020 ~ 17:00 Mar 31st 2021

Programs Offered by CMU

Department / Graduate Institute	Undergraduate (4 yrs.~)	Master (1-4 yrs.)	Doctoral (2-7 yrs.)
Medicine	● (6 yrs)		
Graduate Institute of Biomedical Sciences		▲	▲
Biomedical Sciences (International Program)		★	
Medical Laboratory Science & Biotechnology	●	▲	
Biomedical Imaging & Radiological Science	●	▲	
New Drug Development			
Dentistry	● (6 yrs)	▲	▲
Graduate Institute of Dental and Oral Health Industries		▲	
Chinese Medicine	● (7 yrs)	▲	▲
Integrated Medicine		▲	▲
Acupuncture Science		▲	▲
Acupuncture (International Program)		★	
Post-Baccalaureate Chinese Medicine	● (5 yrs)		
Chinese Pharmaceutical Sciences and Chinese Medicine Resources	●	▲	▲
Pharmacy	● (5 yrs)	▲	▲

Department / Graduate Institute	Undergraduate (4 yrs.~)	Master (1-4 yrs.)	Doctoral (2-7 yrs.)
Nursing	●	▲	
Physical Therapy	●		
Rehabilitation Science		▲	
Sports Medicine	●		
Interdisciplinary Freshmen Program of Public Health	●		
Public Health		▲	▲
International Public Health Program		★	
Occupational Safety & Health		▲	
Health Services Administration		▲	
Biological Science & Technology	●	★	▲
Nutrition	●	▲	▲
Cosmeceutics	●	▲	
Master Program in Technology Management	●		

★：Full English programs offered

▲：All courses in master and doctoral programs are taught in English

Online Application

CMU website

2021 Fall Admission:

Nov 25th 2020~ 17:00 Mar 31st 2021

CMU Admission Schedule

Events		Fall 2021	Spring 2022
Application Period		November 25th, 2020~ 17:00, March 31st, 2021	September 1st 2021~ 17:00, November 1st, 2021
Interviews for Graduate Programs	Graduate Institute of Pharmacy (Master or Doctoral Program)	April 27th, 2021	November 30th, 2021
	Graduate Institute of Public Health (Doctoral Program)	April 30th, 2021	November 19th, 2021
	Graduate Institute of Chinese Medicine (Master or Doctoral Program)	May 5th, 2021	November 23th, 2021
Interviews for Undergraduate Programs	School of Medicine	May 3rd, 2021	Undergraduate programs open for fall intake only
	School of Dentistry (Undergraduate Program)	May 5th, 2021	
	School of Post-Baccalaureate Chinese Medicine	May 6th, 2021	
	School of Chinese Medicine (Undergraduate Program)	May 7th, 2021	
Notification of Admission Result		May 20th, 2021	December 17th, 2021
Registration		August 2021	February 2022

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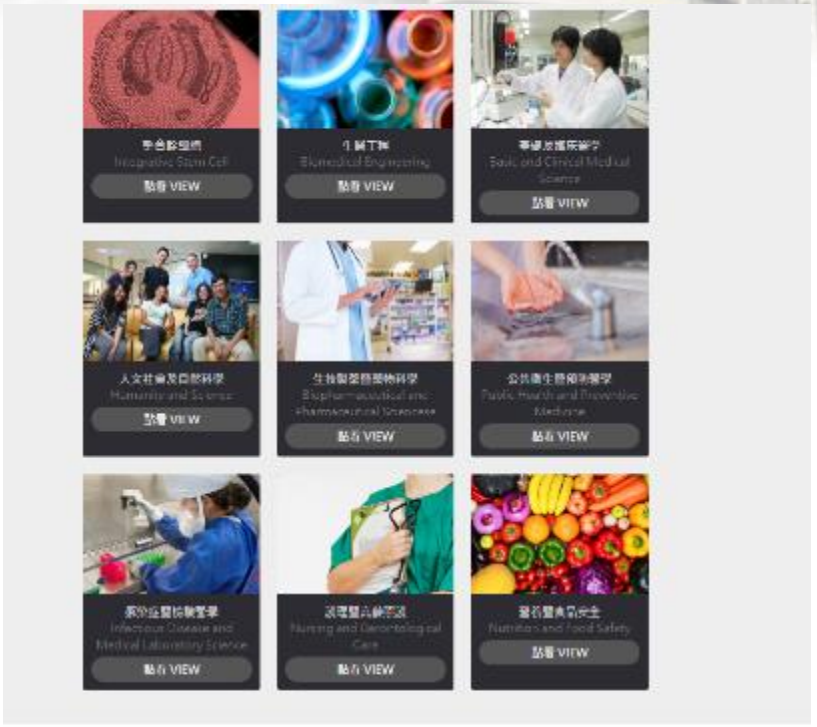
Research Profiles of CMU Faculty



http://webap.cmu.edu.tw/FacResProfile/

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Q&A

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Thank you for your attention!

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