



# 材料工程系

Department of Materials Engineering

## 一、師資

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教授 兼環資學院院長 (2008/2/1~迄今) 兼系主任	謝章興 Jang-Hsing Hsieh	美國喬治亞理工學院 材料工程博士	薄膜製程、電漿製程、 表面工程
副教授	程志賢 Jyh-Shiarn Cherng	美國密西根大學 材料工程博士	陶瓷材料、電泳製程、 薄膜製程
副教授	徐富勇 Fu-Yung Hsu	德國阿亨工業大學 博士	材料結構分析、表面製 程、薄膜製程、金屬間 相
副教授	陳勝吉 Sheng-Chi Chen	國立台灣大學材料科學與 工程學研究所博士	奈米資訊儲存技術、薄 膜製程與分析技術、磁 性材料
助理教授	游洋雁 Yang-Yen Yu	國立台灣大學 化學工程博士	光電高分子材料、奈米 複合光電薄膜、低介電 常數高分子材料、聚摻 合物
助理教授	盧榮宏 Jong-Hong Lu	國立台灣大學 物理學博士	奈米材料、奈米檢測、 固態物理、薄膜元件製 程及設備技術
助理教授	阮弼群 Pi-Chun Juan	國立清華大學 電機博士 (固態電子組)	高介電電氣層薄膜、 鐵電材料、快閃式記憶 體製程
助理教授	劉澤英 Tse-Yin Liu	國立交通大學 材料工程博士	生醫材料、藥物載體控 制釋放、智慧功能材料
助理教授 (2008/2/1~迄今)	張麗君 Li-Chun Chang	國立交通大學 電子博士	製程及元件故障分 析、材料微結構分析、 無電鍍至程、電子陶瓷 製程、光學鍍膜、電子 構裝、品質工程&品質 管制



職稱	姓名	學歷	專長
助理教授 (2008/2/1~迄今)	林延儒 Yan-Ru Lin	國立清華大學 材料博士	金屬氮化物濺鍍磊晶製程、一維氧化鋅、氧化錫奈米材料合成&應用、無機材料微結構分析 (TEM、XRD)、太陽電池
助理教授 (2008/1/31 離職)	劉旭禎 Shiu-Jen Liu	國立交通大學 電子物理博士	過渡金屬氧化物薄膜製程與物性分析
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## 二、期刊論文

- [1] Shiu-Jen Liu, Shyh-Fen Chen, Jenh-Yih Juang, Jiunn-Yun Lin, Kaung-Hsiung Wu, Tseng-Ming Uen, and Yi-Shun Gou, "Influence of Oxygen Vacancies on Transport Properties of  $\text{La}_{2/3}\text{Ca}_{1/3}\text{MnO}_{3-y}$  Films Grown on  $\text{SrTiO}_3$  Substrates" *Jpn. J. Appl. Phys.*, vol.46, pp.6621-6625, 2007. (SCI)
- [2] S. C. Chen, P. C. Kuo, A. C. Sun, C. Y. Chou, Y. H. Fang, and C. T. Lee, "Largely enhanced coercivity of FePt Film at low-temperature by introduction of CrRu underlayer," *J. Magn. Magn. Mater.*, vol.310, pp.e921- e923, 2007. (SCI)
- [3] S. C. Chen, P. C. Kuo, C. T. Lee, A. C. Sun, C. Y. Chou, and Y. H. Fang, "Effects of CrRu underlayer and CrRu capped layer on the microstructure and magnetic properties of FePt films," *IEEE Transactions on Magnetics*, vol.43, pp.876-878, 2007. (SCI)
- [4] P. C. Juan, J. D. Jiang, W. C. Shih, J. Y. M. Lee, "The effect of annealing temperature on the electrical properties of metal-ferroelectric ( $\text{PbZr}_{0.53}\text{Ti}_{0.47}\text{O}_3$ )-insulator ( $\text{ZrO}_2$ )-semiconductor (MFIS) thin-film capacitors," *Microelectronic Engineering*, 84, pp. 2014-2017, 2007. (SCI impact factor:1.514)
- [5] De-Cheng Hsu, Ming-Tsong Wang, Pi-Chun Juan and Joseph Ya-min Lee, "Electrical Characteristics and Reliability Properties of Metal-Oxide-Semiconductor Field-Effect Transistors with  $\text{ZrO}_2$  Gate Dielectric," *J. Appl. Phys.*, **89**, 4, 053504, pp. 1-3, 2007. (SCI impact factor:2.255)
- [6] Yang-Yen Yu\*, Chang-Chung Yang, "Preparation of Nanoporous Poly(methyl silsesquioxanes) Films Using PS-b-P4VP as Template", *Journal of Nanoscience & Nanotechnology*, 8, 1-8, 2007. (SCI)
- [7] 游洋雁\*, "以原子轉移自由基聚合法製備雙親性星狀嵌段共聚高分子及其與無機奈米粒子混成薄膜之研究", *工程技術*, no92, June, pp118-123, 2007.

- [8] J. H. Chang, F. Y. Hsu, M. J. Liao, C.A. Huang, “A Study of Direct- and Pulse- Current Chromium Electroplating with Rotating Cylinder Electrode (RCE)”, *Applied Surface Science*, 253, pp. 6829–6834, 2007. (SCI)
- [9] Yuchan. Liu, Jang-Hsing Hsieh, and Tung Siew Tung, “Determination of SiO<sub>2</sub> Thickness at The Interface of ZnO/Si by Ellipsometry”, *JAPANESE JOURNAL OF APPLIED PHYSICS*, 46, 9A, 6068, 2007.
- [10] J. H. Hsieh, P. C. Liu, M. K. Cheng, and P. W. Kuo, “Surface Characterization of TaN-Cu Nanocomposite Thin Films Using Scanning Surface Potential Microscopy”, *JOURNAL OF SCANNING PROBE MICROSCOPY*, 2, 1, 2007.
- [11] C.C. Tseng, J.H. Hsieh\*, W. Wu, S.Y. Chang, C.L. Chang, “Emergence of Ag particles and their effects on the mechanical properties of TaN–Ag nanocomposite thin films”, *SURFACE & COATINGS TECHNOLOGY*, 201, 9565, 2007.
- [12] T. J Hsueh, C. L. Hsu, S-J Chang, P. W. Kuo, J. H. Hsieh., I. C. Chen, “Cu<sub>2</sub>O/n-ZnO nanowire solar cells on ZnO:Ga/glass templates”, *Scripta Materialia* 57,53–56,2007.

### 三、會議論文

- [1] S. J. Liu, “Fabrication and Physical Properties of Transparent Conducting ZnSnO<sub>3</sub> Films”, 2007 中華民國物理學會年會, 中壢, Taiwan, Jan. 23-25, 2007.
- [2] S. J. Liu(劉旭禎), L. Y. Chen(陳亮宇), C. T. Chang(張嘉恬), and J. Y. Juang(莊振益) “Transparent conducting ZnSnO<sub>3</sub> films grown on c-cut sapphire substrates”, 2007 中國材料科學學會年會, 新竹, Taiwan, Nov. 16-17, 2007.
- [3] S. J. Liu(劉旭禎), J. Y. Juang(莊振益), J-Y. Lin(林俊源), K. H. Wu(吳光雄), T. M. Uen (溫增明), “Correlation between short-range ferromagnetic ordering and insulator-metal transition in La<sub>2/3</sub>Ca<sub>1/3</sub>MnO<sub>3-y</sub> films”, 2007 中國材料科學學會年會, 新竹, Taiwan, Nov. 16-17, 2007.
- [4] 方皓葦, 吳政峯, 尤瑞彬, 駱騏峯, 房振宇, 鄭維平, 陳亮宇, 劉旭禎, “鍍膜溫度與退火處理對錫酸鋅透明導電薄膜導電特性之影響”, 2007 中國材料科學學會年會, 新竹, Taiwan, Nov. 16-17, 2007.
- [5] 陳亮宇, 劉旭禎, 方皓葦, 謝章興, 徐富勇, 程志賢, “鉻摻雜二氧化錫透明導電薄膜之製備與光電特性”2007 中國材料科學學會年會, 新竹, Taiwan, Nov. 16-17, 2007.
- [6] S. J Liu, C. T. Chang, L. Y. Chen, S. F. Chen, C. C. Hsieh, T. Y. Cheng and J. Y. Juang, “Fabrication and physical properties of transparent conducting Zn<sub>1+x</sub>Sn<sub>1-x</sub>O<sub>3</sub> films (x =-0.1, 0 and 0.1)” 2007 International Symposium on Organic and Inorganic Electronic Materials and Related Nanotechnologies(EM-NANO2007), Nagano, Japan, June 19-22, 2007.
- [7] S.C.Chen and P. C. Kuo, “Effect of capped layer on the microstructure and magnetic properties of FePt films,” 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore, Maryland, U.S.A., AF-03, 2007.



- [8] S.C.Chen, P. C. Kuo, P. L. Lin, and Y. H. Fang, "Microstructure and coercivity of nanocomposite FePt multilayer films," NanoSMat 2007, Algarve, Portugal, NNC14, 2007.
- [9] S. C. Chen and P. C. Kuo, "Enhanced (200)-textured MgO films by rf-magnetron sputtering in Ar plus N<sub>2</sub> atmosphere," NanoSMat 2007, Algarve, Portugal, NNC126, 2007.
- [10] S. C. Chen, P. C. Kuo, P. L. Lin, Y. Li, and Y. H. Fang, "Effect of Co underlayer on the magnetic properties and microstructures of TbCo films," ISAMMA 2007, Jeju, Korea, TC 03, 2007.
- [11] S. C. Chen, P. C. Kuo, C. L. Shen, S. L. Hsu, and Y. H. Fang, "Microstructure and magnetic properties of Co-rich Co-Pt films by epitaxial deposition on Pt underlayer," Third Seeheim Conference on Magnetism (SCM2007), Frankfurt, Germany, P-14, 2007.
- [12] S. C. Chen, P. C. Kuo, C. L. Shen, S. L. Hsu, and Y. H. Fang, "Sputtered epitaxial Co-rich Co-Pt films for perpendicular magnetic recording media," 8<sup>th</sup> Perpendicular Magnetic Recording Conference (PMRC 2007), Tokyo, Japan, 15pD-22, 2007.
- [13] 陳勝吉、郭博成、林百勵、方彥翔、孫安正、陳松柏, "Effects of MgO and Ag capped layer on the coercivity and magnetic anisotropy of FePt films," 中華民國物理學會 96 年年會論文集, PC-18, 1 月, 2007.
- [14] 陳勝吉、郭博成、沈智隆、陳松柏、洪偉瀚, "Effect of N<sub>2</sub> partial pressure on the microstructure and (200)-textured of MgO films deposited by rf-magnetron sputtering," 中國材料科學學會 96 年年會論文集, P07-057, 11 月, 2007.
- [15] 陳勝吉、郭博成、沈智隆、徐上林、方彥翔、黃凱澤、林哲平、洪偉瀚, "Co<sub>3</sub>Pt 薄膜之顯微結構與磁性質研究," 中國材料科學學會 96 年年會論文集, P05-011, 11 月, 2007.
- [16] 陳勝吉、郭博成、沈智隆、方彥翔、徐上林、洪偉瀚, "Enhancement in perpendicular hard magnetic properties of Co-rich Co-Pt films by epitaxial deposition without capped layer," 2007 能源與光電薄膜科技研討會, #9-8, 12 月, 2007.
- [17] P. C. Juan, J. D. Jiang, W. C. Shih, J. Y. M. Lee, "The effect of annealing temperature on the electrical properties of metal-ferroelectric (PbZr<sub>0.53</sub>Ti<sub>0.47</sub>O<sub>3</sub>)-insulator (ZrO<sub>2</sub>)-semiconductor (MFIS) thin-film capacitors," INFOS 2007-Insulating Films on Semiconductors, June 20-23, Athens, Greece, 2007.
- [18] H. W. Chen, S. Y. Chen, H. S. Haung, F. C. Chiu, C. H. Liu, L. W. Cheng, C. T. Lin, G. H. Ma, P. C. Juan and H. L. Hwang, "Interface Characterization and Carrier Conduction Mechanism of Al/HfO<sub>2</sub>/Silicon Structure," Fifth International Symposium on Control of Semiconductor Interfaces, Nov. 12-14, Tokyo, Japan, 2007.
- [19] T. Y. Liu, S.C. Chen, S. Y. Chen, D. M. Liu, "Study on SiO<sub>2</sub>/glycerol nano-hybrid as a novel drug carrier for delivering agents with low polarity-Effect of pH value", 材料年會, 新竹, Nov. 16, 2007.

- [20] T. Y. Liu and S. Y. Chen, “Study on ultrasound-sensitive SiO<sub>2</sub>/NOCHC nano-hybrid as a novel drug carrier for delivering hydrophobic agents”, 6th MP3, Beijing, China, Sep. 13, 2007.
- [21] T.Y. Liu, S.Y. Chen, S.C. Chen and D.M. Liu. “Study on amphiphilic SiO<sub>2</sub>/glycerol/DMSO nano-hybrid as a novel drug carrier for delivering hydrophobic agents”, NanoSmat, Portugal, July 9, 2007.
- [22] T.Y. Liu, S.Y. Chen, S.C. Chen and D.M. Liu, “Study on SiO<sub>2</sub>/glycerol hybrid for delivering partially hydrophobic agents”, China Nano 2007, Beijing, China, June 4, 2007.
- [23] Yang-Yen Yu<sup>\*</sup>, Chung-Yi Hsu” High transparent thin films prepared from polyimide and a novel colloidal core-shell nanocomposite particles”, ISFED, 12/17-18, Hsinchu, Taiwan, 2007.
- [24] Yang-Yen Yu<sup>\*</sup>, Wen-Chen Chien, Chung Yi Hsu “Study on the solvatochromism and thermochromism of PF-b-P2VP rod-coil copolymers “, ISNST, 11/8-9, Tainan, Taiwan, 2007.
- [25] Yang-Yen Yu<sup>\*</sup>, Wen-Chen Chien, Shih-Ting Chen” Synthesis and characterization of PS-s-P2VP star copolymers and its blending with silver nanoparticles” , ISNST, 11/8-9, Tainan, Taiwan, 2007.
- [26] Wen-Chen Chien, Yang-Yen Yu<sup>\*</sup>, Chiung-Lin Lai<sup>1</sup> Effect of SnO<sub>2</sub>:TiO<sub>2</sub>/ZrO<sub>2</sub>:Sb<sub>2</sub>O<sub>3</sub> core-shell nanoparticles on the properties of hybrid thin films based on fluorinated polyimides”, ISNST, 11/8-9, Tainan, Taiwan, 2007.
- [27] Wen-Chen Chien<sup>\*</sup>, Yang-Yen Yu, Shih-Yu Chen “Effect of europium complex on the optical and luminescent properties of hybrid thin films based on polyacrylate and silica” , ISNST, 11/8-9, Tainan, Taiwan, 2007.
- [28] 游洋雁<sup>\*</sup>、簡文鎮、賴炯霖, “感光性聚亞醯胺/奈米二氧化矽混成光學薄膜以微影技術製備曝光顯影圖形其性質之研究”, 中國材料科學年會, 11/16-17, 新竹交大, 2007.
- [29] 游洋雁<sup>\*</sup>、簡文鎮、陳世育, “以光聚合法製備(PEDMA/PTMPTA) /SiO<sub>2</sub> 混成光學薄膜之研究”, 中國材料科學年會, 11/16-17, 新竹交大, 2007.
- [30] 游洋雁<sup>\*</sup>、許鐘乙、簡文鎮, “蒾系雙親性嵌段共聚物高分子之合成及其形態與光物理特性研究”, 中國材料科學年會, 11/16-17, 新竹交大, 2007.
- [31] 簡文鎮<sup>\*</sup>、陳詩婷、游洋雁, “聚苯乙烯/聚(2-乙炔吡啶) 共聚物之合成與聚集形態的探討”, 中國材料科學年會, 11/16-17, 新竹交大, 2007.
- [32] Yang-Yen Yu, “Synthesis and Characterization of Poly(3-hexyl thiophene)/ Poly(3-(trimethoxysilyl)propyl methacrylate) Rod-Coil Block Copolymers By Using Atom Transfer Radical Polymerization” , MP<sup>3</sup>, 9/13-9/16, Beijing, China, 2007.
- [33] Yang-Yen Yu<sup>\*</sup> Chung Yi Hsu, Morphological Transformation and Photophysical Properties of Rod-Coil Poly[2,7-(9,9-dihexylfluorene)]-block-poly(2-vinyl pyridine)”, MP<sup>3</sup>, 9/13-9/16, Beijing, China, 2007.

- [34] Yang-Yen Yu\* and Wen-C-hang Chen “Synthesis of CdS/PS-b-PMSMA Nanocomposite in amphiphilic PS-b-PMSMA micelles and its Optoelectronic Properties” , MP<sup>3</sup>, 9/13-9/16, Beijing, China, 2007.
- [35] Yang-Yen Yu\*, Shih-Ting Chen ”Preparation and Morphology of Polystyrene–Poly (2-vinyl pyridine) Heteroarm Star Polymers by Atom Transfer Radical Polymerization” ,MP<sup>3</sup>,9/13-9/16, Beijing, China,2007.
- [36] Yang-Yen Yu\*, Wen-Chen Chien, and Chiung-Lin Lai “Synthesis and characterization of organic-inorganic hybrid thin films from Polyimide and monodispersed composite nanoparticles” ,MP<sup>3</sup>,9/13-9/16, Beijing, China,2007.
- [37] Wen-Chen Chien ,Yang-Yen Yu\* Shih-Yu Chen<sup>1</sup> ,Chang-Chung Yang<sup>3</sup>“Preparation of Poly(acrylic)/SiO<sub>2</sub>/EuL<sub>3</sub> • H<sub>2</sub>O Hybrid Thin Films from Monodispersed Colloidal Silica” , MP<sup>3</sup>,9/13-9/16, Beijing, China,200.
- [38] 游洋雁\*、陳世育、簡文鎮,“PTMPTA/ SiO<sub>2</sub>:EuL<sub>3</sub>•2H<sub>2</sub>O 混成光學薄膜及其特性研究”, 6/8, 第六屆台塑工程研討會, 2007.
- [39] 游洋雁\*、許鐘乙、簡文鎮,“利用原子轉移自由基聚合法製備第系硬桿-柔軟嵌段共聚物及其光物理特性探討”, 6/8, 第六屆台塑工程研討會, 2007.
- [40] 游洋雁\*、賴炯霖、簡文鎮,“6FDA-ODA/複合奈米粒子高折射率混成光學薄膜製備及其性質之研究”, 6/8, 第六屆台塑工程研討會, 2007.
- [41] 陳世育、游洋雁\*、賴炯霖、林資育、吳煒凡、周柏昕、李育德,“聚噻吩發光共軛高分子之合成及其結構對其光學特性的影響”, 6/8, 第六屆台塑工程研討會, 2007.
- [42] 簡文鎮\*、陳詩婷、游洋雁,“PS-s-DVB 星狀聚合物與 **PS-b-P2VP** 線性嵌段共聚物之製備及奈米 Ag 摻混之研究”, 6/8, 第六屆台塑工程研討會, 2007.
- [43] Yang-Yen Yu\*, Wen-Chen Chien, Chiung-Lin Lai, “ Synthesis and characterization of Polyimide /monodispersed colloidal Silica hybrid thin films“ MPA,01/15,Belfast UK,2007.
- [44] Yang-Yen Yu\*, Wen-Chen Chien, Shih-Yu Chen, “Hybrid Thin Films Derived from Poly(acrylic)/Colloidal Silica/Lanthanide metal Complex “MPA,01/15,Belfast UK,2007.
- [45] 游洋雁\*、簡文鎮、周愉恆,“原子轉移自由基聚合法製備雙親性星狀嵌段共聚高分子薄膜之研究“, 1/19-20, 第 30 屆高分子工程研討會, 台北, 2007.
- [46] 游洋雁\*、陳世育、簡文鎮,“由奈米二氧化矽製備壓克力/稀土元素複合物之混成光學薄膜及其特性研究“, 1/19-20, 第 30 屆高分子工程研討會, 台北, 2007.
- [47] 游洋雁\*、陳世育、簡文鎮,“以熱聚合法製備壓克力/二氧化矽/Eu 複合物混成薄膜及其光電特性研究“, 1/19-20, 第 30 屆高分子工程研討會, 台北, 2007.
- [48] 游洋雁\*、賴炯霖、簡文鎮,“熱固性聚亞醯胺/奈米二氧化矽複合光學薄膜製備及其性質之探討“, 1/19-20, 第 30 屆高分子工程研討會, 台北, 2007.
- [49] 游洋雁\*、賴炯霖、簡文鎮,“由無機奈米複合粒子製備聚亞醯胺混成光學薄膜及其性質之研究“, 1/19-20, 第 30 屆高分子工程研討會, 台北, 2007.
- [50] J. S. Cheng, T. Y. Chen, and C. M. Lin, “Effects of Sputtering Conditions on Mo Bottom-Electrode Layer and Its Influence on the Subsequently Sputtered AlN Piezoelectric Thin Film”, International Conference on Metallurgical Coatings and Thin Films (ICMCTF 2007), B1-2-7, San Diego, USA, 2007.

- [51] J. S. Cherng, T. Y. Chen, and C. M. Lin, "Two-step Reactive Sputtering of Piezoelectric AlN Thin Films on Mo Electrodes for FBAR Applications," European Materials Research Society Spring Meeting (E-MRS 2007), Q-XIV 3, Strasbourg, France, 2007.
- [52] J. S. Cherng and J. R. Sau, "Aqueous Electrophoretic Deposition of YSZ Thin Film Electrolyte for Solid Oxide Fuel Cells", International Conference on Materials for Advanced Technologies (ICMAT 2007), KA-4-OR6, Singapore, 2007.
- [53] J. S. Cherng, T. Y. Chen, and C. M. Lin, "Two-step Reactive Sputtering of Piezoelectric Aluminum Nitride Thin Films on Molybdenum Electrodes for FBAR Applications, the 6th Asian-European International Conference on Plasma Surface Engineering (AEPSE 2007), OR0503, Nagasaki, Japan, 2007.
- [54] 程志賢、陳琮擘,"Mo 電極層上濺鍍 AlN 壓電薄膜結構性質討論",2007 能源與光電薄膜科技研討會暨國科會專題計畫研究成果發表會,論文編號 4-29,2007.
- [55] 徐富勇、葉宏立、盧永益,"濺鍍功率對 ZnO:Al(Sc)透明導電薄膜結構及光電性質之影響",2007年能源與光電薄膜科技研討會,大同大學,12月21日-12月22日,#4-27,2007.
- [56] 葉宏立、徐富勇,"基板溫度對濺鍍 ZnO:Al(Sc)透明導電薄膜結構及光電性質之影響",2007年光電科技研討會,國立中興大學,11月30日-12月1日,EP-061,2007.
- [57] 徐富勇、葉宏立,"利用非對稱雙極脈衝直流反應式磁控濺鍍 ZnO 與 AZO 薄膜之研究", 第六屆台塑企業應用工程技術研討會, 明志科技大學, 6月8日,AH-69,2007.
- [58] Chao Yu Chen, Fu Yung Hsu, Ching An Huang, "The annealing behavior of Cr-Ni multilayer electroplated from Cr(III)-Ni(II) plating bath ", ECS annual conference, Chicago, USA, May 06 - May 10.,2007.
- [59] Chao Yu Chen, Fu Yung Hsu, Ching An Huang, "The corrosion behavior of decorative chromium deposits electroplated from the trivalent chromium bath", ECS annual conference, Chicago, USA, May 06 - May 10,2007.
- [60] F. Y. Hsu, T. H. Chen,"Structure and properties of Al-Doped ZnO Transparent Conducting Thin-Films Prepared by Asymmetric Bipolar Pulsed-DC Reactive Magnetron Sputtering Method", International Meeting on Developments in materials, processes and applications of nanotechnology MPA-2007, Society of Nanoscience and Nanotechnology, Belfast, North Irland, 15<sup>th</sup>, Jan. ,2007.
- [61] Jong-Hong Lu, Chih-Hsuan Wang, Shih-Yu Hung, and Yu-Hsin Yeh, "Some Characterization Applications of AFM/LFM/MFM for DVD Substrates, Planarized Ceramic Substrates and Hard Disks", 中華民國材料年會, 2007.
- [62] Jong-Hong Lu, Chih-Hsuan Wang, and Chung-Liang Hsu, Ching-Jung Liu, "Optical properties of AlN/TiN and AlON/TiON multiple-quantum-well structures by reactive sputtering method", 中華民國物理年會, 2007
- [63] 張哲誠,謝章興,"退火處理對 TaO<sub>x</sub>N<sub>y</sub> 薄膜之親水性的影響", Proc. The 2007 Ann. Conference of The Taiwan Society for Thin Film and Coating,Taipei, Taiwan, 2007.
- [64] 張哲誠, 謝章興, 郭姵姣, 彭坤增, 劉旭禎,薛丁仁,張守進,"AC 阻抗儀量測 P-N 界面", *Proc. Ann. Mater. Conference*, ed. The Chinese Society for Materials Science, Hsinchu, Taiwan, 2007.
- [65] P. W. Kuo, J. H. Hsieh, and W. Wu, "Optoelectronic behaviors of Cu<sub>2</sub>O-Ag-Cu<sub>2</sub>O multilayers", Int. Symposium on Advanced Ceramics and Technology for Sustainable Energy, Kenting, Taiwan, Nov. 4-7, 2007.



- [66] J. H. Hsieh, M. K. Cheng, Y. G. Chang, “Effects of annealing of antiwear and anti bacterial properties of TaN-Cu thin films”, The AVS 54th Int. Symposium, Seattle, WA, USA, OCT. 14-19, 2007.
- [67] C. Li and J. H. Hsieh, “A study on the amorphous Ta-Zr films as diffusion barrier in Cu metallization”, The AVS 54th Int. Symposium, Seattle, WA, USA, OCT. 14-19, 2007.
- [68] J. H. Hsieh, C. C. Tseng, and W. Wu, “Toughening and hardening of TaN-Ag nanocomposite thin films”, 6<sup>th</sup> Int. Conference on Materials Processing for Properties and Performance, Beijing, Sept. 13-16, 2007.
- [69] J. H. Hsieh, P. W. Kuo and W. Wu, “ Effects of annealing on the electrical and optical properties of Cu<sub>2</sub>O-Ag-Cu<sub>2</sub>O multilayers”, The 6<sup>th</sup> Asian-European Int. Conf. On Plasma Surface Engineering, Nagasaki, Japan, Sept. 24-29, 2007.
- [70] J. H. Hsieh, M. K. Cheng, C. Li, C. L. Chang, and P. C. Liu, “Mechanical behaviors of TaN-Cu nanocomposite thin films”, The 6<sup>th</sup> Asian-European Int. Conf. On Plasma Surface Engineering, Nagasaki, Japan, Sept. 24-29, 2007.
- [71] J. H. Hsieh, C. C. Tseng W. Wu, Y. G. Chang, and S. Y. Chang, “ Anti-wear and Anti-bacterial behaviors of TaN-Ag Nanocomposite Thin Films with and without annealing”, The 6<sup>th</sup> Asian-European Int. Conf. On Plasma Surface Engineering, Nagasaki, Japan, Sept. 24-29, 2007.
- [72] J. H. Hsieh, M. K. Cheng, Y. G. Chang, and S. H. Chen, “Anti-wear and Anti-bacterial behaviors of TaN-Cu Nanocomposite Thin Films”, ICMCTF-2007, San Diego, USA, April 23-April 27, 2007.
- [73] 彭彥鈞, 林景崎, 彭坤增, “鋁摻雜之氧化鋅(AZO)透明導電氧化薄膜在緩衝溶液中電化學行為”, 96 防蝕工程學會, 楊梅, Taiwan, Aug.30, 2007.
- [74] 彭坤增, 施維倫, 陳建安, 林益志, 羅世中, “新型之 N 型導電薄膜特性分析研究”, 6th 台塑研討會, 台北, Taiwan, Jun.8, 2007.
- [75] 黃家宏, 陳志遠, 彭坤增, “以累積軋延技術製備 Ti/Ni 形狀記憶合金之研究”, 6th 台塑研討會, 台北, Taiwan, Jun.8, 2007.
- [76] 胡志偉, 陳建安, 彭坤增, “ ZnO : Al(1.7%)Sc RF-DC 磁控濺射法製備導電膜之探討”, 6th 台塑研討會, 台北, Taiwan, Jun.8, 2007.
- [77] 施維倫, 林益志, 彭坤增, “ AZO/ZnO:AlSc, ZnO:AlSc/AZO N 型雙層導電薄膜特性分析研究”, 6th 台塑研討會, 台北, Taiwan, Jun.8, 2007.
- [78] 羅世中, 楊昭亮, 彭坤增, “AZO N 型導電薄膜特性分析研究”, 6th 台塑研討會, 台北, Taiwan, Jun.8, 2007.
- [79] Kun-Cheng Peng, Jing-Chie Lin, C. A. Tseng, Sheng-Long Lee, “Characterization of the single and double films consisting of Al, Sc-codoped ZnO /Al-doped ZnO and Al-doped ZnO /Al,Sc-codoped ZnO”, 6<sup>th</sup> Asian-European International Conference on Plasma Surface Engineering, AEPSE, Sep. 24~29, 2007.





- [80] Jing-Chie Lin, Kun-Cheng Peng, C. A. Tseng, Sheng-Long Lee, Deposition of Al-doped and Al, Sc-codoped zinc oxide films from the targets of ZnO and Al-xSc (x=0, 0.4, 0.8 and 1.7 wt%) sputtered by RF and DC, 6<sup>th</sup> Asian-European International Conference on Plasma Surface Engineering, AEPSE, Sep. 24~29, 2007.
- [81] 彭坤增, 林景崎, 劉仕國, 李勝隆, "Al, Sc-codoped ZnO /Al-doped ZnO and Al-doped ZnO /Al,Sc-codoped ZnO 單層鍍膜與複層鍍膜的結構特性研究", 96 鍍膜年會, 台北, Taiwan, Dec. 21~22, 2007.
- [82] 彭坤增, 林景崎, 彭彥鈞, 李勝隆, "RF 與 DC 濺鍍系統對 ZnO 及 Al-xSc(x=0, 0.4, 0.8, 1.7 wt%) 靶材製備氧化鋅摻雜鋁銦合金之導電薄膜研究", 96 鍍膜年會, 台北, Taiwan, Dec. 21~22, 2007.
- [83] 林景崎, 彭彥鈞, 彭坤增, "AZO與ITO等透明導電薄膜在3.5%NaCl中之電化學行為", 96 材料年會, 新竹, Taiwan, Nov. 16~17, 2007.

#### 四、專書及技術報告

- [1] 劉旭禎, "錫酸鋅(ZnSnO<sub>3</sub>)透明導電薄膜物性研究與元件應用(一)", 國科會研究計劃報告, 2007.

#### 五、專利

項次	發明人	專利權人	專利名稱	類別	公告文號	專利國家	日期
1	郭博成 黃暉理 許仁華 張慶瑞 孫安正 陳勝吉 周群淵 李長泰 張晃暉	台灣大學	製備 L1 <sub>0</sub> 相合金薄膜的方法	發明	I 274788	中華民國	2007/03/01
2	游洋雁, 陳文章	長春石油化學股份有限公司	製備液晶顯示器彩色濾光片保護膜之方法及由該方法製得之彩色濾光片保護膜	發明	I 290254	中華民國	2007/11/21
3	徐文泰 盧榮偉 周國光 葉國樁 戴河志 張志銘	工研院	場發射源組件的金屬性納米絲或納米管的植入方法	發明	ZL02153327.X	中國大陸	2007/01/17

## 六、研究計畫及建教案

項次	主持人	計畫名稱	委託單位	起訖日期	金額
1	陳勝吉	快速退火處理對 FePt 合金薄膜顯微結構與磁性質之影響 (NSC 96-2815-C-131-003-E)	國科會	20070701 20080229	47,000
2	劉旭禎	錫酸鋅(ZnSnO <sub>3</sub> )透明導電薄膜物性研究與元件應用—第2年 (NSC 95-2112-M-131-002-MY3)	國科會	20070801 20080731	1,033,000
3	劉澤英	具有水難溶藥物包覆能力的超音波敏感釋控材料開發及其奈米結構設計(I) (NSC 96-2221-E-131-016-)	國科會	20070801 20080731	799,000
4	游洋雁	利用 ATRP 合成直線及星狀雙親性硬桿-柔撓團聯共聚物及其與雙親性寡聚物或無機奈米粒子摻合之研究 (NSC 96-2221-E-131-006-)	國科會	20070801 20080731	707,000
5	盧榮宏	Prior-study Project of Ceramic Substrate Planarization	香港應科院	20070801 20071231	200,000
6	謝章興	抗菌耐磨氮化鈮-銅奈米複合薄膜之再生性及其與氮化鈮-銀及氮化鈮-銀銅奈米複合薄膜之比較 (NSC 96-2221-E-131-007-)	國科會	20070801 20080731	659,000
7	阮弼群	以鐵電薄膜製作非揮發性記憶器及其元件可靠度之研究 (NSC 96-2221-E-131-017-)	國科會	20070801 20080731	763,000
合計					4,208,000

## 七、研究生論文

項次	研究生姓名	論文題目	指導教授	畢業日期
1	賴炯霖	由無機奈米粒子製備聚亞醯胺混成光學薄膜及其研究	游洋雁	2007/06
2	陳世育	由無機奈米二氧化矽製備壓克力/稀土元素複合物混成光電薄膜及其研究	吳永富 游洋雁	2007/06
3	鄭名凱	耐磨抗菌之 TaN-Cu 奈米複合薄膜	謝章興	2007/06

## 八、榮譽

游洋雁老師

- 1.2007 年 01 月擔任國際期刊 Journal of Nan science & Nanotechnology 論文審稿人
- 2.2007 年 06 月擔任淡江大學化學工程與材料工程研究所碩士論文口試委員。

謝章興

1. 2007 年 05 月擔任中興大學材料工程研究所碩士論文口試委員
- 2.2007 年 07 月擔任明道大學材料工程研究所碩士論文口試委員
3. 2007 年國科會材料學門計畫複審委員
4. 2007 年 05 月台塑工程研討會研究論文第二名

## 九、其他：無

