

**Chia-Yuan Chen, Ph.D.**

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**Education:**

Ph.D., Biomedical Engineering, Carnegie Mellon University, USA, 2012.

M.S., Mechanical Engineering, National Tsing Hua University, Taiwan, 2005.

B.S., Mechanical Engineering, National Chung Cheng University, Taiwan, 2003.

**Professional Experiences:**

Professor, Department of Mechanical Engineering, National Cheng Kung University,  
Taiwan. (Aug. 2019 - to date)

Associate Professor, Department of Mechanical Engineering, National Cheng Kung  
University, Taiwan. (Feb. 2016 - July 2019)

Assistant Professor, Department of Mechanical Engineering, National Cheng Kung  
University, Taiwan. (Feb. 2014 - Jan. 2016)

Assistant Professor, Department of Mechanical Engineering, National Taiwan University  
of Science and Technology, Taiwan. (Aug. 2012 - Jan. 2014)

Senior Lithography Process Engineer, UMC, Hsinchu Science Park, Taiwan. (Mar. 2007  
- Nov. 2008)

Corporal of Military Police, Army of R. O. C., Taiwan. (Oct. 2005 - Jan. 2007)

**Professional Services:**

1. Fellow, the Royal Society of Chemistry (Feb. 2022)
2. 駐洛杉磯台北經濟文化辦事處科技組組長, Director, Science and Technology  
Division, Taipei Economic and Cultural Office in Los Angeles (July 2020 to June 2024)
3. 駐休士頓台北經濟文化辦事處科技組組長, Director, Science and Technology  
Division, Taipei Economic and Cultural Office in Los Angeles (Aug. 2022 to Dec. 2022)
4. 國立成功大學國際處副國際長, Associate Vice President for International Affairs,  
National Cheng Kung University (Aug. 2018 to June 2020)
5. 國立成功大學國際處國際合作組組長, Director, International Relations Division,  
Office of International Affairs, National Cheng Kung University (Sep. 2017 to June  
2020)
6. 2020 中華民國微系統暨奈米協會第十一屆候補理事
7. 2019 IEEE NEMS (International Conference on Nano/Micro Engineered and  
Molecular Systems) for Invited Talk Presentation

8. 2018 IEEE MEMS (Micro-Electro-Mechanical Systems) Executive Technical Program Committee for Abstract Review, Section Chair, and Award Selection

. NCKU-TSMC Joint Developed Project (成大台積電聯合研發中心計畫)

**Research Interests:**

- 生醫微機電 (BioMEMs)
- 微系統製造技術 (Microfabrication)
- 心血管疾病血液動力學分析 (Hemodynamic Analysis for Cardiovascular Diseases)
- 流場可視化 (Flow Visualization)

**Editorial Work:**

1. Topical Advisory Panel Member, *Biosensors* (IF = 5.52), 2020-2022.
2. Invited Book Editor, AIP Publishing (American Institute of Physics), 2021-2022.
3. Invited Guest Editor, *JOVE* Methods Collection (IF = 1.16), 2021.
4. Reviewer Board, *Micromachines* (IF = 2.52), 2020-2021

**Journal Reviewer (SCI):**

*ACS Environmental Science and Technology* (IF = 11.36); *ACS Sensors* (5-year IF = 7.59); *Applied Energy* (5-year IF = 7.5, x2); *Biomedicines* (IF = 6.08); *Lab on a Chip* (5-year IF = 6.00, x5); *Scientific Reports* (5-year IF = 5.60); *iScience* (IF = 5.57); *Biosensors* (IF = 5.52, x2); *International Journal of Heat and Mass Transfer* (5-year IF = 4.15, x3); *Biotechnology Journal* (5-year IF = 3.95, x2); *Talanta* (5-year IF = 3.76, x2); *Biomicrofluidics* (5-year IF = 3.46); *Sensors* (5-year IF = 3.42); *Annals of Biomedical Engineering* (IF = 3.32, x5); *Experimental Thermal and Fluid Science* (5-year IF = 3.08); *Microfluidics and Nanofluidics* (5-year IF = 3.03, x11); *Chemical Engineering Research & Design* (5-year IF = 2.82); *Biomedical Microdevices* (5-year IF = 2.77); *Integrative Biology* (IF = 2.77, x2); *Science Progress* (IF = 2.77); *Cardiovascular Engineering and Technology* (5-year IF = 2/67); *IEEE Sensors Journal* (IF = 2.62, x2); *Expert Review of Medical devices* (5-year IF = 2.37); *International Journal for Numerical Methods in Biomedical Engineering*, (5-year IF = 2.31, x3); *Sensors & Actuators: A. Physical* (5-year IF = 2.14, x8); *Journal of Biomechanical Engineering-Transactions of the ASME* (5-year IF = 2.13); *Micromachines* (5-year IF = 1.92, x8); *Artificial Organs* (5-year IF = 1.82); *Micron* (5-year IF = 1.81); *Jove-Journal of Visualized Experiments* (5-year IF = 1.66, x3); *Computer Methods in Biomechanics and Biomedical Engineering* (5-year IF = 1.75, x5); *Measurement* (5-year IF = 1.34); *Journal of Vacuum Science & Technology B* (5-year IF = 1.28); *BioChip Journal* (5-year IF = 1.00, x3); *SpringerPlus* (5-year IF = 0.950); *International Journal of*

*Computational Methods (5-year IF = 0.90); Journal of Mechanics (5-year IF = 0.38, x3); Journal of the Chinese Institute of Engineers (5-year IF = 0.21).*

**PhD Students:**

Class of 2019 - Bivas Panigrahi

(Assistant Professor in National Chin-Yi University of Technology from 2020, 國立勤益科技大學助理教授)

Class of 2020 - Karthick Mani

Class of 2024 - Sahadevan Vignesh

Class of 2025 - Dineshkumar Loganathan

**MS Students:**

Class of 2014 - 林承毅(台積電檢測工程師), 胡雅婷(友達製程設備工程師), 林星宏(台積電機構工程師-熱管理相關),

劉冠廷(核能所研發替代役-> MS from U. Florida).

Class of 2015 - 程林滢(台積電與鴻海研發替代役).

Class of 2016 - 蔡翔宇(台積電), 張簡琮淳(聯電研發替代役), 徐俊傑(中華汽車品保工程師->中油師級), 劉彥亨.

Class of 2017 - 吳祐安, 黃品宜, 許玟棠(緯創).

Class of 2018 - 謝侑哲(台積電), 呂宗益(台積電), Saurabh Hajari, Neha Ghayal, 呂昌鴻(台積電).

Class of 2019 - 郭泓毅, 吳允開, 吳建晉, 杜秉修, 李育元.

Class of 2020 - 陳逸維(台積電), 蔡肯佑(台積電研發), 陳韋廷(台積電研發替代役).

Class of 2021 - 王俊方, 王義傑(台積電研發替代役), 康君瑋(台積電研發替代役), 劉安倫(台積電), SatishKumar Subendran.

Class of 2022 - 陳少宇, 吳書衡, 吳秉樺, 施柏爾.

Class of 2023 - 莊穎, 高林子恩, 劉邦偉, 楊凱翔, 謝佳玲

Class of 2024 - 歐辰億, 許朝尉, 陳銘龍, 鄭家妍, 鄭至玓

**Recognition as a Principal Investigator (individual):**

- a. Outstanding Engineering Professor, Chinese Society of Mechanical Engineers at Kaohsiung Branch, Taiwan, 2020. (109 年度中國機械工程學會高雄分會優秀機械工程教授獎)
- b. Excellence in Research, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2020. (2020 國立成功大學機械系研究績優)
- c. Research Award of Kuo-Ting Li, National Cheng Kung University, Taiwan, 2019. (2019 國立成功大學李國鼎研究獎)
- d. Excellence in Research and Excellence in Tutoring, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2019. (2019 國立成功大學機械系研究績優與輔導績優)
- e. Ta-You Wu Memorial Award, Ministry of Science and Technology, 2018. (107 年度科技部吳大猷先生紀念獎)
- f. Excellence in Research, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2018. (2018 國立成功大學機械系研究績優)
- g. Excellence in Teaching, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2017. (2017 國立成功大學機械系教學績優)
- h. Excellence in Research, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2017. (2017 國立成功大學機械系研究績優)
- i. Outstanding Young Engineering Professor Award, Chinese Society of Mechanical Engineers, Taiwan, 2016. (民國 105 中國機械工程學會優秀青年工程教授獎)
- j. Outstanding Young Scholar Award, Ministry of Science and Technology, Taiwan, 2016. (民國 105 年行政院科技部優秀年輕學者獎勵, 三年期獎助)
- k. Rising Star Award, College of Engineering, National Cheng Kung University, Taiwan, 2016. (2016 國立成功大學工學院明日之星研究獎助)
- l. Excellence in Research, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2015. (2015 國立成功大學機械系研究績優教師)
- m. Award for Publications in High Impact Journals, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2015. (2015 國立成功大學機械系高影響期刊論文發表獎勵)
- n. 2014 JMBE (IF = 1.08, SCI) Excellent Annual Paper Award. (2014 JMBE 年度優良論文)

- o. Young Scholar Award, Taiwan Comprehensive University System, Taiwan, 2014. (2014 台灣綜合大學系統"年輕學者創新研究選拔" 佳作獎)
- p. High Ranking Paper Award, National Cheng Kung University, Taiwan, 2014. (2014 國立成功大學高排名期刊獎勵, 發表論文於該領域前 5-10%期刊)
- q. Outstanding Young Scholar Award, National Science Council, Taiwan, 2013. (民國 102 年行政院國家科學委員會優秀年輕學者獎勵, 三年期獎助)
- r. Excellence in Research, Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taiwan, 2013. (2013 國立台灣科技大學機械系研究績優)
- s. Excellence in Teaching, Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taiwan, 2013. (2013 國立台灣科技大學機械系教學績優)
- t. High Ranking Paper Award, National Taiwan University of Science and Technology, Taiwan, 2013. (2013 國立台灣科技大學高排名期刊獎勵, 發表論文於該領域前 15% 期刊, 2 次\*)
- u. Newly-Appointed NSC Research Fellow Award, National Science Council, Taiwan, 2012. (民國 101 年行政院國家科學委員會補助大專校院延攬特殊優秀人才獎勵, NSC 101-2811-E-011-601)

**Recognition as a Principal Investigator (with students):**

- a. CTCI Research Scholar for International Graduate Students, Taiwan, 2022. (指導博士生 Vignesh Sahadevan 獲得財團法人中技社境外生研究獎學金)
- b. 2021 Best PhD Dissertation Award, Lam Research. (指導博士生 Bivas Panigrahi 獲得柯林博士論文獎)
- c. Excellent Oral Paper Award, 23<sup>rd</sup> Nano Engineering and Microsystem Technology Conference, Taiwan, 2020. (指導碩士生 SatishKumar 與康君瑋獲得第 23 屆微奈米系統工程研討會傑出口頭報告獎)
- d. Honorary Award for Poster, 22<sup>nd</sup> Nano Engineering and Microsystem Technology Conference, Taiwan, 2019. (指導博士生 Bivas Panigrahi 獲得第 22 屆微奈米系統工程研討會海報佳作)
- e. 2019 Outstanding Award, Student thesis competition, Chinese Institutes of Engineers. (指導碩士生吳允開獲得 108 中國工程師學會學生分會工程論文競賽佳作)

f. 2019 Best Master Thesis Award, Lam Research. (指導碩士生呂昌鴻獲得柯林碩士論文獎)

g. Nominations for Best Conference Paper Award and Best Student Paper Award, IEEE NEMS 2019, Thailand. (指導博士生 Bivas Panigrahi 於 2019 IEEE 奈微米工程與分子系統最佳學生論文提名)

h. CTCI Foundation Scholarship for Oversea Graduate Students in Taiwan-Additional Application for Lift Grants, Taiwan, 2017. (指導學生 Bivas Panigrahi 獲得財團法人中技社境外生生活助學金)

i. The Outstanding Award, Microfabrication Competition, Taiwan, 2016. (指導學生蔡翔宇與徐俊傑於全國微細競賽獲佳作獎)

j. The Distinct Award, National Student Project Contest for Microfluidic Applications, Taiwan, 2015. (指導學生蔡翔宇, 吳祐安, 徐俊傑與陳兆陽於全國大專院校微流體應用學生專題實作競賽獲優等獎)

k. Best Podium Oral Presentation Award, 19<sup>th</sup> Nano Engineering and Microsystem Technology Conference, Taiwan, 2015. (指導碩士生徐俊傑 於第十九屆奈米工程暨微系統技術研討會獲得口頭報告特優獎)

l. The Outstanding Award, TSMC-NCKU Project Competition for Undergraduates, Taiwan, 2015. (指導大學生楊育璿獲得 2015 台積電四校聯合專題競賽佳作與專題最佳人氣獎)

m. The Second Prize in 2015 Best Undergraduate Paper Competition, Chinese Institute of Engineers, Taiwan. (指導大學生楊育璿獲得 104 中國工程師學會大專論文競賽機械組第二名)

n. Nominations for Best Conference Paper Award and Best Student Paper Award, IEEE NEMS 2015, China. (指導碩士生張簡琮淳, Karthick Mani 於 2015 IEEE 奈微米工程與分子系統最佳會議論文與最佳學生論文提名, only 10 finalists were selected)

o. Outstanding Poster Entry for Gallery Of Fluid Motion, 2013 20th National Computational Fluid Dynamics Conference, Taiwan. (指導碩士生胡雅婷, 林承毅於第二十屆全國計算流體力學研討會流體之力與美海報展示獲獎, 參展 17 件取入選獎 4 件)

p. Student Paper Competition Finalist, 2013 20th National Computational Fluid Dynamics Conference, Taiwan. (指導碩士生胡雅婷第二十屆全國計算流體力學研討會最佳論文競賽獲最後五人決選入選獎, 參展 30 件取入選獎 5 件)

q. The Best Poster Award, 2012 MRS-T Annual Meeting, Taiwan. (指導碩士生胡雅婷, 林承毅於 2012 材料年會海報論文獲優等獎, 參展 48 件取優等獎 1 件)

### Patent:

1. Chia-Yuan Chen, Karthick Mani, Pin-Yi Huang, Zong-Yu Lu, "Micro-channel imaging system for living organism," US Patent 2020 granted: US 10,786,341,B2.
2. 陳嘉元, 馬念恆, 黃品宜, 呂宗益, "用於活體動物的影像系統," 中華民國專利 I670037, 2019年9月1日至2037年10月24日。
3. 陳嘉元, 馬念恆, 杜秉修 "透光模型的血管製作方法," 中華民國專利 I709115, 2020年11月1日至2039年9月26日。
4. Chia-Yuan Chen, Karthick Mani, Bing-Shou Du, "Method of fabricating light-transmitting blood vessel mode," US Patent 2020, pending.
5. 陳嘉元, 王俊方 "微型機器人及製備方法," 中華民國專利 111105501, 2022年2月15日, 審查中。
6. Chia-Yuan Chen and Chun-Fang Wang, "Microrobot and manufacturing method thereof," US Patent 2022, pending.

### Selected Publications:

1	<b>Chen, C.-Y.</b> *, Chen, C.-Y., Lin, C.-Y., and Hu, Y.-T., 2013, "Magnetically actuated artificial cilia for optimum mixing performance in microfluidics," <i>Lab on a Chip</i> , Vol. 13, pp. 2834-2839 (SCI, 5-year-IF = 6.14, 6/75, 8.00%, Biochemical Research Methods).	6/75 (journal ranking)
2	<b>Chen, C.-Y.</b> *, Lin, C.-Y., and Hu, Y.-T., 2014, "Inducing 3D vortical flow patterns with 2D asymmetric actuation of artificial cilia for high-performance active micromixing," <i>Experiments in Fluids</i> , Vol. 55, pp. 1765 (SCI, 5-year-IF = 2.22, 24/126, 19.0%, Engineering, Mechanical).	24/126
3	<b>Chen, C.-Y.</b> *, Lin, C.-Y., Hu, Y.-T., Cheng, L.-Y., and Hsu, C.-C., 2015, "Efficient micromixing through artificial cilia actuation with fish-schooling configuration," <i>Chemical Engineering Journal</i> , Vol. 259, pp. 391-396 (SCI, 5-year-IF = 4.18, 8/133, 6.02%, Engineering, Chemical), <b>selected as Journal Cover.</b>	8/133
4	<b>Chen, C.-Y.</b> *, Cheng, L.-Y., Hsu, C.-C., and Mani, K., 2015, "Microscale flow propulsion through bioinspired and magnetically actuated artificial	3/31

	cilia," <i>Biomicrofluidics</i> , Vol. 9, pp. 034105 (SCI, 5-year-IF = 3.46, 3/31, 9,67%, Physics, Fluids & Plasmas).	
5	<b>Chen, C.-Y.*</b> , Chang Chien, T.-C., Mani, K., and Tsai, H.-Y., 2016, "Axial orientation control of zebrafish larvae using artificial cilia," <i>Microfluidics and Nanofluidics</i> , Vol. 20, pp. 1-9 (SCI, 5-year-IF = 2.76, 7/56, 12.5%, Instrument & Instrumentation).	7/56
6	Mani, K., Chang Chien, T.-C., Panigrahi, B., and <b>Chen, C.-Y.*</b> , 2016, "Manipulation of zebrafish's orientation using artificial cilia in a microchannel with actively adaptive wall design," <i>Scientific Reports</i> , (SCI, 5-year-IF = 5.53, 7/63, 11.1%, Multidisciplinary Sciences).	7/63
7	Huang, P.-Y., Panigrahi, B., Lu, C.-H., Huang, P.-F., and <b>Chen, C.-Y.*</b> , 2017, "An artificial cilia-based micromixer towards the activation of zebrafish sperm," <i>Sensors and Actuators B: Chemical</i> , Vol. 244, pp. 541-548 (SCI, 5-year-IF = 4.58, 2/56, 3.57%, Instruments & Instrumentation).	2/56
8	Mani, K., Hsu, Y.-C., Panigrahi, B., and <b>Chen, C.-Y.*</b> , 2018, "A noninvasive light driven technique integrated for zebrafish larvae transportation," <i>Biomicrofluidics</i> , (SCI, 5-year-IF = 3.11, 8/31, 25.8%, Physics, Fluids & Plasmas), Vol. 12, pp. 021101, <b>selected as an Editor's Pick.</b>	8/31
9	Panigrahi, B. and <b>Chen, C.-Y.*</b> , 2019, "Microfluidic retention of progressively motile zebrafish sperms," <i>Lab on a Chip</i> , accepted (SCI, 5-year-IF = 6.58, 5/84, Chemistry, Analytical), Vol. 19, pp. 4033-4042, <b>selected as Journal Back Cover.</b>	5/84
10	Wang, Y.-F., Chen, I.-W., Subendran, S., Wang, C.-W., Fu, T.-F.* , and <b>Chen, C.-Y.*</b> , 2020, "Edible additive effects on zebrafish cardiovascular functionality with hydrodynamic assessment," <i>Scientific Reports</i> , accepted (SCI, IF = 3.99, 17/71, 24%, Multidisciplinary Sciences).	17/71
11	Panigrahi Bivas, Vignesh, Sahadevan, and <b>Chen, C.-Y.*</b> , 2021, "Shape programmable artificial cilia for microfluidics," <i>iScience</i> , accepted (SCI, IF = 5.46, 14/73, 19%, Multidisciplinary Sciences).	14/73
12	Loganathan, D., Hsieh, C.-L., Shi, B.-E., Lu, Y.-H., and <b>Chen, C.-Y.*</b> , 2022, "An On-demand Microrobot with Building Block Design for Flow Manipulation," <i>Advanced Materials Technologies</i> , accepted (SCI, IF = 8.86, 62/345, 18%, Materials Science, Multidisciplinary).	62/345



13	Loganathan, D., Wu, Shu-Heng, and <b>Chen, C.-Y.*</b> , 2022, “Behaviour responses of zebrafish with sound stimuli in microfluidics,” <i>Lab on a Chip</i> , accepted (SCI, IF = 7.517, 6/79, 7.59%, Biochemical Research Methods).	6/79
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### **Book Chapters:**

Goktas, S., **Chen, C.-Y.**, Kowalski, W. J., and Pekkan, K., in *Methods in Molecular Biology Tissue Morphogenesis*. Hemodynamic Flow Visualization of Early Embryonic Great Vessels using  $\mu$ PIV, (Ed: Nelson, C. M.), Springer, 2015.

### **2022**

1. Loganathan, D., Wu, Shu-Heng, and **Chen, C.-Y.\***, 2022, “Behaviour responses of zebrafish with sound stimuli in microfluidics,” *Lab on a Chip*, accepted (SCI, IF = 7.517, 6/79, 7.59%, Biochemical Research Methods).
2. Loganathan, D., Hsieh, C.-L., Shi, B.-E., Lu, Y.-H., and **Chen, C.-Y.\***, 2022, “An On-demand Microrobot with Building Block Design for Flow Manipulation,” *Advanced Materials Technologies*, accepted (SCI, IF = 8.86, 62/345, 18%, Materials Science, Multidisciplinary).
3. Vignesh, S., Panigrahi, B., and **Chen, C.-Y.\***, 2022, “Microfluidic applications of artificial cilia: recent progress, demonstration, and future perspectives,” *Micromachines*, accepted (SCI, IF = 2.89, 23/64, 36%, Instrument & Instrumentation).
4. Subendran, S., Wang, C.-W., Loganathan, D., Lu, Y.-H., and **Chen, C.-Y.\***, 2022, “An aquatic microrobot for microscale flow manipulation,” *Scientific Reports*, accepted (SCI, IF = 4.38, 17/72, 24%, Multidisciplinary Sciences).

### **2021**

5. Panigrahi, B., Vignesh, S., and **Chen, C.-Y.\***, 2021, “Shape programmable artificial cilia for microfluidics,” *iScience*, accepted (SCI, IF = 5.46, 14/73, 19%, Multidisciplinary Sciences).
6. Subendran, S., Wang, C.-W., Lu, Y.-H., and **Chen, C.-Y.\***, 2021, “The evaluation of zebrafish cardiovascular functions through microfluidics,” *Scientific Reports*, accepted (SCI, IF = 3.99, 17/71, 24%, Multidisciplinary Sciences).
7. Karthick, M. and **Chen, C.-Y.\***, 2021, “A non-invasive acoustic-trapping of zebrafish microfluidics,” *Biomicrofluidics*, Vol. 15, pp. 0014109 (SCI, 5-year-IF = 2.73, 11/34, 32.4%, Physics, Fluids & Plasmas).
8. Karthick, M. and **Chen, C.-Y.\***, 2021, “A smart microfluidic based fish farm for zebrafish screening,” *Microfluidics and Nanofluidics*, accepted (SCI, 5-year-IF = 2.86, 19/37, 38%, Instruments and Instrumentations).
9. Subendran, S., Wang, C.-W., and **Chen, C.-Y.\***, 2021, “Comprehensively hydrodynamic investigation of zebrafish tail beats in a microfluidic device with shape memory

alloy,” *Micromachines*, accepted (SCI, 5-year-IF = 2.55, 24/64, 37%, Instruments & Instrumentation).

## 2020

10. Wang, Y.-F., Chen, I.-W., Subendran, S., Wang, C.-W., Fu, T.-F. \*, and **Chen, C.-Y.** \*, 2020, “Edible additive effects on zebrafish cardiovascular functionality with hydrodynamic assessment,” *Scientific Reports*, accepted (SCI, IF = 3.99, 17/71, 24%, Multidisciplinary Sciences).

11. Tang, C.-H., Panigrahi, B., Chen, W.-T., Chen, C.-Y. \*, and **Chen, C.-Y.** \*, 2020, “Hydrodynamic benefits of artificial cilia distribution towards photodegradation processes,” *Sensors and Actuators A-Physical*, Vol. 313, pp. 112184 (SCI, IF = 2.74, 19/61, 31%, Instruments and Instrumentation).

12. Mani, K., Lin, W.-C., Wang, C.-F., Panigrahi, B., Wu, Y.-J., Wu, C.-L., and **Chen, C.-Y.** \*, 2020, “A multi-inlet microfluidic nuzzle head with shape memory alloy-based switching for biomaterial printing with precise flow control,” *Biochip Journal*, Vol. 14, pp. 340-348 (SCI, IF = 1.95, 50/84, 59%, Chemistry, Analytical).

13. Lai, Y.-C., **Chen, C.-Y.**, Hung, Y.-T., and Chen, C.-Y. \*, 2020, “Extending absorption edge through the hybrid resonator-based absorber with wideband and near-perfect absorption in visible region,” *Materials*, Vol. 13, pp. 1470 (SCI, 5-year-IF = 3.53, 102/293, 34%, Materials Science, Multidisciplinary).

## 2019

14. Panigrahi, B. and **Chen, C.-Y.** \*, 2019, “Microfluidic manipulation of larval zebrafish through combination of hydromechanical and optomotor regulations,” *Micromachines*, accepted (SCI, 5-year-IF = 2.48, 25/61, 41%, Instruments & Instrumentation).

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