

## **Dr. Chi-Ming Liang (梁啟銘)**

Unlike most scientists who concentrate mainly on research, Professor Liang has utilized his multiple talents to cover 4 major areas, i.e., research, technology licensing, legal affairs, and incubation center. He is currently serving as distinguished research fellow and Chief Executive Officer at the Biotechnology Incubation Center of Genomics Research Center, Academia Sinica.

While he worked in Biogen, a leading biotechnology company during 1982-1987, he participated in many projects and helped the successful development and marketing of two multi-billion dollars drugs, i.e., alpha and beta-interferon for Biogen. He was also the first to produce anti-TNF monoclonal antibodies, which turned out to be a multi-billion dollars drug too. Besides research and licensing of intellectual property, He came back to Taiwan in 1997, serving as the Director of Office of Public Affairs (Technology Licensing) Academia Sinica and helped Academia Sinica to sign more than NT\$2 billion of licensing contracts. He is also responsible for supervising Biotechnology Incubation Center (BIC) of Academia Sinica. The BIC has a facility of around 90,000 square feet which is occupied by 9 portfolio companies with capital of more than NT\$14 billion and 20 products in clinical trials. In addition, he has served as a scientific and technology licensing consultant for many Taiwanese government branches including National Science Council, Ministry of Economic Affairs, Department of Health, National Defense Medical College and National Taiwan University etc., to help the build-up of biotechnology and pharmaceutical industry in Taiwan through focusing on profitable projects and establishment of a stream-line cooperation system among government institutes, universities and bio-pharmaceutical industry.

### **CHRONOLOGY OF EMPLOYMENT:**

- 2009-present Distinguished Research Fellow, Genomics Research Center, Academia Sinica, Taiwan
- 2009-present Chief Executive Officer, Biotechnology Incubation Center, Genomics Research Center, Academia Sinica, Taiwan
- 2009-2013 Director, Office of Public Affairs, Academia Sinica, Taiwan
- 2006-2009 Distinguished Investigator & Secretary General, National Health Research Institutes, Taiwan
- 2004-Present Adjunct Research Fellow, Genomic Research Center (GRC), Academia Sinica, Taiwan (中研院基因體研究中心合聘研究員)

- 2006-Present Adjunct Professor, National Chung Hsing University
- 2006-Present Senior Advisor, President Office, Academia Sinica, Taiwan
- 1997-2006 Research Fellow, Institute of Biological Chemistry, Academia Sinica, Taiwan
- 2004-2006 Adjunct Director, GRC Incubation Center, Academia Sinica, Taiwan (中研院育成中心執行長)
- 1997-2006 Director, Office of Public Affairs and Technology Transfer, Academia Sinica, Taiwan (中研院公共事務組主任)
- 1994-1997 Scientific Director, Assayland, Inc., Bethesda, MD 20817
- 1990-1994 Director of Molecular Immunology, Oncologix Inc. Gaithersburg, MD 20878
- 1987-1990 Acting Chief, Immunology Section, Retrovirology Branch, Division of Blood & Blood Products, FDA, Bethesda, MD
- 1986-1987 Senior Scientist, Biogen Research Corp. Cambridge, MA
- 1982-1986 Head of Immunology, Biogen S.A., Geneva, Switzerland
- 1980-1982 Senior Staff Fellow in the Biochemical Genetics Laboratory of Dr. Marshall Nirenberg (Nobel Laureate) at NIH
- 1977-1980 Postdoctoral Fellow in Clinical Oncology Laboratory of Dr. Bruce Chabner (Director, Division of Cancer Treatment, NCI) at NIH

#### **EDUCATION:**

- 1966-1970 B.S. in Pharmacy, National Taiwan University, Taiwan
- 1971-1973 M.S. in Chemistry, National Taiwan University, Taiwan
- 1973-1977 Ph.D. in Pharmacology, University of Arkansas for Medical Sciences

#### **AFFILIATED PROFESSIONAL ORGANIZATIONS:**

American Association for Cancer Research  
 The American Association of Immunologists  
 Association of Technology Managers in Taiwan 台灣技術經理人協會  
 Association of University Technology Managers  
 American Society of Biochemistry and Molecular Biology  
 International AIDS Society  
 Chinese Biochemical Society  
 Society of Chinese Bioscientists in America

#### **AD HOC REVIEWER FOR JOURNALS AND GRANT APPLICATIONS:**

Journal of Immunology  
FASEB Journal  
NIH Reproductive Biology SBIR Study Section  
Biotech Quarterly Newsletter  
Bio/Pharma Quarterly

### **HONORS:**

國立臺灣大學藥學系傑出系友獎 97 年 6 月  
中央研究院模範公務人員 100 年 7 月

### **RESEARCH PROJECTS (PROJECT LEADER):**

學術研發成果管理與推廣計畫 (91 年) NT\$ 2,728,000  
推動科技研發與研究成果之保護與推廣計畫 (91 年) NT\$ 27,700,000  
智慧財產權之開發保護及推廣 (92 年) NT\$ 19,600,000.  
以國家形象館方式參加 BIO2005 國際展覽會 (94 年) NT\$ 500,000  
推動智慧財產權之管理與授權以促進科技研發之落實 (94 年) NT\$ 5,423,000  
推動智慧財產權管理與運用以提升產業發展 (95 年) NT\$ 9,155,000  
智慧財產權之推廣與應用 (97 年) NT\$ 10,417,000.  
生技醫藥研發成果整合強化暨商化促進計畫 (98 年) NT\$ 20,000,000.  
加強智慧財產權盤點及轉譯研究以促進推廣與應用(99 年) NT\$ 16,700,000  
生技醫藥研發成果整合強化暨商化促進計畫(100 年) NT\$ 18,000,000  
中央研究院研發成果萌芽功能中心計畫(100 年) NT\$ 6,087,000  
萌芽個案計畫開發新式抗癌轉移藥(101 年) NT\$ 2,456,000  
中央研究院研發成果萌芽功能中心計畫(101 年) NT\$ 7,218,000  
生技醫藥研發成果整合強化暨商化促進計畫(101 年) NT\$ 18,000,000  
開發治療卵巢癌之抗癌蛋白質(102 年) NT\$ 8,000,000  
萌芽個案計畫開發新式抗癌轉移藥(102 年) NT\$ 2,488,000  
中央研究院研發成果萌芽功能中心計畫(102 年) (已預核約 NT\$ 7,218,000)

### **BIBLIOGRAPHY :**

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2. Liang, C.-M., Flacke, W.E., and Hardwick, B. 1976 Differential influence of

- dopamine on ganglionic nicotinic and muscarinic transmission. *Pharmacol.* 18, 226.
3. Liang, C.-M., Liu, Y.-P., and Chabner, B.A. 1979 Isolation and identification of a small molecular weight inhibitor of cyclic nucleotide phosphodiesterase from bovine brain. *Biochem. Biophys. Acta* 571, 63-69.
  4. Liang, C.-M., Liu, Y.-P., and Chabner, B.A. 1980 Modes of action of hypoxanthine, inosine, inosine 5'-monophosphate on cyclic nucleotide phosphodiesterase from bovine brain. *Biochem. Pharmacol.* 29, 277-282.
  5. Liang, S.-M., Liang, C.-M., and Liu, T.Y. 1981 Studies on *Limulus* amoebocyte: Isolation and identification of a membrane-bound protein activator of cyclic nucleotide phosphodiesterase from *Limulus* amoebocyte. *J. Biol. Chem.* 256, 4968-4972.
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  8. Liang, S.-M., Allet, B., Rose, K., Hirschi, M., Liang, C.-M., and Thatcher, D. 1985 Characterization of human interleukin-2 derived from *E. coli*. *Biochem. J.* 229, 429-439.
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  14. Liang, C.-M., Liang, S.-M., Jost, T., Sand, A., Douglas, I., and Allet, B. 1986 Production and characterization of monoclonal antibodies against recombinant

- human tumor necrosis factor/cachectin. *Biochem. Biophys. Res. Commun.* 137, 847-854.
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- recombinant bamboo mosaic virus expressing foot-and-mouth disease virus epitopes. *BMC Biotechnol.* 7(1):62-70.
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85. Ho, M. Y., Liang, S. M., Hung, S. W., Liang, C. M.\* (2013) MIG-7 controls COX-2/PGE2 mediated lung cancer metastasis. *Cancer Res.* 73:439-449.
86. Chiu, C. F., Ho, M. Y., Peng, J. M., Hung, S. W., Liang, C. M.\*, Liang, S. M., (2013) Raf activation by Ras and promotion of cellular metastasis require phosphorylation of prohibitin in the raft domain of plasma membrane. *Oncogene* 32:777-787.

## NUMBER OF CITATION (AS SHOWN IN

<http://portal.isiknowledge.com/portal.cgi/wos?Init=Yes&SID=F2e9p21Cja@JHGNDIIF>):

Total number: 1700 (7 papers have been cited more than 100 times, respectively; H value 25):

The most cited 10 papers (times/journal, year of publication):

- |                                      |                              |
|--------------------------------------|------------------------------|
| 1. 151/Int. J. Cancer 1994           | 2. 132/Int. J. Cancer 1994   |
| 3. 130/ Am. J. Resp. Cell Mol. 1999. | 4. 124/EMBO J. 1985          |
| 5. 119/J. Biol. Chem. 1991           | 6. 127/Cancer Res 1991       |
| 7. 111/J. Immunol. 1986              | 8. 76/Biochem. J. 1993       |
| 9. 70/Biochem. J. 1985               | 10. 57/Eur. J. Immunol. 1986 |

## PATENTS:

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2. Liang, C.-M., Turner, N.A., and Witiak, D.T. (1993) Treatment of vascular leakage syndrome and collagenase induced disease by administration of matrix metalloproteinase inhibitors. AU 4373993 9.
3. Liang, C.-M., Turner, N.A., and Witiak, D.T. (1999) Treatment of vascular leakage and related syndrome such as septic shock by administration of matrix metalloproteinase inhibitors. US 5866570.
4. Johnston, P.G., Allegra, C.J., Chabner, B.A., and Liang, C.-M., (2001) Monoclonal antibodies specific for human thymidylate synthase. US 6221620.
5. Liang, S.-M., Peng, J.-M., and Liang, C.-M., (2008) Apoptosis-inducing polypeptides. US 7323546
6. Liang, S.-M., Peng, J.-M., and Liang, C.-M., (2009) "Apoptosis-inducing polypeptides" US 7488800
7. Liang, S.-M., Peng, J.-M., and Liang, C.-M., (2010) "Apoptosis-inducing polypeptides" US 7700730
8. Liang, S. M., Huang, C. Y., Liang, C. M. (2010) Method of producing fibrillar proteins. GB 2460283
9. Huang, C. Y., Liang, S. M., Liang, C. M. (2010) Fibrillar fibronectin and uses thereof. GB 2460966
10. Liang, S. M., Huang, C. Y., Liang, C. M. (2011) An isolated fibrillar structure

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11. Liang, S. M., Huang, C.Y., Chen, Y.P., Liang, C.M.(2012) Process to produce fibrillar proteins US 8268974.
12. Liang, S. M., Liang, C. M. (2013) Anti-tumor fibrillar human serum albumin methods and composition US 8357652
13. Liang SM, Liang CM, Huang CY, Chen YP. Process to produce fibrillar proteins and method of treatment using fibrillar proteins. Taiwan Patent No. TWI392739 (2013)
14. Liang SM, Peng JM, Liang CM. Apoptosis-inducing polypeptides. EP Patent No. 2,465,531B1(2013)

服務：

院內：

1. 中央研究院總辦事處公共事務組主任 八十六年十一月至九十五年十月
2. 中央研究院行政及技術人員考績委員會委員八十八年十二月至九十五年十月
3. 中央研究院醫學生物技術推動委員會委員 八十八年二月至九十年一月
4. 中央研究院藝文活動推動委員會委員 八十八年五月至九十五年十月
5. 中央研究院專利律師評鑑委員會委員 八十八年十月至九十五年十月
6. 中央研究院計畫與預算統合協調委員會委員 八十八年九月至九十二年十二月
7. 中央研究院台灣地震數位知識庫建置諮議委員會委員 八十八年十一月至九十年十一月
8. 中央研究院數位典藏諮議委員會委員 八十九年一月至九十五年十月
9. 中央研究院創新育成中心籌備委員會委員 八十九年四月至九十二年五月
10. 中央研究院研究發展成果管理委員會委員 八十九年五月至今
11. 中央研究院綜合體育館管理委員會委員 八十九年六月至九十一年五月
12. 中央研究院國會聯絡人（院長交辦）八十九年九月至 101 年七月
13. 中央研究院組織法修正案院本部組織調整協調小組委員 九十年八月至九十五年十月
14. 中央研究院附設幼稚園董事長九十年十二月至九十三年六月
15. 中央研究院工作場所性騷擾申訴處理委員會委員 九十一年八月至九十三年七月
16. 中央研究院宿舍管理委員會委員九十二年六月至九十四年六月
17. 中央研究院基因體研究中心育成中心主任 九十二年五月至九十五年十月
18. 中央研究院在台五十年專書編纂委員會委員 九十二年十月至九十五年十月
19. 中央研究院組織法修正案修法小組委員 九十三年四月至任務完成止
20. 中央研究院院士會議提案處理規劃委員會委員 九十三年八月至九十五年七月
21. 中央研究院申訴制度研議小組委員 九十三年八月至九十五年十月
22. 中央研究院國防部聯勤 202 兵工廠合作研發案推動委員會委員九十四年二月

至九十六年二月

23. 中央研究院研究人員兼職處理原則制定小組當然委員 九十四年三月至九十五年十二月
24. 中央研究院基因體研究中心交流合作與技轉專題中心執行長 九十五年一月至九十六年十二月
25. 中央研究院績效評估委員會委員 九十五年二月至九十五年十月
26. 中央研究院資訊公開研議委員會委員 九十五年二月至九十五年十月
27. 中央研究院院長室特別助理九十五年十月至今
28. 中央研究院總辦事處公共事務組主任 九十八年三月至今
29. 中央研究院基因體研究中心生技育成專題中心執行長 九十八年四月至今
30. 中央研究院行政電腦化推動委員會委員九十八年五月至今
31. 中央研究院法制委員會委員九十八年四月至今
32. 中央研究院行政技術人員考績委員會委員九十九年七月至今
33. 中央研究院生技研究園區專案小組委員九十九年十月至今
34. 中央研究院利益衝突規範專案小組委員九十九年八月至 101 年八月
35. 中央研究院廉政會報委員九十九年十一月至今
36. 中央研究院第 30 次院士會議提案處理規畫委員會委員 101 年 8 月至今

院外：

1. 教育部 公費留學考試生物技術管理學命題及閱卷委員，八十七年十月至八十九年九月。
2. 行政院第三次生物技術產業策略會議講員：中草藥智慧財產權保護方案 八十八年五月二十五日
3. 行政院第四次生物技術產業策略會議講員：八十九年五月二十三日 臺北
4. 行政院衛生署 人用生物製劑生產授權委員會委員 八十八年四月一日至九十年三月三十一日止。
5. 行政院國家科學委員會 農業生物技術國家型科技計畫科技移轉小組召集人 八十八年六月至九十七年十二月
6. 中華民國管理科學學會 申請執行科技專案管理制度評鑑及複查計畫評鑑委員會委員 八十九年六月至九十年五月
7. 行政院衛生署 人用生物製劑生產授權委員會委員 八十八年四月至九十二年三月
8. 國立台灣大學 專利權益委員會委員 八十九年十二月至九十三年七月
9. 元智大學 專利權益委員會委員 九十年八月至九十一年七月
10. 經濟部智慧財產局 生物技術及中草藥專利審查基準委員會委員 九十年八月至九十一年十二月
11. 科學工業園區管理局 創新技術研究發展計畫獎助審核委員會委員 九十一年一月至十二月
12. 行政院國家科學委員會 科技權益委員會委員 九十一年一月至九十二年十二月
13. 經濟部技術處 鼓勵中小企業開發新技術推動計畫審查委員會委員 九十一年二月至九十二年一月
14. 經濟部工業局 協助傳統工業技術開發計畫審查委員會委員 九十一年二月

- 至九十二年一月
15. 中華民國產業科技發展協會 第十屆經濟部產業科技發展獎審查委員會委員  
九十一年六月至十二月
  16. 台灣技術經理人協會常務理事 九十一年十月至今
  17. 國立台灣大學藥學系系務發展諮議委員會委員 九十二年一月至今
  18. 中華民國產業科技發展協會 第十屆經濟部產業科技發展獎審查委員會委員  
九十二年六月至十二月
  19. 經濟部九十二年度科技研究發展專案研究成果表揚之創新技術獎評審委員
  20. 經濟部九十三年度科技研究發展專案研究成果表揚之創新技術獎評審委員
  21. 中華民國全國工業總會第六屆理事會智慧財產權委員會委員 九十二年四月  
至九十五年四月
  22. 中華民國管理科學學會承接經濟部申請執行科技專案管理制度評鑑及複查  
三年計畫評鑑委員 九十三年一月至九十三年十二月
  23. 國防醫學院智慧財產審議委員會委員 九十二年五月至九十四年四月
  24. 行政院國家科學委員會 委託辦理智慧財產權管理制度評鑑計畫評鑑委員  
九十三年四月至七月
  25. 台灣動物科技研究所九十三年度國家農業研究院所屬創新育成中心運作規  
劃報告書審查委員
  26. 台灣動物科技研究所九十三年度農業科技創新育成研討會引言人及講師
  27. 經濟部技術處九十三年度鼓勵中小企業開發新技術推動計畫生技製藥領域  
技術審查委員
  28. 經濟部技術處科專計畫指導委員會委員九十三年至今
  29. 基因醫藥國家型科技計畫研發應用小組召集人九十三年三月至九十六年二  
月
  30. 國立台灣大學專利權益委員會委員九十四年一月至今
  31. 行政院農業委員會農業科技審議會科技管理領域評審委員九十四年一月至  
九十五年九月
  32. 農業生物技術國家型科技計畫第三期工作成員 九十四年一月至九十七年十  
二月
  33. 行政院國家科學委員會九十五年度政府科技發展計畫共通性管輔領域審查  
委員
  34. 行政院國家科學委員會九十五年度政府科技發展計畫生物與生技領域審查  
委員
  35. 行政院國家科學委員會科技權益委員會委員 九十三年一月至今
  36. 台灣技術經理人協會常務理事九十四年四月至今
  37. 生技醫療產業策進會國家創新獎審查委員 九十四年六月至九十四年十二月
  38. 國家生技醫療產業策進會理事 九十四年六月至九十七年六月
  39. 國家生技醫療產業策進會技術交易委員會特聘研究員兼主任委員九十四年  
十月至九十七年十月
  40. 行政院國家科學委員會科技權益委員會委員 九十五年一月至九十六年十二  
月
  41. 國家衛生研究院公共藝術委員會召集人 九十六年五月至九十八年三月
  42. 國家衛生研究院疫苗工廠建廠指導委員會召集人 九十七年一月至九十八年  
三月

43. 國家衛生研究院採購委員會召集人 九十六年十月至九十八年三月
44. 國家衛生研究院儀器委員會召集人 九十六年十月至九十八年三月
45. 國家衛生研究院核心設施管理委員會召集人九十七年四月至九十八年三月
46. 國家衛生研究院人事審議暨考績委員會委員九十七年一月至九十八年三月
47. 國防醫學院智慧財產審議委員九十五年三月至今
48. 台北市 2006 台北生技獎審查委員九十五年五月至今
49. 國立中興大學生物科技發展中心兼任教授九十五年八月至九十六年七月
50. 行政院衛生署 96 年度編修中華藥典第七版第二年增修計畫評選委員
51. 經濟部工業局審核係屬科技事業暨產品或技術開發成功且具市場性意見書評估委員會專案委員九十六年一月至今
52. 經濟部中小企業處第 11 屆小巨人獎審查委員九十七年五月至十二月
53. 經濟部中小企業處補(捐)助中小企業創新育成中心計畫審查小組委員九十七年七月至今
54. 財政部各地區國稅局處理研究與發展及人才培訓支出適用投資抵減疑義案件諮詢學者專家九十八年三月至今
55. 經濟部中小企業處第 12 屆小巨人獎審查委員九十八年五月至今
56. 國光生物科技股份有限公司科技諮詢委員(無給職)九十八年三月至今
57. 中華民國生物產業發展協會理事(無給職)九十七年五月至今
58. 行政院國家科學委員會科技權益委員會委員 九十七年一月至今
59. 國家生技醫療產業策進會理事(無給職)九十七年六月至今
60. 財團法人中華景康藥學基金會董事(無給職)九十八年至 100 年十二月
61. 財團法人亞太智慧財產權發展基金會董事(無給職)九十八年十二月至 102 年一月
62. 財團法人台灣動物科技研究所產學研合作委員會委員九十九年一月至 100 年 12 月
63. 國立台灣大學專利權益委員會委員九十九年一月至今
64. 農業生物技術產業畫推動辦公室顧問九十九年一月至今
65. 行政院科顧組農業技術產業化策略推動小組委員九十九年七月至九月
66. 中華民國全國工業總會智慧財產權委員會委員九十九年七月至今
67. 國立成功大學研究所博士學位考試委員會委員九十九年九月至今
68. 工業技術研究院技轉中心特聘研究九十九年十月至九十九年十二月
69. 醫藥品查驗中心兩岸醫藥品合作諮議委員會委員 100 年 5 月至 101 年 4 月
70. 財團法人中華景康藥學基金會董事長(無給職)101 年 1 月至今
71. 行政院農業委員會研發成果管理制度評鑑計畫評鑑委員 101 年 6 月至今
72. 國立中興大學生物科技發展中心合聘教授 101 年 8 月至今
73. 國立台灣大學臨床藥學研究所評鑑委員會委員 101 年十二月至今
74. 國家生技醫療產業策進會國家品質標章審查委員 101 年十二月至今