

## 論文著述：

### 五年內期刊論文：

1. Shih-Song Cheng, **Paul C.-P. Chao\***, “An Ultra-High 6318 PPI Pixel Circuit for Micro OLED Displays with Vth Compensated up to 10-bit Gray Levels,” Dec 2023, *IEEE Journal of Solid-State Circuits Letters*, accepted. (**SCI Journal**, Impact Factor = 6.126, Ranking = 57/708 (0.080), Instruments & Instrumentation).
2. Shih-Song Cheng, **Paul C.-P. Chao\***, “A High 6318-PPI Pixel Circuit That Realizes 10-bit Gray Levels for Analog-PWM Driven Micro-LED Displays,” Dec 2023, *IEEE Transactions on Electron Devices*, accepted. (SCI Journal, Impact Factor = 3.221, Ranking = 183/708 (0.258), Electrical and Electronic Engineering)
3. Shih-Song Cheng, **Paul C.-P. Chao\***, “A High 5292-PPI Pixel Circuit for Micro Displays with 10-bit Gray Levels Realized via the Technique of Analog Sub-Frame Integral,” Aug 2023, *IEEE Journal of the Electron Devices Society*, vol. 11, pp. 456-466. (**SCI Journal**, Impact Factor = 2.523, Ranking = 150/276 (0.543), Electrical and Electronic Engineering)
4. Shih-Song Cheng, **Paul C.-P. Chao\***, “A New SRAM-Embedded Pixel Circuit That Modulates Accurately Gray Level for PWM-Driven Micro-LED Displays,” June 2023, *IEEE Solid-State Circuits Letters*, vol. 6, pp. 157-160. (**SCI Journal**, Impact Factor = 2.7, Ranking = 14/72 (0.194), Instruments & Instrumentation).
5. Smriti Thakur, **Paul C.-P. Chao\*** and Cheng-Han Tsai, “Precision Heart Rate Estimation Using a PPG Sensor Patch Equipped with New Algorithms of Pre-Quality Checking and Hankel Decomposition,” July 2023, *Sensors*, vol. 23, Iss 13, pp. 6180. (**SCI Journal**, Impact Factor = 3.9, Ranking = 19/63 (0.301), Instruments & Instrumentation).
6. Jun-Lin Lin, Pao-Ying Zheng and **Paul C.-P. Chao\***, 2023, “A new ECC implemented by FPGA with favorable combined performance of speed and area for lightweight IoT edge devices,” *Microsystem Technologies*, Access 176, 2023. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
7. I-Feng Chang, Hao-Ren Chen and **Paul C.-P. Chao\***, 2023, “Design and Implementation for a High Efficiency Hardware Accelerator to Realize the Learning Machine for Predicting OLED Degradation,” *Microsystem Technologies*, vol. 29, pp. 1069–1081, January 2023. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
8. Yi-Chang Lee, Jen-Yi Hsu and **Paul C.-P. Chao\***, 2023, “Design and Implementation of Machine Learning Models to Classify and Mitigate Muras of a Micro-LED Display,” *Microsystem Technologies*, vol. 29, pp. 1083–1098 29, Apr 2023. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
9. Chun-Heng You, Shuen-Ming Tsai and **Paul C.-P. Chao\***, 2023, “A novel clock recovering circuit to thwart clock glitch attacks on ring-oscillator-based TRNGs in edge devices like sensors,” *Microsystem Technologies*, vol. 29, pp. 1137–1145, Apr 2023. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
10. Duc Huy Nguyen, **Paul C.-P. Chao\***, Chih-Chieh Chung, Ray-Hua Horng, Bhaskar Choubey,

- 2022, “Detecting Atrial Fibrillation in Real Time Based on PPG via Two CNNs for Quality Assessment and Detection,” *IEEE Sensors Journal*, vol. 22, no. 24, 1 pp. 24102-24111. (**SCI Journal**, Impact Factor = 4.61, Ranking = 14/72 (0.194), Instruments & Instrumentation).
11. W.-W. Yen, **Paul C.-P. Chao\***, 2022, “A ZVS Phase-Shift Full-Bridge Converter with Input Current Steering to Reduce EMI noise,” *IEEE Transactions on Power Electronics*, vol. 37, iss. 10, pp. 11937-11950. (SCI Journal, Impact Factor = 6.153, Ranking = 26/344 (0.076), Electrical and Electronic Engineering).
  12. **Paul C.-P. Chao\***, Shih-Song Cheng, Chiu-Hao Chen, and Kuei-Yu Lee, 2022, “A New IR-drop Model that Improves Effectively the Brightness Uniformity of an AMOLED Panel,” *IEEE Journal of the Electron Devices Society*, vol. 10, pp. 627-636. (**SCI Journal**, Impact Factor = 2.523, Ranking = 150/276 (0.543), Electrical and Electronic Engineering).
  13. Duc Huy Nguyen, **Paul C.-P. Chao\***, Hong-Han Shuai, Yu-Wei Fang, and Bing Shi Lin, 2022, “Achieving High Accuracy in Predicting Blood Flow Volume at the Arteriovenous Fistulas of Hemodialysis Patients by Intelligent Quality Assessment on PPGs,” *IEEE Sensors Journal*, vol. 22, iss. 6, pp. 5844 - 5856. (SCI Journal, Impact Factor = 4.325, Ranking = 14/72 (0.194), Instruments & Instrumentation).
  14. Tongjun Liu, **Paul C.-P. Chao**, Bhaskar Choubey, 2022, “Enhanced sensory identification in arrays of coupled resonant sensors,” *IEEE Sensors Journal*, vol. 22, Iss. 9, pp. 8557 - 8564. (**SCI Journal**, Impact Factor = 4.325, Ranking = 14/72 (0.194), Instruments & Instrumentation).
  15. S. F. Lin, D. H. Nguyen, **Paul C.-P. Chao\***, H. R. Chen, 2022, “Prediction of OLED Temperature Distribution Based on Neural Network,” *Microsystem Technologies*, vol. 28, pp. 2215–2224. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  16. Phan Tan-Phat, **Paul C.-P. Chao\***, Huang Zih-We, 2022, “Design and implementation of a new torque controller via FPGA for 6-DOF articulated robots,” *Microsystem Technologies*, vol. 28, pp. 2259–2276. (SCI Journal, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  17. Rajeev Kumar Pandey and **Paul C.-P. Chao\***, 2022, “Design and development of a photoplethysmography based microsystem for mental stress estimation,” *Microsystem Technologies*, vol. 28, pp. 2277–2296. (SCI Journal, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  18. Rajeev Kumar Pandey, Eka Fitrah Pribadi and **Paul C.-P. Chao\***, 2022, “Technology scaling impact on VLSI interconnect and low swing signaling technique,” *Microsystem Technologies*, vol. 28, pp. 2337–2351. (SCI Journal, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  19. Eka Fitrah Pribadi, Rajeev Kumar Pandey and **Paul C.-P. Chao\***, 2022, “A New Delta-Sigma Analog to Digital Converter with High-Resolution and Low Offset for Detecting Photoplethysmography Signal,” *Microsystem Technologies*, vol. 28, pp. 2369–2379. (SCI Journal, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).

20. C. K. Tasu, D. H. Nguyen, Bhaskar Choubey and **Paul C.-P. Chao\***, 2022, "High-performance infrared image processing with gray-scale dynamic range correction implemented by FPGA," *Microsystem Technologies*, vol. 28, pp. 2235–2248. (SCI Journal, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
21. Rajeev Kumar Pandey and **Paul C.-P. Chao\***, 2022, "A Dual-Channel PPG Readout System with Motion Tolerant Adaptability for OLED-OPD Sensors," *IEEE Transactions on Biomedical Circuits and Systems*, vol. 16, no. 1, pp. 36-51. (**Invited Paper** for the Special Issue of ISCAS 2021, **SCI Journal**, Impact Factor = 5.234, Ranking = 59/276 (0.213), Eng., Electrical & Electronics)
22. **Paul C.-P. Chao\***, Chih-Cheng Wu, Duc Huy Nguyen, Ba-Sy Nguyen, Pin-Chia Huang and Van-Hung Le, 2021, "The Machine Learnings Leading the Cuffless PPG Blood Pressure Sensors into the Next Stage," *IEEE Sensors Journal*, vol. 21, iss. 11, pp. 12498-12510. (**Invited Paper** for celebrating the 20<sup>th</sup> Anniversary of the IEEE Sensors Journal, **SCI Journal**, Impact Factor = 4.325, Ranking = 14/72 (0.194), Instruments & Instrumentation).
23. Wan-Yu Wu, Yu-Hsuan Hsu, Yi-Fan Chen, Yuh-Renn Wu, Han-Wen Liu, Tse-Yi Tu, **Paul P.-C. Chao**, Chih-Shan Tan, and Ray-Hua Horng, 2021, "Wearable Devices Made of a Wireless Vertical-Type Light-Emitting Diode Package on a Flexible Polyimide Substrate with a Conductive Layer," *ACS Applied Electronic Materials*, vol. 3, iss. 2, pp. 979-987, DOI: 10.1021/acsaelm.0c0107. (**SCI Journal**, Impact Factor = 4.494, Ranking = 77/276 (0.27), Engineering, Electrical & Electronic)
24. Duc Huy Nguyen, Yu-Ting Chen, Tse-Yi Tu, **Paul C.-P. Chao\***, Yu-Wei Fang, Bing-Shi Lin, 2021, "A new blood flow volume sensor with embedded estimation of SpO<sub>2</sub> to maximize its accuracy," *Microsystem Technologies*, vol. 27, iss. 6, pp. 2433-2445. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
25. Ba-Sy Nguyen and **Paul C.-P. Chao\***, 2021, "A switch module stacked by a 4 × 3 IGBT array with balanced voltage sharing for PEF applications," *Microsystem Technologies*, vol. 27, iss. 6, pp. 2407-2418. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
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29. Ba-Sy Nguyen, Wen-Wei Yen, **Paul C.-P. Chao\***, and Sheng-Ching Wang, Aug 2020, “A New High-Efficiency Power Management Circuit for a Novel Two-Phase Compensated Pulse Alternator,” *IEEE Transactions on Plasma Science*, vol. 48, Iss. 9, pp. 3176-3187. (**SCI Journal**, Impact Factor = 1.56, Ranking = 24/34(0.705), Physics, Fluids & Plasma)
  30. Hong-Yu Chiu, Austin Shuai and **Paul C.-P. Chao**, June 2020, “Reconstructing QRS Complex from PPG by Transformed Attentional Neural Networks,” *IEEE Sensors Journal*, vol. 20, Iss. 20, pp. 12374-12383. (**SCI Journal**, Impact Factor = 3.301, Ranking = 14/72(0.194), Instruments & Instrumentation).
  31. W.-W. Yen, and **Paul C.-P. Chao\***, 2020, "Backpack energy harvester managed by a modified fly-back converter," *Microsystem Technologies*, vol. 55, pp. 1-11. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  32. Pandey, Rajeev Kumar, and **Paul C.-P. Chao\***, 2020, "External temperature sensor assisted a new low power photoplethysmography readout system for accurate measurement of the bio-signs," *Microsystem Technologies*, vol. 27, iss. 6, pp. 2315-2343. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  33. Rajeev Kumar Pandey, Tzu Hao Huang, Wei-Hsuan Ho, Eka Fitrah Pribai and **Paul C.-P. Chao\***, 2020, “Achieving Sensing Precision Of 0.5nA In Pixel with 7us Settling Time by a New External Current Sensing Circuit for AMOLED Displays,” *Microsystem Technologies*, vol. 26, pp. 3349–3369. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
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  35. Jeremy H.-S. Wang, Ming-Hua Yeh, **Paul C.-P. Chao\***, Tse-Yi Tu, Yuan-Hwa Kao, Rajeev Pandey, 2020, “A fast digital chip implementing a real-time noise-resistant algorithm for estimating blood pressure using a non-invasive, cuffless PPG sensor,” *Microsystem Technologies*, vol. 26, pp. 3501–3516. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  36. Chia Yu Chang, **Paul C.-P. Chao\***, 2020, “A Fast-Sensing Readout Circuit Enabled by Code Division Multiple Access Implemented for an Ultra-Thin On-Cell Flexible Capacitive Touch Panel,” *Microsystem Technologies*, vol. 26, pp. 3517–3531. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  37. Eka Fitrah Pribadi, Rajeev Kumar Pandey and **Paul C.-P. Chao\***, 2020, “Optimizing a novel PPG sensor patch via optical simulations towards accurate heart rates,” *Microsystem Technologies*, vol. 26, pp. 3409–3420. (**SCI Journal**, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
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  40. Ching-Cheng Yang, Rajeev Pandey, Tse-Yi Tu, Yuan-Po Cheng, **Paul C.-P. Chao\***, 20219, “An efficient energy harvesting circuit for batteryless IoT device,” *Microsystem Technologies*, vol. 26, pp. 195–207. (SCI Journal, Impact Factor = 2.276, Ranking = 90/190(0.562), Physics, Applied).
  41. Pei-Yu Chiang, **Paul C.-P. Chao\***, Tse-Yi Tu, Yung-Hua Kao, Chih-Yu Yang, Der-Cherng Tarn and Chin-Long Wey, 2019, “Machine Learning Classification for Assessing the Degree of Stenosis and Blood Flow Volume at Arteriovenous Fistulas of Hemodialysis Patients Using a New Photoplethysmography Sensor Device,” *MDPI Sensors*, vol. 19, pp. 3422. (SCI Journal, Impact Factor = 3.576, Ranking =18/94 (0.191), Optics, Ranking = 16/61 (0.262), Instrument and Instrumentation)
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  46. Ming-Hung Yu and **Paul C.-P. Chao\***, 2018, “A new multi-mode multi-input–multi-output (MIMO) converter in an efficient low-voltage energy harvesting system for a gas sensor,” *International Journal of Engineering Development and Research*, vol. 6, iss. 3, pp. 352–358. (ISSN: 2321-9939)
  47. Chun-Kai Cheng and **Paul C.-P. Chao\***, 2018, “Trajectory Tracking between Josephson Junction and Classical Chaotic System via Iterative Learning Control,” *Applied Science*, vol. 8, pp. 1285, Aug, 2018. (SCI Journal, Impact Factor = 1.913, Ranking = 150/274 (0.547),

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### 五年前期刊論文：

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