

Ascension
Research
Collaboration
Halcyon Days

“Bitter Citrus Tzen Tea”
Introducing a New Trend in
Healthy Drinks for Modern People

NCHU JOURNAL



OFFICE OF
INTERNATIONAL AFFAIRS
NATIONAL CHUNG HSING UNIVERSITY



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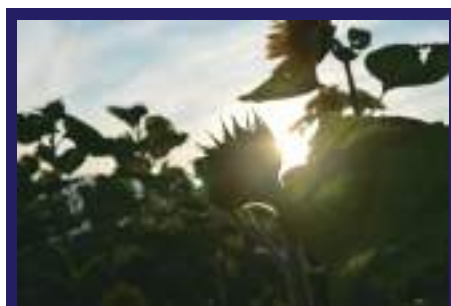
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Inside Front Cover Photo
Chu-Wei Chen

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Class of 2006

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Alumnus of PhD Program of Applied Economics, Class of 2016

What is NCHU ARCH?

Discover What ARCH Means for the New NCHU Magazine

Based on the academic focus and creativity for the benefit of humanity as major features of National Chung Hsing University (NCHU), the motivation for establishing a new magazine is to introduce the quality, ethos, and beauty of NCHU to the international community.

This semi-annual magazine “NCHU ARCH” represents a selection of projects from across NCHU that deliver on this commitment through “Ascension”, “Research”, “Collaboration”, and “Halcyon days”. According to the Merriam Webster Collegiate Dictionary (2003), the word “ARCH”, as a noun, is “a typically curved structural member spanning an opening and serving as a support (as for the wall or other weight above the opening)”. This word also bears the meaning of “principle or chief” when it is used as an adjective. Through this publication, the aim of service as a principle, or being a chief, is precisely the essence to be extracted from the explorations of academic research and the challenges of administration.

In the first issue, the unit of “Ascension”, we report NCHU’s remarkable research in the field of Oolong Sijichun tea by Dr. Jason T.C. Tze, Graduate Institute of Biotechnology, and his research team of the Academia-Industry Alliance for Tea, which highlights NCHU’s commitment to industrial upgrading and engaging in University Social Responsibility (USR).

In terms of “Research”, we are honored to introduce Dr. Yen-Fu Lin, Associate Professor in the Department of Physics, whose research team has developed a novel two-dimensional neural synapsis to seek artificial neuromorphic alternatives.

In “Collaboration”, we highlight two successful international collaborations: Dr. Jenn-Ming Song, Professor in the Department of Materials Science and Engineering, and Director of the I-Center for Advanced Science and Technology, whose research on the noble metal nanoparticles is undertaken jointly with the “laboratoire de Physique des solides”, CNRS, France. The topic has been the subject of considerable interest during the past decade, owing to the wide range of applications. The second international collaboration is our new “3+X Master Program” with UC Davis.

In respect of “Halcyon Days”, we have invited a Vietnamese graduate student, Ms. Võ Nguyễn

Thị Minh Trang, from the International Master Program of Agriculture (IMPA) to share her considered reflections on life at NCHU.

On the last page, we present the NCHU Art gallery’s collection, guiding you to witness the beauty and elegance of NCHU, as illustrated in these paintings, pictures, and calligraphy.

NCHU was established in 1919 and has maintained the highest reputation and endeavor in central Taiwan. With an outstanding history in agriculture, and continually pursued specialized balance and outstanding leadership, NCHU has successfully expanded into a research-oriented comprehensive university with eight colleges.

Dr. Fuh-Sheng Shieu, who was appointed as the 15th President of NCHU in 2015, has been very keen on establishing NCHU as a multi-faceted institution. This emphasizes the contemporary value of teaching and research to promote a humanities-oriented academic development, and to strengthen the environment in the fields of chemical engineering, agricultural biotechnology, human and social sciences, arts, and life education, to position NCHU as one of the leading national universities in Taiwan.

In the future, NCHU will actively seek to consolidate regional resources, align with the trends in tertiary education development, plan for the medium- and long-term development of the university, and establish a medical school, in addition to departments in existing and future areas of expertise, as mentioned above, which will continue to be reported in subsequent issues of the NCHU ARCH magazine.

Finally, I wish to thank Dr. Chin-Chung Chen, Director of The Art Center of NCHU, who recommended the premium collection of Art to the first issue of ARCH. I also wish to acknowledge the superb support team of Mr. Chun-Han Shih (Adam), Ms. Yu-Chun Liao (Claire), and Ms. Yen-Tang Li (Elaine), who have contributed significant efforts over an extended period in helping to develop the “NCHU ARCH” magazine.

Chia-Lin Chang

Vice -President for International Affairs
NCHU

Major Events of NCHU Throughout 2020

November 2019 Marks the CENTENNIAL ANNIVERSARY of NCHU

January

- NCHU Established R&D Center for “Smart Agriculture”, integrating AI and agriculture for industrial upgrades.
- NCHU Applied Mathematics team’s research result of environmental crisis published in Royal Society Open Science.

February

- NCHU organized a memorial symposium and established a scholarship for Prof. Shen-Hai Wu (Department of Life Science) to continue and promote the concept of ecological conservation.

March

- NCHU’s two projects (stray dogs sheltering; variety continuation of native chicken) selected as finalists in the “USR (University Social Responsibility) Outstanding Project Selection” and recognized for long-term development.
- NCHU’s College of Engineering, College of Electrical Engineering, and Samara State Technical University of Russia signed a Memorandum of Understanding.

April

- NCHU and George Mason University (US) Collaborate on a new strategy that develops anti-Coronavirus medicine.
- Graduate Institute of International Politics takes the lead in responding to the requirements of distance learning due to COVID-19 prevention at NCHU.

May

- Integrating Diplomatic Theory and Practice: An academic exchange between Graduate Institute of International Politics of NCHU and AIT (American Institute in Taiwan).
- First approved by the Ministry of Education, NCHU recruited overseas Taiwanese students to continue their studies.

June

- NCHU and Kyoto University (Japan) signed Memorandum of Understanding, deepening international collaboration of academic research and exchanges between Taiwan and Japan.
- The Department of Forestry of NCHU discovers that Geranium and lemon essential oils can effectively prevent COVID-19 infection.

July

- Anti-coronavirus and anti-cancer medicine developed by Institute of Genomics and Bioinformatics of NCHU debuted on BIO ASIA Taiwan 2020.
- NCHU won the 2020 Taipei Biotechnology Award - Bronze Award for Technology Transfer Cooperation by project of recycling agricultural waste.

President,
National Chung Hsing University
Fuh-Sheng Shieu



August

- Chung-Hsing University Law Review won National Central Library’s “Taiwan Academic Resources Impact: Journal Instant Communication Award”.
- NCHU and Taichung Veteran General Hospital’s collaboration discovered new findings in pulmonary obstruction treatment published in Scientific Reports.

September

- National University System of Taiwan (NUST) organized symposium to strengthen cooperation and exchange with Association of Southeast Asian Nations (ASEAN) and South Asian countries.
- NCHU’s Biotechnology Center and University of California, Davis Signed 3+X Master’s Degree MOU.
- Members of the visiting Czech delegation met with representatives of NCHU to deepen exchanges with sister schools.

October

- Executive Director of the Foundation for Scholarly Exchange (Fulbright Taiwan) visits NCHU to strengthen collaboration between Taiwan and the USA.
- NCHU’s research team develops novel “two-dimensional neural synapses” to seek Artificial Neuromorphic Alternatives.
- NCHU has maintained stable and close cooperation in tertiary education with partner universities in India.

November

- National Chung Hsing University’s 101st Anniversary
- Groundbreaking of NCHU “Smart Machinery Technology R&D Center” donated by chairman Te-Hwa Yang of Goodway Group.
- NCHU’s International College of Innovation and Industry Liaison received Gold Certification of TTQS (Taiwan Training Quality System).
- NCHU established a campus preparatory office in Nantou, opening a branch campus and medical school in the near future; 4,000 Teachers and Students are expected to be brought to Zhongxing New Village.

December

- NCHU’s research team from the Department of Bio-Industrial Mechatronics Engineering won Third Place and Best Potential Award in Bio-Mechanical Cup Field Robotics Competition.
- NCHU hosted the 2020 Pacific Business Forum themed “APEC’s Challenges of Present and Future”.
- Dr. Jenn-Wen Huang, Vice President of NCHU, received The Executive Yuan Award for Outstanding Science and Technology contribution.

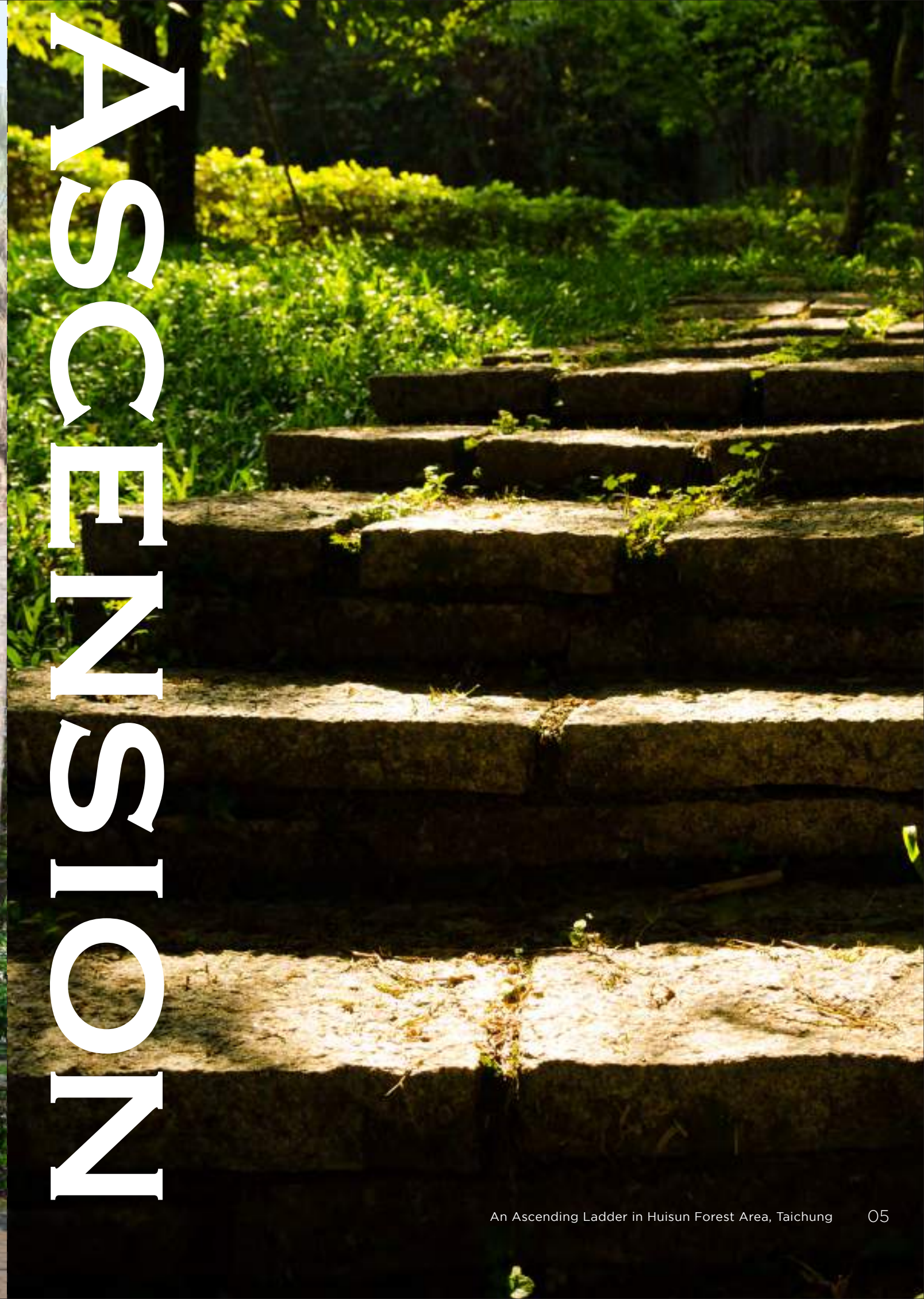
Arch \ 'ärch \

- 1.(n.) A typically curved structural member spanning an opening and serving as a support. (as for the wall or other weight above the opening)
- 2.(adj.) Principal; Chief.

Merriam Webster Dictionary



ASCENSION



“Bitter Citrus Tzen Tea” - Introducing a New Trend in Healthy Drinks for Modern People

Source | Dr. Jason T. C. Tzen (Professor, Graduate Institute of Biotechnology, NCHU)
Translated by Chia-Yi Chou (Office of Research and Development, NTNU)

The bitter Pu-erh tea and the Hakka sour citrus tea are traditional tea drinks to expel the cold. The Academia Industry Alliance for Tea Production, chaired by Professor Jason T. C. Tzen of the Graduate Institute of Biotechnology, National Chung Hsing University (NCHU), has been examining and analyzing the two types of tea drinks, and found four effective ingredients, namely theacrine, strictinin, hesperidin and narirutin. Mixing the ingredients on the basis of the Taiwan Sijichun Tzen Tea, Bitter Citrus Tzen Tea was developed and exported with a slightly better but perceptibly mellow umami taste. A presentation was held at NCHU on 7 September 2020.

With support for six consecutive years from the Ministry of Science and Technology (MOST), the Academia Industry Alliance for Tea Production focused on upgrading and promoting the tea industry, especially the promotion of “Tzen tea”, has found a new path for the tea industry in Taiwan. With the full support of Dr. Fuh-Sheng Shieu, President of NCHU, the alliance continued to develop basic scientific research and applied technology for tea. The alliance expects to take responsibility for Taiwan society as a whole, in order to innovate and upgrade, look forward to the future, and lead the Taiwan tea industry to the future.

The research team selected two kinds of tea for expelling the cold, namely the bitter Pu-erh tea and the Hakka sour citrus tea. Using modern technology, the research team solved the mystery of an ancient herbal remedy and provided a new functional food in a scientific manner. Professor Wei-Li Hsu, Deputy Dean of the College of Veterinary Medicine, NCHU, has tested four main ingredients of bitter Pu-erh tea, including theacrine, chlorogenic acid, caffeine (invalid control group), and strictinin (effective control group) for their inhibitory potency on flu viruses. The results show that bitter Pu-erh tea can suppress influenza A virus with strictinin and theacrine. The research data have been published in the Journal of Ethnopharmacology.

After three years of cooperation, Professor Jason T.C. Tzen and a tea producer of the alliance jointly developed a brand new drink, “Bitter Citrus Tzen Tea”. They extracted the ingredients of bitter Pu-erh tea (the cold-expelling tea for the Yunnan indigenous people) and Hotou Gan peels (the raw material of Hakka sour citrus tea), including theacrine, strictinin, hesperidin, and narirutin, among others. Furthermore, Taiwan Sijichun Tzen Tea was incorporated to improve flavour and aroma. This new tea drink is expected to be one of the best drinks for modern society’s daily care. The development of this tea product successfully demonstrates an effective academic-industry cooperation model.

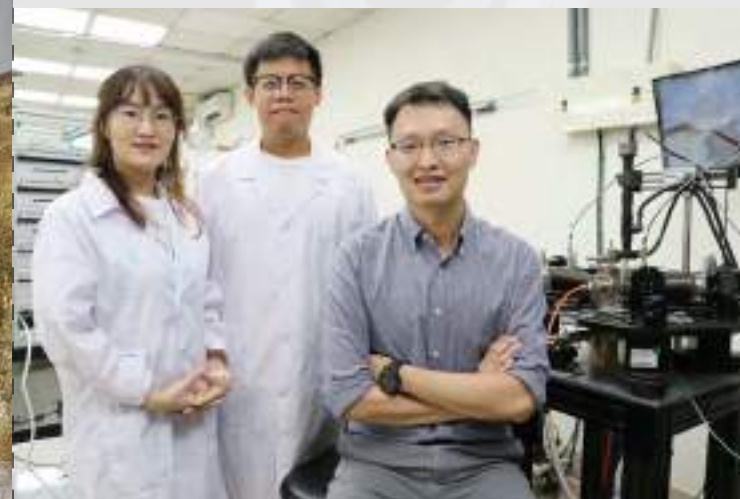




RESEARCH

National Chung-Hsing University's Research Team Develops Novel Two-Dimensional Neural Synapses to Seek Artificial Neuromorphic Alternatives

Source | Dr. Yen-Fu Lin (Associate Professor, Department of Physics, NCHU) / Translated by Adam Shih

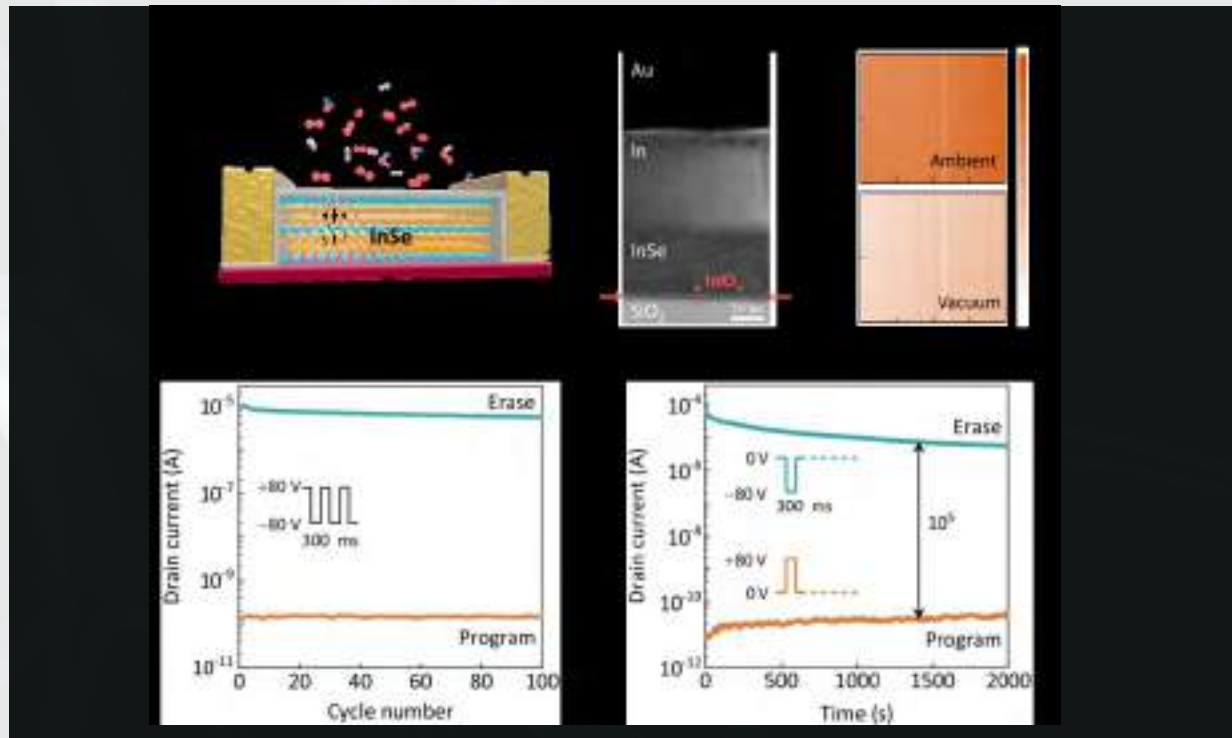


NCHU's Prof. Yen-Fu Lin, (Right), Dr. Mengjiao Li (Left) and student Feng-Shou Yang develop novel two-dimensional neural synapses.

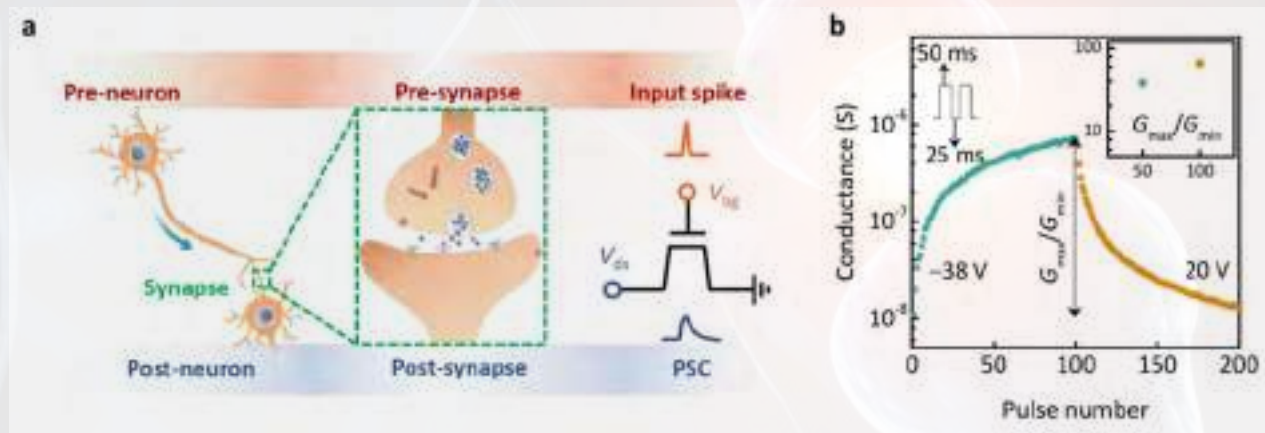
A research team led by Professor Yen-Fu Lin, Associate Professor of the Department of Physics and Nanoscience, National Chung-Hsing University (NCHU), as well as post-doctoral fellow Dr. Mengjiao Li, student Feng-Shou Yang, and Professor Chen-Hsin Lien of the Department of Electrical Engineering, National Tsing-Hua University (NTHU), has been formed. The research team pointed out that by making use of the natural oxide layer in the two-dimensional semiconductor material and its outstanding short/long term memory capability, a new two-dimensional human brain can be used to develop new two-dimensional synaptic artificial electronic devices. The human brain, with its ability to process tens of millions of parallel data cycles per second, has become a natural target for the development of electronic devices to cope with the higher speed and efficiency of computer computing in this era of "Big Data". The results of the study have been published in the international journal Nature Communications in June 2020.

Recently, the new generation of materials, namely "two-dimensional layered semiconductors", has advantages such as atomic-level thickness, large area development and excellent charge transfer properties. It is thus seen as a suitable replacement for silicon. However, most two-dimensional materials are ultrasensitive to water and oxygen, and their oxidation-prone nature can cause serious degradation of electronic devices, which can significantly affect their further development. Instead, the research team tried to use the natural oxide layer of 2D materials to manipulate the internal charge transfer properties of the materials. Namely, the research team's attempt to achieve novel neurological functions relies on the charge storage capacity of its natural oxide layer.

The human brain is by tens of millions of computations compared to traditional computers, using its synapses and neurons to form a neural network to process computations and conduct and remember. With the goal of finding energy-saving alternatives, the research team has developed a two-dimensional transistor with a natural oxide layer, which, through its controlled charge storage capacity, has developed important applications in nonvolatile memory and neural synaptic-like components. In addition, the two-dimensional layered Indium selenide (InSe) transistor channel has a 2-nm thick layer of natural oxide at the bottom. By measuring low-frequency noise, the team systematically investigated the charge transport mechanism led by surface effects in components and map out the dynamic charge capture/release process. The electronic device was found to have excellent durability and



reliability of storage characteristics, as well as basic synaptic functions, including short/long term memory, and its picture recognition capabilities were simulated by constructing an artificial neural network system. The results of this work show that the effective manipulation of the oxidation behavior of two-dimensional semiconductor materials has significant implications for the control of the electrical properties of their electronic components and the development of unique applications.



By exploring the physical mechanisms and importance of the natural oxide layer in regulating the charge transport process, the team was able to exploit it to develop simple non-volatile memory structures and electrically stimulated artificial neural synaptic components. "Hopefully, this study will set a meaningful example in the development of advanced neuromorphic computing for most sensitive two-dimensional layered semiconductor electronic devices," said Associate Professor Lin. Professor Lin also highlighted that this hard-won result of research is not easy to come by, thanks to the collaborative efforts of the research partners and members of National Chung-Hsing University and National Tsing-Hua University. This group of NCHU background members has proven the value of teamwork through their practical approach to science, and has connected the world with the quality of research and results.

COLLABORATION

Biotechnology Center of NCHU and University of California, Davis Signed 3+X Master's Degree MOU

Source | Dr. Jian-Wei Chen (Director of the Biotechnology Center, NCHU) / Translated by Adam Shih



Description 1: Vice President Chang-Hsien Yang (front row, right 2) and other faculty members of NCHU, together with Dr. Joanna Regulaska (front row, left 2) and Dr. Linxia Liang (front row, left 1) from UC Davis, discussed the signing of the 3+X master's degree program between NCHU and UC Davis and took a group photo.

With the support of the Ministry of Education's Advanced Education and Training Program, NCHU has taken UC Davis, which was also a university founded on Agriculture, as its benchmark school. The Biotechnology Center of NCHU has chalked out the blueprint of the collaboration with UC Davis in order to develop four major features of MOE (Ministry of Education) pilot project, including bilateral research collaboration, teaching innovation, international talent cultivation and global agriculture, the ultimate goal is to build an outstanding international research team and to nurture advanced academic research talents and insights with global mobility.



Description 2: The MOU signing of the 3+X master's degree program was initiated by NCHU's Vice President Chang-Hsien Yang (middle) and represented by former Vice President for International Affairs, Prof. Mu-Min Chen (right) and Director of the Center for Biomedical Sciences, Prof. Jian-Wei Chen (left).



Description 3: Congratulations to Ms. Yang from the Department of Applied Economics for her acceptance into the UCD M.S. Program through the 3+X Master's Degree Program. From left to right: Prof. Shu-Yi Liao, Dean of the Department of Applied Economics, Prof. Jian-Wei Chen, Director of the Biology Center, Vice President Chang-Hsien Yang, and Prof. Chia-Lin Chang, Vice President for International Affairs.

On 31 October 2019, In order to establish a cooperative platform, NCHU's representatives led by Vice President Chang-Hsien Yang met with UC Davis' s representatives - Dr. Joanna Regulaska, Vice Provost and Vice President for Global Affairs, and Dr. Linxia Liang, Director of International Programs in Asia, Global Affairs Office - to discuss the collaboration between the departments of Applied Economics, Civil Engineering, and Environmental Engineering. This June, Dr. Joanna Regulaska, Professor Mu-Min Chen, former Vice President for the International Affairs(now the minister of Taiwan in India), and Professor Jian-Wei Chen, Director of the Biotechnology Center of NCHU, have eventually signed 3+X Master's Degree MOU(Memorandum of Understanding) for the mutual benefit of tertiary education of two countries in the foreseeable future .

Junior year students from the following departments will be eligible to apply for the 3+X Master's degree program and then attend the Global Study Program at UC Davis during their senior year after being admitted to the Master's program, including College of Engineering (Department of Civil Engineering, Department of Environmental Engineering), College of Agriculture and Natural Resources (Department of Applied Economics, Department of Plant Pathology), College of Life Sciences (Department of Life Sciences), and College of Electrical Engineering and Computer Science(Department of Computer Science and Engineering). After graduating with a bachelor's degree at NCHU, qualified students can proceed to UC Davis to obtain a master's degree. Ms. Yang, one of the outstanding students from the Department of Applied Economics, has been successfully admitted to the UC Davis M.S. program in Agricultural and Resource Economics through the 3+X master's degree program.

Seeking Low Dimensional Metal/Oxide Composites and Their Optical Properties: An International Collaboration with Laboratoire de Physique des Solides / CNRS, France

Source | Prof. Jenn-Ming Song (Director of i-Center for Advanced Science and Technology, NCHU)



From left to right:
Prof. J. M. Song (NCHU),
Prof. S. Y. Chen (NTUST) and
Dr. A. Gloter (CNRS)

Conducting the Research

Noble metal nanoparticles and their optical properties originating from localized surface plasmon resonance (LSPR) have been the subject of considerable interest during the past decade owing to their wide range of applications. Thanks to the MOST-BFT ORCHID project, a research team comprising the experts of materials synthesis, physical properties and electron microscopy from Taiwan and France has devoted to study LSPR of multi-dimensional nanostructures incorporated with various metal and oxide materials. In collaboration with Dr. Mathieu Kociak and Dr. Alexandre Gloter from Laboratoire de Physique des Solides/CNRS France, as well as Professor Shih-Yun Chen in National Taiwan University of Science and Technology, Professor Jenn-Ming Song developed innovative zero- and three-dimensional plasmonic nanocomposites, including multi-oxide coated nanowires enabling tunable LSPR, and hollow nanocomposite as 3D magnetically-controllable SERS substrates. Research results have been patented both in Taiwan and U.S., and published in Journal

of Materials Chemistry, Nanoscale, Chemical Communications, Applied Surface Science, Nanomaterials, etc. Further development and applications are in progress and are expected to be published in the near future. One of the key researchers, Dr. Jenn-Ming Song, is a professor in the Department of Materials Science and Engineering at National Chung Hsing University. His research interests encompass advanced interconnect materials, synthesis and applications of nanomaterials, as well as phase transformation and mechanical behavior of materials at bulk and small length scales. He has been an Editor for the journal Materials Chemistry and Physics since 2014. He serves as editorial advisory board member of Microelectronics Reliability and also guest editor of three special issues. Professor Song has received several excellent research awards, including the Ta-You Wu Memorial Award from National Science Council of the Republic of China (Taiwan) and the outstanding research professor award from the Lee Chang Yung (LCY) education foundation.

“Bonding” of CNRS and MOST

The Centre National de la Recherche Scientifique (CNRS) is the largest research institute in France and receives its research funding from the government. In 2001, The Ministry of Science and Technology of Taiwan (MOST) signed a cooperation agreement with CNRS to jointly subsidize numerous exchanges and collaborative research projects between Taiwanese and French scholars and researchers. Since then, CNRS has become the longest-standing partner of MOST in France. Given the superior quality and cultivation of Taiwan's tertiary education, the rapid aggregation of developments in the area of science and technology, and the human and financial resources invested in research, deepening scientific cooperation between Taiwan and France has always been a mutual and ultimate priority for both countries.

With an average of about 160 cases of research per year, The Ministry of Science and Technology of Taiwan (MOST) regards France as its second largest partner all along after the United States in terms of the collaborations of diverse areas was thrivingly conducted. Several Taiwan-France Science and Technology Cooperation Framework programs have thus been established. The joint cooperation agreement between MOST and CNRS includes: International Emerging Action (IEA), International Research Network (IRN), International Research Projects (IRP), and International Research Laboratory (IRL). Essentially, the main purpose of these programs that aims at facilitating exchange of researchers, encouraging joint scientific research projects, and the organization of seminars (or webinars) is to create a profound influence in academic research for Taiwan and France.

Ag nanoparticles on CeO₂ hollow spheres and surface plasmon resonance due to hot spot effect (Nanoscale, 11, 3572, 2019)

20 nm

 A microscopic image showing a series of bright, curved, and somewhat irregular spots (hot spots) against a dark background. A white horizontal scale bar is positioned below the text '20 nm'.

NCHU DAYS AT HALCYON

Halcyon

hal·cy·on | \ 'hal-sē-ən \

1.(adj.) characterized by happiness, great success, and prosperity :
GOLDEN —often used to describe an idyllic time in the past that is remembered
as better than today.e.g. the halcyon days of youth

Merriam Webster Dictionary

TCUS- NCHU Take Me High, Let Me Fly with an Equation $3X + A.G = D$

Source Võ Nguyễn Thị Minh Trang
(Masters Student of the International Master Program of Agriculture, NCHU)

As a fan of Chinese historical dramas (古装剧), I grew up memorizing a quote from the Book of Rite (禮記): “to put the world in order, we must first put the nation in order; to put the nation in order, we must first put the family in order; to put the family in order; we must first cultivate our personal life; to cultivate our life, we must first set our heart right.” (古之欲明明德於天下者·先治其國；欲治其國者·先齊其家；欲齊其家者·先修其身；欲修其身者·先正其心). While wandering around in many places looking for a direction of what my life goal should be, and how I can contribute to make the world a better place, I found a place that was willing to expand my horizons, nurture my knowledge, and set my heart, thanks to the 3X factors which are the 3 “X ī n”: 欣 joyful (experience), 心 heart (sincerity), 新 new (direction). Surprisingly, that place was not in the USA or UK, but in the heart of a small island country of Taiwan.

欣 (X ī n) : joyful (experience)

Can someone who has only an academic background in international marketing adapt well in a top national research university specializing in agriculture? Can someone who has lived in a Western country for almost a decade fit well into the Taiwanese culture? Can someone who has never learned Chinese survive in places where Chinese (Mandarin) is used everywhere? Despite those doubts and uncertainties of “Can I” or “Can’t I”, NCHU and Taiwan have proved to me that everything is possible, and you will never know if you never try.

As one of the leading national research universities in Taiwan, NCHU has broadened my horizons through interesting elective classes in the fields in which I had little knowledge, such as crop science, pest management, rural development, genetics, meteorological data analysis, food preserve treatment, food waste treatment, geographic information system mapping, smart agriculture, among many others.

Being one of the regional research hubs, NCHU has hosted countless international conferences to connect world class researchers from well-known universities, such as UC Davis, Texas A&M, University of Tokyo, and Chulalongkorn University, among many others, around the globe to solve current issues in agriculture and other fields of science. Being a NCHU student means I have access to attend such exclusive conferences, learn more about the world’s current issues, and how researchers are tackling those issues. In addition, at NCHU, research and collaboration are always a top priority, and students are encouraged to participate fully as future researchers. If students have ambitions to showcase their research at international conferences, NCHU will do its best to support potential projects with no discrimination regarding nationality, race, or ethnicity. Last year, my lab-mates and I, as international students from Vietnam, Thai-



land and Indonesia, were granted funds to present our work to the Food Distribution Research Society in Seattle, USA.

Moreover, opportunities to learn and grow are simply endless as NCHU has a wide range of networking opportunities, providing an advantage from receiving news about workshops and competition events from its partners. Given this advantage, I have been able to apply and participate in both domestic and international programs, such as Hands Together (focused on cultural engagement between international university students and students from all grades in Taiwan), Rural Up (designed to connect domestics and international students with local farmers), CSR competition (Corporate Social Responsible) (sponsored by CTCL corporation providing competitive platform to university students throughout Taiwan to apply knowledge about impact investment and ESG in practical case studies, and YSEALI (Young South-east Asean Leader Initiative, sponsored by the U.S Embassy in Laos).

Finally, NCHU is part of the Taiwan Comprehensive University System (TCUS), alongside 3 other outstanding national universities from the country’s central and southern region, namely National Sun Yat-sen Univer-

sity (NSYSU), National Cheng Kung University (NCKU), and National Chung Cheng University (CCU). This exclusive cooperation has brought many benefits to students, including access to the integrative research resources and collaborative activities between the 4 universities. Cultural and industry visiting field trips offered frequently every semester, throughout Taichung, Changhua, Tainan and Kaosiung, have given me greater insight and information about industries in Taiwan, and engraved more beautiful memories with my friends during my university experience.

**心 (X ī n) : heart (sincerity)**

Once the heart is set, everything just seems to be right. If asked what I would miss the most after I leave NCHU, I would say it is the people whom I have met. From school staff to the professors, from country-mates to roommates, from people I have worked with to people I have talked with during all the conferences, workshops, events and field trips I have attended. From department-mates to lab-mates, everyone has treated me so kindly and warm-heartedly. Without them, I would not have been able to do what I am doing now.

**新 (X ī n) : new (direction)**

Switching from marketing to field agriculture was not an easy task. However, despite my lack of knowledge, NCHU has provided me generous support and essential education resources, as well as competition events to help me grow and fulfill my desires and plans. From someone who had a lot of doubt about the future, I have experienced curiosity in many fields relating to agriculture, as well as empathy toward farmers, and have a burning desire to study further to examine how to help farmers to create a more sustainable system in farming.

**The equation of Destination:
3 Xin + A Gut = Destination**

During the time I have been in Taiwan and studying at NCHU, I have started to believe that our destination is what we have to create on our own. I have also learned that there is no such thing as a destination, as the more I walk on this road, the more endless it becomes, but with greater opportunities, challenges and unexpected joy.

I sincerely send my appreciation to NCHU, NCHU OIA, NCHU staff and my department-International Master of Agriculture (IMPA), for all the resources and field trips. I wholeheartedly thank all of my professors, including my advisor, Dr. Yang, as well as Dr. Vickey, Dr. Chao, and Dr. Hsieh for their advice, guidance, and support; Dean of IMPA, Dr. Hwang, and Dean of the Horticulture Department, Dr. Wu, for all the opportunities they have enabled. Last but not least, I genuinely thank all the friends, country-mates, class-mates, and lab-mates for sharing their precious and joyful memories with me.

*Time flies fast,
And soon our days will become the past.
Life will also get hard, But,
let's keep going and leave more marks.
For now, goodbye but not yet goodbye.*

Drawing the Beauty of NCHU

by Taiwan's renown artists



The Art Center of NCHU was established in 1988, which is the first art center in a university approved by the Ministry of Education in

Taiwan. Our mission is to immerse everyone in a great atmosphere of art through exhibitions, performances, various workshops and diverse collections that provide opportunities to nurture our students with international visions of art and their interests through social engagements in the art center. This offers everyone a quick access to appreciate numerous valuable art works and also provides a great resource of educational materials for school learning and community activities.



Yan, Sheng-Che
Huisun Forest in Spring, 2018
Ink and Color on Paper, 80x60cm



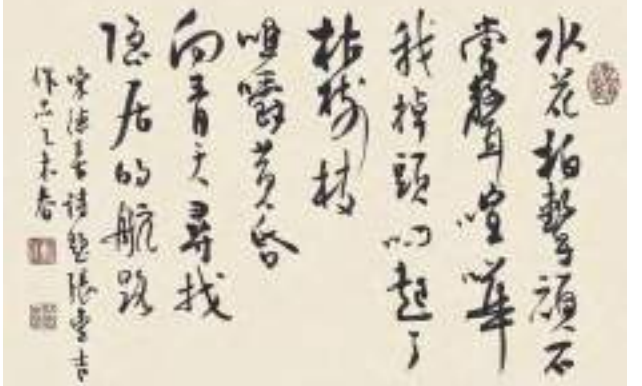
Jhao, Zong-Guan
Administration Building, 2019
Oil Painting, 20F



Huang, Teng-Hsuan
Centennial Beauty of NCHU, 2020
Oil Painting, Gold Foil, 50F



Black-crowned Night-Heron in Campus, 35x36.5cm
Poem/ Song, De-Si,
Professor, the Department of History, NCHU
Photo/ Jhang, Fong-Ji,
Professor, the Department of Forestry, NCHU
Calligraphy/ Chen, Chin-Chung,
Professor, the Department of Chinese Literature, NCHU



Syu, Wun-Rong / *Overview the National Chung Hsing University, 2008*
Chinese Ink Painting, 48x504cm



Dai, Wu-Guang
Huisun Forest, 2008
Chinese Ink Painting, 45x200cm



Lee, Ku-Mo
A Hundred Years in Cultivating Talents, 2019
Calligraphy. (invited for the 100th anniversary of NCHU)

