

Chia-Yuan Chen, Ph.D.

Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu 300, Taiwan,

Year of Birth: 1981.

Contact information: dobb63@gmail.com; chiayuan@mx.nthu.edu.tw; chiayuac@mail.ncku.edu.tw

Professional Objective: Developing the state-of-the-art micro/nano bio-robotics for biofluid dynamic assessment aiming to improve the efficiency of biomedical devices and explore new medical treatments for cardiovascular diseases

Professional Career:

Full Professor, Department of Power Mechanical Engineering, National Tsing Hua University, Taiwan (August, 2026 – to date)

Full Professor, Department of Mechanical Engineering, National Cheng Kung University, Taiwan (August, 2019 – July, 2026)

Associate Professor, Department of Mechanical Engineering, National Cheng Kung University, Taiwan (February, 2016 – July, 2019)

Assistant Professor, Department of Mechanical Engineering, National Cheng Kung University, Taiwan (February, 2014 - January, 2016); Assistant Professor, Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taiwan (August, 2012 - January, 2014).

Professional Preparation:

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

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

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

Honors and Awards highlight (as a Principal Investigator):

a. Excellence in Academic Innovation Award by Taiwan International Invention Award Winner's Association (Nov. 2025).

b. Fellow, the Royal Society of Chemistry (Feb. 2022)

c. Excellence in Research, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2015, 2017, 2018, 2019, 2020.

d. Excellence in Tutoring, Department of Mechanical Engineering, National Cheng Kung University, 2019.

e. Kuo-Ting Li Research Award, National Cheng Kung University, 2019. **(The national level recognition in research)**

f. Ta-You Wu Memorial Award, Ministry of Science and Technology, 2018. **(The national level recognition in research)**

g. Excellence in Teaching, Department of Mechanical Engineering, National Cheng Kung University, Taiwan, 2017.

h. Outstanding Young Engineering Professor Award, Chinese Society of Mechanical Engineers, Taiwan, 2016.

Chia-Yuan Chen

- i. Outstanding Young Scholar Award, Ministry of Science and Technology, Taiwan, 2016.
- j. Rising Star Award, College of Engineering, National Cheng Kung University, Taiwan, 2016.
- k. 2014 JMBE (IF = 1.08, SCI) Excellent Annual Paper Award.
- l. Young Scholar Award, Taiwan Comprehensive University System, Taiwan, 2014.
- m. Newly-Appointed NSC Research Fellow Award, National Science Council, Taiwan, 2012.

Editorial Work:

- 1. International Reviewer of Funding Proposals, FNRS (The National Fund for Scientific Research), Belgium, 2022-2025.
- 2. International Reviewer of Funding Proposals, Open Competition Domain Science-M, Dutch Research Council (NWO), Netherlands, 2023.
- 3. Reviewer certificate: American Chemical Society (ACS), 2023
- 4. Section Board Member, *Biosensors* (IF = 5.52), 2020-2026
- 5. Invited Book Editor, AIP Publishing (American Institute of Physics), 2021-2022
- 6. Invited Guest Editor, *JOVE* Methods Collection (IF = 1.16), 2021
- 7. Reviewer Board, *Micromachines* (IF = 2.52), 2020-2026

Selected Publications:

Chen, C.-Y. *, 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)
Chen, C.-Y. *, 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
Chen, C.-Y. *, 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), <u>selected as Journal Cover</u> .	8/133
Chen, C.-Y. *, 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).	
Huang, P.-Y., Panigrahi, B., Lu, C.-H., Huang, P.-F., and <u>Chen, C.-Y.*</u> , 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
Mani, K., Hsu, Y.-C., Panigrahi, B., and <u>Chen, C.-Y.*</u> , 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, <u>selected as an Editor's Pick</u> .	8/31
Panigrahi, B. and <u>Chen, C.-Y.*</u> , 2019, "Microfluidic retention of progressively motile zebrafish sperms," <i>Lab on a Chip</i> , Vol. 19, pp. 4033-4042 (SCI, 5-year-IF = 6.58, 5/84, Chemistry, Analytical), <u>selected as Journal Back Cover</u> .	5/84
Loganathan, D., Hsieh, C.-L., Shi, B.-E., Lu, Y.-H., and <u>Chen, C.-Y.*</u> , 2022, "An On-demand Microrobot with Building Block Design for Flow Manipulation," <i>Advanced Materials Technologies</i> , Vol. 8, pp. 2207013 (SCI, IF = 8.86, 62/345, 18%, Materials Science, Multidisciplinary), <u>selected as Journal Inside Back Cover</u> .	62/345
Loganathan, D., Wu, Shu-Heng, and <u>Chen, C.-Y.*</u> , 2023, "Behaviour responses of zebrafish with sound stimuli in microfluidics," <i>Lab on a Chip</i> , Vol. 23, pp. 106-114 (SCI, IF = 7.517, 6/79, 7.59%, Biochemical Research Methods), <u>selected as Journal Outside Back Cover</u> .	6/79
Loganathan, D., Chaung, Y., Lu, Y.-H., Cheng, C.-H., and <u>Chen, C.-Y.*</u> , 2024, "An untethered magnetic microgripper for high-throughput micromanipulation," <i>Advanced Materials Technologies</i> , Vol. 9, pp. 2400292 (SCI, IF = 6.80, 82/344, 23.8%, Materials Science, Multidisciplinary), <u>selected as Journal Outside Back Cover</u> .	82/344
Loganathan, D., Hsieh, C.-L., Ou, C.-Y., and <u>Chen, C.-Y.*</u> , 2024, "A stepwise control of multiple magnetic millirobots for flow manipulation applications," <i>Advanced Intelligent Systems</i> , accepted (SCI, IF = 7.40, 9/65, 13.84%, Automation & Control Systems), <u>selected as Journal Back Cover</u> .	9/65
Loganathan, D., Ou, C.-Y., Hsu, C.-W., and <u>Chen, C.-Y.*</u> , 2024, "A control strategy	100/438

of multiple microrobots using a hybrid electromagnetic system,” <i>Advanced Materials Technologies</i> , (SCI, IF = 6.40, 100/438, 22.8%, Materials Science, Multidisciplinary), <u>selected as Journal Inside Back Cover.</u>	
Loganathan, D. [†] , Cheng, C.-H. [†] , Wei, P.-W., and <u>Chen, C.-Y.*</u> , 2025, “In-liquid micromanipulation via a magnetic microactuator for multitasking,” <i>Small Science</i> (SCI, IF = 11.2, 43/439, 9.79%, Materials Science, Multidisciplinary), <u>selected as Journal Inside Back Cover.</u>	43/439

Peer Reviewed Publications:

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 μ PIV*, (Ed: Nelson, C. M.), Springer, 2015.

2026

1. Loganathan, D. and **Chen, C.-Y.***, 2026, "An Intelligent Microfluidics Enabled by Data-Driven Deep Learning-Based Microrobot-Assisted Flow Manipulation," *Advanced Intelligent Systems*, accepted (SCI, IF=6.7, 15/88, 17.04%, Automation & Control Systems).
2. Loganathan, D. and **Chen, C.-Y.***, 2026, "Reconfigurable Cilia-Based Magnetic Millirobots for Cooperative Particle Manipulation Through Programmable Assembly in Microfluidics," *Micromachines*, accepted (SCI, IF=3.5, 30/81, 37.03%, Instruments and Instrumentation).
3. Liao, P.-C., Huang, C.-Y., Weng, W.-Z., Chang, K.-S., **Chen, C.-Y.***, and Chen, C.-Y.*, 2026, "High-gain 1.4 THz square cross metasurface based patch antenna integrated with graphene sheet,” *Physica Scripta*, accepted (SCI, IF=2.6, 41/112, 36.6%, Physics, Multidisciplinary).
4. Loganathan. D., Wang, P.-H., Lu, Y.-H., and **Chen, C.-Y.***, 2026, "Programmable Microfluidics for Zebrafish Larvae Manipulation Using Multiple Magnetic Microrobots", *Sensors and Actuators Reports*, accepted (SCI, IF=6.9, 6/81, 7.4%, Instruments and Instrumentation)
5. Sharma, P., Lu, T.-Y., and **Chen, C.-Y.***, 2026, "Modular Reconfiguration and Actuation of Mirorobotic Assemblies," *iScience*, accepted (SCI, IF=4.5, 24/140, 17.14%, Multidisciplinary Sciences).
6. Sharma, P., Yang, W.-K., and **Chen, C.-Y.***, 2026, “Integrated Lumped Parameter Modeling of Cardiac–Vascular Interaction with Valve Dynamics and Ventricular Pressure–Volume,” *Frontiers in*

Bioengineering and Biotechnology, accepted (SCI, IF = 4.80, 31/177, 17.5%, Biotechnology & Applied Microbiology).

7. Sharma, P., Tung, Y.-C., and **Chen, C.-Y.***, 2026, “A Lumped-Parameter Cardiovascular Model for Investigating Hemodynamic Alterations During Atrial Fibrillation,” *Bioengineering*, accepted (SCI, IF = 3.70, 51/124, 41.1%, Engineering, Biomedical).

2025

8. Sharma, P., Lin, T.-Y., and **Chen, C.-Y.***, 2025, “Microfluidic Mixing with the Dynamic Control of Magnetic Actuation,” *Advanced Intelligent Systems*, accepted (SCI, IF = 6.10, 16/89, 17.98%, Automation & Control Systems), **selected as Journal Inside Back Cover.**

9. Sharma, P. and **Chen, C.-Y.***, 2025, “AI-Integrated Micro/Nanorobots for Biomedical Applications: Recent advances in Design, Fabrication, and Functions,” *Biosensors*, accepted (SCI, IF = 5.60, 9/79, 11.39%, Instruments and Instrumentations).

10. Loganathan, D., He, D.-M, Chen, K.-W., and **Chen, C.-Y.***, 2025, “Untethered Magnetic Microswimmers for Targeted Particle Transport and Flow Manipulation,” *Advanced Materials Technologies*, accepted (SCI, IF = 6.20, 122/460, 26.52%, Materials Science, Multidisciplinary), **selected as Journal Cover.**

11. Loganathan, D., Ou Yang, T., Chen, C.-Y. *, and **Chen, C.-Y.***, 2025, “Magnetic Cilia with Programmable Beating Patterns for Vortex-Driven Mixing in Microfluidics,” *Langmuir*, accepted (SCI, IF = 3.90, 88/239, 36.82%, Chemistry, Multidisciplinary), **selected as Supplementary Journal Cover.**

12. Sharma, P., Wei, P.-W., Loganathan, D., Lu, Y.-H., and **Chen, C.-Y.***, 2025, “Microflow Switching Using Artificial Cilia for On-Demand Particle Manipulation,” *Advanced Intelligent Systems*, accepted (SCI, IF = 6.10, 16/89, 17.98%, Automation & Control Systems), **selected as Journal Inside front Cover.**

13. Sharma, P., Loganathan, D.[†], Chen, M.-L., Lu, Y.-H., and **Chen, C.-Y.,***, 2025, “Cognitive Dynamics of Drug-Mediated Zebrafish under Sound Stimuli in a Microfluidic Environment,” *Biomicrofluidics* (SCI, IF = 2.60, 38/477, 49%, Biophysics), **selected as Featured Article, and highlighted with Scilight.**

14. Loganathan, D. , Cheng, C.-H., Wei, P.-W., and **Chen, C.-Y.***, 2025, “In-liquid micromanipulation via a magnetic microactuator for multitasking,” *Small Science* (SCI, IF = 11.2, 43/439, 9.79%, Materials Science, Multidisciplinary), **selected as Journal Inside Back Cover.**

2024

15. Loganathan, D., Kao, L.-T.,-E, Cheng, C.-H., and **Chen, C.-Y.***, 2024, “Hemodynamic analysis of mean arterial pressure on cerebral arteries for embolic ischemic stroke using a lumped parameter model,” *IEEE Access* (SCI, IF = 3.40, 122/353, 40%, Engineering, Electrical & Electronic).

16. Yang, K-H., Loganathan, D., Chen, M.-L., Sahadevan, V., Chen, C.-Y. *, and **Chen, C.-Y. ***, 2024, “Enhancement of zebrafish sperm activation through microfluidic mixing induced by aquatic microrobots,” *Microfluidics and Nanofluidics* (SCI, IF = 2.30, 16/40, 40%, Physics, Fluids & Plasmas).
17. Loganathan, D., Ou, C.-Y., Hsu, C.-W., and **Chen, C.-Y. ***, 2024, “A control strategy of multiple microrobots using a hybrid electromagnetic system,” *Advanced Materials Technologies*, (SCI, IF = 6.40, 100/438, 22.8%, Materials Science, Multidisciplinary), **selected as Journal Inside Back Cover.**
18. Loganathan, D., Hsieh, C.-L., Ou, C.-Y., and **Chen, C.-Y. ***, 2024, “A stepwise control of multiple magnetic millirobots for flow manipulation applications,” *Advanced Intelligent Systems*, accepted (SCI, IF = 7.40, 9/65, 13.84%, Automation & Control Systems), **selected as Journal Back Cover.**
19. Loganathan, D., Chaung, Y., Lu, Y.-H., Cheng, C.-H., and **Chen, C.-Y. ***, 2024, “An untethered magnetic microgripper for high-throughput micromanipulation,” *Advanced Materials Technologies*, Vol. 9, pp. 2400292 (SCI, IF = 6.80, 82/344, 23.8%, Materials Science, Multidisciplinary), **selected as Journal Outside Back Cover.**

2023

20. Vignesh, S., Loganathan, D., Chuang, Y., Lo, C.-F., Chen, C.-Y., and **Chen, C.-Y. ***, 2023, “Synergetic benefits of Microfluidics using Artificial Cilia and ZnO/SnFe₂O₄ for the degradation of pollutants,” *Materials Chemistry and Physics* (SCI, IF = 4.78, 117/414, 28.3%, Material Science, Multidisciplinary)
21. Loganathan, D., Wu, Shu-Heng, and **Chen, C.-Y. ***, 2023, “Behaviour responses of zebrafish with sound stimuli in microfluidics,” *Lab on a Chip*, Vol. 23, pp. 106-114 (SCI, IF = 7.517, 6/79, 7.59%, Biochemical Research Methods), **selected as Journal Outside Back Cover.**

2022

22. 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*, Vol. 8, pp. 2207013 (SCI, IF = 8.86, 62/345, 18%, Materials Science, Multidisciplinary), **selected as Journal Inside Back Cover.**
23. 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), **selected as Featured Paper, and Editor’s Choice.**
24. 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

25. 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).

26. 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).
27. 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).
28. 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).
29. 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

30. 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).
31. 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).
32. 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).
33. 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

34. Panigrahi, B. and **Chen, C.-Y.**^{*}, 2019, “Microfluidic Transportation Control of Larval Zebrafish through Optomotor Regulations under a Pressure-Driven Flow,” *Micromachines*, accepted (SCI, 5-year-IF = 2.48, 25/61, 41%, Instruments & Instrumentation).
35. Panigrahi, B. and **Chen, C.-Y.**^{*}, 2019, “Microfluidic retention of progressively motile zebrafish sperms,” *Lab on a Chip*, Vol. 19, pp. 4033-4042 (SCI, 5-year-IF = 6.58, 5/84, Chemistry, Analytical), **selected as Journal Back Cover.**

36. Danis, U., Rasooli, R., **Chen, C.-Y.**, Dur, O., Sitti, M., and Pekkan, K. *, 2019, "Thrust and hydrodynamic efficiency of the bundled flagella," *Micromachines*, Vol. 10, pp. 449 (SCI, 5-year-IF = 2.24, 22/61, Instruments and Instrumentation).
37. Lu, C.-H., Tang, C.-H., Ghayal, N., Panigrahi, B., and **Chen, C.-Y.** *, Chen, C.-Y. *, 2019, "On the improvement of visible-responsive photodegradation through artificial cilia," *Sensors and Actuators A-Physical*, Vol. 285, pp. 234-240 (SCI, 5-year-IF = 2.54, 19/61, Instruments and Instrumentation).

2018

38. Lu, Y.-H., Mani, K., Hsu, W.-T., Hajari, S., Panigrahi, B., and **Chen, C.-Y.** *, 2018, "A shape memory alloy-based miniaturized actuator for catheter interventions," *Cardiovascular Engineering and Technology*, Vol. 9., pp. 405-413 (SCI, 5-year-IF = 1.06, 58/77, Engineering, Biomedical).
39. Bordones, A., Lerous, M., Kheyfets, V., Wu, Y.-A., **Chen, C.-Y.**, and Finol, E. *, 2018, "Computational fluid dynamics modeling of the human pulmonary arteries with experimental validation," *Annals of Biomedical Engineering*, Vol.46, pp. 1309-1324 (SCI, 5-year-IF = 3.42, 18/77, Engineering, Biomedical).
40. Mani, K., Hsieh, Y.-C., Panigrahi, B., and **Chen, C.-Y.** *, 2018, "A noninvasive light driven technique integrated for zebrafish larvae transportation," *Biomicrofluidics*, Vol. 12, pp. 021101 (SCI, 5-year-IF = 3.11, 8/31, 25.8%, Physics, Fluids & Plasmas), **selected as an Editor's Pick.**
41. Panigrahi, B., Lu, C.-H., Ghayal, N., and **Chen, C.-Y.** *, 2018, "Sperm activation through orbital and self-axis revolutions using artificial cilia embedded serpentine-microfluidic platform," *Scientific Reports*, (SCI, 5-year-IF = 4.85, 10/64, 15.6%, Multidisciplinary Sciences), accepted.
42. **Chen, C.-Y.** *, Panigrahi, B., Chong, K.-S., Li, W.-H., Liu, Y.-L., and Lu, T.-Y., 2018, "Hydrodynamic investigation of a wafer rinse process through numerical modeling and flow visualization methods," *Journal of Fluids Engineering-Transactions of the ASME*, Vol. 140, pp. 081106 (SCI, 5-year-IF = 1.65, 64/130, 49%, Engineering, Mechanical).

2017

43. Wu, Y.-A., Panigrahi, B., Lu, Y.-H., and **Chen, C.-Y.** *, 2017, "An integrated artificial cilia based microfluidic device for micropumping and micromixing applications," *Micromachines*, Vol. 8, pp. 260 (SCI, 5-year-IF = 1.92, 23/58, 40%, Instruments & Instrumentation).
44. Wu, Y.-A., Panigrahi, B., and **Chen, C.-Y.** *, 2017, "Hydrodynamically efficient micropropulsion through a new artificial cilia beating concept," *Microsystem Technologies*, Vol. 23., pp. 5893-5902 (SCI, 5-year-IF = 0.889, 158/257, 61%, Engineering, Electrical & Electronic).
45. Huang, P.-Y., Panigrahi, B., Lu, C.-H., Huang, P.-F., and **Chen, C.-Y.** *, 2017, "An artificial cilia-based micromixer towards the activation of zebrafish sperm," *Sensors and Actuators B: Chemical*, Vol. 244, pp. 541-548 (SCI, 5-year-IF = 4.58, 2/56, 3.57%, Instruments & Instrumentation).

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46. Chen, J.-M., **Chen, C.-Y.**, Wong, C. P., and Chen, C.-Y. *, 2017, "Inherent formation of porous p-type Si nanowires using palladium-assisted chemical etching," *Applied Surface Science*, Vol. 392, pp. 498-502 (SCI, 5-year-IF = 2.98, 1/18, 5.56%, Material Science, Coating & Films).

2016

47. Mani, K., Chang Chien, T.-C., Panigrahi, B., and **Chen, C.-Y.** *, 2016, "Manipulation of zebrafish's orientation using artificial cilia in a microchannel with actively adaptive wall design," *Scientific Reports* (SCI, 5-year-IF = 5.53, 7/63, 11.1%, Multidisciplinary Sciences).

48. Lu, Y.-H., Mani, K., Panigrahi, B., Hsu, W.-T., and **Chen, C.-Y.** *, 2016, "Endoleak assessment using computational fluid dynamics and image processing methods in stented abdominal aortic aneurysm models," *Computational and Mathematical Methods in Medicine*, invited for a special issue of "Computational and Mathematical Methods in Cardiovascular Diseases" (SCI, 5-year-IF = 0.96, 42/56, 75.0%, Mathematical & Computational Biology).

49. Pekkan, K. *, Chang, B., Usla, F., Mani, K., **Chen, C.-Y.**, and Holzman, R., 2016, "Characterization of zebrafish larvae suction feeding flow using microPIV and optical coherence tomography," *Experiments in Fluids*, Vol. 75, pp. 112 (SCI, 5-year-IF = 1.87, 30/130, 23.1%, Engineering, Mechanical).

50. **Chen, C.-Y.** *, Chang Chien, T.-C., Mani, K., and Tsai, H.-Y., 2016, "Axial orientation control of zebrafish larvae using artificial cilia," *Microfluidics and Nanofluidics*, Vol. 20, pp. 1-9 (SCI, 5-year-IF = 2.76, 7/56, 12.5%, Instrument & Instrumentation).

51. **Chen, C.-Y.** *, Hsu, C.-C., Mani, K., and Panigrahi, B., 2016, "Hydrodynamic influences of artificial cilia beating behaviors on micromixing," *Chemical Engineering and Processing: Process Intensification*, Vol. 99, pp. 33-40 (SCI, 5-year-IF = 2.34, 48/135, 35%, Engineering, Chemical).

52. Chen, C.-Y. *, **Chen, C.-Y.**, Hsiao, P.-H., Hsu, C.-C., Mani, K., 2016, "Efficient metamaterial-based plasmonic sensors for micromixing evaluation," *Journal of Physics D: Applied Physics*, Vol. 49, pp. 035501 (SCI, 5-year-IF = 2.71, 27/144, 18.8%, Physics, Applied).

2015

53. Chung, C. *, Chen, Y.-J., Chen, P.-C, and **Chen, C.-Y.**, 2015, "Fabrication of PDMS passive micromixer by low-wax casting," *International Journal of Precision Engineering and Manufacturing*, Vol. 16, pp. 2033-2039 (SCI, 5-year-IF = 1.37, 33/128, 26%, Engineering, Mechanical).

54. **Chen, C.-Y.** *, Cheng, L.-Y., Hsu, C.-C., and Mani, K., 2015, "Microscale flow propulsion through bioinspired and magnetically actuated artificial cilia," *Biomicrofluidics*, Vol. 9, pp. 034105 (SCI, 5-year-IF = 3.46, 3/31, 9.67%, Physics, Fluids & Plasmas), NSC 103-2221-E-006-269.

55. **Chen, C.-Y.** *, Lin, C.-Y., Hu, Y.-T., Cheng, L.-Y., and Hsu, C.-C., 2015, "Efficient micromixing through artificial cilia actuation with fish-schooling configuration," *Chemical Engineering Journal*, Vol. 259, pp. 391-396
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(SCI, 5-year-IF = 4.18, 8/133, 6.02%, Engineering, Chemical), NSC 103-2221-E-006-269. ***(Selected as Journal Cover)*** *(The article has been viewed or downloaded 495 times since publication, Elsevier article usage alert)*

56. Antón, R. *, **Chen, C.-Y.**, Hung, M.-Y., Finol, E. A., and Pekkan, K., 2015, "Experimental and computational investigation of the patient-specific abdominal aortic aneurysm pressure field," *Computer Methods in Biomechanics and Biomedical Engineering*, Vol. 18, pp. 981-992 (SCI, 5-year-IF = 1.64, 48/100, 48.0%, Computer Science, Interdisciplinary Applications).

2014

57. **Chen, C.-Y.** *, Yao, C.-Y., Lin, C.-Y., and Wang, C.-W., 2014, "Real-time remote control of artificial cilia actuation using fingertip drawing for efficient micromixing," *JALA-Journal of Laboratory Automation*, Vol. 19, pp. 492-497 (SCI, IF = 1.50, 45/76, 59.2%, Chemistry, Analytical), NSC 102-2221-E-006-297-MY3.

58. **Chen, C.-Y.** *, 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," *Experiments in Fluids*, Vol. 55, pp. 1765 (SCI, 5-year-IF = 2.22, 24/126, 19.0%, Engineering, Mechanical), NSC 102-2221-E-006-297-MY3.

59. **Chen, C.-Y.** and Cheng, C.-M. *, 2014, "Microfluidics expands the zebrafish potentials in pharmaceutically relevant screening," *Advanced Healthcare Materials*, Vol. 3, pp. 940-945 (SCI, IF = 4.88, 5/32, 15.6%, Material Science, Biomaterials), NSC 102-2221-E-006-297-MY3.

60. **Chen, C.-Y.**, Antón, R., Hung, M.-Y., Menon, P. G., Patrick, M. J., Finol, E. A., and Pekkan, K. *, 2014, "Effects of intraluminal thrombus on patient-specific abdominal aortic aneurysm hemodynamics via stereoscopic PIV and CFD modeling," *Journal of Biomechanical Engineering-Transactions of the ASME*, Vol. 136, pp. 031001 (SCI, 5-year-IF = 2.05, 43/79, 54.4%, Engineering, Biomedical), NSC 101-2218-E-011-041.

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