



# 材料工程系

## Department of Materials Engineering

### 一、師資

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- [132]何柏成, 陳奐霖, 陳柏融, 蕭育生,\* “次世代癌症檢測晶片: 導電高分子系之生物電子晶片於循環腫瘤細胞之捕捉與釋放”, 第13屆台塑關係企業應用技術研討會, Tao-Yuan, 中華民國, 2015/6/26, 【國內學術研討會】
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## 四、專利

項次	發明人	專利權人	專利名稱	類別	證書字號	專利國家	生效日期
1	李志偉	明志科技大學	改善金屬鑄造模具脫模效果的方法	發明專利	I505881	國內	2015/11/1
2	彭坤增	明志科技大學	細化合金晶粒之方法	發明專利	I475120	國內	2015/3/1
3	彭坤增	明志科技大學	鎳奈米管之製備方法及其結構	發明專利	I487670	國內	2015/6/11
4	彭坤增	明志科技大學	螢光粉之物理製作方法及其螢光粉及其照明結構	發明專利	I470059	國內	2015/1/21
5	程志賢	國立臺灣科技大學	氣體感測器	發明專利	I506274	國內	2015/11/1
6	游洋雁	國立臺灣大學	polyimidothioethers-inorganic nanoparticle hybrid material, intermediate thereof and their preparation	發明專利	US 8,962,769 B2	美國	2015/2/24
7	劉定宇	中央研究院	可捕捉與偵測生物分子之功能化胜肽醣奈米粒子陣列	發明專利	I481868	國內	2015/4/21
8	劉定宇	國立臺灣大學	可撓式表面增強拉曼光譜之基板	發明專利	I496194	國內	2015/8/11

## 五、研究及產學合作計畫

單位:元

項次	主持人	計畫名稱	委託單位	起訖日期	總計	政府	企業	本校
1	劉定宇	具有表面增強拉曼功能之磁性奈米載體平台於生物分離、生醫光電檢測與藥物控制釋放之合成與應用-(II)(III)	科技部	104/08/01 105/07/31	898,000	898,000	0	0
2	阮弼群	軟性 CZT(S,Se)銅鋅錫硫硒薄膜太陽能電池與固態硫及硒化製程之開發	科技部	104/08/01 105/07/31	762,000	762,000	0	0
3	謝建國	以立體之三維石墨烯製備奈米複合材料為超級電容電化學儲能元件之研究	科技部	104/08/01 105/07/31	1,125,000	1,125,000	0	0
4	黃啟賢	利用高密度/低損傷電漿製程製備高性能石墨烯場效電晶體(III)	科技部	104/08/01 105/07/31	1,123,000	1,123,000	0	0
5	李志偉	以共濺鍍型/疊加型高功率脈衝磁控濺鍍系統製備氮化鉻基質之奈米複合薄膜研究(1/3)	科技部	104/08/01 105/07/31	1,398,000	1,398,000	0	0

項次	主持人	計畫名稱	委託單位	起訖日期	總計	政府	企業	本校
6	游洋雁	新穎 P-型共軛高分子/二維材料混成薄膜之製備於可撓式鈣鈦礦太陽能電池及發光二極體光電元件(1/3)	科技部	104/08/01 105/07/31	1,216,000	1,216,000	0	0
7	李志偉	先進物理鍍膜技術與鍍膜系統設備開發(1/4)	科技部	104/10/01 105/09/30	9,000,000	9,000,000	0	0
8	吳鉉忠	雷射積層熔融製造生醫用鈦合金組件之研究(2/3)	科技部	104/11/01 105/10/31	534,625	534,625	0	0
9	李志偉 張麗君	保護性鍍膜製程技術開發與功能檢測(2/3)	科技部	104/02/01 105/01/31	2,000,000	2,000,000	0	0
10	阮弼群	深陷阱能級於結晶矽材內部對太陽能電池的影響研究	科技部	104/02/01 105/01/31	2,047,000	1,537,000	510,000	0
11	李志偉	切削刀具表面鍍製數微米厚度奈米鑽石薄膜之技術開發(2/2)	科技部	104/06/01 105/05/31	1,916,000	1,458,000	458,000	0
12	陳志平	具共軛側鏈之 P 型有機半導體材料合成製備、鑑定及其在高效率有機太陽能電池應用	科技部	104/08/01 105/07/31	1,100,000	1,100,000	0	0
13	蕭育生	整合型有機生物電子晶片捕捉循環腫瘤細胞及其於生醫檢測之應用(II)(III)	科技部	104/08/01 105/07/31	923,000	923,000	0	0
14	謝章興	可調控氮氧化鋁薄膜之機械性質、抗腐蝕性、抗菌性、生物相容性以及摻雜銀後相關性質之變化	科技部	104/08/01 105/07/31	1,106,000	1,106,000	0	0
15	吳鉉忠	以第一原理分析鋁鎵雙摻於氧化鋅之光電性質與實驗驗證	科技部	104/08/01 105/07/31	733,000	733,000	0	0
16	劉定宇 黃啟賢 蕭育生	功能化石墨烯之綠色製程技術發展於生醫產業研究與應用	教育部	104/06/01 105/05/31	3,248,000	1,618,000	1,300,000	330,000
17	李志偉	103 年第 2 年產業學院計畫材料製程產業人才培育產業學分學程	教育部	104/08/01 105/07/31	440,000	400,000	0	40,000
18	李志偉	104 年第 1 年產業學院計畫材料製程產業人才培育產業學分學程	教育部	104/08/01 105/07/31	440,000	400,000	0	40,000
19	張麗君	「新穎觀賞魚及周邊設備之研發」計畫-開發小水體密閉循環飼養系統模組及飼養周邊設備	行政院農業委員會漁業署	104/01/01 104/12/31	880,000	880,000	0	0
20	黃啟賢	乾溼式蝕刻技術於藥物傳遞系統開發	微邦科技股份有限公司	104/01/15 105/01/15	400,000	0	400,000	0
21	張麗君	LED 薄化製程技術之研究	凱勒斯科技有限公司	104/01/15 105/12/31	50,000	0	50,000	0
22	吳鉉忠	連鑄鑄模之多相流數值模型建立與研究	中國鋼鐵股份有限公司	104/03/01 105/02/29	600,000	0	600,000	0
23	程志賢	拋光/研磨材料之顯微結構探討	豪瓏應用材料有限公司	104/06/01 105/05/31	150,000	0	150,000	0
24	李志偉	新穎靶材開發與鍍膜驗證分析(II)	光洋應用材料科技股份有限公司	104/01/01 104/12/31	150,000	0	150,000	0

項次	主持人	計畫名稱	委託單位	起訖日期	總計	政府	企業	本校
25	李志偉	新產品材料開發與機械性質測試與研究	晟銘電子科技股份有限公司	104/01/01 105/12/31	110,000	0	110,000	0
26	李志偉	功能性薄膜開發與性質分析	義豐隆股份有限公司	104/07/01 105/06/30	180,000	0	180,000	0
27	李志偉	氧化鋁人工牙根表面鍍膜技術驗證	光弘生醫科技股份有限公司	104/07/01 107/06/30	3,600,000	0	3,600,000	0
28	彭坤增	零廢微排 RO 機(1:0.1)	英屬開曼群島商建霖國際股份有限公司台灣分公司	104/08/01 104/12/31	300,000	0	300,000	0
29	劉定宇	先進常壓電漿改質石墨烯生物纖維面膜	佳欣生技藥粧有限公司	104/10/01 105/07/31	170,000	0	170,000	0
30	劉定宇	奈米光譜陣列晶片於水質之即時檢測	臺灣科技大學	104/01/01 104/12/31	150,000	0	150,000	0
31	陳勝吉	高性能含鋁磁性氧化物薄膜製程	工業技術研究院	104/05/01 104/05/30	37,500	0	37,500	0
32	陳勝吉	高性能含銅磁性氧化物薄膜製造	工業技術研究院	104/06/01 104/06/30	37,500	0	37,500	0
合計					36,824,625	28,211,625	8,203,000	410,000

## 六、技術移轉或授權案件

項次	教師	技術移轉或授權	計畫案名稱	廠商名稱	金額	起訖日期
1	李志偉	技術移轉	切削刀具表面鍍製數微米厚度奈米鑽石薄膜之技術開發(2/2)	國碩科技工業股份有限公司	313,000	104/06/01~105/05/31
2	阮弼群	技術移轉	深陷阱能級於結晶矽材內部對太陽能電池的影響研究	國碩科技工業股份有限公司	390,000	104/02/01~105/01/31
3	劉定宇	技術移轉	大氣電漿表面處理及氧化石墨烯懸浮液技術	佳欣生技藥粧有限公司	180,000	104/10/01~109/09/30

## 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	詹健宏	於 ABS 塑膠材料上鍍製 CrSiCN 奈米複合薄膜之製程開發及特性研究	徐富勇	104/01
2	陳季桓	鋁銦合金摻雜矽酸鋅之微結構及薄膜特性研究	彭坤增	104/01
3	朱昱任	以第一原理計算分析鋁/鎵摻雜於氧化鋅之光電性質之影響	吳鉉忠	104/06

項次	研究生姓名	論文題目	指導教授	畢業日期
4	鄭照光	電化學沉積硫化銅薄膜於導電塑料基材以應用於染料敏化太陽能電池可對撓電極之研究	謝建國	104/07
5	吳長紘	製程壓力對於銅箔上成長石墨烯之影響	謝建國	104/07
6	王思欽	高功率脈衝磁控濺鍍系統鍍製氮氧化鈦薄膜之電阻轉換特性研究	張麗君	104/07
7	謝承明	具吡咯並吡咯二酮結構的共軛小分子在有機太陽能電池的應用	陳志平	104/07
8	李仁豪	熱蒸鍍 5,10-Dihydroindeno[2,1-a]indenes 作為有機太陽能電池之電洞傳輸層	陳志平	104/06
9	溫朝光	硬磁合金薄膜之磁、電及機械性質研究	陳勝吉	104/07
10	王崇憲	低至高載子濃度之磁性氧化物複合薄膜開發	陳勝吉	104/07
11	邱捷揚	高密度電漿系統製備氧化鎳薄膜之微結構、光電及機械性質研究	陳勝吉	104/07
12	李冠群	比較 ZnO:B 與 ITO 透明導電薄膜於奈米壓印粗話表面之異質界面太陽能電池	阮弼群	104/7
13	羅振璋	透光導電基板最佳化研究	盧榮宏	104/07
14	莊修瑞	彩色導電一維光子晶體研究	盧榮宏	104/07
15	柳美禎	製作 In <sub>2</sub> O <sub>3</sub> (IZO)透明導電薄膜電晶體與電性分析	阮弼群	104/07
16	賴逸樺	可調控 TaOxNy 及 TaOxNy-Ag 薄膜之機械性質、抗菌性質暨生物相容性之研究	謝彰興	104/06
17	張任君	新穎鎢基金屬玻璃薄膜開發與性質評估之研究	李志偉	104/07
18	王緯仲	以高密度電漿輔助化學氣相沉積系統製備 P 型奈米晶矽氫薄膜及特性研究	程志賢	104/08
19	劉建甫	在鎳網上製作石墨烯製程及特性分析	徐富勇	104/10
20	林秀錡	添加氫、氬、氫氣體對 SiH <sub>4</sub> -H <sub>2</sub> 電漿特性及 nc-Si:H 薄膜性質之影響	謝彰興	104/07
21	江日升	鈣鈦礦之製備及其性質檢測於混成太陽能電池之應用	游洋雁	104/07
22	江艾樺	無機奈米粒子製備及其在聚醯亞胺/無機奈米粒子高介電混成膜之應用	游洋雁	104/07
23	張博為	混合高功率脈衝磁控濺鍍和射頻濺鍍進行氮化鉻鈮薄膜的製備及研究	李志偉	104/07

## 八、榮譽

姓名	作品名稱	獲獎或榮譽名稱	頒獎機構名稱	獲獎日期
彭坤增	環保海綿玻璃	入選	國立科學工藝博物館	104/10/04
彭坤增 盧榮宏	發泡玻璃的移動式綠環"堡"	入選獎	國立科學工藝博物館	104/10/04
陳勝吉	Co80Pt20 thin films with perpendicular hard	榮獲2015年第13屆	長庚大學	104/06/26

姓名	作品名稱	獲獎或榮譽名稱	頒獎機構名稱	獲獎日期
	magnetic properties and columnar grains for perpendicular magnetic recording media	台塑關係企業應用技術研討會論文海報競賽第六名		
蕭育生	Nanographene-based Carbon Nanofiber Arrays as 3D Bioelectronic Interfaces for Capture and Detection of Circulating Tumor Cells	學生海報競賽論文	TACT 台灣鍍膜科技協會	104/11/18
蕭育生	INTEGRATED THREE DIMENSIONAL CONDUCTING POLYMER-BASED BIOELECTRONICS FOR CAPTURE AND RELEASE OF CIRCULATING TUMOR CELLS	海報論文競賽	台灣化學感測器科技協會	104/06/05
蕭育生	次世代癌症檢測晶片:導電高分子系之生物電子晶片於循環腫瘤細胞之捕捉與釋放	壁報美工競賽	長庚大學	104/06/26
李志偉	製程參數對純鈦液態電漿氧化之微結構與光觸媒特性之影響研究	2015年第13屆台塑關係企業應用技術研討會研發論文暨海報競賽優勝	長庚大學	104/06/26
李志偉	鎢含量對於鎢基金屬玻璃薄膜抗腐蝕能力影響之研究	海報論文佳作獎	中華民國防蝕工程學會	104/08/28
李志偉	鐵元素對三元金屬玻璃薄膜微結構、機械性質與抗腐蝕能力之影響	海報論文佳作獎	中華民國防蝕工程學會	104/08/28
李志偉	混合高功率脈衝及射頻濺鍍系統製備CrVN薄膜之抗腐蝕能力與機械性質研究	海報論文佳作獎	中華民國防蝕工程學會	104/08/28
李志偉	含鉻類鑽石薄膜的抗腐蝕性質研究	海報論文佳作獎	中華民國防蝕工程學會	104/08/28
李志偉	A study of distributed Bragg reflectors made by ZrO <sub>2</sub> /MgO multilayer films	海報論文佳作	台灣鍍膜科技協會	104/10/17
劉定宇	Nanoparticle Arrays for Label-Free and Raman-Enhanced Bio-detection	海報論文競賽 Excellent (等同第一名)	TACT臺灣鍍膜科技學會	104/11/18
劉定宇	大氣電漿聚合PEGMA於矽水膠隱形眼鏡表面改質之特性研究	海報競賽第一名	長庚大學	104/06/26
劉定宇	Nanoparticle Array for Label-Free and Rapid SERS Bio-detection	海報競賽論文獎先進研究發展組-第一名	明志科大薄膜中心	104/11/27
劉定宇	Anti-Protein Adsorption Capability of Silicone Contact Lenses Grafted with PEGMA Polymer Brushes by Atmospheric	海報競賽論文獎產學研究發展組-第	明志科大薄膜中心	104/11/27

姓名	作品名稱	獲獎或榮譽名稱	頒獎機構名稱	獲獎日期
	Plasma-induced Copolymerization	二名		
劉定宇	Photo-thermal and Anti-bacterial Capability of Amino-modified-Graphene	口頭競賽論文獎先進研究發展組-第二名	明志科大薄膜中心	104/11/27
張麗君	The mechanical properties and oxidation resistance of Ta <sub>1-x</sub> Zr <sub>x</sub> N <sub>y</sub> thin films by high power impulse magnetron sputtering	Merit Prize paper of session	TACT	104/11/17
曾傳銘	氫化二氧化鈦作為鎂鋰電池正極活性材料效能與性質研究	佳作獎	中國材料科學學會	104/11/20
盧榮宏 陳志平	彩色的高效率鈣鈦礦結構太陽電池	佳作獎	台灣真空學會	104/11/06

