

簡介：

◆ 期刊論文：

- [1] **Chun-Ching Hsiao***, Shih-Yuan Yu, 2012, “Rapid deposition process for zinc oxide film applications in pyroelectric devices,” Smart Materials and Structures, 21, 105012.
- [2] **Chun-Ching Hsiao***, Jia-Wai Jhang, An-Shen Siao, 2015, “Study on pyroelectric harvesters integrating solar radiation with wind power,” ENERGIES, 8, pp. 7465-7477.
- [3] **Chun-Ching Hsiao***, An-Shen Siao, 2017, “A high aspect ratio micro-pattern in **free-standing** bulk pyroelectric cells,” Energy Technology, DOI: 10.1002/ente.201700439.
- [4] **Chun-Ching Hsiao***, An-Shen Siao and Yi-Je Tsai, 2018, “A strategy for optimal energy conversion by pyroelectricity,” International Journal of Green Energy, 15(13), pp. 780-788, <https://doi.org/10.1080/15435075.2018.1529573>.
- [5] An-Shen Siao, Ian M McKinley, Ching-Kong Chao, **Chun-Ching Hsiao**, Laurent Pilon*, 2018, “Pyroelectric waste heat energy harvesting using the Olsen cycle on Pb(Zr, Ti)O₃-Pb(Ni, Nb)O₃ ceramics,” Journal of Applied Physics, 124(17), 174104, <https://doi.org/10.1063/1.5037112>.
- [6] **Chun-Ching Hsiao***, and Bo-Hao Liang, 2018, “The generated entropy monitored by **pyroelectric** sensors,” SENSORS, 18, 3320, DOI: 10.3390/s18103320.
- [7] Siao, A. S., **Hsiao, C. C.**, and Chao C. K.*, 2020, “Investigation and Evaluation of Pyroelectric Materials for Thermal Energy Harvesting”, Physica Status Solidi (A): Applications and Materials Science, 217, pp. 1900716(1)-1900716(8). (SCI impact factor 1.924, rank 106 of 292 (Q2) in Materials Chemistry research field category)
- [8] Ching-Hao Chen, Ci-Fan Lee and **Chun-Ching Hsiao***, 2023, “A Continuous Production Apparatus for a Frame-Type Melt-Blown Filter Cartridge with Various Properties and Geometry”, Machines, 11, 476, <https://doi.org/10.3390/machines11040476>. (SCI impact factor 2.899, Q2 in Engineering, Mechanical research field category)
- [9] Wang, B.-J.; Lin, C.-H.; Lee, W.-C.; **Hsiao, C.-C.***, 2023, “Development of a Bamboo Toothbrush Handle Machine with a Human–Machine Interactive Interface for Optimizing Process Conditions”, Sustainability, 15, 11459. <https://doi.org/10.3390/su151411459>. (SCI impact factor 3.9, Q1 in Social Sciences-Geography, Planning and Development category)

◆ 研究方向：

- 高深寬比之焦電獵能元件之開發(DOI: 10.1002/ente.201700439)
- 以焦電感測器進行熵增之監測(DOI: 10.3390/s18103320)
- 利用奧爾森循環在 $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3\text{-Pb}(\text{Ni}, \text{Nb})\text{O}_3$ 元件上進行廢熱能獵取
(<https://doi.org/10.1063/1.5037112>)
- 馬賽克瓷磚拼圖機與自動倉儲系統整合開發
(<https://youtu.be/s3lSqZlhug0>)
- 具人機互動介面及優化製程條件之竹牙刷柄加工設備之開發
(<https://youtu.be/dndbvrnAYRo>)
- 多性能和幾何形狀的骨架式熔噴濾芯連續生產設備開發
(https://youtu.be/_sLI6PoD2_E)
- 即點即製之多樣多量飲品生產設計與人機互動介面開發
(<https://youtu.be/YsVSEY-q3rw>)
- 馬賽克磚之自動化三維大量生產設計與人機互動介面規劃
(https://youtu.be/p_haHqidQ8g)
- 織襪之防水塗裝生產自動化與人機互動介面開發
(<https://youtu.be/8XopxNpwhNM>)
- CNC 竹杯智慧製造設備與即時量測整合系統
(<https://youtu.be/bHLsCsmaaNI>)

Introduction:

◆ Journal paper :

- [1] **Chun-Ching Hsiao***, Shih-Yuan Yu, 2012, “Rapid deposition process for zinc oxide film applications in pyroelectric devices,” Smart Materials and Structures, 21, 105012.
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- [7] Siao, A. S., **Hsiao, C. C.**, and Chao C. K.*, 2020, “Investigation and Evaluation of Pyroelectric Materials for Thermal Energy Harvesting”, Physica Status Solidi (A): Applications and Materials Science, 217, pp. 1900716(1)-1900716(8). (SCI impact factor 1.924, rank 106 of 292 (Q2) in Materials Chemistry research field category)
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◆ Research Outline

- A High Aspect Ratio Micropattern in Freestanding Bulk Pyroelectric Cells (DOI: 10.1002/ente.201700439)
- The Generated Entropy Monitored by Pyroelectric Sensors (DOI: 10.3390/s18103320)
- Pyroelectric waste heat energy harvesting using the Olsen cycle on Pb(Zr, Ti)O₃-Pb(Ni, Nb)O₃ ceramics (<https://doi.org/10.1063/1.5037112>)
- An integrated design to connect a mosaic tile puzzle machine with an automatic storage system (<https://youtu.be/s3lSqZlhuq0>)
- Development of a Bamboo Toothbrush Handle Machine with a Human–Machine Interactive Interface for Optimizing Process Conditions (<https://youtu.be/dndbvrmaYRo>)
- A Continuous Production Apparatus for a Frame-Type Melt-Blown Filter Cartridge with Various Properties and Geometry (https://youtu.be/_sLI6PoD2_E)
- Production design of diverse and large-volume beverages with point-and-make and development of human-machine interaction interfaces (<https://youtu.be/YsVSEY-q3rw>)
- Three-Dimensional Automatic Mass Production Design and Human-Machine Interactive Interface Plan for Mosaic Tiles (https://youtu.be/p_haHqidQ8g)
- Development of production automation and human-machine interactive interface for waterproof coating of hosiery (<https://youtu.be/8XopxNpwhNM>)
- CNC smart machine of bamboo cup production and real-time measurement integrated system (<https://youtu.be/bHLsCsmaaNI>)