

張復瑜研究績效與學術榮譽

一、榮譽

1. Co-program Chair, International Nanoimprint and Nanoprint Technology Conference (NNT 2008), Kyoto, Japan, Oct., 2008.
2. Symposium Organizer and International Committee, The 1st Asian Symposium of Nanoimprint Lithography, Seoul, Korea, April 24-26, 2008.
3. Invited speaker, "Roll-to-Roll Micro/Nano Imprint and Applications", International Advanced Surface Technology Exhibition and Conference, Tokyo Big Sight, Tokyo, Japan, Feb., 2008.
4. Invited speaker, "Development of Rolling Nanoimprint Technology and Related Applications", International Nanoimprint and Nanoprint Technology Conference (NNT 2007), Paris, France, Oct., 2007.
5. Invited speaker, "Status of the Nanoimprint Technology in ITRI", Nanoimprint Process Solution Consortium, Tsukuba, Japan, Feb., 2007.
6. “氣動工具照明裝置”，2007 日內瓦國際發明展，工具類銀牌
7. “氣動工具照明裝置”，2007 匹茲堡國際發明展，大會評審傑出獎金牌獎，設計類銅牌獎
8. “氣動工具照明裝置”，2007 紐倫堡國際發明展，綜合發明新產品類，金牌獎
9. FY96 工研院傑出研究獎銅牌獎 “次世代晶圓測試探針卡技術”
10. FY96 工研院影像顯示中心卓越研究創新獎 “驅動列印新產業-可調變噴墨回饋控制技術”
11. Invited speaker, "Roll to Roll Imprint Activities in MSL”，奈米壓印技術及奈米光學研討會，成功大學，Dec., 2006.
12. FY95 工研院機械所年度論文發表獎
13. FY95 工研院機械所傑出創新獎 “微奈米結構滾筒模具與應用技術”
14. Invited speaker, “奈米轉印技術”，第八屆海峽兩岸機械工程技術交流會，台北福華，Dec., 2005.
15. FY94 工研院機械所創新研究獎 “奈米製造技術”
16. FY94 經濟部創新技術獎 “微發電機技術”
17. FY90 經濟部創新研究獎 “硬脆材料延性加工技術”
18. FY89 工研院成果貢獻銀牌獎 “硬脆基板延性加工技術”
19. Invited speaker, “硬脆材料基板的 Fine Grinding 加工法”，磨粒加工技術論文發表會，台北，1999.
20. Invited lecture, “Modeling the Performance of Magnetic Fluid Grinding”，ACME Research Conference, London, 1996.

二、期刊論文

1. Chia-Jen Ting, Fuh-Yu Chang, Chi-Feng Chen, C. P. Chou, "Fabrication of an antireflective optical film with subwavelength structures using Roll to Roll imprinting process", submitted to Journal of Micromechanics and Microengineering, Vol. 18, 2008, pp. 1-9. (SCI)
2. C.H. Lin, H. Yang, F.Y. Chang, S.H. Chang, M.T. Yen, "Fast Patterning Microstructures Using Inkjet Printing Conformal Masks", Microsystem Technologies, Published online: 5 February, 2008. (SCI)
3. C.H. Kuo, M.C. Huang, F.Y. Chang, C.H. Lin, "Integrating an Enzyme-Rentrapped Conducting Polymer Electrode and a Prereactor in a Microfluidic System for Sensing Glucose", Electroanalysis, Vol. 20, No. 6, 2008, pp. 635-642. (SCI)
4. Y.J. Yang, M.Y. Cheng, W.Y. Chang, L.C. Tsao, S.A. Yang, W.P. Shih, F.Y. Chang, S.H. Chang, K.C. Fan, "An Integrated Flexible Temperature and Tactile Sensing Array using PI-copper films", Sensors and Actuators A: Physical, Vol. 143, Issue 1, 2008, Pages 143-153. (SCI)
5. Chi-Hsiang Hsieh, Jiunn-Der Liao, Chang-Shu Kuo, Chao-Yu Huang, Bo-Hsiung Wu, Fuh-Yu Chang, "Lithographical Method by Oxidation through a Conductive Template in Contact with a Silicon Substrate Mediated by a Thin Water Layer", Japanese Journal of Applied Physics, Vol. 47, No. 4, 2008, pp. 2456-2459. (SCI)
6. F.C. Wang, H.M. Lin, P.K. Chen, F.Y. Chang and K.C. Fan, "Signal Detection and Control of an Intelligent Robot", Key Engineering Materials, Vols. 381-382, 2008, pp. 387-390. (EI)
7. K.T. Song, M.J. Han, F.Y. Chang, S.H. Chang, "A Robotics Facial Expression Recognition System Using Real-Time Vision System", Key Engineering Materials, Vols. 381-382, 2008, pp. 375-378. (EI)
8. Y.J. Yang, B.T. Chia, D.R. Chang, H.H. Liao, W.P. Shih, F.Y. Chang, K.C. Fan, "Development of A Flexible Temperature Sensor Array System", Key Engineering Materials, Vols. 381-382, 2008, pp. 383-386. (EI)
9. C.T. Pan, H. Yang, M.K. Wei, F.Y. Chang, "PET Polymer Ablation Using Excimer Laser for Nozzle Plate Application", Materials Science and Technology, Vol. 23, 2007, pp 980-986. (SCI)
10. H. Yang, C.T. Lee, F.Y. Chang, "Miniaturized fluorescence excitation platform with optical fiber for bio-detection chips", Microsystem Technologies, Vol. 13, 2007, pp 80-85. (SCI)
11. Tien-Li Chang, Dar-Sun Liou, Ping-Hei Chen, Hung-Yi Lin, Fuh-Yu Chang, "Ultrasensitive Electrical DNA Identification with Bio-Bar-Code DNA and

Nanoparticles in Nanogap Device,” Tamkang Journal of Science and Engineering, June, 2007. (EI)

12. 張復瑜, 林宏彝, 賴文郎, 丁嘉仁, 張所鉉, 吳東權, “奈米轉印製造技術發展現況”, 機械工業雜誌, 291 期, 2007, pp. 16-26.
13. 鄭慶祥, 張復瑜, 操禮齊, 施文彬, 張所鉉, 范光照, “應用於智慧型機器人之感壓橡膠特性量測”, 機械工業雜誌, 286 期, 2007, pp. 114-118.
14. 楊錫杭, 周邦壕, 賴文郎, 張復瑜, 林宏彝, “奈米結構滾輪加工平台之研製”, 機械月刊, 2007.
15. 張復瑜, 彭文陽, 劉祥麒, “電磁式微小發電系統技術”, 機械工業雜誌, 282 期, 2006, pp. 14-31.
16. 張復瑜, 周敏傑, 黃萌祺, “LIGA 探針卡技術及產業應用”, 機械工業雜誌, 282 期, 2006, pp. 4-13.
17. 鄭慶祥, 張復瑜, “機器人仿人皮膚技術”, 機械工業雜誌, 281 期, 2006, pp. 51-57.
18. 賴文郎, 林宏彝, 張復瑜, “微奈米滾筒模具製程與成型技術簡介”, 機械工業雜誌, 279 期, 2006, pp. 53-58.
19. 蘇建彰, 陳建洋, 林建宏, 謝逸凡, 蔡居恕, 賴文郎, 張復瑜, “轉印膜仁之奈米結構製作”, 機械工業雜誌, 269 期, 2005, pp. 44-55.
20. F.Y. Chang, T.H.C. Childs, “Fluid drag, ball interaction and gyroscopic effects in magnetic fluid grinding”, Proc. Inst. Mech. Eng., Part B: Journal of Engineering Manufacture, 2001, pp. 1007-1019. (EI)
21. 林宏彝, 張復瑜, 趙崇禮, 馬廣仁, 許瓊姿, 林彥勝, “硬脆材料電解削銳輪磨技術”, 機械工業雜誌, August, 2000.
22. 張復瑜, “基板上薄膜加工之現況與發展”, 新興機械產業技術簡訊”, 第九期, January, 2000.
23. F.Y. Chang, T.H.C. Childs, “Non-magnetic fluid grinding”, Wear 223, 1998, pp. 7-12. (SCI)

三、會議論文

1. Shuo-Hung Chang, Fuh-Yu Chang, Jen-Hui Tsai, Tung-Chuan Wu, Mao-Kuo Wei, “Advanced Nanoimprint for Optical Applications”, The 1st Asian Symposium of Nanoimprint Lithography, Seoul, Korea, April 24-26, 2008. (Invited speaker)
2. Fuh-Yu Chang, Hung-Yi Lin, Wen-Lang Lai, Chia-Jen Ting, Jen-Hui Tsai, Shuo-Hung Chang, and Tung-Chuan Wu, “Development of Rolling Nanoimprint Technology and Related Applications”, Nanoimprint and Nanoprint Technology Conference(NNT 2007), Paris, France, 2007. (Invited speaker)
3. Tien-Li Chang, Hung-Yi Lin, Wen-Lang Lai, Fuh-Yu Chang, Jen-Hui Tsai,

- Shuo-Hung Chang, "Study of Nanopattern Forming with Chemical Coatings for Silicon-Based Stamp in Nanoimprint Process", 7th IEEE Conference on Nanotechnology, Hong Kong, 2007.
4. Tien-Li Chang, Hung-Yi Lin, Fuh-Yu Chang, Ya-Wei Lee, Ping-Hei Chen, "Applications of Magnetic Nanoparticles in Engineering and Biomedical Science", 7th IEEE Conference on Nanotechnology, Hong Kong, 2007.
 5. Fuh-Yu Chang, Hung-Yi Lin, Wen-Lang Lai, , Chia- Jen Ting, Jen-Hui Tsai, Shuo-Hung Chang, and Tung-Chuan Wu, "Status of the Nanoimprint Technology in ITRI", Nanoimprint Process Solution Consortium, Tsukuba, Japan, 2007. (Invited speaker)
 6. B.T. Chia, D.R. Chang, H.H. Liao, Y.J. Yang, W.P. Shih, F.Y. Chang, K.C. Fan, "Temperature Sensor Array Using Flexible Substrate", Kobe, Japan, IEEE MEMS, 2007.
 7. M.Y. Cheng, W.Y. Chang, L.C. Tsao, S.A. Yang, Y.J. Yang, W.P. Shih, F.Y. Chang, K.C. Fan, Design and Fabrication of an Artificial Skin Using PI-Copper Films", IEEE MEMS, Kobe, Japan, 2007.
 8. I.R. Huang, C.H. Lin, F.Y. Chang, H.B. Chou, "Novel forming for fabrication of micro V-cut grooves using the optical-element", International Microprocesses and Nanotechnology Conference, Kyoto, 2007.
 9. Chi-Hsiang Hsieh, Jiunn-Der Liao, Chang-shu Kuo, Ju-Yang Wang, Ching-Tzu Hsu, Chao-Yu Huang, Fuh-Yu Chang, "A lithographical method by oxidization through a conductive template in contact with a silicon substrate mediated by a thin water layer", International Conference on Solid State Devices and materials (SSDM 2007), Tokyo, Japan, Sept. 19-21, 2007.
 10. Bonnie T. Chia, Duo-Ru Chang, Hsin-Hung Liao, Yao-Joe Yang, Wen-Pin Shih, Fuh-Yu Chang, Kuang-Chao Fan, "Flexible Temperature Sensor Array on a Polyimide Film", ISMTII 2007, Sendai, Japan, 2007.
 11. Li-Chi Tsao, Duo-Ru Chang, Wen-Pin Shih, Fuh-Yu Chang, Shuo-Hung Chang, Kuang-Chao Fan, "Fabrication and characterization of electro-active polymer for flexible tactile sensing array", ISMTII 2007, Sendai, Japan, 2007.
 12. M.Y. Cheng, W.Y. Chang, L.C. Tsao, S.A. Yang, Y.J. Yang, W.P. Shih, F.Y. Chang, and K.C. Fan, "AN ARTIFICIAL SKIN: A Large Area Temperature and Tactile Sensing Array", ISMTII 2007, Sendai, Japan, 2007.
 13. Kai-Tai Song and Meng-Ju Han, Fuh-Yu Chang, Shuo-Hung Chang, "A Robotic Facial Expression Recognition System Using Real-Time Visual Tracking", ISMTII 2007, Sendai, Japan, 2007.
 14. Tien-Li Chang, Jung-Chang Wang, Yi-Jen Tsai, Ying-Rui Huang, Chun-Chi Chen, Hung-Yi Lin, Fu-Hsiang Ko, and Fuh-Yu Chang, , "Study of Ni Nanopattern Stamps

with Non-Fluorine Coating Treatment in Nanoimprint Process,” SNDDT 2007, Hsinchu, Taiwan, 2007.

15. Tien-Li Chang, Fuh-Yu Chang, Hung-Yi Lin, Wen-Lang Lai, Jen-Hui Tsai, Shuo-Hung Chang, “Effects of Mold Pattern with Anti-Adhesive Treatment in Nanoimprint Lithography,” MATADOR Conference, Taipei, Taiwan, 2007.

16. Tien-Li Chang, Hung-Yi Lin, Fuh-Yu Chang, Wen-Lang Lai, Yi-Fan Hsieh, Chih-Hsiang Chang, Ping-Hei Chen, “Ultrasensitive Electrical DNA Sensor Using Nanoparticle-Based Bio-Bar-Code DNA and Nanogap Electrodes,” 10th Nano Engineering and Micro Systems Technology Conference (NMC2007), Hsinchu, Taiwan, 2007.

17. Fuh-Yu Chang, Hung-Yi Lin, Wen-Lang Lai, Chia-Jen Ting, Jen-Hui Tsai, Shuo-Hung Chang, Tung-Chuan Wu, “Roll to Roll Processing for Nanophotonics”, ASME International Design Engineering Technical Conferences (IDETC), September 4-7, Las Vegas, USA, 2007.

18. Tien-Li Chang, Chun-Chi Chen, Hung-Yi Lin, Fu-Hsiang Ko, Fuh-Yu Chang, “Study of Mold Nanopatterns with Chemical Coatings for Ni-Based Stamp in Nanoimprint Lithography,” 51st International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN2007), Colorado, USA, 2007.

19. 吳奕德, 謝易達, 翁志強, 陳家浩, 王明誠, 張復瑜, 廖峻德, “低能量電子束照射之烷基硫醇自組裝單分子層化學吸附於金面做為微影製程之抗蝕刻阻劑”, 2007 材料年會, 新竹, 2007.

20. Chi-Hsiang Hsieh, Jiunn-Der Liao, Chang-shu Kuo, Ju-Yang Wang, Ching-Tzu Hsu, Chao-Yu Huang, Fuh-Yu Chang, “Electric induced modification of the SAMs by the conductive template”, 2007 材料年會, 新竹, 2007.

21. M.Y. Cheng, W.Y. Chang, L.C. Tsao, S.A. Yang, Y.J. Yang, W.P. Shih, F.Y. Chang, K.C. Fan, “Integrated Temperature and Tactile Sensing Arrays on a Flexible Substrate”, International Manufacturing Leaders Forum, Taipei, 2006.

22. C.H. Cheng, M.T. Yen, F.Y. Chang, L.C. Tsao, W.P. Shih, S.H. Chang, K.C. Fan, “Characterization of Pressure Sensitive Rubber for Artificial Skin of Robotics”, International Manufacturing Leaders Forum, Taipei, 2006.

23. I.R. Huang, C.H. Lin, F.Y. Chang, H.B. Chou, “A CMOS Process Optimized Curled-Hinge Comb Micro-Mirror”, International Manufacturing Leaders Forum, Taipei, 2006.

24. M.C. Huang, C.H. Lin, F.Y. Chang, “Novel Roller Mold Fabrication using Soft-Lithography and Electro-Chemical Engraving”, International Manufacturing Leaders Forum, Taipei, 2006.

25. M.C. Huang, C.H. Lin, F.Y. Chang, “Novel application for Roller Mold Fabrication using Soft-lithography technique”, 奈米工程暨微系統技術研討會,

2006.

26. F.Y. Chang, H.Y. Lin, C.H. Hsueh, K.W. Chen, S.H. Chang, T.C. Wu, "A study of mechanical failure and anti-adhesive treatment for nanoimprint process", International Microprocesses and Nanotechnology Conference, 2006, pp. 296-297.

27. M.J. Han, J.H. Hsu, K.T. Song, F. Y. Chang, "Embedded Emotion Recognition System Using Key Feature Sets", Proceedings of 2006 CACS Automatic Control Conference, Tamsui, Taiwan, 2006.

28. F.Y. Chang, H.Y. Lin, C.H. Hsueh, C.S. Tsai, K.W. Chen, S.H. Chang, T.C. Wu, "Micro/Nano Imprint and Applications", International Symposium of Micro and Nano Technology, Hsinchu, 2006. (Invited speaker)

29. K.W. Chen, H.Y. Lin, F.Y. Chang, S.H. Chang, T.C. Wu, J.F. Lin, "A study of the self-assembled mono-layer deposition process for the anti-adhesion of nano-imprint stamps", 6th IEEE Conference on Nanotechnology, Cincinnati, USA, July 16-20, 2006, Volume 2, pp. 592-594.

30. Fuh-Yu Chang, Hung-Yi Lin, Chun-Hway Hsueh, Shuo-Hung Chang, Tung-Chuan Wu, "Fabrication of Periodic Nanostructure in Nanoimprint Process", 6th IEEE Conference on Nanotechnology, Cincinnati, USA, July 16-20, 2006, Volume 2, pp.21-22.

31. C.H. Lin, R. Chen, C.C. Su, F.Y. Chang, "Ultrasonics for nanoimprint lithography", 5th IEEE Conference on Nanotechnology, Nagoya, Japan, July 11-15, 2005, Volume. 2, pp. 460-463.

32. F.Y. Chang, C. Ting, H.Y. Tsai, H.Y. Lin, T.C. Wu, "Fine Grinding and Polishing Process for Next Generation Photomask Substrate", 奈米工程暨微系統技術研討會, 2000.

33. 林宏彝, 張復瑜, 趙崇禮, 馬廣仁, 劉道恕, "The Surface Morphology and Sub-Surface Characteristics of ELID-Ground Single Crystal Silicon", 奈米工程暨微系統技術研討會, 2000.

34. C.L. Chao, K.J. Ma, S.C. Sheu, H.Y. Lin, F.Y. Chang, "Investigation of the Surface Integrity of Precision Machined Single Crystal Silicon", The 15th Annual Meeting of ASPE, October, 2000.

35. F.Y. Chang, H.Y. Lin, T.C. Wu, "Fine Grinding and Mechano-chemical Polishing for Brittle Hard-disk Substrate Manufacturing", The 15th Annual Meeting of ASPE, October, 2000.

36. C.C. Tsai, J.C. Lin, F.Y. Chang, H.Y. Lin, T.C. Wu, "Electrochemical Polishing of Indium Tin Oxide Film", The 15th Annual Meeting of ASPE, October, 2000.

37. F.Y. Chang, K.C. Lai, H.Y. Lin, T.C. Wu, "Fine Grinding for brittle Materials", 奈米工程暨微系統技術研討會, 新竹, 1999.

38. F.Y. Chang, K.C. Lai, H.Y. Lin, T.C. Wu, "Grinding Tool Design for Fine

- Grinding”, International Conference of the European Society for Precision Engineering and Nanotechnology, Bremen, Germany, 1999.
39. S.H. Chang, F.Y. Chang, H.Y. Lin, T.C. Wu, “Ductile-mode Grinding of 300 mm Diameter Silicon Wafer”, International Conference of the European Society for Precision Engineering and Nanotechnology, Bremen, Germany, 1999.
40. 張復瑜, 賴國智, 林宏彝, 吳東權, “硬脆材料基板的 Fine Grinding 加工法”, 磨粒加工技術論文發表會, 台北, 1999. (Invited speaker)
41. T.H.C. Childs, F.Y. Chang, in: D. Dowson (Ed.), Proc. 22nd Leeds-Lyon Symposium on Tribology, Tribology Series 31, Elsevier, Amsterdam, 1996, pp. 631-638.
42. T.H.C. Childs, F.Y. Chang, in: Proc. Int. Tribology Conf., JST, Tokyo, 1995, pp. 1709-1714.

四、專利

1. 張復瑜, 章少衡, 林宏彝, “Method for die separation of a wafer by ion implantation”, Taiwan Patent No. 132970 in 2001, United State Patent No. 6372610 in 2002.
2. 劉祥麒, 張復瑜, 潘昆志, 張智崇, 蔡居恕, 陳智偉, “High aspect ratio molding and imprinting planar coil technique”, Taiwan Patent No. I25547 in 2006.
3. 劉祥麒, 張復瑜, 吳東權, “Planar motor”, Taiwan Patent No. M278151 in 2005.
4. 張智崇, 蔡居恕, 劉祥麒, 張復瑜, “Air driven power generating device”, 美國專利審查中, P04940004US, 2005.
5. 潘昆志, 周敏傑, 張復瑜, “Roller with microstructure and the manufacturing method thereof”, Taiwan Patent No. I251266 in 2006, 美國專利審查中, P04940007US, 2007.
6. 蔡居恕, 周敏傑, 張復瑜, “Method of fabricating vertical probe head”, Taiwan Patent No. I284209 in 2007, 美國專利審查中, P04940112US, 2007.
7. 陳智偉, 吳東權, 張復瑜, “The compound power generator”, 台灣專利暫准, P04940005TW, 2007.
8. 黃超俊, 林宏彝, 徐達偉, 張復瑜, “Hot rolling and pressing device and method for forming two-sided microstructure optical film”, 台灣, 中國大陸專利審查中, P53960065TW, P53960102CN, 2007.
9. 林正軒, 黃超俊, 張復瑜, “Method for patterning a photoresist layer”, 台灣專利審查中, P53960102TW, 2007.
10. 楊聰仁, 張復瑜, 林宏彝, 賴文郎, “Stamper and fabrications thereof”, 台灣專利審查中, P53950132TW, 2007.

11. 周敏傑, 彭駿光, 黃文亮, 張復瑜, 黃萌祺, 高端環, “Improved vertical probe card”, 台灣專利審查中, P53960037TW, 2007.
12. 宋開泰, 韓孟儒, 許晉懷, 洪濬尉, 張復瑜, “Method of emotion recognition”, 美國專利審查中, P53960003US, 2007.
13. 賴文郎, 張復瑜, 彭駿光, “Rolling mold for microstructured film imprinting”, 日本, 美國, 台灣專利審查中, P04940122JP, P04940122US, P04940122TW, 2007.
14. 操禮齊, 施文彬, 楊耀州, 張復瑜, 范光照, “A tactile sensor, the manufacturing method thereof, and a film for a tactile sensor”, 台灣專利審查中, P53950124TW, 2007.
15. 黃萌祺, 周敏傑, 張復瑜, 吳景平, “Multi-layer electric probe and fabricating method thereof”, 台灣, 日本, 中國大陸專利審查中, P53950027TW, P53950027JP, P53950027CN, 2007.
16. 黃超俊, 張復瑜, 林正軒, 高端環, “Mold structure and the manufacturing method thereof”, 美國, 日本, 台灣, 中國大陸專利審查中, P53950129US, P53950129JP, P53950129TW, P53950129CN, 2007.
17. 鄭茗元, 范光照, 楊耀州, 施文彬, 張復瑜, “Artificial skin having pressure and temperature sensors”, 台灣專利審查中, P53950127TW, 2007.
18. 彭文陽, 張復瑜, 鄭慶祥, “Electric generator”, 德國, 美國, 日本, 台灣, 中國大陸專利審查中, P53950028DE, P53950028US, P53950028JP, P53950028TW, P53950028CN, 2006.
19. 黃英叡, 林正軒, 張復瑜, “Inclined exposure lithography system”, 台灣, 日本專利審查中, P53960065TW, P53960065JP, 2007.
20. 黃英叡, 林正軒, 張復瑜, “A method for incline exposure by the optical-element”, 美國, 韓國專利審查中, P53960065US, P53960065KR, 2007.
21. 林正軒, 黃超俊, 張復瑜, “A method for forming the patterning structure by Ink”, 美國專利審查中, P53960089US, 2007.
22. 黃萌祺, 林正軒, 張復瑜, “3D microstructure is fabricated by exposed method”, 美國, 日本, 台灣, 中國大陸專利審查中 P53960101US, P53960101JP, P53960101TW, P53960101CN, 2007.