

附件(三)個人著作一覽表

期刊論文(英文, 2012~)

1. Srikant Kumar Mohanty, Yu-Yan, Chen, Ping-Hung Yeh, and Ray-Hua Horng, “Thermal Management of GaN-on-Si High Electron Mobility Transistor by Copper Filled Micro-Trench Structure”, *Scientific Reports*, 9, 19691(2019).
2. Purushothaman Varadhan, Hui-Chun Fu, Yu-Cheng Kao, **Ray-Hua Horng** and Jr-Hau He, “An efficient and stable photoelectrochemical system with 9% solar-to-hydrogen conversion efficiency via InGaP/GaAs double junction”, *Nature com.* 10, 5282(1-9) (Nov. 2019).
3. Si-Han Tsai, Yuan-Chu Shen, Chiung-Yi Huang, Ray-Hua Horng, “Deep-ultraviolet Schottky photodetectors with high deepultraviolet/visible rejection based on a ZnGa₂O₄ thin film”, *Applied Surface Science*, 496, 143670, (Dec. 2019).
4. Ming-Chun Tseng, Dong-Sing Wu, Chi-Lu Chen, Hsin-Ying Lee, Cheng-Yu Chien, Po-Liang Liu, and Ray-Hua Horng, “Characteristics of atomic layer deposition–grown zinc oxide thin film with and without aluminum”, *Applied Surface Science*, 491, 535-543(June, 2019).
5. Yuan-Chu Shen, Chun-Yi Tung, Chiung-Yi Huang, and Ray-Hua Horng, “Study on optoelectronic characteristic of ZnGa₂O₄ thin-film phototransistors”, *ACS Appl. Electronic Materials*, 1, 783-788 (May, 2019).
6. Min-Ru Wu, Wei-Zhong Li, Chun-Yi Tung, Chiung-Yi Huang, Yi-Hung Chiang, Po-Liang Liu and **Ray-Hua Horng**, “NO gas sensor based on ZnGa₂O₄ epilayer grown by metalorganic chemical vapor deposition”, *Scientific Reports*, 9, 7459 (May, 2019).
7. R. H. Horng, Shreekant Sinha, C. P. Lee, H. A. Feng, C. Y. Chung, and C. W. Tu, “Composite metal substrate for thin film AlGaInP LED applications”, *Optics Express*, Vol. 27, A397-A403 (Apr. 2019).
8. Li-Chung Cheng, Min-Ru Wu, Chiung-Yi Huang, Tzu-Kuang Juang, Po-Liang Liu and **Ray-Hua Horng**, “Effect of Defects on the Properties of ZnGa₂O₄ Thin-Film Transistor”, *ACS Appl. Electronic Materials*, 1, pp. 253-259 (Jan, 2019).
9. Yu-Cheng Kao, Hao-Ming Chou, Albert Lin, Shun-Chieh Hsu, Chien Chung Lin, Zun-Hao Shih, Chun-Ling Chang, Hwen-Fen Hong, **Ray-Hua Horng**, “Performance comparison of III–V//Si and III–V//InGaAs multi-junction solar cells fabricated by the combination of mechanical stacking and wire bonding” , *Scientific Reports*, 9, 4308(page 1-11) (March, 2019).
10. Ray-Hua Horng, Ming-Chun Tseng and Dong-Sing Wu, “”Surface Treatments on the Characteristics of Metal–Oxide Semiconductor Capacitors”, *Crystal*, 9(1), 1-9, 2019
11. Chun-Han Ku, Wei-Kai Wang, **Ray-Hua Horng**, “Improvement of light extraction for AlGaN-based near UV LEDs with flip-chip bonding fabricated on grooved sapphire

- substrate using laser ablation”, *Materials Science in Semiconductor Processing*, 95, pp. 48-53(June, 2019).
12. Ya-Wei Huan, Xing-Lu Wang, Wen-Jun , Hong Dong, Shi-Bing Long, Sun-Ming Sun, Jian-Guo Su-Dong Wu, Wen-Jie Yu, **Ray-Hua Horng**, Chang-Tai Xia, Hong-Yu Yu, Hong-Liang Lu, Qing-Qing Sun, Shi-Jin Ding, David Wei Zhang, “Band alignment of indium-gallium-zinc oxide/beta-Ga₂O₃ heterojunction determined by angle-resolved X-ray photoelectron spectroscopy, *JAPANESE JOURNAL OF APPLIED PHYSICS*, 10, 11302 (Oct. 2018).
 13. Si-Han Tsai, Sarbani Basu, Chiung-Yi Huang, Liang-Ching Hsu, Yan-Gu Lin, **Ray-Hua Horng**, “Deep-Ultraviolet Photodetectors Based on Epitaxial ZnGa₂O₄ Thin Films”, *Scientific Reports*, (Sep. 2018).
 14. **Ray-Hua Horng**, Huan-Yu Chien, Fu-Gow Tarntair, and Dong-Sing Wu, “Fabrication and Study on Red Light Micro-LED Displays”, *IEEE Journal of the Electron Devices Society*, Vol. 6, pp. 1064-1069 (Aug. 2018).
 15. Tzu-Yu Wang, Chi-Tsung Tasi, Ku-Yen Lin, Sin-Liang Ou, **Ray-Hua Horng**, Dong-Sing Wu “Surface evolution and effect of V/III ratio modulation on etch-pit-density improvement of thin AlN templates on nano-patterned sapphire substrates by metalorganic chemical vapor deposition”, *APPLIED SURFACE SCIENCE*, 455, pp. 1123-1130, 2018 (OCT 15 2018).
 16. Shun-Ming Sun, Wen-Jun Liu, Yong-Ping Wang, Ya-Wei Huan, Gan Ma, Bao Zhu, Su-Dong Wu, Wen-Jie Yu, **Ray-Hua Horng**, Chang-Tai Xia, Qing-Qing Sun, Shi-Jin Ding, David Wei Zhang, “Band alignment of In₂O₃/beta-Ga₂O₃ interface determined by X-ray photoelectron spectroscopy”, *Appl. Phys. Lett*, 113(3), 031603 (2018)(JUL 16 2018).
 17. Wu-Chang Peng, Yao-Ching Chen, Ju-Liang He, Sin-Liang Ou, **Ray-Hua Horng**, Dong-Sing Wu, “Tunability of p- and n-channel TiO_x thin film transistors”, *Scientific Reports*, Vol. 8, 9255 (Jun. 2018). JUN 18 2018.
 18. Shun-Chieh Hsu, Yu-Ming Huang, Yu-Cheng Kao, Hao-Chung Kuo, **Ray-Hua Horng**, and Chien-Chung Lin,” The Analysis of Dual-Junction Tandem Solar Cells Enhanced by Surface Dispensed Quantum Dots”, *IEEE Photonic Journal*, (Aug. 2018).
 19. Ching-Ho Chen, Jia-Jhen Jhen, Dong-Sing Wu, and **Ray-Hua Horng**, “A New Material and Structures for Light-Emitting Thyristor Applications”, *IEEE Transactions on Electron Devices*, vol. 65, no. 7, pp. 2904-2908 (JULY 2018).
 20. **Ray-Hua Horng**, Huan-Yu Chien, Ken-Yen Chen, Wei-Yu Tseng, Yu-Ting Tsai, and Fu-Gow Tarntair, “Development and Fabrication of AlGaInP-Based Flip-Chip Micro-LEDs”, *IEEE Journal of the Electron Devices Society*, Vol. 6, pp. 475-479 (April 2018).
 21. Li-Chung Cheng, Chiung-Yi Huang, and **Ray-Hua Horng**, “Thickness Effect on Operation Modes of ZnGa₂O₄ MOSFETs with High-Breakdown Voltage”, *IEEE Journal of the Electron Devices Society*, Vol. 6, pp. 432-437 (April 2018).

22. Wen-Ching Cheng, Shih-Yung Huang, Yi-Jiun Chen, Chia-Sheng Wang, Hoang Yan Lin, Tzong- Ming Wu, **Ray-Hua Horng**, “AlGaInP Red LEDs with Hollow Hemispherical Polystyrene Arrays”, Scientific Reports, Vol. 8, 911 (1-7) (Jan. 2018).
23. **Ray-Hua Horng**, Chiung-Yi Huang, Sin-Liang Ou, Tzu-Kuang Juang, and Po-Liang Liu, “Epitaxial Growth of ZnGa₂O₄: A New Deep Ultraviolet Semiconductor Candidate”, Crystal Growth & Design , Vol. 17, pp. 6071-6078 (Nov. 2017).
24. Ching-Ho Chen, Ming-Chun Tseng, Yu-Jie Chen, Dong-Sing Wu, and **Ray-Hua Horng**, “Performance comparisons of light-emitting thyristors with and without indium tin oxide transparent conductive layers”, PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE, 1700442 (Oct. 2017).
25. Ming-Chun Tseng, Dong-Sing Wu, Chi-Lu Chen, Hsin-Ying Lee, and **Ray-Hua Horng**, ” Zinc Oxide-Based Current Spreading Layer Behavior on the Performance of *P*-side-up Thin-Film Red Light Emitting Diodes”, Applied Surface Science, 432, pp. 196–201, Jan. 2018.
26. **Ray-Hua Horng**, Yu-Yuan Zeng, Wei-Kai Wang, Chia-Lung Tsai, Yi-Keng Fu, and Wei-Hung Kuo, “Transparent electrode design for AlGaIn deep-ultraviolet light-emitting diodes”, Optics Express, 25, 32206, (Dec. 2017).
27. Ching-Ho Tien, Chen-Hao Kuo, Dong-Sing Wu, and **Ray-Hua Horng**, ” Improved Optoelectronic Performance of High-Voltage Ultraviolet Light-Emitting Diodes Through Electrode Designs”, IEEE Transaction on Electron Device, 64(11), pp. 4526-4521, Sep., 2017.
28. Ming-Hsien Wu, **Ray-Hua Horng**, Wen-Yih Liao, Sheng-Po Chang, and Shou-Jinn Chang, ” Efficiency Enhancement in InGaIn Photovoltaic Cells With Inverted Textured Surface”, IEEE Photonics Technology Letters, VOL. 29, NO. 16, pp. 1304-1307, AUGUST 15, 2017.
29. Chi-Tsung, Tasi, Wei-Kai Wang, Tsung-Yen Tsai, Shih-Yung Huang, **Ray-Hua Horng**, Dong-Sing Wu, Reduction of Defects in AlGaIn Grown on Nanoscale-Patterned Sapphire Substrates by Hydride Vapor Phase Epitaxy”, Materials, 10, 6, 605, Jun. 2017.
30. Shuo-Huang Yuan, Feng-Yeh Chang, Dong-Sing Wu, and **Ray-Hua Horng**, “AlGaIn/GaN MOS-HEMTs with Corona-Discharge Plasma Treatment”, Crystals, 7, 146, 7050146(1-8), 2017(18 May 2017).
31. Ping-Chen Wu, Sin-Liang Ou, **Ray-Hua Horng** and Dong-Sing Wu, “Improvement Performance and Heat Dissipation of Flip-Chip White High-Voltage Light Emitting Diodes”, IEEE Transaction on Electron Device, 17, pp. 197-302, March, 2017.
32. Ming-Chun Tseng, Dong-Sing Wu, Chi-Lu Chen, Hsin-Ying Lee, **Ray-Hua Horng**, “Ohmic contact behavior of aluminum-doped zinc oxide with carbon-doped *p*-GaP epilayer for AlGaInP LEDs applications”, Current Applied Physics, 17(7), pp. 966-971 JUL 2017.

33. Ping-Chen Wu, Sin-Liang Ou, **Ray-Hua Horng**, “Dong-Sing Wu, Improved Performance of high-voltage vertical GaN LEDs via modification of micro-cell geometry”, Applied Science-Basel, Vol. 7, 6, P. 506, (Jun, 2017).
34. Yi-Siang Shen, Wei-Kai Wang and **Ray-Hua Horng**,” Characterizations of Metal-Oxide-Semiconductor Field-Effect Transistors of ZnGaO grown on Sapphire Substrate”, IEEE Journal of the Electron Devices Society, Vol. 5, pp. 112-116 (MARCH 2017).
35. **Ray-Hua Horng**, Hsu-Hung Hsueh, Sin-Liang Ou, Chi-Tsung Tsai, Tsung-Yen Tsai and Dong-Sing Wu, “Chemical lift-off process for nitride LEDs from an Eco-GaN template using an AlN/strip-patterned-SiO₂ sacrificial layer”, PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE, 214, 3, P. 1600657, March, 2017.
36. Ming-Chun Tseng, Dong-Sing Wu, Chi-Lu Chen, Hsin-Ying Lee, Yu-Chang Lin, and **Ray-Hua Horng**, “Performance of p-Side-Up Thin-Film AlGaInP Light-Emitting Diodes With Textured Composite Aluminum-Doped Zinc Oxide Transparent Conductive Layers”, Surface and Coatings Technology, 320, pp.421-425, 2016.
37. Ming-Chun Tseng, Dong-Sing Wu, Chi-Lu Chen, Hsin-Ying Lee, Yu-Chang Lin, and **Ray-Hua Horng**, " Enhanced light extraction in wafer-bonded p-side-up thin-film AlGaInP light emitting diodes via zinc oxide nanorods ", Optical Materials Express, Vol. 6, No.10 , Oct. 3293-3302, 2016.
38. Ching-Ho Tien, Kuo-Wei Ho, Huan-Yu Chien, Dong-Sing Wu, and **Ray-Hua Horng**, “Effect of the Phosphor Permanent Layer on the Angular CCT for White Thin-Film Flip-Chip Light-Emitting Diodes”, IEEE Transaction on Electron Device, 63, 3977-3982, Oct., 2016.
39. Tzu-Hao Wang, Hsuan Lee, Chih-Ming Chen, Ming-Guan Chen, Chi-Chang Hu, Yu-Jie Chen, **Ray-Hua Horng**, “Microstructural and thermal characterizations of light-emitting diode employing a low-temperature die-bonding material”, Microelectronics Reliability, 63,68-75,2016.
40. Hsu-Hung Hsueh, Sin-Liang Ou, Yu-Che Peng, Chiao-Yang Cheng, Dong-Sing Wu, and **Ray-Hua Horng**, " Effect of Top-Region Area of Flat-Top Pyramid Patterned Sapphire Substrate on the Optoelectronic Performance of GaN-Based Light Emitting Diodes", J. Nanomaterials, vol. 2016, 2701028, May, 2016.
41. Yu-Cheng Kao, Sin-Liang Ou, Fan-Lei Wu, **Ray-Hua Horng**, " Performance enhancement of III-V multi-junction solar cells using indium-tin-oxide electrodes ", Thin Solid Films, 612, 36-40, May, 2016.
42. Ming-Chun Tseng, Dong-Sing Wu, Chi-Lu Chen, Hsin-Ying Lee, Yu-Chang Lin, and **Ray-Hua Horng**, " Performance Comparison of p-Side-up Thin-Film AlGaInP Light Emitting Diodes with Aluminum-Doped Zinc Oxide and Indium Tin Oxide Transparent Conductive Layers", Optical Material Express, Vol. 6, No. 4, 1351-1359, 2016.
43. Chih-Tung Yeh, Wei-Kai Wang, Yi-Siang Shen, and **Ray-Hua Horng**, "1.48 -kV

- Enhancement- mode AlGaIn/GaN high-electron-mobility transistors fabricated on 6-in silicon by fluoride-based plasma treatment", *Jpn. J. Appl. Phys.* 55, 05FK06-1~05FK06-4 , 2016.
44. **Ray-Hua Horng**, Sin-Liang Ou, Chiung-Yi Huang, Parvaneh Ravadgar, Chih-I Wu, "Effects of Ga concentration and rapid thermal annealing on the structural, optoelectronic and photoluminescence properties of Ga-doped ZnO thin films", *Thin Solid Films*, Vol. 605, 30-36, 2016.
 45. Ching-Ting Lee, Chang-Lin Yang, Chun-Yen Tseng, Jhe-Hao Chang, and Ray-Hua Horng, " GaN-Based Enhancement-Mode Metal–Oxide– Semiconductor High-Electron Mobility Transistors Using LiNbO₃ Ferroelectric Insulator on Gate-Recessed Structure", *IEEE TRANSACTIONS ON ELECTRON DEVICES*, VOL. 62, NO. 8, AUGUST, pp. 2481-2487, 2015.
 46. Chien-Fu Tseng, Tsung-Yen Tsai, Yen-Hsiu Huang, Ming-Tsang Lee, **Ray-Hua Horng**, "Transport phenomena and the effects of reactor geometry for epitaxial GaN growth in a vertical MOCVD reactor", *Journal of Crystal Growth*, Vol. 432, 54–63, 2015.
 47. Ray-Hua Horng, Ken-Yen Chen, Ching-Ho Tien, and Jung-Chuan Liao, " Effects of Mesa Size on Current Spreading and Light Extraction of GaN-Based LEDs", *JOURNAL OF DISPLAY TECHNOLOGY*, VOL. 11, NO12. 1010, 2015,
 48. Ming-Chun Tseng, Ray-Hua Horng , Dong-Sing Wu, Shui-Yang Lien, " Silicon films deposited on flexible substrate by hot-wire chemical-vapor deposition", *Vacuum* 118, 109-112, 2015.
 49. Tsung-Shine Ko, Der-Yuh Lin, You-Chi He,¹ Chen-Chia Kao,¹ Bo-Yuan Hu,¹ Ray-Hua Horng,² Fan-Lei Wu, Chih-Hung Wu, and Yu-Li Tsai, " Optoelectric Properties of GaInP p-i-n Solar Cells with Different i-Layer Thicknesses", *International Journal of Photoenergy* Volume 2015, Article ID 703045, 7 pages.
 50. Li-Chin Cheng, Chih-Ming Chen, Ming-Guan Chen, Chi-Chang Hu, Hsin-Yi Jiang, Ray-Hua Horng, and Dong-Sing Wu, " A High-Temperature Die-Bonding Structure Fabricated at Low Temperature for Light-Emitting Diodes", *IEEE ELECTRON DEVICE LETTERS*, VOL. 36, NO. 8, AUGUST 2015, pp. 835-837.
 51. Fan-Lei Wu, Sin-Liang Ou, Yu-Cheng Kao, Chun-Li Chen, Ming-Chun Tseng, Fang-Ching Lu, Ming-Tzer Lin, and Ray-Hua Horng, " Thin-film vertical-type AlGaInP LEDs fabricated by epitaxial lift-off process via the patterned design of Cu substrate", *Opt. Express*, 23(14), pp.15856 (2015/July 15).
 52. Kung-Cheng Chen, Shih-Yung Huang, Wei-Kai Wang, and Ray-Hua Horng, "Performance improvement of vertical ultraviolet-LEDs with AlSi alloy substrates", *Opt. Express*, 23(12), pp.15452 (2015/Jun. 15).
 53. Shih-Hao Chuang, Cheng-Sheng Tsung, Ching-Ho Chen, Sin-Liang Ou,†Ray-Hua Horng, Cheng-Yi Lin, and Dong-Sing Wu, "Transparent Conductive Oxide Films Embedded with

- Plasmonic Nanostructure for Light-Emitting Diode Applications ", ACS Appl. Mater. Interfaces 7(4), 2546–2553 (2015).
54. Hsu-Hung Hsueh, Sin-Liang Ou, Dong-Sing Wu, Ray-Hua Horng, "InGaN LED fabricated on Eco-GaN template with a Ga₂O₃ sacrificial layer for chemical lift-off application", Vacuum, Vacuum 118 (2015) 8-12
 55. Huan-Ting Lin, Ching-Ho Tien, Chen-Peng Hsu and Ray-Hua Horng, "White thin-film flip-chip LEDs with uniform color temperature using laser lift-off and conformal phosphor coating technologies" Opt. Express, 22(26), pp.31646-31653 (2014/Dec.15).
 56. Ming-Chun Tseng, Chi-Lu Chen, Nan-Kai Lai, Shih-I Chen, Tzu-Chieh Hsu, Yu-Ren Peng, and Ray-Hua Horng, " P-side-up thin-film AlGaInP-based light emitting diodes with direct ohmic contact of an ITO layer with a GaP window layer," Opt. Express, 22(S7), A1962-A1867 (2014/Dec.15)
 57. Ken-Yen Chen, Ching-Ho Tien, Chen-Peng Hsu, Chao-Yu Pai, and Ray-Hua Horng, "Fabrication and Improved Performance of GaN LEDs With Finger-Type Structure", IEEE Transactions on Electron Devices, 61, Pages 4128-4131 (2014/Dec. IF:2.267).
 58. Tiziana Tambosso, Ray-Hua Horng, Silvano Donati, " Curvature of Substrates is Measured by Means of a Self-Mixing Scheme", IEEE PHOTONICS TECHNOLOGY LETTERS, Vol. 26, pp. 2170-2172 (2014/ Nov).
 59. Hung-I Lin, **Ray-Hua Horng**, Kun-Ching Shen, and Dong-Sing Wu, "ZnO Nanowires Embedded in Epoxy Resin Separating from the Substrate for Wearable Electronics Applications", IEEE Transactions on Nanotechnology, vol. 13, pp. 458-463 (2014/ May)
 60. Tzu-Yu Wang, Sin-Liang Ou, Ray-Hua Horng, Dong-Sing Wu, " Improved GaN-on-Si epitaxial quality by incorporating various SixNy interlayer structures ", JOURNAL OF CRYSTAL GROWTH, Vol. 399, pp. 27-32 (2014/Aug).
 61. C. H. Tien, K. Y. Chen, C. P. Hsu, and R. H. Horng, "Enhanced light output power of thin film GaN-based high voltage light-emitting diodes," Opt. Express, 22(S6), A1462-A1468 (2014).
 62. Hsu-Hung Hsueh, Sin-Liang Ou, Chiao-Yang Cheng, Dong-Sing Wu, and Ray-Hua Horng, " Performance of InGaN Light-Emitting Diodes Fabricated on Patterned Sapphire Substrates with Modified Top-Tip Cone Shapes", International Journal of Photoenergy, Volume 2014, Article ID 796253, 7 pages 1-7.
 63. Shih-Yi Wen, Hung-Lieh Hu, Yao-Jun Tsai, Chen-Peng Hsu, Re-Ching Lin, and Ray Hua Horng, " A novel integrated structure of thin film GaN LED with ultra-low thermal resistance", Optics Express, Vol. 22, S3, pp. A601-606, 2014 (12 Mar).
 64. Ray-Hua Horng, Bing-Rui Wu, Ching-Ho Tien, Sin-Liang Ou, Min-Hao Yang, Hao-Chung Kuo, and Dong-Sing Wu, "Performance of GaN-based light-emitting diodes fabricated using GaN epilayers grown on silicon substrates", Optics Express, Vol. 22, pp.

- A179-187, 2014 (13 January).
65. Rau-Hua Horng, Kun-Ching Shen, Ching-Ho Tien, Sin-Cyuan Lin, Dong-Sing Wu, Performance of Cu-Plating Vertical LEDs in Heat Dissipation Using Diamond-Like Carbon, IEEE ELECTRON DEVICE LETTERS, Vol. 35, pp. 169-171, 2014(Feb).
 66. Ray-Hua Horng, Kei May Lau, Hao-Chung Kuo, Nelson Tansu, " Solid-State Lighting with High Brightness, High Efficiency, and Low Cost", INTERNATIONAL JOURNAL OF PHOTOENERGY, 278263, 2014.
 67. Hsu-Hung Hsueh, Sin-Liang Ou, Chiao-Yang Cheng, Dong-Sing Wu, Ray-Hua Horng, " Performance of InGaN Light-Emitting Diodes Fabricated on Patterned Sapphire Substrates with Modified Top-Tip Cone Shapes" , INTERNATIONAL JOURNAL OF PHOTOENERGY, 796253, 2014.
 68. Tzu Yu Wang, Sin Liang Ou, Ray Hua Horng, Dong Sing Wu, "Growth evolution of SixNy on the GaN underlayer and its effects on GaN-on-Si (111) heteroepitaxial quality", CRYSTENGCOMM, Vol. 16, 5724-5731 (2014).
 69. Fan-Lei Wu , Sin-Liang Ou, Ray-Hua Horng and Yu-Cheng Kao, Improvement in Separation Rate of Epitaxial Lift-off by Hydrophilic Solvent for GaAs Solar Cell Applications", Solar Energy Materials & Solar Cells, 122, pp. 233–240, 2014.
 70. Kun-Ching Shen, Ming-Chien Jiang, Hong-Ru Liu, Hsu-Hung Hsueh, Yu-Cheng, Kao, Ray-Hua Horng, and Dong-Sing Wu," Pulsed laser deposition of hexagonal GaN-on-Si(100) template for MOCVD applications", Optics Express , Vol. 21, No. 22 , 26468-26474 (2013,Nov. 4)
 71. Ray-Hua Horng, Ming-Chun Tseng,¹ and Shui-Yang Lien, " Reliability Analysis of III-V Solar Cells Grown on Recycled GaAs Substrates and an Electroplated Nickel Substrate", International Journal of Photoenergy, 2013, 108696-1~9, (2013).
 72. Parvaneh Ravadgar, Ray-Hua Horng, Shu-De Yao, Hsin-Ying Lee, Bing-Rui Wu Sin-Liang Ou, and Li-Wei Tu, "Effects of crystallinity and point defects on optoelectronic applications of β -Ga₂O₃ epilayers", Optics Express, Vol. 21, No 21, 24599-24610 (2013, 21 Oct.).
 73. Kun-Ching Shen, Wen-Yu Lin, Dong-Sing Wu, Shih-Yung Huang, Kuo-Sheng Wen, Shih-Feng Pai, Liang-Wen Wu, and Ray-Hua Horng, " An 83% Enhancement in the External Quantum Efficiency of Ultraviolet Flip-Chip Light-Emitting Diodes With the Incorporation of a Self-Textured Oxide Mask ", IEEE ELECTRON DEVICE LETTERS, VOL. 34, NO. 2, pp. 274-276, FEBRUARY 2013.
 74. Wei-Chih Lai, Ya-Yu Yang, and Ray-Hua Horng, " Efficiency Improvement of Short-Period InGaN/GaN Multiple-Quantum Well Solar Cells With H₂ in the GaN Cap Layer", JOURNAL OF DISPLAY TECHNOLOGY, VOL. 9, NO. 12, pp. 953-956, DECEMBER 2013.

75. Silvano Donati and Ray-Hua Horng, " The Diagram of Feedback Regimes Revisited", IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS, VOL. 19, NO. 4, pp. 1500309, JULY/AUGUST 2013.
76. Shih-Hao Chuang, Chun-Ting Pan, Kun-Ching Shen, Sin-Liang Ou, Dong-Sing Wu, Ray-Hua Horng, " Thin Film GaN LEDs Using a Patterned Oxide Sacrificial Layer by Chemical Lift-Off Process ", IEEE Photonics Technology Letters, 24(25), 2435-2438, 2013 (Dec.)
77. **Ray-Hua Horng**, Bing-Rui Wu, Chi-Feng Weng, Parvaneh Ravadgar, Tzong-Ming Wu, Sing-Ping Wang, Jr-Hau He, Tsung-Hsien Yang, Yi-Ming Chen, Tzu-Chieh Hsu, Ai-Sen Liu, and Dong-Sing Wu, " P-side up AlGaInP-based light emitting diodes with dot-patterned GaAs contact layers", Optics Express, Vol. 21, No 17, 19668-19674 (2013, 26 Aug).
78. **Ray-Hua Horng**, Kun-Ching Shen, Chen-Yang Yin, Chiung-Yi Huang, and Dong-Sing Wu, "High performance of Ga-doped ZnO transparent conductive layers using MOCVD for GaN LED applications", Optics Express, Vol. 21, No 12, 14452-14457 (2013, 17 June)
79. Hung-I Lin, Dong-Sing Wu, Kun-Ching Shen, **and Ray-Hua Horng**, " Fabrication of an Ultra-Flexible ZnO Nanogenerator for Harvesting Energy from Respiration", *ECS Journal of Solid State Science and Technology*, 2 (9) P400-P404 (2013).
80. Chiung-Yi Huang, **Ray-Hua Horng**, Dong-Sing Wu, Li-Wei Tu, and Hsiang-Shun Kao, "Thermal annealing effect on material characterizations of b-Ga₂O₃ epilayer grown by metal organic chemical vapor deposition", Appl. Phys. Lett., 102, 011119 (2013).
81. **Ray-Hua Horng**, Kun-Ching Shen, Yu-Wei Kuo, and Dong-Sing Wu " **GaN light emitting diodes with wings-type imbedded contacts**", Optics Express, Vol. 21, No. S1, A1-A6 (2013).
82. Chih-Cheng Huang, Chen-Chia Kao, Der-Yuh Lin, Chih-Ming Lin, Fan-Lei Wu, Ray-Hua Horng, and Ying-Sheng Huang, " A Comprehensive Study on the Optical Properties of Thin Gold-Doped Rhenium Disulphide Layered Single Crystals", Japanese Journal of Applied Physics 52 (2013) 04CH11.
83. Hui-Ping Pan, Feng-Feng Cheng, Lin Li, **Ray-Hua Horng**, Shu-De Yao, "Structural analyses of Ga_{2+x}O_{3-x} thin films grown on sapphire substrates", ACTA PHYSICA SINICA, 62 (2013).
84. Je-Yi Wu, Chih-Ming Chen, **Ray-Hua Horng**, Dong-Sing Wu, "An Efficient Metal-Core Printed Circuit Board With a Copper-Filled Through (Blind) Hole for Light-Emitting Diodes", IEEE ELECTRON DEVICE LETTERS, **34**, pp. 105-107 (JAN 2013).
85. **Ray-Hua Horng**, Wei-Cheng Kao, Sin-Liang Ou, and Dong-Sing Wu, "Effect of diamond like carbon layer on heat dissipation and optoelectronic performance of vertical-type InGaN light emitting diodes", Appl. Phys. Lett. 101, 171102-1~4 (2012).
86. P. Ravadgar, **R. H. Horng**, S. L. Ou, "A visualization of threading dislocations formation and dynamics in mosaic growth of GaN-based light emitting diode epitaxial layers on (0001) sapphire", Appl. Phys. Lett., 101, 2319119 (2012/12).

87. **Ray Hua Horng**, Hung Lieh Hu, Re Ching Lin, Li Shen Tang, Chen Peng Hsu, and Sin Liang Ou, “Cup-shaped copper heat spreader in multi-chip high-power LEDs application”, *Optics Express* Vol. 20, Iss. S5, pp. A597–A605 (2012).
88. **Ray-Hua Horng**, Kun-Ching Shen, Yu-Wei Kuo, and Dong-Sing Wu, “Effects of cell distance on the performance of GaN high-voltage light emitting diode,”, *Electrochem. Solid State Lett.* (ECS Solid State Letters, 1 (5) R21-R23 (2012)).
89. Kun-Ching Shen, Tzu-Yu Wang Dong-Sing Wu, and **Ray-Hua Horng**, “**High thermal stability of high indium content InGaN films grown by pulsed laser deposition**”, *OPTICS EXPRESS*, Vol. 20, 21173, September (2012).
90. Ming-Hsien Wu, Sheng-Po Chang, Shoou-Jinn Chang, **Ray-Hua Horng**, Wen-Yih Liao, Ray-Ming Lin, “**Characteristics of GaN/InGaN double-heterostructure photovoltaic cells**”, *International Journal of Photoenergy*, Volume 2012, Article ID 206174-1-5 (2012, IF:1.769).
91. P. Ravadgar, **R. H. Horng** and T. Y. Wang, “Healing of Surface States and Point Defects of Single-Crystal b-Ga₂O₃ Epilayers”, *ECS J. Solid State Sci. Technol.*, Volume 1, Issue 4, Pages N58-N60 (2012)
92. Sin-Liang Ou, Dong-Sing Wu, Yu-Chuan Fu, Shu-Ping Liu, **Ray-Hua Horng**, Lei Liu, Zhe-Chuan Feng, “Growth and etching characteristics of gallium oxide thin films by pulsed laser deposition”, *MATERIALS CHEMISTRY AND PHYSICS*, 133, Pages: 700-705, APR 16 2012.
93. Kun-Ching Shen, Tzu-Yu Wang, Dong-Sing Wu, and **Ray-Hua Horng**, “High indium content InGaN films grown by pulsed laser deposition using a dual-compositing target”, **Optical Express**, Vol. 20, No. 14, pp.15149-15156 (2012).
94. **Ray-Hua Horng**, Hung-Lieh Hu, Sin-Liang Ou, Re-Ching Lin and Chen-Peng Hsu, “Enhancement of Light Extraction for InGaN LEDs by Means of Beveled Sapphire and Cup-shapedCopper Sheeting”, *IEEE Photonics Technology Letters*, VOL. 24, NO. 16,1421, AUGUST 15, (2012).
95. Hung-Lieh Hu, **Ray-Hua Horng** and Chen-Peng Hsu, “Improved Design of Cup-Shaped Copper Heat Spreaders for High-Power InGaN/Sapphire LEDs”, *ECS Journal of Solid State Science and Technology*, 1(2), R76-79 (2012).
96. **Ray-Hua Horng**, Ming-Chun Tseng, Fan-Lei Wu, Chia-Hao Li, Chih-Hung Wu, and Min-De Yang, “Thin Film Solar Cells Fabricated Using Cross-Shaped Pattern Epilayer Lift-Off Technology for Substrate Recycling Applications”, *IEEE Transactions on Electron Devices*, 59, pp. 666-672, MARCH 2012. (IF: 2.267) (Ranking: 34/247= 13.77%).
97. Bing-Rui Wu, Shih-Yung Lo, Dong-Sing Wu, Sin-Liang Ou, Hsin-Yuan Mao, Jui-Hao Wang, **Ray-Hua Horng**, “Direct growth of large grain polycrystalline silicon films on aluminum-induced crystallization seed layer using hot-wire chemical vapor deposition”, *Thin Solid Films* 520 (2012) 5860–5866.
98. B.-H. Liou, C.-M. Chen, **R.-H. Horng**, Y.-C. Chiang, and D.-S. Wu, ”Improvement of thermal management of high-power GaN-based light-emitting diodes”, *Microelectronics Reliability*, Vol. 52, pp. 861-865 (2012).

99. M. H. Wu, S. P. Chang, S. J. Chang, R. H. Horng, W. J. Liao, R. M. Lin, "Characteristics of GaN/InGaN Double-Heterostructure Photovoltaic Cells". INTERNATIONAL JOURNAL OF PHOTOENERGY , 2012 (SCI) IF=1.769 CHEMISTRY, PHYSICAL=57.463 ENERGY & FUELS=45.679 OPTICS=32.911 PHYSICS, ATOMIC, MOLECULAR & CHEMICAL=54.545
100. **Ray-Hua Horng**, Re-Ching Lin, Yi-Chen Chiang, Bing-Han Chuang, Hung-Lieh Hu, Chen-Peng Hsu, "Failure modes and effects analysis for high-power GaN-based light-emitting diodes package technology", Microelectronics Reliability, Vol. 52, pp. 818-821(2012).
101. Ming-Chun Tseng, **Ray-Hua Horng**, Fan-Lei Wu, Snin-Nan Lin, Hsin Her Yu, and Dong-Sing Wu, "Crystalline Quality and Photovoltaic Performance of InGaAs Solar Cells Grown on GaAs Substrate with Large Misoriented Angle," *Vacuum*, Vol. 86, no. 7, pp. 843-847, (2012) (IF: 1.051) (Ranking: 118/225= 52.44%).
102. Mao, HY, Wu, DS, Wu, BR, Lo, SY, Hsieh, HY, **Horng, RH** "Hot-wire chemical vapor deposition and characterization of p-type nanocrystalline SiC films and their use in Si heterojunction solar cells", THIN SOLID FILMS , 520, **Pages:** 2110-2114(2012/ JAN., IF:1.905).

C. Books

1. ECS Transactions, vol 45, issue 7, (2012) "Wide-Bandgap Semiconductor Material and Device 13" , Editors: E. B. Stokes, **R. H. Horng**, G. W. Hunter, Z. Karim, Z. Mi, C. O'Dwyer., Published by : The Electrochemical Society.
2. **R. H. Horng**: "Effects of Annealing on Structural and Optical Properties of Single Crystalline Ga₂O₃ Epilayers", pp. 29-38, Chapter 3 of the book: "Physics and Mechanics of New Materials and their Applications" , published by: Nova Science Publishers, 2013.
3. **R. H. Horng**: "Fabrication of nitride LEDs", pp. 181-212, Chapter 6 of the book: "Nitride semiconductor light- emitting diodes (LEDs)" edited by JianJang Huang, Hao-Chung Kuo and Shyh-Chiang Shen, published by: Woodhead Publishing Limited, 2014.
4. Ray-Hua Horng, Sin-Liang Ou and Dong-Sing Wu, "Gallium Nitride: Structure, Thermal Properties and Applications " published by: Nova Science Publishers, 2014, " Improvement in Heat Dissipation Capability of GaN-Based Light-Emitting Diodes ", ISBN: 978-1-63321-387-6
5. Ray Hua Horng, "Handbook of Advanced Lighting Technology", published by Springer, "Thin-GaN LED material", 2015

D. 研討會論文

1. Ray-Hua Horng, "Development of Thin film LEDs by Wafer Bonding and Epilayer Transferring Technologie", APSMR 2019 Annual Meeting, July 26-29, Hokkaido, Japan.
2. Ray-Hua Horng, Ci-Ming. Jhang, and Dong-Sing Wu, " Technology Development of advanced microLED Displays", OSK-OSA-OSJ Joint Symposia, July 14-17, 2019, BEXCO, Busan, South Korea.
3. Ray-Hua Horng, ShreeKant Sinha, Hsiang-An Feng, Cheng-Yu Chung, and Chia-Wei Tu, "Novel Composite Substrates for Thin Film AlGaInP-based High Power LEDs", CSW May 19-23, Nara, Japan.
- 4.
5. L. H. Lai, F. G. Tarntair, Y. C. Shen, W. Z. Li, M. R. Wu, J. Y. Dong, J. J. Yu and R. H. Horng, "Epitaxial ZnGa₂O₄ thin film growth by MOCVD for DUV photo-detectors" 台灣磊晶技術研討會, 龍潭, 中科院, May 27-28, 2019.
6. Chen-Po Li, Ray-Hua Horng, "Performance improvement of n-side up AlGaInP thin-film LEDs by transferring to copper invar copper substrate", OPTIC 2018, National Chiao Tung University, Tainan, Taiwan, Dec 5-7, 2018.
7. R. H. Horng, S. S. Yan, D. S. Wu, "Fabrication and Characterization of Monolithic GaN-based Micro LED Display, OPTIC 2018, National Chiao Tung University, Tainan, Taiwan, Dec 5-7, 2018.
8. Ching-Ho Chen, Jia-Jhen Jhen, Dong-Sing Wu and Ray-Hua Horng, "Performance comparisons of n-up AlGaAs- and p-up GaInP-based light-emitting thyristors with and without indium iin oxide transparent tonductive layers", OPTIC 2018, National Chiao Tung University, Tainan, Taiwan, Dec 5-7, 2018.
9. Shreekant1, Ray-Hua Horng, "Development, Fabrication and Feasibility assessment of AlGaInP-Based Red LEDs using Composite Metal Substrate for Ultra High Power, 台灣真空年會, 中正大學, 嘉義, Nov. 2, 2018.
10. R. H. Horng, Y. C. Lai and D. S. Wu, "Improving light extraction of deep UV-LED with nano patterned sapphire substrate by nanoimprinting technology", IWN, Kanazawa, Japan, November 11–16, 2018.
11. M. R. Wu, W. C. Li, Y. C. Shen and R. H. Horng, "Electrodes effect on performance of ZnGa₂O₄ gas sensor" 10th International Workshop on Znic Oxide and Other Oxide Semiconductors; IWZnO -2018, Warsaw, Polan, Sep. 14-17, 2018 (Oral)
12. Yuan-Chu Shen, Min-Ru Wu , Wei-Zhong Li, Chiung-Yi Huang , Ray-Hua Horng, "Electrode material effect on performance of gas sensor based on ZnGa₂O₄ epilayer grown by MOCVD", 10th International Workshop on Znic Oxide and Other Oxide Semiconductors; IWZnO -2018, Warsaw, Polan, Sep. 14-17, 2018 (Poster)
13. R. H. Horng1, M. C. Tseng and D. S. Wu, "Thin Film Characteristics of ZnO and AZO Grown via Atomic Layer Deposition", 10th International Workshop on Znic

- Oxide and Other Oxide Semiconductors; IWZnO -2018, Warsaw, Polan, Sep. 14-17, 2018 (Poster)
14. Ray-Hua Horng , Yu-Tin Tsai and Dong-Sing Wu, “Study on Flip-Chip AlGaInP Red LEDs for micro LED Applications”, 2018 IMID, Busan, Korea, Aug. 28-31, 2018. (Oral)
 15. You-Cheng Lin, Fu-Gow Tarntair, Kuei-Yuan Cheng, and Ray-Hua Horng, “Enhanced Light Extraction Red LEDs by Surface Texture Process,” 2018 IMID, Busan, Korea, Aug. 28-31, 2018. (Poster)
 16. Cheng-Po Li, Dong-Sing Wu and Ray-Hua Horng “Performance Improvement by Copper Invar Copper Substrate for N-side up AlGaInP-based LED”, 2018 IMID, Busan, Korea, Aug. 28-31, 2018. (Poster)
 17. Ray-Hua Horng , Si-Han Tsai and Chiung-Yi Huang , “**Thermal annealing effect on material and photoelectric characteristics of ZnGa₂O₄ epilayer grown by MOCVD**”, 海峽兩岸光電子研討會, 香港中文大學, May 2-6, 2018.
 18. Ray-Hua Horng , Ken-Yen Chen , Huan-Yu Chien, Shih-Siang Yan, “Processing and characterization of high resolution AlGaInP base micro LED Display”, 2018 Photonic West, San Francisco, USA, Jan. 28-Feb. 1, 2018.
 19. Ray-Hua Horng , Chun-Han Ku, Ching-Ho Tien, and Dong-Sing Wu, “P Enhanced Light Extraction of Near-Ultraviolet Light-Emitting Diodes Using Laser Scribing Technology”, 2018 Photonic West, San Francisco, USA, Jan. 28-Feb. 1, 2018.
 20. Ray-Hua Horng , Epitaxial Growth of a New Wide Band-gap Semiconductor ZnGa₂O₄, 2018 Photonic West, San Francisco, USA, Jan. 28-Feb. 1, 2018. (Invited speaker)
 21. S. S. Yan, H. Y. Chien, K.Y. Chen , D. S. Wu, and R. H. Horng, “Study on Fabrication of Fine-Pitch Red Micro-LED Displays”, OPTIC 2017, Dec. 7-9, Kaoshung, National SunYat-Sen Univ., Taiwan, 2017.(最佳學生論文獎)
 22. Y. C. Kao, Y. H. Fu, D. S. Wu, and R. H. Horng, “Processing development and properties study of parallel-type thin film GaAs solar cells”, OPTIC 2017, Dec. 7-9, Kaoshung, National SunYat-Sen Univ., Taiwan, 2017.
 23. Y. C. Lai, Y. Y. Zeng, C. H. Tien, D. S. Wu, and R. H. Horng, “Investigations of Zn-Incorporated β -Ga₂O₃ films grown by MOCVD on the optoelectronic properties of deep- ultraviolet light emitting diode”OPTIC 2017, Dec. 7-9, Kaoshung, National SunYat-Sen Univ., Taiwan, 2017.
 24. Li-Chung Cheng, Chiung-Yi Huang and Ray-Hua Horng, “Thickness Effect on the Characteristics of ZnGa₂O₄ Transistor”, Workshop on Ga₂O₃ and Related Materials, Parma (Italy), September 12-15, 2017
 25. Ray-Hua Horng, “Characteristics of Ultraviolet Photodetectors Based on N Incorporation Ga₂O₃ with and without Thermal Annealing”, Workshop on Ga₂O₃

- and Related Materials, Parma (Italy), September 12-15, 2017.
26. Si-Han Tsai, Chiung-Yi Huang and Ray-Hua Horng, “Solar-blind photodetectors based on epitaxial ZnGa₂O₄ thin film”, Workshop on Ga₂O₃ and Related Materials, Parma (Italy), September 12-15, 2017.
 27. Ching-Ho Tien, Chen-Hao Kuo, Dong Sing Wu and Ray-Hua Horng, “Study of High-Voltage Ultraviolet AlGa_N Light Emitting Diode”, IMID, Busan, Korea, Aug. 29-31, 2017.
 28. Li-Chung Cheng, Chiung-Yi Huang and Ray-Hua Horng, “Thickness Effect on the Characteristics of ZnGa₂O₄ Transistor”, Workshop on Ga₂O₃ and Related Materials, Parma (Italy), September 12-15, 2017. Ching-Ho Tien, Chen-Hao Kuo, Dong Sing Wu and Ray-Hua Horng, “Study of High-Voltage Ultraviolet AlGa_N Light Emitting Diode”, IMID, Busan, Korea, Aug. 29-31, 2017.
 29. Ray-Hua Horng, Yu-Yuan Zeng, Ching-Ho Tien, Chia-Lung Tsai, Yi-Keng Fu, Wei-Hung Kuo and Dong-Sing Wu, “Study on ITO/ZGO Ultraviolet-Transparent Films for Deep-Ultraviolet Light-Emitting Diodes Applications”, 24th Congress of the International Commission for Optics (ICO-24), in Tokyo, Japan, Aug. 21-24, 2017.
 30. Ray-Hua Horng, Yu-Yuan Zeng, Ching-Ho Tien, Chia-Lung Tsai, Yi-Keng Fu, Wei-Hung Kuo and Dong-Sing Wu, “Highly Ultraviolet-Transparent ITO/ZGO Contact Layers for AlGa_N Deep-Ultraviolet Light-Emitting Diodes”, International Conference on Nitride Semiconductors-12 (ICNS-12), Strasbourg, France, June 23-28, 2017.
 31. Ray-Hua Horng, Chiung-Yi Huang, Sin-Liang Ou, Tzu-Kuang Juang and Po-Liang Liu, “ZnGa₂O₄: A new deep ultraviolet semiconductor candidate”, IFFM, Jeju, Korea, June 17-27, 2017.
 32. Ray-Hua Horng, Ming-Chun Tseng, Yu-Jie Chen, Ching-Ho Chen, and Dong-Sing Wu, “Performance Comparisons of Light-Emitting Thyristor with Indium Tin Oxide Transparent Conductive Layers”, Compound Semiconductor Week 2017 (CSW 2017), May 13-19, Berlin, German.
 33. Ray-Hua Horng, Wei-Yu Tseng, Ken-Yen Chen, Yu-Ting Tsai, and Huan-Yu Chien, “Characteristic improvement of red-light AlGaInP-based flip-chip micro LEDs”, Compound Semiconductor Week 2017 (CSW 2017), May 13-19, Berlin, German.
 34. Ray-Hua Horng, Chen-Hao Kuo, Ching-Ho Tien, Dong-Sing Wu, “Study on AlGa_N-Based High-Voltage Ultraviolet Light-Emitting Diodes for White Light Applications”, The 6th Laser Display and Lighting Conference 2017 (LDC'17), Yokohama, Japan, Apr. 18 - Apr. 21, 2017.”
 35. Ray-Hua Horng, Ming-Chun Tseng, Dong-Sing Wu, and Hsin-Ying Lee, “Nanorods Effect on the Performance of *p*-Side-up Thin-Film AlGaInP LEDs”,

- ISPlasma 2017, March 1-5, Japan, Aichi.
36. Ray-Hua Horng, Chen-Hao Kuo, Ching-Ho Tien and Dong-Sing Wu, "Study on AlGa_N- Based High-Voltage Ultraviolet Light-Emitting Diodes for White Light Applications", April 19-21, 2017, LDC 2017 Optics & Photonics International Congress 2017, Pacifico- Yokohama, Yokohama, Japan. (Oral).
 37. Ray-Hua Horng, Fan-Lei Wu and Sin-Liang Ou, "**ZnGa₂O₄: A new deep ultraviolet semiconductor candidate**", IFFM, June 27-29, 2017, Jeju, Korea. (Invited speaker)
 38. Yu-Jie Chen, Ching-Ho Chen, Ming-Chun Tseng, and Ray-Hua Horng, "Effect of Indium Tin Oxide Film on the Performance of Thyristor Light Emitting Diode", OPTIC 2016, Dec. 3-5, Taipei, Taiwan.
 39. Ray-Hua Horng, "Performance enhancement of optoelectronic devices using transparent conductive electrodes", 8th Vacuum and Surface Sciences Conference of Asia and Australia (VASSCAA-8) and IVC-20, Aug. 22-26, 2016, Busan, Korea. (Invited speaker)
 40. Ray-Hua Horng and Chih-Tung Yeh, "**Fabrication of E-Mode AlGa_N/Ga_N HEMT**", Annual meeting of PSROC 2016, Jan. 25-27, 2016, Kaoshung, National Sun Yat-Sen Univ., Taiwan. (Invited speaker)
 41. Ray-Hua Horng, Fan-Lei Wu and Sin-Liang Ou, "Development of Epitaxial Lift-off Technology for Thin-Film GaAs Solar Cell Applications", IFFM, June 24-26, 2015, Jeju, Korea. (Invited speaker)
 42. Ming-Chun Tseng, Ming-Hsien Hung, Dong-Sing Wu and Ray-Hua Horng, "Effects of Interface State Traps on Performance of MOS-HEMTs", ISNE 2015, May 4-6, 2015, NTUST campus, Taipei, Taiwan. (Invited speaker)
 43. **Ray-Hua Horng, "Effects of CF₄ Plasma Treatment on Characteristics of Enhancement Mode AlGa_N/Ga_N High Electron Mobility Transistors", 2015 International Symposium on Surface Engineering based Convergence Science & Technology (SECST2015), Aug. 25-26, Changwon, Korea. (Invited speaker)**
 44. Ming-Chun Tseng, Chi-Lu Chen, Nan-Kai Lai, Dong-Sing Wu, Hsin-Ying Lee, Yu-Chang Lin, and Ray-Hua Horng, "Effect of AZO Current Spreading Layer on P-side-up Thin-Film AlGaInP-Based LEDs" ISSLED 2014, Dec. 14-19, 2014, Kaoshung, National Sun Yat-Sen Univ., Taiwan.
 45. Yu-Cheng Kao, Sin-Liang Ou, Fan-Lei Wu, Ray-Hua Horng and Ming-Chun Tseng, "Effect of thermal annealing on the epilayer quality, surface roughness, and device performance of InGaAs solar cells ", VASSCAA-7, HsingChu, Taiwan, Oct. 5-9, 2014.
 46. Ray-Hua Horng, Chin-Yi Huang, and Dong Sing Wu, " Effects of structural properties and morphologies of Ga-doped ZnO thin films on their optoelectronic characteristics", "Science & Applications of Thin Films, Conference & Exhibition

- (SATF 2014)", Cesme, Izmir, Turkey, September 15-19, 2014 (Invited speaker).
47. Ray-Hua Horng, Hsu-Hung Hsueh, Sin-Liang Ou, Chiao-Yang Cheng and Dong-Sing Wu, "Growth Mechanism of GaN Epilayer on Cone-Shaped Patterned Sapphire Substrates with Modified Top-Tip," International Workshop on Nitride Semiconductors (IWN 2014), Wrocław, Poland, Aug. 24-29, 2014.
 48. Ming-Chun Tseng, Ming-Hsien Hung, Po-Rung Lin, and Ray-Hua Horng, "Effects of carbon-doped GaN on performance of AlGaIn/GaN/SiC HEMTs" International Workshop on Nitride Semiconductors (IWN 2014), Wrocław, Poland, Aug. 24-29, 2014.
 49. Sin-Liang Ou, Hsu-Hung Hsueh, Ray-Hua Horng, and Dong-Sing Wu, "InGaIn LEDs Using Chemical Lift-Off from a GaN/Sapphire Template with an AlN/Patterned-SiO₂ Sacrificial Layer," 2014 Laser Display Conference, National Chung Hsing University, Taichung, Taiwan, 19-20 June, 2014
 50. Hsu-Hung Hsueh, Sin-Liang Ou, Dong-Sing Wu, and Ray-Hua Horng, "InGaIn LED Fabricated on Eco-GaN Template with a Ga₂O₃ Sacrificial Layer for Chemical Lift-Off Application," The 3rd International Symposium on Next Generation Electronics (ISNE 2014 Chang Gung University in Taoyuan, Taiwan), Taoyuan, Taiwan, 7-10 May, 2014
 51. Ray-Hua Horng,^{1*} Kun-Ching Shen,² Chao-Yu Pai,¹ and Dong-Sing Wu, " **The performance of GaN LEDs using an embedded finger-type contact** ", SPIE photonic west, Feb. 1-7, San Francisco, UAS. 2014.
 52. Ray-Hua Horng, Shih-Hao Chuang, Cheng-Sheng Tsung, Ching-Ho Chen, Cheng-Yi Lin, Feng-Yeh Chang, Dong-Sing Wu, " Study of surface plasmons at the metal/ semiconductor interface "SPIE photonic Europe, April 14-17, Brussels, Belgium, 2014.
 53. R.H.Horng, C.L.Chen, B.R.Wu¹, Ching-Ho Tien, and D.S. Wu, "Increasing the extraction efficiency of p-side up AlGaInP LEDs via roughened transparent conductive layer", International Union of Materials Research Societies-International Conference on Electronic Materials 2014(IUMRS-ICEM 2014), TWTC Nangang Exhibition Hall, Taipei, TAIWAN; 10-14 June, 2014.
 54. Ray-Hua Horng, Chi-Feng Weng, Bing-Rui Wu, Sin-Liang Ou, and Dong-Sing Wu, "Improvement in Light Extraction of P-side up AlGaInP-based LEDs by Surface Roughening," Optic2013, 2013-SAT-P0802-P023, Zhongli, Taiwan, (5-7, Dec.

- 2013).
55. Ray-Hua Horng, Chi-Feng Weng, "P-side up Thin Film AlGaInP-Based Light Emitting Diodes with Mesh Patterned Ohmic Contact", 223th ECS meeting, Toronto, Canada, 2013.
 56. R.H. Horng and P. Ravadgar, "Study of Photoresponsivity in Optoelectronic Devices Based on Single Crystal β -Ga₂O₃ Epitaxial Layers", SPIE photonic west, Feb. 2-7, San Francisco, UAS. 2013.
 57. Fan-Lei Wu^{*a}, Ray-Hua Horng^a, Jian-Heng Lu^a, Chun-Li Chen^b, Yu-Cheng^a Kao, "Improvement in Etching Rate for Epilayer Lift-Off with Surfactant", SPIE photonic west, Feb. 2-7, San Francisco, UAS. 2013.
 58. **R. H. Horng**, F. L. Wu, M. C. Tseng, „**Improvement in Etching Rate for Epilayer Lift-Off Application with Low Surface Tension Fluid**", 222 ECS meeting, Honolulu, Hawaii, USA, Oct. 7-12, 2012.
 59. **Ray-Hua Horng**, "**Multi-chip high-power LEDs with cup-shaped copper heat spreader for general lighting applications**", International Conference on Electronic Materials and Nanotechnology for Green Environment , 16 - 19 Sept. 2012, Jeju Korea.(轉投並刊登 Optics Express Vol. 20, Iss. S5, pp. A597–A605 (2012))
 60. **Ray-Hua Horng** and Yu-Wei Kuo, "Process Development of GaN Light-Emitting Diodes with Imbedded Contacts", 2012 SPIE Optical Engineering + Applications, 12-16 August 2012 in San Diego, CA United States. (轉投並刊登 Optics Express , accept, in press (2012))
 61. **Ray-Hua Horng** "High-yield thin GaN LED using metal bonding and laser lift-off technology," 2012 SPIE Optical Engineering + Applications which will be held 12-16 August 2012 in San Diego, CA United States. ((轉投並刊登 Appl. Phys. Lett. 101, 171102-1~4 (2012))).
 62. **Ray-Hua Horng**, "**Process Development of High Bright InGaN LEDs with Imbedded Contacts**", Int'l LED and Green Lighting Seminar 2012, June 27, 28, Korea. **(Invited speaker)**
 63. Ray-Hua Horng, Ming-Chun Tseng, Wen-Yih Liao, Tsung-Yen Tsai, "Fabrication and Characterization of Thin InGaN Solar Cells by Epilayer Transferring Technologies", NSAP-2012, May 10-12, 2012. **(Invited speaker)**
 64. Ray-Hua Horng, Kun-Ching Shen, Jia-Hua Lin, Yu-Wei Kuo, and Dong-Sing Wu, "Effects of cell distance on the performance of GaN high-voltage light emitting

- diodes”, 221 ECS meeting, Seattle, WA, USA, May 6-12, 2012. **(Invited speaker)**
65. C. Pan, D. S. Wu, H. S. Hsueh, and R. H. Horng, “Chemical lift-off of blue light-emitting diodes grown on sapphire substrate with an oxide-patterned sacrificial layer”, 221 ECS meeting, Seattle, WA, USA, May 6-12, 2012.
 66. P. Ravadgar, R. H. Horng, and T. Y. Wang, “Healing of Surface States and Point Defects in Single-Crystalline β -Ga₂O₃ Epilayer”, 221 ECS meeting, Seattle, WA, USA, May 6-12, 2012.
 67. Ray-Hua Horng, Tzu-Yu Wang, Sin-Liang Ou, Dong-Sing Wu,” Characteristic and Formation Mechanism of InGaN (0.33<In<0.62) Grown on Different Substrate by Pulse Laser Deposition”, The 59th spring meeting 2012, Japan Society of Applied Physics English Session 6.4 thin film/new materials, Waseda, Tokyo, Japan, March 15-18, 2012.
 68. Yu-Wei Kuo and **Ray-Hua Horng**, “Study on Electrodeless LEDs for LCD Backlight applications”, 2012 Taiwan Display Conference, Taiwan, April 17,18, 2012.
 69. Parvaneh Ravadgar and Ray-Hua Horng, 'Metal-Semiconductor-Metal Deep Ultraviolet Detector Based on Single Crystal β -Ga₂O₃ epilayer”, the 3rd Power Electronics, Drive Systems & Technologies Conference , Tehran, IRAN from February 15-16, 2012.
 70. Ray-Hua Horng, Jia-Hua Lin, Dong-Sing Wu, Re-Ching Lin, and Kun-Ching Shen, “High-Voltage Thin GaN LEDs Array”, 2012 SPIE, Jan. 21-26, San Francisco, UAS. **(Invited speaker)**
 71. R. H. Horng, D. S. Wu, S. L. Ou, H. H. Hsueh, “Study on GaN Epilayer Transferring to Cu Substrate from Sapphire Substrate Using Ga₂O₃ Sacrificial Layer”, 2012 SPIE, Jan. 21-26, San Francisco, UAS.
 72. S.L.Ou, D.S. Wu, Y.C. Fu, T.Y. Wang, R. H. Horng, “Growth and characterization of Ga₂O₃ on sapphire substrates for UV sensor applications (*Invited Paper*), 2012 SPIE Photonics West, Jan. 22-25, San Francisco, USA.

六、研發成果智慧財產權及其應用績效：

1. 請將個人研究成果分為(1)專利(2)技術移轉(3)著作授權(4)其他等類別，分別填入下列表中。

2. 填寫順序請依專利期間起始日排列，或技術移轉及著作授權之簽約日期排列。

(1)專利

類別	專利名稱	國別	專利號碼	發明人	專利權人	專利期間
發明專利	OPTO-ELECTRONIC DEVICE	USA	5373167	李明達,洪瑞華,黃林鐘	行政院國家科學委員會	1994/12~2010/12
發明專利	光電元件	中華民國	發明第六七八六一	李明達,洪瑞華,黃林鐘	行政院國家科學委員會	1994/09~2010/01
發明專利	光電元件	日本	2057313	李明達,洪瑞華,黃林鐘	行政院國家科學委員會	1994/09~2010/07
發明專利	以透明玻璃或石英當做永久性基板之發光二極體及其製法	中華民國	專利號碼:第107682號	張國雄,林昆泉,陳隆建,洪瑞華,武東星	全新光電科技股份有限公司	1998/05~2015/11
發明專利	可抹除之光記憶裝置及其製造方法	中華民國	專利號碼:第114699號	洪瑞華,武東星,魏上欽,施敏,詹世雄,曾堅信,郭正達	行政院國家科學委員會	1998/08~2016/02
發明專利	一種鍍有金屬反射鏡面之發光二極體及其製法	中華民國	公告編號:449938	黃滿芳,謝其華,曾鍾揚,林昆泉,洪瑞華,武東星	全新光電科技股份有限公司	2001/08~2021/07
發明專利	Light emitting diode with a permanent substrate of transparent glass or quartz and the method for manufacturing the same	USA	6258699	張國雄,林昆泉,陳隆建,洪瑞華,武東星	全新光電科技股份有限公司	2001/07~2021/06
發明專利	Light emitting diode with a metal-coated reflective permanent substrate and the method for manufacturing the same	USA	6287882	張國雄,林昆泉,洪瑞華,黃滿芳,武東星,魏上欽	全新光電科技股份有限公司	2001/09~2021/08
發明專利	一種具金屬反射鏡面之面射型雷射二極體之製作方法	中華民國	170347	洪瑞華、武東星、彭韋智、何文章、黃英勳	中華電信公司	2002/12~2021/8
發明專利	用於多對晶片黏貼的製作設計	中華民國	專利號碼:第160397號	洪瑞華、武東星	中興大學	2002/7/11~2022/8/27
新型專利	用於製作大面積氧化層之設備	中國大陸	專利號碼:第494963號	李明輝、洪瑞華、武東星	中興大學	2002/5/22~2011/8/1
發明專利	多穩態光路開關及其製造方法	中華民國	申請案號90220150	李明輝、洪瑞華、武東星	中興大學	公告中
新型專利	用於製作大面積氧化層之設備	中華民國	公告案號:520034	李明輝、洪瑞華、武東星	中興大學	092/02/01—102/06/13
新型專利	高密度耦合電漿設備	中華民國	公告編號505355	武東星、洪瑞華、劉彥泓、吳金龍、徐享楨、彭信翰、林維倫	倍強科技公司 中興大學	091/10/01—102/12/30
新型	電漿清洗機結構	中華	公告編號520071	武東星、洪瑞華、劉	倍強科技公司	0920201—1021230

專利		民國		彥泓、吳金龍、徐享楨、彭信翰、林維倫	中興大學	
發明專利	Heat-generating resistor and use thereof	USA	6140909	吳清沂，武東星，詹佳期，洪瑞華	工業技術研究院	2000/10~2020/9
發明專利	熱阻層及含其之噴墨頭	中華民國	專利號碼:第155943I 號	吳義勇、武東星、洪瑞華、詹佳期	工業技術研究院	091/05/01 — 108/03/22
發明專利	高效率發光二極體極其製作方法	中華民國	專利號碼:第175393 號	洪瑞華、武東星、楊俊哲、黃少華、莊志如	中興大學	092/03/11 — 110/11/06
發明專利	發光二極體極其製作方法 (透明視窗層級透明導電膜)	中華民國	專利號碼:第184345 號	洪瑞華、武東星、黃少華、邱麒穎	國科會	092/8/1~111/4/3
發明專利	Method for Producing Light Emitting Diode (透明視窗層級透明導電膜)	USA	US6,964,878B2	洪瑞華、武東星、黃少華、邱麒穎	國科會	2004/09/08~2024/09/07
發明專利	一種具金屬反射鏡之面射型雷射二極體之製作方法	中華民國	專利號碼:第170347 號	洪瑞華、武東星、彭韋智、何文章、黃英勳	中華電信公司	091/12/21 — 110/08/14
發明專利	Technique for a surface-emitting laser diode with a metal reflector	USA	US6656756 B2	洪瑞華、武東星、彭韋智、何文章、黃英勳	中華電信公司	2003/12/02-2023/11/01
發明專利	使用多導電層作為 p 型氮化鎵歐姆接觸之透明電極製程與結構	中華民國	專利號碼: 第 I 227519 號	洪瑞華、武東星、連亦中、藍文厚、胡榮章、程亞桐	中興大學	2005/02/01-2021/05/14
發明專利	電鍍基板具反射鏡面之高亮度發光二極體	中華民國	專利號碼: 第 195306 號	洪瑞華、武東星、黃少華、邱麒穎、江彥志	中興大學	2004/01/01-2022/10/24
發明專利	電鍍基板具反射鏡面之高亮度發光二極體 (結構)	美國	申請案號; 10/668555	洪瑞華、武東星、黃少華、邱麒穎、江彥志	中興大學	領證中
發明專利	電鍍基板具反射鏡面之高亮度發光二極體(方法)	美國	US Patent No. 6,806,112	洪瑞華、武東星、黃少華、邱麒穎、江彥志	中興大學	申請中
發明專利	High-Brightness Light Emitting Diode (介電鏡面，結構)	USA	US6,759,685 B2	洪瑞華、武東星、楊俊哲、黃少華、莊志如	中興大學	2004/07/06-2022/09/29
發明專利	Light Emitting Diode and method for producing the same (透明視窗層級透明導電膜)	USA	US7,061,065 B2	洪瑞華、武東星、黃少華、邱麒穎	中興大學	2006/06/13-2023/03/31
發明專利	高效率發光二極體極其製造方法 (垂直結構)	中華民國	專利號碼:第180706 號	洪瑞華、武東星、黃少華	中興大學	092/06/11 — 111/05/20
發明專利	高效率發光二極體極其製造方法(垂直結構) Method for Producing High Brightness Led	美國	US6967117B2	洪瑞華、武東星、黃少華	國科會	2005/11/22~2025/11/21
發明專利	高效率發光二極體極其製造方法(二次晶圓貼合)	中華民國	專利號碼:第197831 號	洪瑞華、武東星、江彥志、邱麒穎	中興大學	093/02/11 — 112/01/15

發明專利	高效率發光二極體極其製造方法(二次晶圓貼合)	USA	US6,806,112B1	洪瑞華、武東星、江彥志、邱麒穎	中興大學	2004/10/19-2023/9/21
發明專利	高效率發光二極體極其結構(二次晶圓貼合)	USA	US7,319,248B2	洪瑞華、武東星、江彥志、邱麒穎	國科會	2008/1/15-2024/7/13
發明專利	高效率發光二極體極其製造方法(邊緣電極)	中華民國	專利號碼:第 I234887 號	洪瑞華、武東星	中興大學	94/06/21~112/01/15
發明專利	垂直共振腔面射型雷射二極體及其製造方法(電鍍)	中華民國	專利號碼:第 199409 號	洪瑞華、武東星	中興大學	093/03/21 — 112/01/22
發明專利	垂直共振腔面射型雷射二極體及其製造方法(貼合)	中華民國	專利號碼:第 I222775 號	洪瑞華、武東星	中興大學	093/10/21 — 112/09/28
發明專利	Vertical-cavity surface emitting laser diode and method for producing the same producing	USA	6979582 B2	洪瑞華、武東星	中興大學	94/12/27~112/09/21
發明專利	單晶片式無機駐極體之麥克風及其製造方法	中華民國	專利號碼:第 I232691 號	洪瑞華、武東星、黃信薰、張昭智	中興大學	94/05/11~112/09/28
新型	光電元件之晶粒與次載體預結合結構	中華民國	M267631	袁榮亨, 洪瑞華, 許峻嵐	前源科技股份有限公司	2005/06/11 - 2014/06/29
發明專利	浮動開極式駐極體電容麥克風及其製造方法	中華民國	專利號碼:第 I256265 號	洪瑞華、林泓均, 張昭智	中興大學	95/06/01~113/08/17
發明專利	微晶片之製造方法及其產品	中華民國	專利號碼:第 252839 號	洪瑞華、陳弘育, 曾志明, 林冠文, 蔡東孟	中興大學	2006/4/11~2024/2/19
發明專利	具有散熱基板之發光二極體及其製程 (Thin sapphire +Cu)	中華民國	I236161	洪瑞華、武東星	中興大學	94/07/11~112/12/16
發明專利	白光發光二極體	中華民國	I237401	洪瑞華、武東星	中興大學	94/08/01~112/12/30
發明專利	製作高亮度固態發光元件的方法及其製品	中華民國	I240441	武東星、洪瑞華	中興大學	2005/09/21~2024/10/07
發明專利	製作高功率發光二極體的方法及其製品	中華民國	I239662	武東星、洪瑞華	中興大學	94/09/11~113/03/17
發明專利	高亮度固態發光元件的製造方法及其產品 (ITO 粗化)	中華民國	專利號碼:第 I244773 號	洪瑞華、武東星	中興大學	94/12/01~113/04/25
發明專利	高效率發光元件	中華民國	專利號碼:第 I236773 號	洪瑞華、武東星、王偉凱	中興大學	94/07/21~113/06/20
發明專利	製作高亮度固態發光元件的方法及其製品 (Thin Sapphire)	中華民國	專利號碼:第 I240441 號	武東星、洪瑞華	中興大學	94/09/21~113/10/07
發明專利	具軟性基板之無機發光二極體顯示器	中華民國	專利號碼:第 I259592 號	洪瑞華、武東星	中興大學	95/08/21~114/01/11
發明專利	具側邊電級之發光二極體極其製造方法	中華民國	專利號碼:第 I264137 號	洪瑞華、武東星	中興大學	94/09/02~112/01/15
發明專利	雙晶片式麥克風晶片的製程及其成品	中華民國	申請中	洪瑞華、張昭智	中興大學	申請中
發明專利	微型光柵及其製造方法	中華民國	專利號碼:第 I271550 號	洪瑞華、韓斌	中興大學	96/01/21~115/01/20

發明專利	白光發光元件及其製造方法	中華民國	I1255569	武東星、洪瑞華、吳孟齋	友達光電	2006/05/21 - 2025/09/19
發明專利	白光光源的產生方法，白光發光元件及其製造方法	中華民國	專利號碼:第 I246787 號	武東星、洪瑞華、吳孟齋	友達光電	2006/01/01 - 2025/05/25
發明專利	WHITE LIGHT EMITTING DEVICE AND METHOD OF MAKING SAME	美國	AU0408047	武東星、洪瑞華、吳孟齋	友達光電	申請中
發明專利	高效率固態發光裝置	中華民國	專利號碼: 第 I242899 號	洪瑞華、武東星	中興大學	94/11/01~114/02/21
發明專利	發光二極體之散熱支架結構	中華民國	M271251	吳清沂、林正宗、詹益洪、洪瑞華	金利精密工業股份有限公司	2005/7/21-2008/7/20
發明專利	發光二極體之散熱支架結構	韓國	申請中	吳清沂、林正宗、詹益洪、洪瑞華	金利精密工業股份有限公司	通過
發明專利	發光二極體之散熱支架結構	日本	日本專利第 3108452 號	吳清沂、林正宗、詹益洪、洪瑞華	金利精密工業股份有限公司	2005/2/9
發明專利	Construction of Thermal Dissipation Support of Light Emitting Bipolar Body	韓國	韓國專利第 0374576 號	吳清沂、林正宗、詹益洪、洪瑞華	金利精密工業股份有限公司	2005/2/20
發明專	固態微發光元件陣列 /Solid-state of micro-light-emitting-dev ice array	中華民國	專利號碼:第 I254353 號	武東星、洪瑞華	中興大學	2006/5/1~2025/6/26
發明專	具反射鏡面發光二極體及其製造方法	中華民國	專利號碼:第 I256745 號 (94129861 聖島)	武東星、洪瑞華、	中興大學	2006/6/11~2025/8/30
發明專利	電容式微型麥克風之麥克風晶片及其製造方法 (一體成型 94/6/22)	中華民國	專利號碼:第 I279154 號	洪瑞華、張昭智、蔡圳益、胡幸昱、蔣宇寧	中興大學	2007/4/11~2025/9/22
發明專利	具有側邊電極之發光二極體及其製造方法	中華民國	申請中 (94129861 聖島, 2005/8/31)	洪瑞華、武東星、黃少華	中興大學	申請中
發明專利	混光 LED 裝置及其製法	中華民國	專利號碼:第 I272733 號	洪瑞華、武東星、	中興大學	2007/2/1~2025/11/7
發明專利	軟性薄膜電晶體基板的製造方法及軟性薄膜電晶體	中華民國	申請中 (94136884 聖島, 2005/10/21)	洪瑞華、武東星、	中興大學	申請中
發明專利	高光取出率之固態發光元件	中華民國	專利號碼:第 I288491 號	武東星、洪瑞華、王偉凱、文國昇	中興大學	2007/10/11~2026/3/1
發明專利	磊晶結構及其製造方法	中華民國	專利號碼:第 I297959 號	洪瑞華、武東星、	中興大學	2008/06/11~2026/05/25
發明專利	具有散熱銅柱之發光二極體及其製造方法	中華民國	專利號碼:第 I298552 號	洪瑞華、武東星、	中興大學	2008/07/01~2026/03/09
發明專利	低表面缺陷密度之磊晶基板的製造方法及其製品	中華民國	申請中 (95124658 聖島, 2006/10/21)	洪瑞華、武東星、	中興大學	申請中
發明專利	可撓捲收折之背光模組及其製造方法	中華民國	申請中 (95124660 聖	洪瑞華、武東星、	中興大學	申請中

			島, 2006/10/21)			
發明專利	全反射型發光二極體及其製造方法	中華民國	專利號碼:第 I282183 號	洪瑞華、武東星、	中興大學	2007/6/1~2025/7/11
發明專利	用於備製電容式矽微麥克風之晶片的無切割製程	中華民國	專利號碼:第 I285509 號	洪瑞華、張昭智、林宗穎、蔡圳益	中興大學	2007/8/11~2026/2/9
發明專利	動圈式麥克風晶片的製造方法	中華民國	專利號碼:第 I328974 號	洪瑞華、張昭智、柯銘禮、陳冠位	中興大學	2010/8/11-2027/5/6
發明專利	麥克風晶片及動圈式麥克風	中華民國	專利號碼:第 I328973 號	洪瑞華、張昭智、柯銘禮、陳冠位	中興大學	2010/8/11-2027/5/6
發明專利	有機電激發光顯示裝置的軟質基板及其製造方法	中華民國	申請中(95124661 聖島, 2006/7/06)	洪瑞華、武東星、	中興大學	申請中
發明專利	側向取光率高的固態發光元件	中華民國	專利號碼:第 I299580 號	洪瑞華、武東星、黃少華	中興大學	2008/8/01~2026/5/14
發明專利	具有異質磊晶之奈米尺度結構的發光二極體	中華民國	專利號碼:第 I326132 號	洪瑞華、武東星、吳嘉誠	中興大學	2010/6/11~2027/3/02
發明專利	太陽能電池	中華民國	專利號碼:第 I374549 號	洪瑞華、武東星、蔡雨利、吳志宏、趙志剛	中興大學	2012/10/11-2027/11/15
發明專利	具有集光結構的太陽能電池	中華民國	專利號碼:第 I381538 號	洪瑞華、武東星、蔡雨利、曾明俊	國立中興大學	2013//1/1-2028/8/13(2013/01/20 已領證)
發明專利	具有可反射光之黏著層發光二極體晶片	中華民國	專利號碼:第 I382566 號	洪瑞華、武東星	國立中興大學	2013//1/11-2028/11/6(2013/01/20 已領證)
發明專利	具有散熱基板的發光二極體晶片元件及其製作方法	中華民國	專利號碼:第 I397193 號	洪瑞華、武東星、蔣承忠、蕭翔允、許蒼林、林恒毅	良峰塑膠機械股份有限公司、中興大學	2013//5/21-2027/11/04(2013/07/22 已領證)
發明專利	具有散熱基板的發光二極體晶片元件及其製作方法.	(日本、韓國)		洪瑞華、武東星、蔣承忠、蕭祥允、許蒼林、林恒毅	良峰塑膠機械股份有限公司、中興大學	
發明專利	具有散熱基板的發光二極體晶片元件及其製作方法	中國大陸	200710188144.4	洪瑞華、武東星、蔣承忠、蕭翔允、許蒼林、林恒毅	良峰塑膠機械股份有限公司、中興大學	核准
發明專利	發光元件之封裝製程	美國	12/292054 (申請案號)	洪瑞華、武東星、蔣承忠、蕭翔允、許蒼林、林恒毅	良峰塑膠機械股份有限公司、中興大學	核准
發明專利	發光元件之封裝製程	中華民國(中國大陸)	200710188144.4	洪瑞華、武東星、蔣承忠、蕭翔允、許蒼林、林恒毅	良峰塑膠機械股份有限公司、中興大學	審查中
發明專利	Light emitting device having a led chip component and method of manufacturing the same	歐洲	09156441.9	洪瑞華、武東星、蔣承忠、蕭翔允、許蒼林、林恒毅	良峰塑膠機械股份有限公司、中興大學	審查中
發明專利	高光取出率的發光二極體晶片及其製造方法	中華民國 USA	申請中(萬國事務所) 960908	洪瑞華、武東星、黃少華、謝創宇、林朝坤	國立中興大學/普瑞光電股份有限公司	申請中
發明專利	具有高热傳導率的發光晶片裝置	中華民國	申請中(萬國事務所) 960908	洪瑞華、武東星、黃少華、謝創宇、林朝坤	國立中興大學/普瑞光電股份有限公司	申請中

發明專利	Light-emitting chip device with high thermal conductivity	USA	US 7,858,999	洪瑞華、武東星、黃少華、謝創宇、林朝坤	國立中興大學 / 普瑞光電股份有限公司	2010/12/28-2030/12/27
	Light-Emitting Diode Chip With High Light Extraction And Method For Manufacturing The Same	USA	US 20090127575	洪瑞華、武東星、黃少華、謝創宇、林朝坤	國立中興大學 / 普瑞光電股份有限公司	
	Light-Emitting Diode Chip With High Light Extraction And Method For Manufacturing The Same		US 20100136728 (Div.)	洪瑞華、武東星、黃少華、謝創宇、林朝坤	國立中興大學 / 普瑞光電股份有限公司	
發明專利	具雙面粗化垂直導通式發光二極體之製造方法及其產品	中華民國	中華民國第 I 355760	洪瑞華、武東星	國立中興大學	2012/01/01-2028/02/03
發明專利	具有熱導基板的平面式發光二極體的製造方法	中華民國	I427821	洪瑞華、武東星	國立中興大學	2014/2/21-2028/3/27(2014/02領證)
發明專利	具有熱導基板的太陽能電池及其製造方法	中華民國	申請中 (96143466 聖島, 2008/02/13)	洪瑞華、武東星	國立中興大學	申請中
發明專利	絲帶式麥克風的聲電轉換晶片	中華民國	中華民國第 I 365671	洪瑞華、柯銘禮、陳冠位、蔡耀丞、張昭智	國立中興大學	2008/3/26-2028/3/25
發明專利	絲帶式麥克風的聲電轉換晶片	中國大陸	1213677 號	洪瑞華、柯銘禮、陳冠位、蔡耀丞、張昭智	國立中興大學	2013/06012
發明專利	形成於晶圓的黏膠自體成型結構的製造	中華民國	中華民國第 I 384564	洪瑞華、蔣承忠、林敬倍	國立中興大學	2013//2/1-2028/6/16
發明專利	形成於晶圓的黏膠自體成型電子元件	中華民國	專利號碼:第 I394241 號	洪瑞華、蔣承忠、林敬倍	國立中興大學	2013//4/24-2028/6/16
發明專利	陣列集光式太陽能電池	中華民國	申請中 (CP23580 聖島, 2008/07/22)	洪瑞華、武東星、蔡雨利、曾明俊、黃俊凱	國立中興大學	申請中
發明專利	具有金屬散熱鑄之雷射二極體及其製造方法	中華民國	專利號碼:第 I305440 號	洪瑞華、武東星、	中興大學	2009/01/11~2026/5/21
發明專利	垂直導通式發光二極體的製作方法及其產品	中華民國	專利號碼:第 I363439 號	洪瑞華、武東星、	國立中興大學	2012/05/01-2028/08/28
發明專利	超薄型線光源模組	中華民國	專利號碼:第 I369463 號	洪瑞華、武東星、	國立中興大學	2012/08/01-2029/07/31
發明專利	堆疊式太陽能電池的製造方法及其製品	中華民國	專利號碼:第 I374550 號	洪瑞華、武東星、曾明俊、吳志宏、趙志剛	國立中興大學	2012/10/11-2029/8/16
發明專利	具有高發光率的光二極體的低溫製造方法 Method of making a light emitting diode	美國	專利號碼: 7713776	洪瑞華、武東星	國立中興大學	May 11, 2010
發明專利	動圈式雙線圈麥克風、其晶片、	中華民國	I436652	洪瑞華	國立中興大學	2014/5/1-2030/5/17

	與該晶片的製造方法					
發明專利	半導體發光晶片的製作方法及半導體發光晶片	中華民國	專利號碼:第 I452691 號	洪瑞華	國立成功大學	2014/9/11-2031/4/24
發明專利	半導體發光晶片	中華民國	申請中 (101118165 聖島, 2012/05/)	洪瑞華	國立中興大學	申請中 NSC 100-2221-E-005-09 2-MY3(最佳取光) 100EC-17-A-07-S1-158(學界科專)
發明專利	半導體元件的製造方法及該製造方法中所使用的磊晶基板與其半導體元件半成品」專利案	中華民國	專利號碼:第 I479689 號	洪瑞華,曾明俊,吳凡磊	國立中興大學	2015/4/11-2032/5/21
發明專利	Method of manufacturing semiconductor devices, epitaxial substrate for use therein semi-finished semiconductor devices	USA	US8853055B2	Ray Hua Horng, Ming-Chun Tseng Fan-Lei Wu	國立中興大學	2014/10/7-2013/3/17
發明專利	具有高散熱特性的發光元件及其製作方法	中華民國	申請中 (聖島, 2012/05/)	洪瑞華	國立中興大學	申請中 100EC-17-A-07-S1-158(學界科專)
發明專利	磊晶元件分離方法	中華民國	I452621	洪瑞華, 曾明俊	國立成功大學	2014/9/11-2030/10/31
	Semiconductor light emitting device and method for manufacturing the same	USA	申請中 (99-164AP 聖島, 2011/01/)	洪瑞華	國立成功大學	申請中
	半導體結構及其製作方法和磊晶半成品的製作方法	中華民國	申請中 (99-087AP 聖島, 2011/01/)	洪瑞華, 曾明俊	國立成功大學	申請中
發明專利	Method of fabricating epitaxial semiconductor devices	USA	US8623669B2	Ray Hua Horng, Ming-Chun Tseng	國立成功大學	2014/1/7-2013/8/8
	半導體結構及其製作方法	中華民國	申請中 (99-087AP 聖島, 2011/01/)	洪瑞華, 曾明俊	國立成功大學	申請中
	發光二極體晶粒模組封裝方法及其移取治具	中華民國	申請中 (34723TW 聖島, 2011/01/)	洪瑞華	國立成功大學	申請中
發明專利	面型光源模組	中華民國	I367310	洪瑞華	國立中興大學	2012/07/01-2029/09/23 20120523 通知
發明專利	Flexible light emitting module	USA	US 7740376	Wuu; Dong Sing, Horng; Ray-Hua Chiang; Cheng-Chung Chen; Wen-Chun	國立中興大學	June 22, 2010
發明專利	Light emitting device	USA	US 7511307	Wuu; Dong-Sing Horng; Ray-Hua Wang; Woei-Kai Wen; Kuo-Sheng	國立中興大學	March 31, 2009

發明專利	Method for making a diaphragm unit of a condenser microphone	USA	US 7,469,461	Chang; Chao-Chih Horng; Ray-Hua Tsai; Jean-Yih Lai; Chung-Chin Chen; Ji-Liang	佳樂電子	December 30, 2008
發明專利	Multiple-chromatic light emitting device	USA	US 7417260	Wuu; Dong-Sing Horng; Ray-Hua	國立中興大學	August 26, 2008
發明專利	Method for making condenser microphones	USA	US 7343661	Horng; Ray-Hua Lin; Zong-Ying Tsai; Jean-Yih Chang; Chao-Chih	佳樂電子	March 18, 2008
發明專利	Light emitting device	USA	US 7342261	Wuu; Dong-Sing Horng; Ray-Hua Wang; Woei-Kai	國立中興大學	March 11, 2008
發明專利	White-light emitting devices and methods for manufacturing the same	USA	US 7279350	Wu; Tung-Hsing Horng; Ray-Hua Wu; Meng-Chai	友達光電	October 9, 2007
發明專利	White light emitting device and method of making same	USA	US 7208336	Wu; Tung-Hsing Horng; Ray-Hua Wu; Meng-Chai	友達光電	April 24, 2007
發明專利	Method for manufacturing a light emitting device	USA	US 7118930	Wuu; Dong-Sing Horng; Ray-Hua	國立中興大學	October 10, 2006
發明專利	White light emitting device and method of making same	USA	US 7045375	Wu; Tung-Hsing Horng; Ray-Hua Wu; Meng-Chai	友達光電	May 16, 2006
發明專利	Vertical-cavity surface emitting laser diode and method for producing the same	USA	US 6979582	Wuu; Dong-Sing Horng; Ray-Hua	國立中興大學	December 27, 2005
發明專利	Technique for a surface-emitting laser diode with a metal reflector	USA	US 6656756	Horng; Ray-Hua Wu; Dong-Sing Peng; Wei-Chih Ho; Wen-Jeng Huang; Ying-Shun	中華電信研究所	December 2, 2003
發明專利	Light emitting diode with a metal-coated reflective permanent substrate and the method for manufacturing the same	USA	US 6287882	Chang; Kuo-Hsiung Lin; Kun-Chuan Horng; Ray-Hua Huang; Man-Fang Wu; Dong-Sing Wei; Sun-Chin	全新光電	September 11, 2001
發明專利	Light emitting diode with a permanent substrate of transparent glass or quartz and the method for manufacturing the same	USA	US 6258699	Chang; Kuo-Hsiung Lin; Kun-Chuan Horng; Ray-Hua Huang; Man-Fang Wu; Dong-Sing Wei; Sun-Chin Chen; Lung-Chien	全新光電	July 10, 2001
發明專利	Heat-generating resistor and use thereof	USA	US 6140909	Wu; Yi-Yung Wu; Dong-Sing Chan; Chia-Chi Horng; Ray-Hua	工研院	October 31, 2000
發明專利	雙面粗化垂直導通式發光二極體之製造方法 (Method for forming a light emitting diode)	USA	US7,998,768B1	洪瑞華、武東星	國立中興大學	2010/10/13-2030/10/13 (2012/5 轉回學校)
發明專利	具雙面粗化垂直導通式發光二極體(裝置案) (Light emitting diode)	USA	US7,998,768B2	洪瑞華、武東星	國立中興大學	領證中 2009/08/13-2029/08/12

						(2012/5 轉回學校)
發明專利	具雙面粗化垂直導通式發光二極體(產品案)(Light emitting diode)	USA		洪瑞華、武東星	國立中興大學	領證中 2009/08/13-2029/08/12 (2013/9/16 通知通過)
發明專利	無電極遮光的發光二極體極其製作方法	中華民國	專利號碼:第 I523270 號	洪瑞華、武東星	國立中興大學	2016/02/21-2033/05/13
發明專利	麥克風晶片及動圈式麥克風(Acoustoelectric Transformation Chip for Ribbon Microphone)	USA	US8,031,889 B2	洪瑞華、張昭智、柯銘禮、陳冠位、蔡耀丞	國立中興大學	2009/3/24-2030/5/19 (2011/10/04 通知核准)
發明專利	磊晶基板的製造方法	中華民國	專利號碼:第 I397114 號	武東星、洪瑞華	國立中興大學	2013//5/21-2030/07/20(2013/06/03 已領證)
發明專利	光電元件之磊晶基板的分離方法	中華民國	專利號碼:第 I398022 號	武東星、洪瑞華、無嘉誠、顏呈穎	國立中興大學	2013//6/01-2030/03/16(2013/06/14 已領證)
發明專利	具有微透鏡發光二極體晶粒元件的製作方法及其成品	中華民國	專利號碼:第 I431823 號	洪瑞華、武東星	國立中興大學	2014//3/21-2031/09/25
發明專利	具有大發光面積的發光二極體封裝結構	中華民國	專利號碼:第 I431824 號	洪瑞華、武東星	國立中興大學	2014//3/21-2031/09/25
發明專利	雙面粗化垂直導通式發光二極體即其製造方法	中華民國	專利號碼:第 I479689 號	洪瑞華、武東星	國立中興大學	2015//4/1-2029/4/15
發明專利	半導體元件的製造方法及該製造方法中所使用的磊晶基板與其半導體元件半成品」專利案	中華民國	專利號碼:第 I480928 號	洪瑞華,曾明俊, 吳凡磊	國立中興大學	2015/4/11-2032/5/21
發明專利	堆疊式太陽能電池的製造方法及其產品	中華民國	專利號碼:第 I482304 號	洪瑞華,曾明俊, 吳凡磊	國立中興大學	2015/4/21-2032/7/18
發明專利	光學量測裝置及光學量測方法	中華民國	專利號碼:第 479119 號	洪瑞華、瓦諾希爾	國立中興大學	2015/4/1-2034/3/5
發明專利	無電極遮光的發光二極體極其製作方法	中華民國	專利號碼:第 I523270 號	洪瑞華、武東星	國立中興大學	2016/02/21-2033/05/13
發明專利	半導體發光晶片	中華民國	專利號碼:第 I525865	洪瑞華	國立中興大學	2016/03/11-2032/06/14
發明專利	多晶粒覆晶模組封裝方法	中華民國	專利號碼:第 I532225	洪瑞華、武東星	國立中興大學	2016/05/11-2032/12/23
發明專利	高壓 LED 發光模組	中華民國	專利號碼:第 I536555	洪瑞華、武東星	國立中興大學	2016/06/01-2033/12/23
發明專利	薄膜型發光二極體製作方法及薄膜型發光二極體	中華民國	專利號碼:第 I590487	洪瑞華	國立中興大學	2017/07/01-2035/04/01
發明專利	發光二極體及其製作方法	中華民國	專利號碼:第 I572060	洪瑞華	國立中興大學	2017/02/21-2035/11/19
發明專利	加強型高電子遷移率電	中華民國	專利號碼:第 I577009	洪瑞華	國立中興大學	2017/04/1-2035/07/12

	晶體					
發明專利	具面吸光太陽能電池，製作方法，及多接面太陽能電池模組	中華民國	專利號碼:第 I606597	洪瑞華，吳凡磊，高鈺程	國立中興大學	2017/11/21-2035/02/3
發明專利	垂直導通結構發光二極體的製作方法及其製品	中華民國	專利號碼:第 I599069	洪瑞華，武東星	國立中興大學	2017/09/11-2031/07/14
發明專利	覆晶式發光二極體元件及其製造方法	中華民國	專利號碼:第 I634673	洪瑞華，簡桓郁，陳亘廷	國立交通大學	2018/9/1-2037/8/8
發明專利	具寬能隙氧化物之深紫外線感測裝置	中華民國	申請案號 106131302	洪瑞華，林彥助，董俊沂，鄭力中，蔡錫翰 107年7月23日領證通知	鼎元光電/國立交通大學	
發明專利	太陽能裂解水產氫裝置	中華民國	專利號碼:第 I680099	洪瑞華，林彥谷	國立交通大學	2019/12/21-2039/5/30

(2)技術移轉

技 術 名 稱	專 利 名 稱	授 權 單 位	接 受 單 位	合 約 期 間	國 科 會 計 畫 編 號
高散熱/高功率發光二極體之封裝製程	Know-how	國立中興大學	賽門科技股份有限公司	2012/11 至 2013/10	
高散熱/高功率發光二極體之封裝製程	Know-how	國立中興大學	亮傑科技股份有限公司	2012/11 至 2013/10	
應用於微型麥克風元件之低溫晶圓鍵合技術開發	先期技轉 (25000)	國立中興大學	佳樂電子股份有限公司	2002/11 至 2007/10	NSC 91-2622-E-005-015-CC3
基板剝離技術【技術授權金 180 萬，know how 授權】	技術授權	國立中興大學	晶元光電股份有限公司	2003/11 至 2004/10	
以晶圓接合技術研製垂直式發光二極體【授權金 135 萬，衍生利益金 125 萬，技術授權】	高亮度發光二極體及其製造方法(中華民國專利 536844)	國立中興大學	全新光電股份有限公司	2003/11 至 2008/10	NSC 90-2622-E-005-001
以二次晶圓接合技術研製高亮度發光二極體【授權金 135 萬，衍生利益金 125 萬，技術授權】	高亮度發光二極體及其製造方法(中華民國專利 180706)	國立中興大學	全新光電股份有限公司	2003/11 至 2008/10	NSC 90-2622-E-005-001
高亮度固態發光元件的製造方法及其產品(粗化)【授權金 60 萬，衍生利益金 125 萬，技術授權】	高亮度固態發光元件的製造方法及其產品	國立中興大學	連勇科技股份有限公司	2004/5/15 至 2004/6/30	NSC 92-2615-E-005-006

以透明導電層應用於晶圓接合式藍光發光二極體之關鍵技術開發【先期技轉金 5 萬】	高效率發光二極體及其製造方法(專利證書號碼: US 6759685B2, 中華民國專利第 175393 號)	國立中興大學	連威科技股份有限公司	2003/11	NSC 90-2622-E-005-001
電鍍基板反射鏡面之高亮度發光二極體極其製造方法【授權金 50 萬, 衍生利益金 0.7%, 非專屬授權, 廠商另捐贈 MOCVD 機台】	電鍍基板反射鏡面之高亮度發光二極體極其製造方法(中華民國專利 195306)	國立中興大學	連威光電股份有限公司	2004/11 至 2009/10	NSC 91-2215-E-005-001
電鍍基板反射鏡面之高亮度發光二極體極其製造方法【授權金 60 萬, 衍生利益金 0.08%, 非專屬授權】	電鍍基板反射鏡面之高亮度發光二極體極其製造方法(中華民國專利 195306)	國立中興大學	光鉍光電股份有限公司	2004/11 至 2009/10	NSC 91-2215-E-005-001
基板剝離技術【授權金 200 萬, 技術授權】	技術授權	國立中興大學	元矽光電股份有限公司	2004/11 至 2005/3	
具介電反射鏡面超高亮度發光二極體之研製【授權金 150 萬, 非專屬授權】	高效率發光二極體及其製造方法(專利證書號碼: US 6759685B2, 中華民國專利第 175393 號)	國立中興大學	元矽光電股份有限公司	2005/1 至 2009/12	NSC 90-2622-E-005-001
以晶圓接合技術研製垂直式發光二極體【授權金 150 萬, 非專屬授權】	高亮度發光二極體及其製造方法(中華民國專利 536844)	國立中興大學	元矽光電股份有限公司	2005/1 至 2009/12	NSC 90-2622-E-005-001
電鍍基板具反射鏡面之高亮度發光二極體及其製造方法【授權金 60 萬】	High brightness light emitting diode (中華民國專利 I195306 號; US Patent No. 6,806,112)	國立中興大學	元矽光電股份有限公司	2005/1 至 2009/12	NSC 91-2215-E-005-001
電鍍基板具反射鏡面之高亮度發光二極體及其製造方法【授權金 50 萬, 非專屬授權】	High brightness light emitting diode (中華民國專利 I195306 號; US Patent No. 6,806,112)	國立中興大學	連威磊晶科技(股)公司	2005 / 08 至 2007 / 07	NSC 91-2215-E-005-001
電鍍基板具反射鏡面之高亮度發光二極體及其製造方法【授權金 60 萬, 非專屬授權】	High brightness light emitting diode (中華民國專利 I195306 號; US Patent No. 6,806,112)	國立中興大學	光鉍科技(股)公司	2006 / 07 至 2007 / 06	NSC 91-2215-E-005-001
電容式微型麥克風之麥克風晶片及其製造方法【授權金 90 萬, 非專屬授權】	用以製備電容式矽微麥克風之晶片的無切割製程	國立中興大學	佳樂電子股份有限公司	2006/8 至 2011/7	NSC 94-2622-E-005-002
白(藍)光 LED 用藍寶石基板製作技術【授權金 375 萬, 非專屬授權】	白(藍)光 LED 用藍寶石基板製作技術	國立中興大學	合晶科技股份有限公司	2006/8 至 2011/7	NSC 92-2622-E-005-018 5
微型化之絲帶式麥克風技術之研發【授權金 5 萬, 先期授權】	先期授權	國立中興大學	佳樂電子股份有限公司	2006/11-2010/ 10	NSC 95-2622-E-014-CC 3

圖型化藍寶石基板製作技術【授權金 150 萬，非專屬授權】	圖型化白(藍)光 LED 用藍寶石基板製作技術	國立中興大學	合晶科技股份有限公司	2006/8 至 2011/7	NSC 93-2622-E-005-018 5
絲帶式麥克風電聲轉換晶片【授權金 100 萬，非專屬授權】	絲帶式麥克風電聲轉換晶片	國立中興大學	佳樂電子股份有限公司	2009/2-2014/1	NSC 95-2622-E-014-CC 3
高亮度固態發光元件的製造方法及其產品【授權金 50 萬，專屬授權】	高亮度固態發光元件的製造方法及其產品(中華民國 I244773)	國立中興大學	晶元光電股份有限公司	2009/9-2014/8	NSC 92-2622-E-005-015
製作高亮度固態發光元件的方法及其製品【授權金 100 萬，專屬授權】	製作高亮度固態發光元件的方法及其製品(中華民國 I240441)	國立中興大學	晶元光電股份有限公司	2009/9-2014/8	NSC 92-2622-E-005-015
磊晶結構及其製造方法【授權金 50 萬，非專屬授權】	磊晶結構及其製造方法(中華民國 I297959)	國立中興大學	晶元光電股份有限公司	2009/9-2014/8	NSC 93-2215-E-005-002
低表面缺陷密度之磊晶基板的製造方法及其製品【授權金 10 萬，非專屬授權】	低表面缺陷密度之磊晶基板的製造方法及其製品(中華民國專利公開 200805452)	國立中興大學	晶元光電股份有限公司	2009/9-2014/8	NSC 93-2215-E-005-002
具有散熱基板之發光二極體及其製程【授權金 12 萬，非專屬授權】	具有散熱基板之發光二極體及其製程(中華民國 I236161)	國立中興大學	晶元光電股份有限公司	2009/9-2014/8	NSC 94-2218-E-005-013
製作高功率發光二極體的方法及其製品【授權金 9 萬，非專屬授權】	製作高功率發光二極體的方法及其製品(中華民國 I239662)	國立中興大學	晶元光電股份有限公司	2009/9-2014/8	NSC 94-2218-E-005-013
具有側邊電極之發光二極體及其製造方法【授權金 30 萬，非專屬授權】	具有側邊電極之發光二極體及其製造方法(中華民國 I264137)	國立中興大學	晶元光電股份有限公司	2009/9-2014/8	NSC 94-2218-E-005-013
Method for manufacturing a light emitting device【授權金 9 萬，非專屬授權】	Method for manufacturing a light emitting device (US7118930)	國立中興大學	晶元光電股份有限公司	2009/9-2014/8	NSC 92-2622-E-005-015
Light Emitting Diode【授權金 961 萬，專屬授權】	Method for manufacturing a light emitting device (US7342261)	國立中興大學	廣錄光電股份有限公司	2009/7-2014/6	NSC 92-2622-E-005-015
高亮度固態發光元件的製造方法及其產品(粗化)【授權金 50 萬，衍生利益金 150 萬，非專屬授權，廠商另捐贈 MOCVD】	高亮度固態發光元件的製造方法及其產品	國立中興大學	泰谷光電股份有限公司	2010/5-2015/4	NSC 92-2615-E-005-006

以二次晶圓接合技術研製高亮度發光二極體 【授權金 50 萬，衍生利益金 150 萬，非專屬授權，廠商另捐贈 MOCVD】	高亮度發光二極體及其製造方法(中華民國專利 180706)	國立中興大學	泰谷光電股份有限公司	2010/5-2015/4	NSC 90-2622-E-005-001
電鍍基板反射鏡面之高亮度發光二極體極其製造方法【授權金 50 萬，衍生利益金 150，非專屬授權，廠商另捐贈 MOCVD 機台】	電鍍基板反射鏡面之高亮度發光二極體極其製造方法(中華民國專利 195306)	國立中興大學	泰谷光電股份有限公司	2010/5-2015/4	NSC 91-2215-E-005-001
基板剝離技術【授權金 120 萬，技術授權】	技術授權	國立成功大學	光鎡科技股份有限公司	2010/03 至 2010/12	
電鍍基板具反射鏡面之高亮度發光二極體極其製造方法【授權金 170 萬，非專屬授權】	電鍍基板反射鏡面之高亮度發光二極體極其製造方法(中華民國專利 195306)	國立中興大學	銖鑽科技股份有限公司	2011/7-2016/6	NSC 91-2215-E-005-001
具反射鏡與散熱基板之聚光型多接面薄膜 III-V 族太陽電池之技術研發【授權金 155.2 萬，非專屬授權】	先期技轉	國立中興大學	晶元光電股份有限公司	2010/03 至 2010/12	(NSC 100-3113-E-006-01 8-CC2
半導體發光晶片的製作方法及半導體發光晶片(中華民國專利申請案號: 99132356)	專利授權	國立成功大學	英屬開曼群島商華夏光股份有限公司台灣分公司	2012/02/01 起	NSC 98-2262-8-006-005-C2
高效率薄膜型太陽電池技術開發	先期技轉	國立中興大學	華宇光能股份有限公司	2014/03 至 2014/8	
覆晶式微型發光二極體元件技術	Know how 技轉 (50 萬)	國立交通大學	光鎡科技	2017/06 至 2018/5	

- 目前績效：
1. 累計至今相關授權金(含衍生利益金)約 5000 萬元
 2. 目前技轉案件皆已產品化，各家公司皆有相關之產品銷售於市場，學校與國科會皆有相關之衍生利益金收入。
 3. 以『高效率發光二極體及其製造方法』及『高亮度發光二極體及其製造方法』研究團隊，計有洪瑞華、武東星及黃少華等 3 人，榮獲九十五年度國科會「傑出技術移轉貢獻獎」。
 4. 以『絲帶式麥克風電聲轉換晶片』榮獲九十八年度國科會「傑出技術移轉貢獻獎」。
 5. 以『具散熱基板之發光二極體及其製程』榮獲 2010 年度國科會「傑出技術移轉貢獻獎」。
 6. 目前因專利授權，連威科技與泰谷光電分別捐贈兩部 MOCVD 設備給學校，進行後續研發工作。
 7. 以『電鍍基板具反射鏡面之高亮度發光二極體及其製造方法』榮獲 2011 年度國科會「傑出技術移轉貢獻獎」。
 8. 以上有顏色者為群組授權。