1. Personal Information

First Name	Yi-Hung
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Country	Taiwan
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2. Curriculum Vitae

- **Educational Background & Experience**

Year	Affiliation	Position
August, 2022-present	International Master Program in Acupuncture Professor, China Medical University	Professor
August, 2018-present	College of Chinese Medicine, China Medical University	Associate Dean
August, 2013-present	Graduate Institute of Acupuncture Science, China Medical University	Professor
2021-2022	Graduate Institute of Acupuncture Science, China Medical University	Deputy Director
2020-2021	International Master Program in Acupuncture Science, China Medical University	Director

- **Publications**

No.	Contents
1	Romero S, Fuh LJ, Hung SY, Lee YC, Huang YC, Chien SY, **Chen YH*** (2023) Electroacupuncture exerts prolonged analgesic and neuroprotective effects in a persistent dental pain model induced by multiple dental pulp injuries: GABAergic interneurons-astrocytes interaction. *Frontiers in Immunology*. 14: 1213710.
2	Huang SS, Su HH, Chien SY, Chung HY, Luo ST, Chu YT, Wang TH, MacDonald I J, Lee HH* and **Chen YH*** (2022). Activation of peripheral TRPM8 mitigates ischem ic stroke by topically applied menthol *Journal of Neuroinflammation,* 19(1):192.
3	Hung SY, Chung HY, Luo ST, Chu YT, Chen Yu-H, Macdonald IJ, Chien SY, Kotha P, Yang LY, Hwang LL, Dun NJ, Chuang DN and **Chen YH*** (2022). Electroacupuncture improves TBI dysfunction by targeting HDAC overexpression and BDNF-associated Akt/GSK-3β signaling. *Frontiers in Cellular Neuroscience,* 16:880267.
4	**Chen YH**, Xie SY, Chen CW, Lu DY (2021). Electroacupuncture improves repeated social defeat stress-elicited social avoidance and anxiety-like behaviors by reducing Lipocalin-2 in the hippocampus. *Molecular Brain,* 14(1):150.
5	**Chen YH**, Lee HJ, Lee MT, Wu YT, Lee YH, Hwang LL, Hung MS, Zimmer A, Mackie K, Chiou LC (2018). Median Nerve Stimulation Induces Analgesia via Orexin-initiated Endocannabinoid Disinhibition in the Periaqueductal Gray . *Proc Natl Acad Sci U S A*, 115: E10720-E10729.

3. Abstract

Lecture Title	Analgesic and Neuroprotective Effects of Electroacupuncture: Basic Perspectives

Acupuncture, involving the stimulation of specific body points with needles, is used to treat a variety of diseases and has a history of 2500 years. Electroacupuncture (EA), developed in the 1950s for surgical anesthesia, delivers electrical currents through inserted needles, offering therapeutic effects. Recognized by the WHO, acupuncture and EA have demonstrated efficacy in treating various clinical conditions, including pain.

EA is believed to activate peripheral nerves, modulating neurotransmitters in the central nervous system (CNS) to provide pain relief. Early studies linked EA's analgesic effects to endogenous opioids. Recent findings highlight non-opioid mechanisms involving the orexin and endocannabinoid systems, which are independent of endogenous opioids. Glial cells, including microglia and astrocytes, play significant roles in pain and neuroinflammation. EA modulates their activity, reducing the release of pro-inflammatory mediators and thereby alleviating pain. By modulating glial cell activity, EA also offers neuroprotective benefits, particularly in conditions like neuropathic pain and brain injury.

Our recent findings indicate several clinical applications:

- **Chronic Pain Management**: EA at specific acupoints (e.g., PC6) reduces pain through the orexin-endocannabinoid pathway, beneficial for opioid-tolerant individuals.
- **Traumatic Brain Injury (TBI)**: EA treatment demonstrates neuroprotective effects by reducing glial cell activation and neuroinflammation.
- **Dental Pain**: EA modulates glial cell activity and neuroinflammatory pathways, providing pain relief and attenuating chronic pain development in conditions like irreversible pulpitis.

In conclusion, electroacupuncture is a promising tool for pain management and neuroprotection. Its ability to engage both opioid and non-opioid pathways and modulate glial cell activity makes it a valuable pain management strategy.