



Hsing-Ying Lin, Ph.D.

Assistant Professor

Institute of Biomedical Engineering, National Tsing Hua University

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Office 719, Lab 428-1, Systems Bio-Medsense Lab, Tsing Hua Laboratory

Professional and Research Experiences

- 06/2015 - 08/2020 Research Fellow (Point-of-care devices, streamlined assay development, imaging methodology)
Department of Radiology, Harvard Medical School
Center for Systems Biology, Massachusetts General Hospital, USA
- 02/2013 - 05/2015 Adjunct Assistant Professor (Physics, physical experiments, sensor experiments)
Department of Electrical Engineering, Far East University, Taiwan
- 08/2010 - 05/2015 Postdoctoral Research Fellow (Fiber-optics, plasmonics, SERS DEP microfluidics, surface chemistry)
Center for Nano Bio-Detection, National Chung Cheng University, Taiwan
Department of Chemistry and Biochemistry, National Chung Cheng University, Taiwan
- 08/2008 - 07/2009 Research Scholar (*fs* and *ns* laser welding and ablation technologies)
Department of Mechanical & Aerospace Engineering, University of Missouri, USA
- 08/2007 - 10/2010 Research Assistant (Near-field scanning optical microscopy, SERS spectroscopy, plasmonic sensors)
Department of Photonics, National Cheng Kung University
- 02/2007 - 07/2007 Research Scholar (Laser micromachining technologies)
Institute of Applied Physics, Johannes Kepler University of Linz, Austria
- 08/2006 - 01/2007 Teaching Intern (Administrative service in the school library)
Natural Science, The Affiliated Senior High School of National University of Tainan
- 08/2004 - 07/2006 Research Assistant (Plasmonic sensors, surface coating)
Department of Engineering Science, National Cheng Kung University
- 07/2002 - 08/2003 Summer Intern (GPS data analysis)
Earth Science, Academia Sinica
- 07/2002 - 02/2004 Intern (Isotope geochemistry, ICP-mass, analytical chemistry)
Department of Earth Science, National Cheng Kung University

Education

- 2007 - 2010 Ph.D. Biomedical Engineering, National Cheng Kung University, Taiwan
- 2004 - 2006 M.S. Biomedical Engineering, National Cheng Kung University, Taiwan
- 2000 - 2004 B.S. Earth Science & Chemistry, National Cheng Kung University, Taiwan

Research Interest

- Point-of-care sensors, optical sensors, electrochemical sensors
- Liquid biopsy sensors, translational onco-omics applications
- Plasmonic sensors, nanomaterials and nanoprobe for sensing applications
- Nanophotonics and imaging

Award and Honors

- 2023 Little Dream Big Ambitious - Dream More Project, Amway Hope Maker Charity Foundation, NanoCircDx, TW
- 2023 Gold Medal Award, the 8th iGEM, France
- 2023 iGEM Global Impact Grant, France

2021 Research Innovation Award, the 18th National Innovation Award (Research Center for Biotechnology and Medicine Policy), TW
2021 科技部 110 年度補助大專校院研究獎勵, NTHU, TW
2020 延攬特殊優秀人才, NTHU, TW
2020 Honoree, CES Innovation Awards, iEAT, US
2019 The Ruth L. Kirschstein NRSA Institutional Research Training Grant, US
2019 Breakthrough Award, Futuretech, Ministry of Science and Technology, TW
2019 Startups Advancement Award, the 16th National Innovation Award (Research Center for Biotechnology and Medicine Policy), TW
2019 Platinum Award, Taiwan Innotech Expo
2019 Merit Award, the 3rd Entrepreneur Star Competition, Economy Daily News, TW
2018 Research Innovation Award, the 15th National Innovation Award (Research Center for Biotechnology and Medicine Policy), TW
2018 Merit Poster Awards at MGH ORCD Research Fellows Poster Celebration, US
2018 Fund for Medical Discovery (FMD) Research Fellowship Award (Massachusetts General Hospital), US
2018 Entrepreneurship Potential Award, From IP to IPO Program, Science & Technology Policy Research and Information Center, National Applied Research Laboratories, TW
2018 First Award in the Long-Term IoT Competition, Acer Foundation, TW
2015 Prestigious Award of Postdoctoral Research Abroad Program (Taiwan Ministry of Science and Technology)
2014 Postdoctoral Academic Research Merit Award (Taiwan Ministry of Science and Technology)
2014 Young Researcher Innovation Research Award (Taiwan Comprehensive University System, T4)
2012 Masterpiece Poster Award at Academic Year Faculty of Science, NCCU, TW
2012 Masterpiece Poster Award at Kaohsiung International Instruments Show, TW
2010 The 3rd Award in the 5th Long-Term Smile Competition, Acer Foundation, TW
2008 Mr. Tsung, Cho-Chang Education Foundation Fellowship, TW
2002, 2003, 2005, 2007 Academic Merit Scholarship, NCKU, TW
2003 First Bank Scholarship, TW
2001 - 2004 China Steel Scholarship, TW

Certificate and diploma

Diploma of Academic Medicine, St Edmund Hall, University of Oxford, July 2-15, 2023 (NHRI 台灣精準醫療種子人才訓練計畫)

MGH Cancer Center Grand Rounds July 1, 2018 - June 30, 2019 Certificate (Harvard Medical School)

Assistant Professor Certificate (REG. NO.:039638, Ministry of Education, Taiwan)

Medical Devices Regulations Counseling Seed Qualification Certificate (TFPA-MD-102SD1036, Food and Drug Administration, Ministry of Health and Welfare, Taiwan)

Senior Biotechnology Program Qualification Certificate (00045, National Cheng Kung University)

Senior High School Education Program Qualification Certificate (National Cheng Kung University)

Invited talk

2024/10/27-30 "Development of Affordable Sensing Technologies in Liquid Biopsy Diagnostics," Symposium 2-3 Chemical and Biological Sensors, The 7th International Conference on Active Materials and Soft Mechatronics, Songdo ConvensiA, Incheon, Korea

2024/09/24 "Development of Affordable Sensing Technologies in Liquid Biopsy Diagnostics," 113Y English Seminar at College of Engineering, National Tsing Hua University, TW

2024/07/08 "Development of Affordable Sensing Technologies in Liquid Biopsy Diagnostics," Institute of Molecular and Genomic Medicine, National Health Research Institutes, TW

2024/05/26 "(Invited) AIoT-Integrated Digital Imaging Sensor for Molecular-Fingerprint Profiling of Extracellular Vesicles in Liquid Biopsy," Session H02 — Emerging Sensing and Diagnostic Devices 1, Symposium — Solid State Electronics and Photonics in Biology and Medicine 10, 245th ECS Meeting, May 26-30, 2024, San Francisco, USA

2024/04/27 "Liquid biopsy tools for extracellular vesicles," Reading Club for 112Y Overseas Trainees, Taiwan Precision Medicine Talent Seed Training Program

2024/04/10 "Liquid biopsy tools for extracellular vesicles," Gerontechnology & Smart Healthcare, Precision Medicine Ph.D. Program, National Tsing Hua University, TW

2023/12/08 "Plasmonic enhanced integrated magneto-electrochemical sensor," Integration Lab, Life Science, Delta Research Center, Delta Electronics, Inc.

2023/10/13 "Droplet Digital PCR Sensor," Integration Lab, Life Science, Delta Research Center, Delta Electronics, Inc.

2023/09/09 "Safe food, save life! Food safety by key-chain IoT iEAT sensing technology," Bio+ICT (Information Communication Technology) Symposium, 2023 New "Food" Generation - Medicine and Food Come from the Same Source, Promotion Center of Precision Medicine (PCPM), National Taiwan University, TW

2023/09/07 "Find a needle in a haystack: Liquid biopsy sensor in precision medicine, translation medicine, and systems biology," Special Lecture Education Program for Math and Science Gifted Class, National Hsinchu Senior High School, Hsinchu, TW

2023/07/27 "Looking for a needle in a haystack: Digital nucleic acid sensor," 2023 Bio Asia-Taiwan, July 26-30, 2023, Taipei Nangang Exhibition Center, TW

2023/06/19 "Find a needle in a haystack: Integrated AIoT digital bead-based sensor for molecular-fingerprint profiling of extracellular vesicles," Session A: Chemical Sensors, 2023 International Conference on Smart Sensors (ICSS 2023), Jun 19th-20th, 2023, Tainan, TW

2023/05/28-06/02 "Liquid biopsy tool: Integrated AIoT digital bead-based sensor for molecular-fingerprint profiling of extracellular vesicles," Symposium H03, 243rd ECS Meeting with the 18th International Symposium on Solid Oxide Fuel Cells (SOFC-XVIII), May 28-June 2, 2023, Boston, MA

2023/05/12 "Integrated sensing technology for translational medicine applications," Seminar at Institute of Communications Engineering, National Tsing Hua University, TW

2023/03/02 "Integrated sensing technology for translational medicine applications," Seminar at Department of Biomedical Engineering, National Cheng Kung University, TW

2023/01/28 Expert share in Biomedical field, Joint Employment Symposium, National Cheng Kung University New York Alumni Association, US

2022/12/28 "Liquid biopsy sensor for translational medicine application," International Intercollegiate PhD Program, National Tsing Hua University, TW

2022/10/23 "Liquid biopsy sensor for translational medicine application," International Conference on Smart Sensors, 27th Symposium of Association for Chemical Sensors in Taiwan, and 25th Nano Engineering and Microsystem Technology Conference (2022 ICSS, 27th SACST, and 25th NEMTC), October 22-23, 2022, National Chung Hsing University, Taichung, TW

2022/09/20 "Integrated AIoT point-of-care devices in liquid biopsy and translational medicine studies," Biomed AI PhD program, National Tsing Hua University, Hsinchu, TW

2022/07/28 "High-throughput sensing platform for extracellular vesicle detection," The BIO Asia-Taiwan International Conference & Exhibition, July 28-31, 2022, Taipei Nangang Exhibition Center, TW

2022/07/23 "Precision Medicine: Integrated AIoT point-of-care devices in liquid biopsy and translational medicine studies," International Conference on Precision Nanomedicine in Theranostics & The 2022 Annual Meeting of Taiwan Nanomedicine Society, July 22-23, 2022, Sheraton Hotel, Hsinchu, TW

2022/04/27 "Precision Medicine: Integrated point-of-care devices in liquid biopsy and translational medicine studies," Precision Medicine Ph.D. Program, National Tsing Hua University, Hsinchu, TW

2022/03/17 "Integrated AIoT sensing technologies in liquid biopsy and translational medicine studies," Institute of Electro-Optical Science and Technology, National Taiwan Normal University, Taipei, TW

2021/12/07 "Integrated AIoT point-of-care devices in liquid biopsy and translational medicine studies," virtual talk for Biomed AI PhD program, National Tsing Hua University, Hsinchu, TW

2021/10/13 "Intelligent sensing device for food safety surveillance and epidemic prevention," National Education Radio, TW

2021/08/13 "IoT Sensing System for Food Safety and Epidemic Prevention," Session of New Technology for Future, National Education Radio, TW

2021/03/13 "Medical Internet-of-Things for Next Generation Molecular Diagnosis & Translational Medicine Applications," 2021 Chemistry National Meeting, National Central University, TW

2021/03/10 "Medical Internet-of-Things for Next Generation Molecular Diagnosis & Translational Medicine Applications," Department of Biomedical Engineering & Environmental Sciences, National Tsing Hua University, TW

2020/10/19 "Medical Internet-of-Things for Next Generation Molecular Diagnosis & Translational Medicine Applications," Research Center for Intelligent Medical Devices, Ming Chi University of Technology, TW

2020/09/27 "Integrated magneto-electrochemical sensing platform for liquid biopsy molecular profiling," VIRTUAL IEEE-NEMS 2020, 27-30 September 2020.

2015/03/23 "Nanophotonic Biosensing and Multiphoton Application in Biomedical Imaging," Institute of Medical Science and Technology, National Sun Yat-sen University, Taiwan

2013/07/26 "Plasmonic Sensors and Sensing Applications," MGH Center for Systems Biology, USA

Research service

2024/07-2024/09 Mentor of NSTC International Internship Pilot Program (IIPP), Graduate student Gianni Fiume from Universität Stuttgart

2024/05/17 Chief organizer and evaluation committee of the 25th Graduate Thesis Competition in the College of Engineering, National Tsing Hua University

2023/02-2023/12 Primary PI of NTHU_Taiwan, NanoCircDx (2023 iGEM)

2023/08/20 Mock Competition Evaluation Committee of iGEM Taiwan Seminar

Session Chair of 2023 ECS (Boston), 2024 ECS (San Francisco), 2023 ICSS, 2024 ICSS

Reviewer of WIREs Nanomedicine & Nanobiotechnology, ACS Applied Bio Materials, Interdisciplinary Medicine, Heliyon (2023~Current)

Editorial Board Member of Data in Brief (2018~2021).

Reviewer of Data-in-brief, Spectrochimica Acta, Biosensors and Bioelectronics, Applied Physics A, Optics Express, Journal of the Optical Society of America B, and Applied Optics (2012~Current).

Session Chair of Optoelectronic Technology: 2013, 2014 The 7th and 8th Intelligent Systems Conference on Engineering Applications, Taiwan

PUBLICATIONS LIST

JOURNAL PUBLICATION

1. Sanskruti Swain, Ting-Yi Lin, I-Hsuan Chou, Shu-Chen Liu, Bikash C. Mallick, [Hsing-Ying Lin](#)^{*}, Chen-Han Huang^{*}, “Photoactive Nanocatalysts with Enhanced Oxidase-Mimicking Ability for Sensitive Fluorometric Detection of Antioxidants,” *Journal of Nanobiotechnology*, Submission ID 084b7513-5622-481a-9a2e-b12b17e3ee71, **2024/07/28 Decision: major revision.**
2. Isabel Gessner, Jin-Ho Park, [Hsing-Ying Lin](#), Hakho Lee, Ralph Weissleder^{*}, “Magnetic Gold Nanoparticles with Idealized Coating for Enhanced Point-Of-Care Sensing,” *Advanced Healthcare Materials* 2022 Jan;11(2):e2102035.
3. Baris Akbali, Mehmet Yagmurcukardes, F. M. Peeters, [Hsing-Ying Lin](#), Ting-Yi Lin, Wen-Hao Chen, Simon Maher, Tsan-Yao Chen^{*}, and Chen-Han Huang^{*} “Determining the Molecular Orientation on the Metal Nanoparticle Surface through Surface-Enhanced Raman Spectroscopy and Density Functional Theory Simulations,” *J. Phys. Chem. C* 2021, 125, 29, 16289–16295.
4. Jongmin Park, Jun Seok Park, Chen-Han Huang, Ala Jo, Kaitlyn Cook, Rui Wang, [Hsing-Ying Lin](#), Jan Van Deun, Huiyan Li, Jouha Min, Lan Wang, Ghilsuk Yoon, Bob S. Carter, Leonora Balaj, Gyu-Seog Choi, Cesar M. Castro, Ralph Weissleder^{*} & Hakho Lee^{*}, “An integrated magneto-electrochemical device for the rapid profiling of tumour extracellular vesicles from blood plasma,” *Nature Biomedical Engineering*, volume 5, pages678–689 (2021).
5. Katherine S Yang, [Hsing-Ying Lin](#), Caleigh Curley, Marisa W Welch, Brian M Wolpin, Hakho Lee, Ralph Weissleder, Hyungsoon Im^{*}, Cesar M Castro^{*}, “Bead-Based Extracellular Vesicle Analysis Using Flow Cytometry,” *Advanced Biosystems*, 4(12), 2000203, (2020 Dec.).
6. Jan Van Deun, Ala Jo, Huiyan Li, [Hsing-Ying Lin](#), Ralph Weissleder, Hyungsoon Im, Hakho Lee^{*}, “Integrated Dual-Mode Chromatography to Enrich Extracellular Vesicles from Plasma,” *Advanced Biosystems*, 4(12), 1900310, (2020 Apr.).
7. Chen-Han Huang[#], Yong Il Park[#], [Hsing-Ying Lin](#)[#], Divya Pathania, Ki Soo Park, Maria Avila-Wallace, Cesar M. Castro, Ralph Weissleder^{*}, Hakho Lee^{*}, “Compact and Filter-Free Luminescence Biosensor for Mobile In-Vitro Diagnoses,” *ACS Nano*, 13, 10, 11698–11706 (2019, Aug.). ^{#equal contribution}
8. Mikołaj Piotr Zaborowski, Kyunghoon Lee, Young Jeong Na, Alessandro Sammarco, Xuan Zhang, Marcin Iwanicki, Pike See Cheah, [Hsing-Ying Lin](#), Max Zinter, Chung-Yu Chou, Giulia Fulci, Bakhos A. Tannous, Charles PinKuang Lai, Michael J. Birrer, Ralph Weissleder, Hakho Lee, Xandra O. Breakefield^{*}, “Methods for Systematic Identification of Membrane Proteins for Specific Capture of Cancer-Derived Extracellular Vesicles,” *Cell reports*, 27(1), 255-268 (2019, Apr).
9. Sabrina Roy, [Hsing-Ying Lin](#), Chung-Yu Chou, Chen-Han Huang, Julia Small, Noah Sadik, Caroline M. Ayinon, Elizabeth Lansbury, Lilian J. Cruz, Anudeep Yekula, Pamela Sue Jones, Leonora Balaj^{*}, Bob S. Carter^{*}, “Navigating the Landscape of Tumor Extracellular Vesicle Heterogeneity,” *International Journal of Molecular Sciences*, 20(6): 1349 (2019, Mar.).
10. Ruilong Ling, Waleed Tahir, [Hsing-Ying Lin](#), Hakho Lee, and Lei Tian^{*}, “High-throughput intensity diffraction tomography with a computational microscope,” *Biomedical Optics Express* 9, 2130-2141 (2018 Apr.).
11. [Hsing-Ying Lin](#), Katherine S. Yang, Caleigh Curley, Hakho Lee, Marisa W. Welch, Brian M. Wolpin, Ralph Weissleder, Hyungsoon Im^{*}, Cesar Castro^{*}, “Bead Enhancement of EV Analysis,” *bioRxiv* (2018 Feb.).
12. Jongmin Park[#], [Hsing-Ying Lin](#)[#], Jean Pierre Assaker, Sangmoo Jeong, Chen-Han Huang, Ahmed Kurdi, Kyunghoon Lee, Kyle Fraser, Changwook Min, Siawosh Eskandari, Sujit Routray, Bakhos Tannous, Reza Abdi, Leonardo Riella, Anil Chandraker, Cesar M. Castro, Ralph Weissleder, Hakho Lee^{*}, and Jamil R. Azzi^{*} “Integrated Kidney Exosome Analysis for the Detection of Kidney Transplant Rejection,” *ACS Nano*, 11 (11), pp 11041–11046 (2017 Oct.). ^{#equal contribution}
13. [Hsing-Ying Lin](#), Chen-Han Huang, Jongmin Park, Divya Pathania, Cesar M. Castro, Alessio Fasano, Ralph Weissleder, Hakho Lee^{*}, “Integrated magneto-chemical sensor for on-site food allergen detection,” *ACS Nano*, 11 (10), pp 10062–10069 (2017 Aug.).
14. [Hsing-Ying Lin](#), Chen-Han Huang, Wen-Hsin Hsieh, Ling-Hsuan Liu, Yuan-Chuen Lin, Chia-Chun Chu, Shi-Ting Wang, I-

- Ting Kuo, Lai-Kwan Chau*, and Chiou-Ying Yang*, “On-line SERS Detection of Single Bacterium Using Novel SERS Nanoprobes and A Microfluidic Dielectrophoresis Device,” *Small*, Volume 10, Issue 22, pages 4700–4710 (2014 Nov.)
15. **Hsing-Ying Lin**, Chen-Han Huang, Sin-Hong Lu, I-Ting Kuo, and Lai-Kwan Chau*, “Direct Detection of Orchid Viruses Using Nanorod-Based Fiber Optic Particle Plasmon Resonance Immunosensor,” *Biosensors and Bioelectronics*, Volume 51, Pages 371–378 (2014 Jan.). **Key Scientific Article, Global Medical Discovery.**
 16. **Hsing-Ying Lin**, Meei-Ling Hung, Chen-Han Huang*, Hsiang-Chen Chui*, Jui-Sheng Lin, “Graphene layer number dependent size distribution of silver nanoparticles,” *Applied Physics A – Materials Science & Processing* (2013 Dec.).
 17. **Hsing-Ying Lin**, Chen-Han Huang, and Lai-Kwan Chau*. Novel Optical Nanoprobes: SERS Tags for Biochemical Sensing and Applications, *Chemistry*, Volume 71, Issue 3, pp.243–252 (2013 Sep.). Special Issue: Bio-sensing technology. Chemical Society in Taipei. (Invited paper in Chinese)
 18. **Hsing-Ying Lin**, Chen-Han Huang, Yu-Chia Liu, Shin-Huei Chen, and Lai-Kwan Chau*, “Tubular Waveguide Evanescent Field Absorption Biosensor Based on Particle Plasmon Resonance for Multiplex Label-free Detection,” *Biosensors and Bioelectronics*, Vol. 41, 268–274 (2013 Mar.).
 19. **Hsing-Ying Lin**, Chen-Han Huang*, Chia-Chi Huang, Yu-Chia Liu, and Lai-Kwan Chau*, “Multiple resonance fiber-optic sensor with time division multiplexing for multi-analyte detection,” *Optics Letters*, Vol. 37, Issue 19, pp. 3969-3971, (2012 Oct.).
 20. **Hsing-Ying Lin**, Chen-Han Huang, Lai-Kwan Chau*, “Fiber Optic Particle Plasmon Resonance Sensor Based on Plasmonic Light Scattering Interrogation,” *Annalen der Physik*, Vol. 524(11), 705–712 (2012 Sep.). **Invited Paper for Special Issue “Plasmonic Sensors”.**
 21. **Hsing-Ying Lin**, Chen-Han Huang, Shannon Shy, Yu-Chung Chang*, Hsiang-Chen Chui*, and Chih-Han Chang, “Visibility Enhancement of Common Bile Duct for Laparoscopic Cholecystectomy by Vivid Fiber-optic Indication: A Porcine Experiment Trial,” *Biomedical Optics Express*, Vol. 3 Issue 9, pp.1964-1971 (2012 Sep.).
 22. **Hsing-Ying Lin**, Chen-Han Huang*, Gia-Ling Cheng, Nan-Kuang Chen, and Hsiang-Chen Chui*, “Tapered optical fiber sensor based on localized surface plasmon resonance,” *Optics Express*, Vol. 20, Issue 19, pp. 21693-21701 (2012 Sep.). **Selected in Virtual Journal for Biomedical Optics (VJBO).**
 23. **Hsing-Ying Lin**, Chen-Han Huang, Chih-Han Chang, Yung-Chiang Lan, and Hsiang-Chen Chui*, “Direct near-field optical imaging of plasmonic resonances in metal nanoparticle pairs,” *Optics Express*, Vol. 18, Issue 1, pp. 165-172 (2010). **Selected in Virtual Journal for Biomedical Optics, Vol. 5, Issue 2.**
 24. Wen-Hao Chen, Yen-Ta Tseng, Shuchen Hsieh, Wan-Chun Liu, Chiung-Wen Hsieh, Chin-Wei Wu, Chen-Han Huang, **Hsing-Ying Lin**, Chao-Wen Chen, Pei-Ying Lin, and Lai-Kwan Chau*, “Silanization of solid surfaces via mercaptopropylsilatrane: a new approach of constructing gold colloid monolayers,” *RSC Advances*, 4, 46527-46535 (2014 Sep.).
 25. Chen-Han Huang, **Hsing-Ying Lin**, Cheng-Wen Huang, Yi-Min Liu, Fu-Yu Shih, Wei-Hua Wang, and Hsiang-Chen Chui*, “Probing Substrate Influence on Graphene by Analyzing Raman Lineshapes,” *Nanoscale Research Letters*, 9:64 (2014 Feb.).
 26. Cheng-En Cheng, Chi-Yuan Lin, Hao-Yu Chang, Chen-Han Huang, **Hsing-Ying Lin**, Chia-Hao Chen, Chia-Chen Hsu, Chen-Shiung Chang, and Forest Shih-Sen Chien*, “Surface-enhanced Raman scattering of graphene with photo-assisted-synthesized gold nanoparticles,” *Optics Express*, Vol. 21, Issue 5, pp. 6547-6554 (2013 Mar.).
 27. Cheng-Wen Huang, **Hsing-Ying Lin**, Chen-Han Huang, Kai-Hong Lo, Yu-Chung Chang, Chih-Yi Liu, Chen-Hao Wu, Yonhua Tzeng, and Hsiang-Chen Chui*, “Fluorescence Quenching due to Silver Nanoparticles Covered by Graphene and Hydrogen-Terminated Graphene,” *Applied Physics Letters*, Vol. 102, 053113 (2013 Mar.).
 28. Cheng-Wen Huang, **Hsing-Ying Lin**, Chen-Han Huang, Ren-Jye Shiue, Wei-Hua Wang, Chih-Yi Liu and Hsiang-Chen Chui*, “Layer-Dependent Morphologies of Silver on N-Layer Graphene,” *Nanoscale Research Letters*, 7(1):618 (2012 Nov.).
 29. Cheng-Wen Huang, Bing-Jie Lin, **Hsing-Ying Lin**, Chen-Han Huang, Fu-Yu Shih, Wei-Hua Wang, Chih-Yi Liu and Hsiang-Chen Chui*, “Observation of Strain Effect on the Suspended Graphene by Polarized Raman Spectroscopy,” *Nanoscale Research Letters*, Vol. 7(1):533, (2012 Sep.).
 30. Chen-Han Huang, **Hsing-Ying Lin**, Yonhua Tzeng, Chien-Hsiang Fan, Chih-Yi Liu, Chia-Yi Li, Cheng-Wen Huang, and Hsiang-Chen Chui*, “Optical characteristics of pore size on porous anodic aluminium oxide films with embedded silver nanoparticles,” *Sensors & Actuators: A*, v180, p49-54 (2012 Apr.).
 31. Chen-Han Huang, **Hsing-Ying Lin**, Yonhua Tzeng, Chien-Hsiang Fan, Chih-Yi Liu, Chia-Yi Li, Cheng-Wen Huang, and Hsiang-Chen Chui*, “Tunable Photoconductivity of Porous Anodic Aluminum Oxide with Silver Nanoparticles,” *Electrochemical and Solid-State Letters*, Vol. 15, Issue 3, pp. J14-J17 (2012 Jan.).
 32. Chen-Han Huang, **Hsing-Ying Lin**, Shihtse Chen, Chih-Yi Liu, Hsiang-Chen Chui, and Yonhua Tzeng*, “Electrochemically fabricated self-aligned 2-D silver/alumina arrays as reliable SERS sensors,” *Optics Express*, Vol. 19, Issue 12, pp. 11441-11450 (2011 May).
 33. Ben-Chao Lau, Chih-Yi Liu, **Hsing-Ying Lin**, Chen-Han Huang, Hsiang-Chen Chui, and Yonhua Tzeng*, “Electrochemical fabrication of anodic aluminum oxide films with encapsulated silver nanoparticles as plasmonic photoconductors,” *Electrochemical and Solid-State Letters*, Vol. 14, Issue 5, E15-E17 (2011 Feb.).
 34. Chen-Han Huang, **Hsing-Ying Lin**, Ben-Chao Lau, Chih-Yi Liu, Hsiang-Chen Chui, Yonhua Tzeng*, “Plasmon-induced optical switching of electrical conductivity in porous anodic aluminum oxide films encapsulated with silver nanoparticle arrays,” *Optics Express*, Vol. 18, Issue 26, pp. 27891-27899 (2010 Dec.).
 35. Chen-Han Huang, **Hsing-Ying Lin**, Hsiang-Chen Chui*, Yung-Chiang Lan, and Shi-Wei Chu, “The phase-response effect of size-dependent optical enhancement in a single nanoparticle,” *Optics Express*, Vol. 16 Issue 13, pp.9580-9586 (2008).
 36. W.P. Hu, H.-Y. Hsu*, A. Chiou, K.Y. Tseng, **H.-Y. Lin**, G.L. Chang, S.-J. Chen, “Immunodetection of pentamer and modified C-reactive protein using surface plasmon resonance biosensing,” *Biosensors and Bioelectronics*, Volume 21, Issue 8, pp.1631–1637 (2006).

INVITED BOOK CHAPTER

1. ***Hsing-Ying Lin***, Wen-Hao Chen, Chen-Han Huang*, “Graphene in Electrochemical Biosensors,” Chapter 15 of Book: *Biomedical Applications of Graphene and 2D Nanomaterials*, Editors: Md Nurunnabi Jason McCarthy (Paperback ISBN: 9780128158890; eBook ISBN: 9780128162699). Published Date: 3rd April 2019. Publisher: ELSEVIER. Ltd.
2. ***Hsing-Ying Lin***, Md Nurunnabi, Wen-Hao Chen, and Chen-Han Huang*, “Graphene in Neuroscience,” Chapter 16 of Book: *Biomedical Applications of Graphene and 2D Nanomaterials*, Editors: Md Nurunnabi Jason McCarthy (Paperback ISBN: 9780128158890; eBook ISBN: 9780128162699). Published Date: 3rd April 2019. Publisher: ELSEVIER. Ltd.
3. ***Hsing-Ying Lin***, Ping-Ji Huang, Chen-Han Huang, Yen-Chieh Wang, Churng-Ren Chris Wang*, “Synthesis and optical properties of noble metal nanoparticles for biodetection,” Chapter 1 of Book: *From Bioimaging to Biosensors: Noble Metal Nanoparticles in Biodetection*, Editors: Lai-Kwan Chau, Huan-Tsung Chang (ISBN: 978-981-4267-24-3(Hardback), 978-981-4303-1(eBook)). Singapore: Pan Stanford Publishing, 2013: Chapter 1, pp. 1-10.

R&D NEWS

1. ***Hsing-Ying Lin***, Chen-Han Huang, Hsiang-Chen Chui*, Yung-Chiang Lan, Chih-Han Chang, “Plasmonic resonance on gold nanoparticle pairs,” Issue 1, Vol. 24, NCKU R&D News, May 24, 2013.
2. Chen-Han Huang, ***Hsing-Ying Lin***, Hsiang-Chen Chui*, “Size-dependent optical phase response effect of a single nanoparticle,” Issue 11, Vol. 5, NCKU R&D News, Nov. 13, 2009.

PATENT

1. ***Hsing-Ying Lin***, Peng-Wei Hsu, Hsien-Wen Yao, Tao-Yun Yen, Yun-Hsien Chung, Wei-Chun Lan, Bo-Jiun Hsiao, “Circular RNA sensing method and device,” 2024/01 TW patent (pending)
2. ***Hsing-Ying Lin***, Peng-Wei Hsu, Hsien-Wen Yao, Tao-Yun Yen, “Isothermal primers of colorectal cancer circular RNA,” 2024/01 TW patent (pending)
3. ***Hsing-Ying Lin***, Chen-Han Huang, Peng-Wei Hsu, Hsien-Wen Yao, Tao-Yun Yen, Yu-He Liu, “RPA primers and probes of glioma GAPDH, EGFRwt, EGFRvIII, IDH1wt, IDH1 R132H,” 2024/03 TW patent (pending).
4. ***Hsing-Ying Lin***, Chen-Han Huang, Peng-Wei Hsu, Yi-Cian Chen, Zhi-Yang Wei, Wei-Chun Lan, Bo-Jiun Hsiao, Hsien-Wen Yao, Tao-Yun Yen, Yu-He Liu, I-Hsuan Chou, “Droplet digital sensing method and system,” 2023/06 TW patent (pending).
5. Chen-Han Huang, ***Hsing-Ying Lin***, Wen-Hao Chen, “Compound Containing Thioester Group For Modifying Substrate Surface And The Method Using The Same,” TW202031670A, 2020/09/01.
6. Chen-Han Huang, ***Hsing-Ying Lin***, “Electrochemical measurement method and system,” TW202032117A, 2020/09/01.
7. Chen-Han Huang, Wen-Hao Chen, ***Hsing-Ying Lin***, “Substrate Surface Modified Sheet and The Method Using the Same,” TW202007749A, 2020/02/16.
8. Hakho Lee, Ralph Weissleder, Sangmoo Jeong, Jongmin Park, Caesar Castro, ***Hsing-Ying Lin***, Jamil Azzi, “Magnetic electrochemical sensing,” US patent, WO2017132564A3, 2017/01/27, US11125745B2, 2021-09-21, Brigham and Women’s Hospital Inc, General Hospital Corp.
9. Lai-Kwan Chau, ***Hsing-Ying Lin***, Chen-Han Huang, Ling-Hsuan Liu, Wen-Hsin Hsieh, “Microfluidic biosensing system,” Taiwan patent I506265, 2015/11/01.
10. Lai-Kwan Chau, Chen-Han Huang, ***Hsing-Ying Lin***, Yu-Chia Liu, “Multiplex fiber optical biosensor and detection method by using the same,” Taiwan patent I472746, 2015/02/11; US20150211993 A1, 2015/07/30.
11. Yon-Hua Tzeng, Chih-Yi Liu, Kyaw-Oo Lau, Hsiang-Chen Chui, Chen-Han-Huang, ***Hsing-Ying Lin***, “Photo-switched patterned structure and method of fabricating the same,” Taiwan patent I465611, 2014/12/21.
12. Yon-Hua Tzeng, Chih-Yi Liu, Chen-Han-Huang, ***Hsing-Ying Lin***, Hsiang-Chen Chui, Kyaw-Oo Lau, Shih-Tse Chen, Cheng-Wen Huang, “Sensor chip for biomedical and micro-nano structured objects and materials and method providing the same,” Taiwan patent I456195, 2014/10/11; China patent CN 102621122 A, CN 102621122 B, 2014/07/09; US patent 8902420, 2014/12/02.
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