name

WEI-HUNG WENG

- Clinical Medicine
- Pathology
- Biomedical Imaging
- Data Analysis

address

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sex	male
birth date	Jan 26, 1985
birth place	Taipei City
citizenship	Taiwan

language	English (fluent, IELTS 8.0)
	Mandarin Chinese (native)
	Taiwanese (native)
	Japanese (basic)

Interests

- Clinical decision making and data-driven medicine by machine learning and data mining
- Biomedical informatics innovation and startup

Education and Background

Doctor of Medicine (M.D.) (Overall GPA: 3.99/4.0, Rank: 5/106)
School of Medicine, Chang Gung University (CGU), Taoyuan, Taiwan — 2004 - 2011

Exchange Student (Otolaryngology–Head and Neck Surgery, Massachusetts Eye and Ear Infirmary)
Harvard Medical School. Boston, MA, U.S.A. — 2011

Professional Experience

Clinical

Resident Physician
Department of Pathology and General Medicine, CGMH, Linkou, Taiwan — 2012 - 2014

Visiting Student
Department of Pathology, University of Tokyo Hospital, Tokyo, Japan — 2012

Resident Physician (Medical volunteer of Taiwan Medical Mission in Swaziland)
Mbanane Government Hospital, Mbabane, Hhohho, Swaziland — 2012

Medical Officer of Health, Secondary Lieutenant
Republic of China Army, Chungli, Taiwan — 2011 - 2012

Rotating Internship
CGMH, Linkou, Chiayi, Kaohsiung, Taiwan — 2010 - 2011

Research

Research Associate, Ultrafast Optics and Biomedical Imaging Lab., MIC in NTU
Advisor: Prof. Chi-Kuang Sun. [Director of Center. SPIE, IEEE, OSA Fellow]
- Nonlinear optical microscopy (SHG/THG) imaging in human skin tissue
- Medical imaging data analysis by using machine learning methods
- Commercialization and startup planning of multi-harmonic generation microscopy — 2014 -

Undergrad. Research Assistant, Kidney Research Center, Linkou CGMH
Advisor: Prof. Ya-Chung Tian. [Director of KRC, Linkou CGMH]
- Nuclear factor-κB and interleukin-1β mediated effects on polyomavirus BK infection — 2009 - 2011

Undergrad. Research Assistant, Hematology Research Lab, Linkou CGMH
Advisor: Prof. Lee-Yung Shih. [Director of Cancer Molecular Diagnostics Lab, Linkou CGMH]
- Case analysis of concomitance of essential thrombocythemia and chronic myeloid leukemia — 2008 - 2011

Undergrad. Research Assistant, Department of Psychology, Linkou CGMH
Advisor: Prof. Chin-Yen Chen.
- Relationship between Stanford Sleepiness Scale and Heart Rate Variability in Medical Students — 2009 - 2011

Summer Research Assistant, Cancer Immunology and Gene Therapy lab, Department of Pathology, Johns Hopkins Medical Institute (JHMI)
Advisor: Prof. Tzyy-Choou Wu. — 2009

Awards and Honors

- OSCE Award. Taiwan Association of Medical Education. Taiwan — 2011
- 2nd Prize. Medical Record Writing Competition. CGMH. Kaohsiung, Taiwan — 2011
- Great Honor. Taiwan Medical Development Awards for Outstanding Writings. Taiwan — 2010
- Research Funding. Medical Foundation in Memory of Dr. Deh-Ling Cheng. Taiwan — 2009
- Presidential Award 5 times (2007 2nd semester, 2006 1st semester, 2006 2nd semester, 2006 1st semester, 2005 2nd semester). School of Medicine, CGU. Taoyuan, Taiwan (for top 5% students) — 2005 - 2007

Curriculum Vitæ

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language	English (fluent, IELTS 8.0)
	Mandarin Chinese (native)
	Taiwanese (native)
	Japanese (basic)

Skills and Abilities

Medicine — Board Certificate of Medical Doctor, Certificate of Advanced Cardiovascular Life Support, Certificate of Clinical Trial
[Experience] 3 years in clinical medicine in medical center, clinic, army and rural area, nearly 1 year in pathology

Programming Informatics — **[Languages]** R, Python, SQL, C **[Tools]** Matlab, ImageJ/Fiji
[Related course] Data Science Specialization (Coursera verified courses), Mathematical Biostatistics Boot Camp 1, Bioinformatics: Introduction and Methods, Machine Learning Foundations, Artificial Intelligence, Computing for Data Analysis (Coursera), C/C++ Programming (NTU), Matlab Programming (NTU), Data mining and Imaging by Using R (Shih-Hsin U), Medical Database (Innovarad), Linear algebra (MIT OCW), Probability and statistics (NTU)
[Experience] iOS App 'LabBuddy' (Chinese), Prediction of pathological diagnosis by using SVM

Publications (2010-2015)

1. **WH Weng**, MR Tsai, YH Liao and CK Sun, "Identifying melanocyte in pigmented skin lesions based on in vivo third harmonic generation microscopy," J. Biomed. Opt. (2015) (to be submitted)
2. GG Lee, CS Cai, YH Liao, **WH Weng**, CK Sun, MR Tsai, TP Wang, "Automated Analysis of Collagen Fiber Features in Second Harmonic Generation Virtual Biopsy Images," IEEE Journal of Selected Topics in Signal Processing (2015) (submitted)
3. YH Lin, CY Chen, SH Lin, CH Liu, **WH Weng**, TB Kuo, CC Yang. "Differences in cardiac autonomic modulation during medical internship," Psychophysiology. 2013 Jun;50(6):521-7.
4. **WH Weng**, LY Shih. "Occurrence of BCR-ABL1 positive chronic myeloid leukemia following essential thrombocythemia." Acta Haematol. 2011 Sep 20;126(4):220-223.
5. CF Hung, A Monie, **WH Weng**, TC Wu. "DNA vaccines for cervical cancer," Am J Transl Res. 2010 Jan 2;2(1):75-87.

Conference Papers

1. **WH Weng**, MR Tsai, YH Liao, CK Sun. "Differentiating pigmented skin tumors by the tumor-associated melanocytes based on in vivo third harmonic generation microscopy, " SPIE Photonics West 2015. San Francisco, CA, U.S.A., February 2015 (oral)
2. SY Lee, **WH Weng**, CK Sun. "Super resolution brain imaging by using a two-photon fluorescence microscopy with harmonic modulation, " SPIE Photonics West 2015. San Francisco, CA, U.S.A., February 2015 (presenter)
3. **WH Weng**, MR Tsai, YH Liao, CK Sun. "Identifying melanocyte in pigmented skin lesions based on in vivo third harmonic generation microscopy, " Biomedical Molecular Imaging 2014. Taiwan, November 2014
4. **WH Weng**, WM Liu, MR Tsai, YH Liao, CK Sun. "In vivo quantification of melanin mass density in human by using third harmonic generation microscopy, " Biomedical Molecular Imaging 2014. Taiwan, November 2014
5. **WH Weng,** YC Tian. "Interleukin-1 beta Inhibits BK virus gene expression and replication in human renal proximal tubular epithelial cells," Taiwan Medical Development Awards for Outstanding Writings. Taiwan, August 2010 (oral)
6. **WH Weng,** YC Tian. "IL-1 has suppressive effect on BKV replication," Summer Student Study for Infectious Disease. Taiwan, September 2009 (oral)

References

- Prof. Chi-Kuang Sun (mentor at NTU), sun@ntu.edu.tw
- Prof. Gwo-Giun Chris Lee (research collaborator at NCKU), gwoglee@gmail.com
- Dr. Yi-Hua Liao (research collaborator at NTU Hospital), yihualiao@ntu.edu.tw
- Dr. George Gau (startup collaborator), gautech@yahoo.com
- Prof. Lee-Yung Shih (mentor and advisor at CGU), sly7012@cgmh.org.tw
- Dr. Ya-Chung Tian (advisor at CGU), dryctian@adm.cgmh.org.tw
- Prof. Min-Chi Chen (mentor at CGU), mcc@mail.cgu.edu.tw
- Prof. Tzyy-Choou Wu (mentor at JHMI), wutc@jhmi.edu

Curriculum Vitæ

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