

## 五、論文著述：

### Book Chapter

- [1] **H. H. Lu\***, C. H. Chang, and P. C. Peng, "Improvement Schemes for Directly Modulated Fiber Optical CATV System Performances", Chapter 28, pp. 647-662, "*Frontiers in Guided Wave Optics and Optoelectronics*" Intech Book, 2010. (ISBN 978-953-7619-82-4)

### Journal Papers

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- [115] **H. H. Lu\***, C. H. Chang, P. C. Peng, H. S. Su, and H. W. Hu, "A Radio over GI-POF Transport System", Accepted, *IEEE/OSA Journal of Lightwave Technology*, 2010. (SCI, Impact Factor = 2.736@2008, Optics: 8/64)
- [114] C. H. Chang, H. S. Su, **H. H. Lu\***, P. C. Peng, and H. W. Hu, "Integrating Fiber to the Home and POF In-Door Routing CATV Transport System", Accepted, *IEEE/OSA Journal of Lightwave Technology*, 2010. (SCI, Impact Factor = 2.736@2008, Optics: 8/64)
- [113] W. Y. Lin, C. H. Chang, P. C. Peng\*, **H. H. Lu\***, and C. H. Huang, "Direct CATV Modulation and Phase Remodulated ROF Transport Systems", *Optics Express*, vol. 18, pp. 10301-10307, 2010. (SCI, Impact Factor = 3.880@2008, Optics: 3/64)
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- [110] W. Y. Lin, **H. H. Lu\***, H. C. Peng, and C. H. Huang, "Direct-Detection Full-Duplex Radio-over-Fiber Transport Systems", *Optics Letters*, vol. 34, pp. 3319-3321, 2009. (SCI, Impact Factor = 3.772@2008, Optics: 4/64)
- [109] C. L. Ying, C. H. Chang, Y. L. Houng, **H. H. Lu\***, W. S. Tsai, and H. S. Su, "Down-Link CATV/FTTH and Up-Link FTTH Transport Systems Based on Reflective Semiconductor Optical Amplifier", *Progress In Electromagnetics Research C (PIER C)*, vol. 11, pp. 109-120, 2009. (SCI, Impact Factor = 4.735@2008, Telecommunications: 1/67)
- [108] W. J. Ho, **H. H. Lu\***, C. H. Chang, W. Y. Lin, and H. S. Su, "Direct Modulation with Side-Mode injection in Optical CATV Transport Systems", *Progress In Electromagnetics Research Letters (PIER L)*, vol. 11, pp. 73-82, 2009. (SCI, Impact Factor = 4.735@2008, Telecommunications: 1/67)
- [107] W. J. Ho, **H. H. Lu\***, J. S. Shin, C. C. Liu, Y. L. Houng, and C. L. Ying, "Full-Duplex ROF Transport Systems Based on Broadband ASE Light Source and Nonlinear Distortions Suppression Scheme", *Journal of Optics A: Pure and Applied Optics*, vol. 11,

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- [44] 呂海涵, 國家通訊傳播委員會九十六年度「固定通信業務審查工作小組」委員。
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- [42] 呂海涵, 行政院新聞局第三屆有線廣播電視事業發展基金管理委員會委員。

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- [39] 呂海涵, 交通部九十一年度電信顧問小組 (TAB) 委員。
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- [37] 呂海涵, 教育部九十九年度國內大學校院博士班研究生出席國際學術會議審查委員。
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- [35] 呂海涵, 教育部全國高級中等學校八十九 ~ 九十七學年度工業類科學生技藝競賽命題評判委員。
- [34] 呂海涵, 高雄應用科技大學光電與通訊研究所 九十八學年度評鑑自評委員 (99/5/25)。
- [33] 呂海涵, 德霖技術學院光電工程系九十六學年度評鑑自評委員、外聘課程委員。
- [32] 呂海涵, 虎尾科技大學、萬能科技大學、蘭陽技術學院 光電工程系 九十五學年度評鑑自評委員。
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- [29] 呂海涵, 中國電機工程學會九十四年度青年論文獎第一名指導教授 (研究生：王文仁, 論文題目：利用VCSEL及外部光源注入技術建構各式WDM傳輸系統)。
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- [23] 呂海涵, 教育部九十三學年度大專院校通訊科技專題製作競賽優等指導教授(超寬頻ASE光源粗式波長分波多工系統)
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- [20] 呂海涵, 受邀“國立聯合大學光電所”光電專題演講 (2010/3/30)。
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- [10] 呂海涵, 受邀“國立台灣師範大學光電所”光電專題演講 (2002、2004、2006)。
- [9] 呂海涵, 受邀“國立中正大學光機電整合工程研究所”光電專題演講 (2005)。
- [8] 呂海涵, 東南技術學院“被動光纖網路到家與數位家庭到端技術研討會”主講人 (2005)。
- [7] 呂海涵, 受邀“國立彰化師範大學光電所”光電專題演講 (2004)。
- [6] 呂海涵, 受邀“國立台北科技大學電腦通訊與控制所”光電專題演講 (2004)。
- [5] 呂海涵, 受邀“國立台灣師範大學光電所”“2004 通訊與光電技術整合研討會”專題演講 (2004/7/23)。
- [4] 呂海涵, 受邀“國立台北科技大學機電科技所”光電專題演講 (2003)。
- [3] 呂海涵, 受邀“萬能技術學院光電系”光電專題演講 (2003)。
- [2] 呂海涵, “國立台灣師範大學工教系”技職教師自動化光電檢測技術研習班授課教師(2002)。
- [1] 呂海涵, 東南技術學院“21 世紀通訊科技與教育研討會”主講人、“太克科技公司 (Tektronix)”光電專題演講(2001)。

## 六、研發成果智慧財產權及其應用績效：

**專利** 請填入目前仍有效之專利。「類別」請填入代碼：(A)發明專利(B)新型專利(C)新式樣專利。

類別	專利名稱	國別	專利號碼	發明人	專利權人
(A)	光單旁波帶接收機	中華民國	申請中	呂海涵	呂海涵
(A)	一種以外部光源注入技術所建構之直調式光訊號發射系統	中華民國	申請中	呂海涵	呂海涵
(A)	全雙工微波/光纖傳輸系統	中華民國	申請中	呂海涵	呂海涵
(A)	利用遠端注入技術所建構之直調式光纖有線電視傳輸系統	中華民國	申請中	呂海涵	呂海涵
(A)	智慧型光纖網路監控系統	中華民國	申請中	呂海涵	呂海涵
(A)	多側模鎖模注入雷射二極體技術	中華民國	申請中	呂海涵	呂海涵
(A)	利用分佈反饋式雷射在主模及側模上注入鎖模產生多模光源所建立的有線電視/光纖微波傳輸系統	中華民國	申請中	呂海涵	呂海涵
(A)	整合光纖微波與光纖到家之傳輸系統	中華民國	申請中	呂海涵	呂海涵
(A)	直接偵測之全雙工光纖微波傳輸系統	中華民國	申請中	呂海涵	呂海涵

## 技術移轉

技術名稱	專利名稱	授權單位	被授權單位	合約期間	國科會計畫編號
光發射機/光接收機		呂海涵	訊鼎電子公司	2000/01~12	

**著作授權** 「類別」分(1)語文著作(2)電腦程式著作(3)視聽著作(4)錄音著作(5)其他，請擇一代碼填入。

著作名稱	類別	著作人	著作財產權人	被授權人	國科會計畫編號
Improvement Schemes for Directly Modulated Fiber Optical CATV System Performances	(1)	呂海涵	呂海涵	IN-TECH Book	
有線電視系統	(1)	呂海涵	呂海涵	高立圖書公司	

## 其他協助產業技術發展之具體績效

[1]新唐城有線電視系統公司，合作項目：人才培訓、光纖有線電視系統網路規劃。
[2]欣雙和有線電視系統公司，合作項目：人才培訓、光纖有線電視系統網路規劃。
[4]金頻道有線電視系統公司，合作項目：人才培訓、光纖有線電視系統網路規劃。
[5]南港麗冠有線電視系統公司，合作項目：人才培訓、教育訓練。
[6]富統電子公司，合作項目：類比(有線電視)光發射機/光接收機之研發。
[7] 仲洋企業公司，合作項目：雷射二極體自動測試系統。
[8] 訊鼎電子公司，合作項目：光放大器 (C+L-Band) 之研發。

[9] 訊鼎電子公司，合作項目：全數位液晶電視 (LCD TV) 驅動電路 之研發。



## 七、近年內核定之研究計畫

姓名	計畫名稱	計畫內擔任工作	起迄年月	補助機構	核定金額
呂海涵	利用擾頻光纖光柵增進系統性能的雙向傳輸混合式高密度分波多工系統 (NSC 91-2215-E-027-001)	計畫主持人	91年08月 ~92年07月	國科會	1,187,000 元
呂海涵	以 Fabry-Perot 雷射二極體所架構之光纖有線電視定址系統 (NSC 91-2622-E-027-019-CC3)	計畫主持人 (小產學)	91年06月 ~92年05月	國科會	372,600 元
呂海涵	高速寬頻光纖通信系統產學合作研究與交流計畫	總計畫主持人	91年03月 ~91年12月	教育部	768,000 元
呂海涵	利用外部光源注入技術增進光纖有線電視系統性能 (NSC 92-2215-E-027-006)	計畫主持人	92年08月 ~93年07月	國科會	761,500 元
呂海涵	建構多向傳輸 高密度分波多工系統 (NSC 92-2622-E-027-022-CC3)	計畫主持人 (小產學)	92年06月 ~93年05月	國科會	365,000 元
呂海涵	光纖通訊與微波通訊結合之全雙工傳輸系統研究與應用 (1/2)(NSC 93-2215-E-027-003)	計畫主持人 (二年計畫)	93年08月 ~94年07月	國科會	1,223,000 元
呂海涵	光纖通訊與微波通訊結合之全雙工傳輸系統研究與應用 (2/2)(NSC 94-2215-E-027-001)	計畫主持人 (二年計畫)	94年08月 ~95年07月	國科會	1,140,000 元
呂海涵	光電與通訊產業研發碩士專班	計畫主持人	94年07月 ~95年12月	教育部 經濟部 工業局	5,532,420 元
呂海涵	雙向分波多工被動光纖網路傳輸系統 (NSC 95-2221-E-027-095-MY3)	計畫主持人 (三年計畫)	95年08月 ~98年07月	國科會	3,935,000 元
呂海涵	新世代之光纖/微波傳輸系統 (台北科技大學重點特色計畫第一年)	總計畫主持人	95年09月 ~95年12月	台北科技大學	4,000,000 元
呂海涵	新世代之光纖/微波傳輸系統 (台北科技大學重點特色計畫第二年)	總計畫主持人	96年01月 ~96年12月	台北科技大學	3,100,000 元
呂海涵	新世代之光纖/微波傳輸系統 (教育部重點特色計畫第一年)	總計畫主持人	96年08月 ~96年12月	教育部	6,000,000 元
呂海涵	新世代之光纖/微波傳輸系統 (教育部重點特色計畫第二年)	總計畫主持人	97年05月 ~97年12月	教育部	10,000,000 元
呂海涵	新世代之光纖/微波傳輸系統 (教育部重點特色計畫第三年)	總計畫主持人	98年05月 ~98年12月	教育部	8,000,000 元

呂海涵	光電與通訊產業研發碩士專班	計畫主持人	96年09月 ~98年01月	教育部 經濟部 工業局	8,555,080 元
呂海涵	建構混合式光纖有線電視/ 光纖微波傳輸系統 (NSC 96-2622-E-027-047-CC3)	計畫主持人 (小產學)	96年11月 ~97年10月	國科會	418,000 元
呂海涵	光纖到家、寬頻整體服務—有線 電視、有線調頻廣播網及高速 數據專線	計畫主持人 (產學合作)	97年06月 ~98年05月	掌宇股份 有限公司	800,000 元
呂海涵	50 Mbps 塑膠光纖傳輸模組 研究	計畫主持人 (產學合作)	98年02月 ~98年12月	宇益興業 有限公司	1,500,000 元
呂海涵	光電與通訊產業研發碩士專班	計畫主持人	98年09月 ~100年1月	教育部 經濟部 工業局	5,535,640 元
呂海涵	利用寬頻ASE光源及非線性抑 制機制所建構之全雙工光纖/ 微波傳輸系統 (NSC 98-2622-E-027-010-CC3)	計畫主持人 (應用型產學)	98年07月 ~99年06月	國科會	936,000 元
呂海涵	雙向光纖微波高密度分波多 工傳輸系統 (NSC 98-2221-E-027-008)	計畫主持人	98年08月 ~99年07月	國科會	1,281,000 元
呂海涵	Osaka University (Japan) Professor Ken-ichi Kitayama Visit	計畫主持人	99年3月3 日~99年3月 5日	國科會	45,000 元