

# The 5th International Summit on Innovative Drug Discovery

School of Chinese Medicine, Hong Kong Baptist University  
香港浸會大學中醫藥學院 第五屆國際創新藥物研發高峰論壇

2023.10.28  
09:30-17:15

Lam Woo International Conference Centre (WLB103),  
Hong Kong Baptist University  
& Zoom Webinar  
香港浸會大學林護國際會議中心 (WLB103)  
及視像會議



# Programme 議程

09:00 – 09:30	Reception & Registration 招待茶會及登記
09:30 – 09:45	<b>Opening Ceremony 開幕式</b>  Welcoming Address by Professor WAI Ping-kong Alexander, President and Vice-Chancellor, Hong Kong Baptist University 香港浸會大學校長衛炳江教授致歡迎辭  Remarks by Professor JIA Wei, Acting Dean, School of Chinese Medicine, Hong Kong Baptist University 香港浸會大學中醫藥學院署理院長賈偉教授致辭  Group photo 大合照

## Summit 高峰論壇

### Session 1 第一節

#### **New Horizons in Deciphering the Ecological Construction and Investment for New Drug Discovery and Development 新視角解讀新藥研發的政策與生態**

Moderators 主持：

Professor JIA Wei, Acting Dean, School of Chinese Medicine, Hong Kong Baptist University

賈偉教授，香港浸會大學中醫藥學院署理院長

Mr. ZHI Zhe, Vice President, China Resources Enterprise, Limited

支喆先生，華潤創業有限公司副總裁

09:45 – 10:05	<b>深化藥品審評審批制度改革，促進醫藥產業高質量發展</b> Dr. XU Xiaoqiang, Director, Division of Chemical Drugs, Department of Drug Registration (Department of TCMs and Ethno-Medicines Regulation), National Medical Products Administration 徐曉強博士，國家藥品監督管理局藥品註冊管理司（中藥民族藥監督管理司）化學藥品處處長
10:05 – 10:25	<b>Practice and Exploration on the Reform of the Evaluation and Approval Mechanism for Traditional Chinese Medicines 中藥審評審批機制改革實踐與探索</b> Dr. YU Jiangyong, Director, Division of Traditional Chinese Medicines and Ethno-Medicines, Department of Drug Registration (Department of TCMs and Ethno-Medicines Regulation), National Medical Products Administration 于江泳博士，國家藥品監督管理局藥品註冊管理司（中藥民族藥監督管理司）中藥民族藥處處長
10:25 – 10:45	<b>創新藥物研發立項臨床價值評估</b> Professor CHENG Long, Deputy Secretary-General, Application Assessment and Assurance Committee of the Chinese Medical Information and big data Association 程龍教授，中國衛生信息和健康醫療大數據學會應用評估和保障專業委員會副秘書長
10:45 – 11:05	<b>Thriving through cycles: The path forward for Chinese biotechs 穿越週期：中國生物製藥企業的發展道路</b> Mr. LIU Yilun, Executive Director, Boyu Capital 劉逸倫先生，博裕資本執行董事
11:05 – 11:15	Q & A 問答環節

### Session 2 第二節

#### **Strategy and Translational Practice of New Drug Discovery and Development in the New Era 新時代新藥研發策略與轉化實踐**

Moderators 主持：

Professor BIAN Zhaoxiang, Associate Vice-President (Chinese Medicine Development), Director of Clinical Division of School of Chinese Medicine, Hong Kong Baptist University

卞兆祥教授，香港浸會大學協理副校長（中醫藥發展）、中醫藥學院臨床部主任

Professor FENG Yibin, Director, School of Chinese Medicine, The University of Hong Kong

馮奕斌教授，香港大學中醫藥學院院長

11:15 – 11:35	<b>Build Next-gen Biopharmaceutical Innovation Ecosystem Leveraging Industry Leading Technology Platforms 依託核心技術平台，打造下一代生物藥創新生態</b> Dr. WANG Jingsong, Chairman and Chief Executive Officer, Harbour BioMed 王勁松博士，和鈾醫藥董事長及首席執行官
11:35 – 11:55	<b>瀕危動物中藥材替代品的成藥性研究和新藥開發</b> Professor WANG Xiaoliang, Director, Key Laboratory of Druggability Evaluation and System Translational Medicine, Tianjin Institute of Pharmaceutical Research 王曉良教授，天津藥物研究院藥物成藥性評價與系統轉化實驗室主任

11:55 – 12:15	<p><b>Novel Drug Discovery and Development for Osteogenesis Imperfecta</b> <b>成骨不全的新藥發現與開發</b></p> <p>Professor KE Hua Zhu, David, Chairman and Chief Executive Officer, Angitia Biopharmaceuticals Limited 柯華珠教授, 安濟盛生物醫藥技術(廣州)有限公司董事長及首席執行官</p>
12:15 – 12:25	Q & A 問答環節
12:30 – 13:30	Lunch 午膳
<p><b>Session 2 (continued) 第二節 (續)</b></p> <p><b>Strategy and Translational Practice of New Drug Discovery and Development in the New Era</b> <b>新時代新藥研發策略與轉化實踐</b></p> <p>Moderators 主持: Professor ZHANG Ge, Associate Dean (Research), School of Chinese Medicine, Hong Kong Baptist University 張戈教授, 香港浸會大學中醫藥學院副院長(研究) Professor LIN Zhixiu, Director, School of Chinese Medicine, The Chinese University of Hong Kong 林志秀教授, 香港中文大學中醫學院院長</p>	
13:45 – 14:05	<p><b>Oligonucleotide drugs: to be the third wave of modern pharmaceuticals</b> <b>小核酸製藥漸成現代製藥的第三次浪潮</b></p> <p>Dr. LIANG Zicai, Chairman and Chief Executive Officer, Suzhou Ribon Life Science Company Limited 梁子才博士, 蘇州瑞博生物技術股份有限公司董事長及首席執行官</p>
14:05 – 14:25	<p><b>Key Considerations in Early Druggability Evaluation of Chemical Drugs</b> <b>化學藥成藥性評價的關鍵內容</b></p> <p>Dr. LI Ming, Chief Executive Officer, ZSHK Laboratories Limited 李明博士, 滬港中科國際生物科技股份有限公司首席執行官</p>
14:25 – 14:45	<p><b>RNA- From Central Dogma to Medicine</b> <b>RNA 療法 - 從中心法則到成藥</b></p> <p>Dr. DAI Xiaochang, Executive Director, Chief Strategy Officer of Simaomics Ltd. 戴曉暢博士, 聖諾醫藥執行董事、首席戰略官</p>
14:45 – 15:05	<p><b>Leveraging Core Competitiveness for Elevated Returns in Pharmaceutical Development: The SparX Strategy</b> <b>從科霸理念談突出核心競爭力提高創新藥開發的回報率</b></p> <p>Dr. ZHU Guidong, Chief Executive Officer, Sparx Biopharmaceutical Corporation 朱貴東博士, 科霸生物首席執行官</p>
15:05 – 15:15	Q & A 問答環節
15:15 – 15:25	Tea Break 茶歇
<p><b>Session 3 第三節</b></p> <p><b>Innovator Insights into New Drug Discovery and Development</b> <b>新藥發現者的創新發現之路</b></p> <p>Moderators 主持: Dr. LYU Haitao, Associate Professor, School of Chinese Medicine, Hong Kong Baptist University 呂海濤博士, 香港浸會大學中醫藥學院副教授 Dr. HUANG Yue, Director, Shanghai Biopharma Evolution 黃悅博士, 上海生物醫藥前沿產業創新中心總監</p>	
15:25 – 15:45	<p><b>Novel drug candidates from natural resources: bench to bedside</b> <b>天然來源的新藥研發：實驗室到臨床</b></p> <p>Professor ZHU Yi Zhun, Associate Vice President, Chair Professor, Macau University of Science and Technology; Member of European Academy of Sciences &amp; Arts; Founder of InnoDrug Lab, (HK) Co., Ltd. 朱依諄教授, 澳門科技大學協理副校長、講座教授, 歐洲科學院院士, 依諾科技(香港)有限公司創始人</p>
15:45 – 16:05	開啟合成生物學製藥新時代
16:05 – 16:25	<p><b>Next-Generation Oncology Drug Development: Opportunity and Challenge</b> <b>下一代腫瘤創新藥研發的機遇與挑戰</b></p> <p>Dr. GONG Zhaolong, John, Chairman and Chief Executive Officer, 3D Medicines, Inc. 龔兆龍博士, 思路迪醫藥董事長及首席執行官</p>
16:25 – 16:45	<p><b>The development of a collaborative approach for research driven innovation</b></p> <p>Professor ZHENG Minghao, Medical School, The University of Western Australia 鄭銘豪教授, 西澳大學醫學院教授</p>
16:45 – 17:05	<p><b>Rooted in basic scientific research, a translational innovative drug development case in Hong Kong</b> <b>紮根基礎科研, 香港本土創新轉化在路上</b></p> <p>Dr. HE Yixin, Chairman and Chief Executive Officer, Aptacure Therapeutics Limited 何伊欣博士, 安沛治療有限公司董事長及首席執行官</p>
17:05 – 17:15	Q & A 問答環節
End of Summit 高峰論壇結束	



**Biographies and Abstracts of  
Speakers**

**講者**

**簡介及演講摘要**



## **Dr. XU Xiaoqiang** **徐曉強博士**

Director, Division of Chemical Drugs, Department of Drug Registration  
(Department of TCMs and Ethno-Medicines Regulation),  
National Medical Products Administration  
國家藥品監督管理局藥品註冊管理司  
(中藥民族藥監督管理司) 化學藥品處處長

### **Biography 簡介**

徐曉強，現任國家藥監局藥品註冊管理司化學藥品處處長，具有 16 年的藥品註冊管理經驗，曾分別在藥品註冊管理司中藥處、化學藥品處工作，2021 年起任化學藥品處處長。加入 NMPA 前，於 2003 年獲得中國藥科大學藥物製劑學碩士學位，2007 年獲得南京大學生化與分子生物學博士學位。

## **深化藥品審評審批制度改革 促進醫藥產業高質量發展**

### **Abstract 摘要**

人民健康是民族昌盛和國家強盛的重要標誌。藥品安全事關人民群眾的生命健康，黨中央國務院高度重視藥品安全監管工作，2015 年，習總書記對藥品安全監管提出四個最嚴的工作要求，即 "最嚴謹的標準、最嚴格的監管、最嚴厲的處罰、最嚴肅的問責"。2022 年，黨的二十大勝利召開，首次提出實現中國式現代化的偉大奮鬥目標，其中，在推動健康中國建設方面，提出了一系列明確具體的工作要求。

為落實黨中央國務院的政策要求，2015 年以來，國家藥監局圍繞鼓勵藥品研發創新、提高仿製藥品質等目標，深入開展藥品審評審批制度改革：

一是構建完善科學嚴謹的藥品註冊法規體系。2019年12月1日，修訂實施《藥品管理法》，明確以人民健康為中心的監管理念，提出風險管理、全程管控、社會共治的藥品監管原則。2020年7月1日，修訂實施《藥品註冊管理辦法》，進一步構建完善藥品審評審批的框架體系。

二是建立完善透明高效的審評審批工作機制。為鼓勵支援企業研發創新，完善藥品加快上市註冊程式，建立“突破性治療藥物、附條件批准、優先審評審批、特別審批”等四項加快上市程式。近年來，一大批具有明顯臨床價值的創新藥、急需藥物經加速通道獲批上市，有效滿足人民群眾的用藥需求。

三是加強藥物臨床試驗監管。主要通過兩方面，一方面，強調對藥物臨床試驗全過程的品質管制。2020年7月修訂實施了《藥物臨床試驗品質規範》。另一方面，加強對藥物臨床試驗機構的監督管理。研究制定了《藥物臨床試驗機構監督檢查辦法（試行）》，目前已完成了公開徵求意見。

四是建立藥品專利連結制度。為保護專利權人合法權益，降低仿製藥專利侵權風險，鼓勵仿製藥發展，在2021年6月1日專利法修訂實施後，國家局於2021年7月4日，發佈《藥品專利糾紛早期解決機制實施辦法（試行）》，初步建立藥品審評審批與藥品專利連結制度。

五是扎實推進仿製藥品質和療效一致性評價。始終堅持最嚴謹的標準，促進仿製藥的高品質發展。建立了化學仿製藥的參比製劑制度，明確仿製藥應與參比製劑的品質和療效一致。另一方面，對已上市的仿製藥進行品質提升，加快推進仿製藥品質和療效一致性評價工作。

六是鼓勵放射性藥品研發創新。為滿足臨床需求，鼓勵放射性藥品研發，2023年4月25日發佈《關於改革完善放射性藥品審評審批管理的意見》，從擴充專家隊伍、鼓勵放射性藥品研發創新等七個方面提出了具體的改革措施。

七是做好兒童用藥的審評審批。堅持以人民為中心的發展理念，國家局高度重視群眾關心的兒童用藥問題。一方面，對開發的兒童藥品種予以優先審評審批。2022年，批准化學藥品兒童藥37個品種，比2021年增加42%。另一方面，組織開展對已上市藥品說明書中兒童用藥資訊的規範化增補工作。2023年5月29日發佈《已上市藥品說明書增補兒童用藥資訊工作程式（試行）》。

八是完善化學原料藥的再註冊管理。為進一步優化原料藥管理，2023年10月12日，發佈《關於化學原料藥再註冊管理等有關事項的公告》，明確化學原料藥應當實施再註冊管理。

九是加強藥品註冊管理資訊化建設。通過實施藥品註冊申請電子申報、發放藥品電子註冊證書等改革舉措，進一步落實“放管服”的改革要求，優化營商環境，不斷激發市場主體發展活力，提升藥品審評審批效率，為企業提供更加高效便捷的政務服務。

十是加強國際交流合作。我國在化學藥品註冊領域的技術標準和規範逐步與國際接軌。2017年6月1日，我國成功加入（ICH），成為其第八個監管機構成員。2018年6月7日，我局成功當選為ICH管理委員會成員，2021年6月3日，中國藥監局再次當選為ICH管理委員會成員。

通過改革，我國化學藥品創新藥的臨床批准數量有了大幅度的增加，從2018年的449個增加到2022年的1014個，增長125%。同時，近年來也有一大批化學藥品1類創新藥獲得批准上市，2018年-2022年，共有62個化學藥品的1類創新藥獲得批准，2023年前9個月，已有15個創新藥獲得批准。

改革期間，發生了疫情，在黨中央國務院的部署指揮下，國家局立即回應，按照提前介入、一企一策、全程指導、研審聯動的工作原則，全力投入疫情防控工作中，目前，已先後批准6款小分子治療藥物上市，其中包括4款國產創新藥，這些小分子治療藥物涵蓋了國際上新冠病毒治療小分子藥物的主要技術路線（RNA聚合酶抑制劑、3CL蛋白酶抑制劑），為疫情防控及時提供了有效的治療手段。

下一步，國家藥監局將深入學習貫徹黨的二十大精神，圍繞完善藥品註冊法規、優化註冊審批鏈條、推進監管科學研究、加快與國際接軌等目標，繼續鼓勵藥品研發創新，促進藥品高品質發展。



## **Dr. YU Jiangyong** **于江泳博士**

Director, Division of Traditional Chinese Medicines and Ethno-Medicines, Department of Drug Registration (Department of TCMs and Ethno-Medicines Regulation), National Medical Products Administration  
國家藥品監督管理局藥品註冊管理司  
(中藥民族藥監督管理司) 中藥民族藥處處長

### **Biography 簡介**

于江泳，理學博士，主任藥師，國家藥品監督管理局藥品註冊管理司（中藥民族藥監督管理司）中藥民族藥處處長。長期從事中藥註冊管理、標準管理等相關工作。先後參與或承擔過《藥品管理法》《中藥品種保護條例》《藥品註冊管理辦法》《中藥註冊管理專門規定》等多項中藥相關法律法規、規章和規範性檔的修訂或起草工作；主持或承擔過多項國家科技部重大專項、國家自然基金專案中藥相關課題；主持編寫《中國中藥監管政策法規與技術指引》《全國中藥飲片炮製規範輯要》《常用中藥飲片炮製規範及操作規程研究》《數位化中藥材標準》等專著。

## **Practice and Exploration on the Reform of the Evaluation and Approval Mechanism for Traditional Chinese Medicines** **中藥審評審批機制改革實踐與探索**

### **Abstract 摘要**

2018年以來，國家藥監局堅持以習近平新時代中國特色社會主義思想為指導，深入貫徹習近平總書記關於藥品監管和中醫藥工作系列重要指示批示精神，深化中藥審評審批制度改革，促進中藥傳承創新，保障人民群眾用藥安全。



一是堅持改革創新，持續深化中藥審評審批制度改革，充分尊重中藥的特點和研製規律，調整中藥註冊分類，優化技術要求，創新構建中醫藥理論、人用經驗和臨床試驗“三結合”的中藥註冊審評證據體系，建立完善符合中藥特點的法規制度和技術評價體系，為中藥高品質發展注入新動力。

二是鼓勵創新，對重點品種堅持提前介入、一企一策、全程指導、研審聯動，加強政策指導和溝通交流，實現中藥創新藥上市新速度。在藥品通用加快上市註冊程式的基礎上，對古代經典名方中藥複方製劑實施簡化審評審批，並增加中藥優先審評審批、附條件批准、特別審批程式的情形。

三是圍繞國家區域戰略發展規劃，探索創新中藥監管方式，對在港澳已上市傳統外用中成藥實施簡化審批，支持在粵港澳大灣區開展藥品上市許可持有人制度改革，推動粵港澳藥品監管機制對接，促進中藥產業在粵港澳大灣區融合發展，更好地滿足大灣區內地居住的港澳同胞用藥需求。

四是積極構建全球化中藥監管協調機制，不斷深化國際合作，為中藥高品質發展拓展新空間。通過世界衛生組織（WHO）國際草藥監管合作論壇（IRCH）、西太區草藥監管論壇（FHH）等國際平台，強化與各國藥品監管機構和國際組織合作交流，分享中藥審評審批經驗。



## **Professor CHENG Long** **程龍教授**

Deputy Secretary-General, Application Assessment  
and Assurance Committee of the Chinese Medical Information  
and big data Association  
中國衛生信息和健康醫療大數據學會應用評估  
和保障專業委員會副秘書長

### **Biography 簡介**

程龍，醫學博士 / 博士後，教授。中國衛生信息和健康醫療學會大數據應用評估和保障專業委員會副秘書長。原國家食品藥品監督管理局藥品審評中心主審報告人，高級審評員。國家食品藥品監督管理局新藥審評專家；中國衛生信息和健康醫療學會大數據人力資源開發專業委員會副主任委員；中華中醫藥學會健康管理分會常務委員；北京中西醫結合學會心血管專業委員會常委；歐美同學會留美醫學會執行委員。擔任國家衛生計生事業發展"十三五"規劃前期研究重大課題《信息化對醫療模式改變研究》負責人。國家衛計委《健康醫療大數據應用相關法律法規問題研究》負責人、《人工智慧在醫療領域的應用及相關法律法規研究》負責人、《互聯網技術在醫療領域應用及法規治理》負責人。國家食品藥品監督管理總局《藥品上市價值評估指導原則》課題負責人。國務院辦公廳《關於促進和規範健康醫療大數據應用指導意見》主要起草人以及解讀本撰寫人；參與國家健康中國 2030 規劃工作；參與國家衛生信息化十三五規劃撰寫。國家衛生計生委《關於全面推進衛生與健康科技創新的指導意見》和《關於加強衛生與健康科技成果轉移轉化工作的指導意見》撰寫組專家。組織專家及團隊在廣東廣州，深圳，江蘇泰州，山東即墨，成都武侯等地進行醫藥衛生體制、醫保制度改革及健康中國建設試點研究。

程博士 2003 年畢業於北京中醫藥大學，獲醫學博士學位。2001 年獲國家醫師執業資格。2003 年至 2014 年任職國家食品藥品監督管理局藥品審評中心，歷任臨床主審，專案負責人，主審報告人，高級審評員。2004 年至 2008 年在職進行創新藥物評價體系的博士後研究工作。2010 年 - 2011 年國家公派留學哈佛公共衛生學院，擔任研究科學家，研究國家醫藥創新與風險管理體系，其間任哈佛醫學院華裔專家學者聯合會副主席。期間多次赴 FDA 交流培訓。回國後在藥審中心業務管理部門承擔業務管理協調工作，制定藥品技術評價良好審評規範，會議管理制度，風險效益評估，公開透明等管理制度，同時與哈佛大學，清華大學聯合進行藥品審評制度改革研究，提出藥審中心專業化發展方向，提出大力推進藥品審評制度改革各項合理化建議。程博士長年進行衛生政策研究與醫藥創新技術評價，參與歷次《藥品註冊管理辦法》等政策法規以及數個藥品研發指導原則、藥品評價技術標準和規範制定，累計主持數百個創新藥物的技術審評，對創新藥物臨床價值，立項依據，品質控制，藥理毒理研究，臨床研究及風險效益評估，上市後風險管理及風險最小化技術具有深入研究，對醫藥新技術的發展與監管具有深刻認識。熟悉美國、歐盟、中國等化學藥、生物製品研發和註冊法規，具有多年臨床監管和臨床研究設計、藥物警戒、藥品監管科學、藥品臨床評價與價值評估的研究與實踐經驗。他致力用整體論方法構建以人為本的整合型健康衛生體系與醫藥研發創新評價體系，其研究優勢在於既能預見引領宏觀政策導向，又能把握微觀技術支持。當前學術研究方向包括：生物醫藥創新研發與註冊法規研究，醫藥創新項目技術評估，真實世界研究與風險管理，藥品價值評估研究，健康醫療大數據應用評估與保障體系建設，國家臨床需求與醫藥創新體系研究，互聯網+人工智慧新形勢下的臨床研究模式探索。

## 創新藥立項過程中臨床價值評估

### Abstract 摘要

中國建成了一個相對完整的醫藥創新生態系統，並且政策環境顯著改善推動創新，同時，老齡化也不斷加劇推動醫藥行業需求持續增長，需求端和供給端正推動我國創新藥發展由追隨研發進入自主創新階段，發展過程中也存在著一些問題，根據國家藥品監督管理局最新發佈的審評報告來看，過去三年裡我國創新藥研發存在著同質化現象，這就必然導致我國創新藥物研發需要以臨床價值為導向，同時，臨床價值對於企業來說，也是藥品從技術價值向商業價值躍遷的必由之路，那麼創新藥在立項過程中，藥品臨床價值評估就是整個專案的關鍵一環。

本次講演將介紹藥品價值的內涵及影響因素，闡述如何在藥品生命週期的不同階段進行臨床價值評估及階段性評估臨床價值的技術要點。

瞭解監管方如何評估藥品臨床價值會為創新藥立項過程中的臨床價值評估提供新的視角和思路，本次講演將從審評員角度介紹當前監管方如何評估藥品的臨床價值，如何定義"未滿足的臨床需求"。

臨床價值是基於"未滿足的臨床需求"進行的獲益風險評估，本次演講將根據有無現有治療手段，對臨床價值、臨床優勢及臨床獲益的關係進行闡述，同時根據權衡利弊、趨利避害獲益風險的本質，分別介紹如何根據藥品獲益風險評估模型將藥品分為有上市價值的理想產品（高獲益低風險）、不具備上市價值的產品（低獲益高風險）和特殊產品。最後通過案例闡述如何進行藥品的臨床價值評估。



**Mr. LIU Yilun**

**劉逸倫先生**

Executive Director, Boyu Capital

博裕資本執行董事

## Biography 簡介

劉逸倫先生為博裕資本的執行董事，專注於醫藥行業投資，目前擔任康諾亞生物醫藥、德昇濟醫藥、譽衡生物、兆維科技、大龍儀器的董事。在加入博裕前，劉先生曾先後擔任 Falcon Edge Capital 亞洲醫藥分析師，霸菱亞洲投資經理和摩根大通投資銀行分析師。劉先生持有復旦大學理學學士學位和哥倫比亞大學 MBA 學位。

## Thriving through cycles: The path forward for Chinese biotechs 穿越週期：中國生物製藥企業的發展道路

### Abstract 摘要

中國生物製藥行業自 2022 年進入調整期，隨著外部融資難度上升，行業研發強度、資源投入都有顯著回落。行業未來能否重回上升軌道，迎來新的發展契機，是中國製藥同仁思考的核心問題。借鑒中國互聯網行業的發展歷史和美國生物醫藥行業發展的歷史，生物醫藥行業的生意本質決定了其發展具有高度週期性。展望未來，國際化是行業下一個發展的重要催化劑。國內研發人員紅利、病人體量優勢和富有競爭力的成本結構，是支援中國藥企走出國門的三大基礎。

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## **Dr. WANG Jingsong** **王勁松博士**

Chairman and Chief Executive Officer, Harbour BioMed  
和鉑醫藥董事長及首席執行官

### **Biography 簡介**

Dr. Jingsong Wang, MD, PhD, is the Founder, Chairman of the Board of Directors and CEO of Harbour BioMed (HBM, HKEX: 02142). Before establishing HBM, Dr. Wang served as the Head of China Research and Development Center and the Founding Head of Translational Medicine for Asia Pacific at Sanofi. Dr. Wang joined Sanofi from Bristol-Myers Squibb, where he served multiple roles with increasing responsibilities, including Director of Discovery Medicine and Clinical Pharmacology and Global Program Lead for multiple pre-clinical and clinical assets. Prior to BMS, Dr. Wang was at Wyeth (now part of Pfizer) where he served as Associate Director, and later as the Head for Translational Medicine in Inflammation and Rheumatology, Women's Health and Musculoskeletal Diseases.

Dr. Wang completed his Clinical Rheumatology Fellowship and subsequently was an Attending Rheumatologist and faculty member at Brigham and Women's Hospital and Harvard Medical School. Dr. Wang completed a Molecular Immunology Research Fellowship in the lab of Dr. Laurie Glimcher at the Harvard School of Public Health.

Dr. Wang currently is an Adjunct Assistant Professor of Medicine at the University of Pennsylvania. He has served on the Research Grant Review Committee, National Natural Science Foundation of China, and as a scientific grant reviewer for the Medical Research Council, National Institute for Health Research, National Health Service of the United Kingdom. Dr. Wang has published dozens of papers on various academic journals and is the author and co-author of numerous books in the field of translational medicine, inflammation and autoimmune diseases.

王勁松，醫學博士，藥學博士，是和鉑醫藥（股票代碼：02142.HK）創始人、董事長兼首席執行官。在創立和鉑醫藥之前，王勁松博士在大型跨國醫藥企業賽諾菲擔任中國研發中心總裁和亞太區轉化醫學負責人。在此之前，王博士任職於百時美施貴寶和惠氏製藥，擔任藥物發現和臨床藥理及轉化醫學等部門負責人。

王博士在哈佛醫學院主要附屬醫院布萊根婦女醫院完成了臨床風濕免疫專科醫師培訓，並在哈佛醫學院公共衛生學院，美國科學院院士及前全美免疫學會會長 Laurie Glimcher 博士的實驗室完成分子免疫學的博士後訓練，之後曾在哈佛醫學院擔任主治醫師和講師。

王勁松博士現任賓夕法尼亞大學醫學院內科風濕免疫科客座助理教授，中國抗癌協會腫瘤精準治療專業委員會常務委員，中國醫藥創新促進會醫藥創新投資專業委員會委員，曾任藥物資訊協會（DIA）中國區顧問委員會前主席。他曾是中國國家自然科學基金重點及國際重大合作項目的評審專家，英國醫學研究委員會、英國國家衛生研究院及國民醫療服務機構的評審專家。王博士在國際權威學術期刊發表論文數十篇，並參與撰寫多本有關轉化醫學，炎症與自身免疫疾病教科書和其他專著。

## **Build Next-gen Biopharmaceutical Innovation Ecosystem Leveraging Industry Leading Technology Platforms 依託核心技術平台，打造下一代生物藥創新生態**

### **Abstract 摘要**

Antibody technology continues to create waves of innovation, driving enormous development in the biopharmaceutical industry. Fully human antibody platforms plays a crucial role in generating innovative biotherapeutics. Harbour BioMed brought the world's most advanced fully-human antibody platforms to China and the world. This technology, is like 5G technology in chip industry, with deep patent barriers, and is crucial to the biopharmaceutical industry.

Leveraging this industry leading platforms, Harbour BioMed has brought many first-in-class and best-in-class therapeutics into clinical development. We have advance into clinical study, the world's first fully HCAb and the world's first HHLA2 antibody, and Harbour BioMed is the first company in China to out-license next-gen bispecific antibody to a top MNC.

Harbour BioMed have established Nona Biosciences, to expand global collaborations and fully leverage Harbour technology platforms to empower global biotherapeutics innovation.

The Harbour Mice HCAb platform, a unique fully human heavy chain only antibody platform, is applicable for next-generation biopharmaceutical R&D. Based on HCAb, Nona consistently advances technological developments in protein engineering, antibody-drug conjugate technology, mRNA, and cell therapy to help our partners. The platforms have over 50 exiting partners, including AstraZeneca, Abbvie, Lilly, Pfizer, Moderna, and Dana-Farber, MD Anderson Cancer Center. We have 5 in 10 of top Multinational Corporations in this industry and 2 in 3 of the top Academic Medical Centers in the world using Nona's technology to develop next-gen therapeutics. Using Nona's platform technologies, there are over 18 innovative therapeutics been development into clinical studies.

By integrating core technologies, cutting-edge technologies, top investment institutions, and government support, Nona fosters drug industry innovation. It provides robust support for drug R&D, helping incubate emerging technological forces, with a diversified "antibody+" ecosystem as the path.

時至今日，抗體技術持續創造創新浪潮，推動生物醫藥產業的巨大發展。而全人源抗體技術平台是抗體技術創新浪潮中發揮了重要的作用，這一技術既是生物藥發展的核心 5G 技術，也因其技術和專利壁壘，在全球屬稀缺資源。和鉑醫藥在成立伊始，憑藉自己的技術平台，著力於解決中國抗體藥產業研發痛點，助力產業打破大分子藥物研發的瓶頸。

以全人源抗體技術平台為依託，和鉑醫藥推進管線研發和技術合作兩大核心支柱業務。

自有管線研發以腫瘤方向為主，以創新靶點為攻堅方向，推動具備差異化優勢的全球創新藥品的開發。目前，公司已擁有 16 個在研管線，其中 4 個管線正在推進全球的臨床開發。其中，普魯蘇拜單抗 (HBM4003) 為下一代抗 CTLA-4 代表產品，已完成臨床 II 期，在肝細胞癌、結直腸癌、黑色素瘤及神經內分泌瘤病人中均展現出優良的臨床獲益；HBM7008 為諾納生物 HBICE 平台產出的首個雙特異性抗體，已獲 Cullinan 公司青睞，於 2023 年 2 月授權 Cullinan 在美國臨床開發、生產及商業化權益。此外和鉑自主研發的 HBM7022 雙特異性抗體於 2022 年 4 月授權阿斯利康全球開發權益。

圍繞全人源抗體技術平台，諾納生物充分拓展全球合作，賦能全球生物醫藥創新。諾納生物依託 Harbour Mice HCAb 獨特全人源僅重鏈抗體平台，持續推動技術創新，在蛋白質工程、抗體偶聯藥物技術、mRNA、細胞療法等技術領域進行技術開拓。諾納生物核心技術平臺在全球擁有合作方超過 50 家，這



些合作方中包括艾伯維、阿斯利康、禮來、輝瑞、Moderna 等知名大企業，也包括 MD 安德森癌症研究中心、丹娜法伯研究院等頂級學術機構，利用諾納生物核心技術平台進行的研發項目已有超過 18 個項目進入全球臨床開發。此外，諾納生物整合核心技術、前沿科技、頂級投資機構與政府支持，打造 " 創新藥的搖籃 "，並誕生了 HBM Alpha 等與研究機構聯合孵化創新企業的案例。

整體而言，和鉑醫藥以底層創新為基石，以多元化 " 抗體 + " 生態為路徑，最終實現對藥物研發的強力支持，並助力新生的技術力量的孵化和培育。



## **Professor WANG Xiaoliang** **王曉良教授**

Director, Laboratory of Druggability Evaluation and System Translational Medicine, Tianjin Institute of Pharmaceutical Research  
天津藥物研究院藥物成藥性評價與系統轉化實驗室主任

### **Biography 簡介**

Dr. Wang, Xiaoliang, Director of Key Laboratory of Druggability Evaluation and System Translational Medicine, TIPR. He is also Professor of Pharmacology, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College. He was a Visiting Professor of Nanyang Technological University, Singapore from 2007 to 2022. He obtained his Medical Doctor degree from University of Essen, Germany in 1987. He became a full professor at the Institute of Materia Medica, Chinese Academy of Medical Sciences in 1993.

Prof Wang's research was focused on electrophysiology (patch clamp) and ion channel pharmacology since 1987. Last two decade, he has been working on the area of neurodegenerative diseases, such as Alzheimer's disease, Parkinson disease, Amyotrophic Lateral Sclerosis (ALS), ischemic stroke and so on. He has developed about ten novel drugs. Most of them are currently in clinical trial. He is also working on nature products for drug discovery and development. He filed about 30 patents and published about 300 papers. He was vice president of Chinese Pharmaceutical Association from 2007 to 2022 and the member of BPS, FIP (International Pharmaceutical Federation) 2014 - 2022. Prof Wang is the Editor-in-Chief of ACTA Pharmaceutica Sinica (Chinese) and Associate Editor-in-Chief of Acta Pharmaceutica Sinica B (English).

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### Abstract 摘要

動物來源的中藥材或天然藥物，是中藥的重要組成部分，如麝香，虎骨，羚羊角，熊膽等，由於動物保護和倫理，很多天然和野生動物來源的中藥材已經不可以在臨床中使用了，這限制了中藥的傳承和治療疾病的完整性。中國醫學科學院藥物研究所的科研人員在過去的幾十年中，研究開發了多種瀕危動物中藥材替代品，部分解決了這類天然藥材不可入藥的問題，如已上市多年的人工麝香，目前在臨床研究中的人工熊膽粉和人工羚羊角等。隨著科學技術的進步，這些替代品也從原來的仿生替代，既從外觀到相似功效的藥用物質替代，到最近的全有效成分的替代。新一代替代品更接近於天然或野生動物藥材，不僅是外觀，其功能與性味也更加一致。在此過程中，成藥性評價是關鍵一步，因為中藥材往往具有多種功效，要精準評價出每一成分的作用，並把握多成分組合後的藥效與原動物藥材基本一致，為此，我們研究開發了一系列有關評價方法，並用現代醫學的手段詮釋中藥的功能主治等。



## **Professor KE Hua Zhu, David** **柯華珠教授**

Chairman and Chief Executive Officer,  
Angitia Biopharmaceuticals Limited  
安濟盛生物醫藥技術有限公司董事長及首席執行官

### **Biography 簡介**

Dr. Hua Zhu (David) Ke, Founder, Chairperson of the Board and CEO, Angitia Biopharmaceuticals, Guangzhou, Guangdong, China, and Woodland Hills, California, USA. Adjunct professor, the University of Utah School of Medicine; the Chinese University of Hong Kong School of Medicine; and Guangdong Medical University.

Before founding Angitia in 2018, David served as Vice President and the Head of Bone Therapeutic Area in UCB Pharma in the United Kingdom, and Scientific Executive Director and Head of Bone Research in Amgen Inc. in the United States, and Research Fellow and Head of Bone Pharmacology in Pfizer Central Research and Development in the United States. As one of the major contributors, David led his teams to the successful discovery and development of blockbuster innovative drugs for treatment of serious bone diseases that have been launched in United States and other parts of the world. These innovative drugs included Prolia (osteoporosis), Xgeva (bone metastases) and Evenity (osteoporosis). David is currently serving as a visiting professor at the University of Utah School of Medicine, the Chinese University of Hong Kong School of Medicine, and Guangdong Medical University.

David has published 165 peer-reviewed scientific papers and review articles with more than 13,000 citations. He is also the inventor or co-inventor for 28 patents related to new drug discovery and development. He has been invited to give many scientific presentations at international conferences of his field.

# Novel Drug Discovery and Development for Osteogenesis Imperfecta 成骨不全的新藥發現與開發

## Abstract 摘要

Osteogenesis Imperfecta (OI) patients suffer from skeletal fragility, recurrent fractures, and complex bone deformities. Elevated DKK1 levels have been observed in OI. The increased DKK1 level in OI significantly contributed to bone destruction in these patients. Currently there is no FDA-approval drug treatment for OI.

The Wnt signaling pathway plays an important role in bone formation and resorption. Expression of two Wnt pathway inhibitors, sclerostin and Dickkopf-1 (DKK1), is associated with changes in bone mass and bone strength. Studies in various animal models of osteoporosis and in postmenopausal osteoporotic patients have shown that inhibition of sclerostin using a monoclonal antibody, romosozumab (Romo), increases bone formation, density, strength, and reduces skeletal frailty fracture. We hypothesize that neutralizing both sclerostin and DKK1 may provide an attractive therapeutic option for OI. We have discovered a bispecific antibody neutralizing both sclerostin and DKK1 and tested this agent in OI animal models. The results from a series of preclinical studies show this bispecific antibody increases bone formation, cortical and trabecular bone mass and bone strength, and reduces skeletal fracture. These results support the continuous development of this bispecific antibody for treatment of OI.



## **Dr. LIANG Zicai** **梁子才博士**

Chairman and Chief Executive Officer,  
Suzhou Ribo Life Science Company Limited  
蘇州瑞博生物技術股份有限公司董事長及首席執行官

### **Biography 簡介**

梁子才，瑞典烏普薩拉大學博士，北京大學終身教授，瑞博生物創始人。曾任瑞典卡洛琳斯卡醫學院基因組與生物信息學中心基因組技術研究室主任、北京大學分子醫學研究所核酸技術研究室主任、中國生化與分子生物學學會 RNA 專業委員會副主任委員。曾主持中國第一個小核酸領域 863 重點項目，推動建立了昆山小核酸產業基地，加速了中國小核酸製藥研究開發的進程，是中國小核酸製藥產業的主要開拓者之一。

## **Oligonucleotide drugs: to be the third wave of modern pharmaceuticals** **小核酸製藥漸成現代製藥的第三次浪潮**

### **Abstract 摘要**

小核酸藥物主要作用於細胞內的 mRNA，通過調控蛋白質的表達，實現治療疾病的目的。傳統的小分子化藥和抗體類藥物主要作用於蛋白質，成藥靶點受限，小核酸藥物靶向 mRNA 的機制，為新藥研發提供了大量豐富的候選靶點。小核酸藥物具有研發週期短、效果持久、研發成功率較高、不易產生耐藥性和治療領域廣等優點，是繼小分子化藥和抗體藥物後的第三大類型藥物，有望引領現代製藥的第三次浪潮。

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## **Dr. LI Ming** **李明博士**

Chief Executive Officer, ZSHK Laboratories Limited  
滬港中科國際生物科技有限公司首席執行官

### **Biography 簡介**

Dr. Ming LI, CEO of ZSHK Laboratories Limited, has been engaged in preclinical evaluation of drugs for twenty years. He was presided over the construction of China's first GLP laboratory that complies with EU multi-country certification. Dr. Ming LI received his Ph.D. in Pharmacology from Shanghai Institute of Materia Medica, Chinese Academy of Sciences. At the same time, he obtained a double master's degree in EMBA from Antai College of Economics and Management of Shanghai Jiao Tong University and KEDGE Business School in France.

李明博士，滬港中科國際生物科技有限公司 CEO，從事藥物臨床前評估工作二十年。李明博士主持建設中國第一家符合歐盟多國認證的 GLP 實驗室工作，建設的 GLP 實驗室曾支持多家國內外醫藥企業的研發藥物在北美、英國、德國、瑞典等進行臨床研究。李明博士在中國科學院上海藥物研究所獲得藥理學博士學位，正高級工程師，同時獲得了上海交通大學安泰經管學院和法國 KEDGE 商學院的 MBA 雙碩士學位。

## **Key Considerations in Early Druggability Evaluation of Chemical Drugs** **化學藥成藥性評價的關鍵內容**

### **Abstract 摘要**

During the development of innovative drugs for unmet medical needs process, a more coordinated approach with physicians and the implementation of new therapeutic strategies in clinical settings is necessitated. One of the primary challenges faced in drug R&D is the failure of many clinical trials due to inadequate patient selection or

the lack of reliable biomarkers or indicators for therapeutic benefits. Identification and verification of reliable biomarkers and precise indicators of therapeutic benefits during early pre-clinical studies can help in better patient recruitment and enhance the chances of successful clinical trials. Adopting a "whole-in-animal" approach to the evaluation of innovative drug candidates in early phase development ensures a systematic assessment of pharmacology, efficacy, metabolism, and safety studies in animals. This comprehensive evaluation can provide insights into the drug's effectiveness, safety, and drug disposition profile at an early stage, thereby increasing the likelihood of successful human clinical trials.

在以臨床需求為導向的創新藥物研發的過程中，需要與臨床醫生緊密合作，共同探索藥物治療在臨床應用中的創新策略。許多臨床試驗的失敗很大程度上是因為沒有在臨床研究中精準篩選患者群體，或是找到有效的治療獲益"標誌"。為了提高藥物研發的成功率，在早期和臨床前研究中尋找和確認可靠的生物標誌物和"精準"的治療獲益指標，以便更好地招募患者並提高臨床試驗的成功率；在創新藥物的早期臨床前開發中採用"動物整體性評價"的策略，從早期研發階段就進行藥理、藥效、代謝和安全性的系統化研究。這種策略有助於在早期階段揭示藥物在整個生物體系中的有效性、安全性和藥物分佈特性，從而為提高臨床試驗成功率奠定基礎。通過將這些策略納入藥物研發過程，研究人員和製藥公司可以提高新藥的成功率，為未滿足的醫療需求的患者帶來急需的治療方法。各利益相關者（如醫生、研究人員和監管機構）之間的合作將對促進這些改進發揮關鍵作用，從而最終改善患者的治療效果。





## **Dr. DAI Xiaochang** **戴曉暢博士**

Executive Director, Chief Strategy Officer of Sirnaomics Ltd.  
聖諾醫藥執行董事、首席戰略官

### **Biography 簡介**

Dr. Dai Xiaochang has over 20 years of experience in biotech technology. Dr. Dai currently serves as Executive Director and Chief Strategy Officer of Sirnaomics Ltd and as a professor at the School of Chemical Science and Engineering, Yunnan University since 2000. Prior to joining Sirnaomics, Dr. Dai served as the chairman of Yunnan Walvax Biopharmaceutical Co., Ltd., the predecessor of Walvax Biotechnology Co., Ltd. a company listed on Shenzhen Stock Exchange, and the president of Kunyao Group Co., Ltd. a company listed on Shanghai Stock Exchange.

Dr. Dai obtained a master's degree in biochemistry in Shanghai Institute of Biochemistry, Chinese Academy of Sciences in the PRC. During this period, he and his team developed the sixth type of plant hormone, "Yunda-120". They later became a widely used plant growth regulator. Dr. Dai finished his doctoral degree in chemistry from The Scripps Research Institute in San Diego, California, U.S., and he also conducted postdoctoral research in the laboratory of John N. Ableson, Division of Biology and Biological Engineering, California Institute of Technology in the U.S. from November 1998 to December 1999. At that time, his main research project was the development of nucleases for biotherapeutic use using in vitro evolutionary techniques.

戴曉暢博士在生物技術領域有超過 20 年的經驗。現任聖諾醫藥集團執行董事兼首席戰略官，並自 2000 年擔任雲南大學化學科學與工程學院教授。在加入聖諾醫藥集團之前，戴博士曾擔任雲南沃森生物技術股份有限公司的前身雲南沃森生物製藥有限公司主席，2005 年擔任昆明貝克諾頓製藥有限公司的董事總經理，及曾任昆藥集團股份有限公司總裁。

戴博士於中國科學院上海生物化學研究所生物取得其化學碩士學位，在讀期間他與團隊研製出第六類植物激素“雲大一120”，時至今日其仍是廣泛應用的植物生長調節劑。其後，戴博士在美國加州聖地牙哥斯克里普斯研究所取得化學博士學位。彼亦於 1998 年 11 月至 1999 年 12 月於美國加州理工學院生物與生物工程系 John N. Ablelson 實驗室從事博士後研究。期間，戴博士主要研究項目為利用核酸酶斷裂肽鍵，為以核酸酶為手段的新一代基因治療。

## **RNA- From Central Dogma to Medicine** **RNA 療法 - 從中心法則到成藥**

### **Abstract 摘要**

- A brief history of how the code of life was decoded :
  - Protein structure
  - Protein sequencing
  - DNA structure- double helix
  - Genetic code
  - RNAs
- The flow of the information: The Central rules
- Biological information flows from DNA to RNA to Protein
- To maintain the normal ( healthy) status, all information flow needs to be regulated.
- Mis-regulated information flow leads to disease.
- A brief history of modern medicine :
  - Small molecules of drugs
  - Biologicals ( vaccines, insulin, antibodies)
  - RNA drugs
  - Cell therapy
  - Gene therapy
- Advantages and challenges of each modality
- Future landscape of RNA-based medicine



## **Dr. ZHU Guidong** **朱貴東博士**

Chief Executive Officer, Sparx Biopharmaceutical Corporation  
科霸生物首席執行官

### **Biography 簡介**

Gui-Dong Zhu is the founder and CEO of the SparX Group. He is a 27-year veteran of the pharmaceutical industry with 22 years of experience in various leadership roles at Abbott/AbbVie. During this time he contributed to the development of one marketed product and six candidates in various stages of clinical development. Following incorporation of SparX Group in 2018, Gui-Dong established a variety of novel technology platforms allowing for an integrated and sophisticated approach to antibody development. These include the SparxNano platform driving the discovery of highly potent and specific single domain antibodies, the SynMab platform facilitating the optimization of multi-specific antibodies, and uniQon™-based cutting-edge bi-ADC site-specific conjugation technology. Gui-Dong also has broad pharmaceutical research expertise in the areas of structural biology, antibody manufacturing, drug delivery, and the preclinical evaluation of bio therapeutic drug candidates. He is an author or a co-author of more than one hundred original publications, reviews, patents and presentations, along with over six hundred commentaries. Gui-Dong has also been an invited and a plenary speaker in a number of venues both nationally and internationally.

朱貴東博士是科霸生物的創始人和首席執行官。在創立科霸生物之前，曾任職美國雅培、艾伯維集團二十餘年並擔任多個領導職務，是一個上市產品和六個臨床開發藥物的發明人。朱博士也是最早從事抗體藥物偶聯物（ADC）開發的研發人員之一，曾提出“非細胞毒素彈頭”、“細胞封閉”、“偶聯加固”等多個廣為人知的ADC開發理念。朱博士也是結構生物學專家，曾為科霸建立了完備的雜交瘤免疫、噬菌體文庫、B細胞克隆抗體篩選，並開發了SparxNano™、SynMab™、SAILING™抗體開發以及uniQon ADC定點偶聯技術等平台技術，吸引了一批卓有建樹的國際藥企高管加入科霸團隊。朱博士擁有70餘項專利、100餘篇專業論文和國際會議報告，並受邀二十餘次在國際學術會議做主旨報告。

# Leveraging Core Competitiveness for Elevated Returns in Pharmaceutical Development: The SparX Strategy

## 從科霸理念談突出核心競爭力 提高創新藥開發的回報率

### Abstract 摘要

There is a growing consensus that pharmaceutical development suffers from underwhelming long-term returns, often falling below industry averages. Achieving a paradigm shift necessitates a complete overhaul in the strategic approach, including the de-emphasis on unproven molecular targets and a realignment of clinical development strategies. Enhancing the probability of success has emerged as a vital edge for biotech entities. SparX Biopharmaceuticals uniquely addresses these challenges by transitioning its focus from preclinical exploration to trailblazing clinical development. This evolution was catalyzed by the construction of advanced discovery technology platforms.

SparX's distinctive measures encompass leveraging the synergies of multi-targeted methodologies, refining patient selection, pioneering patient-centric dosage guidelines, and crafting MRCT-compatible trial designs for optimal enrollment and fiscal efficiency. Amidst a backdrop of economic flux, SparX's comprehensive and forward-thinking strategies illuminate the path, nurturing a resilient drug development milieu. This presentation delves into SparX's strategic realignments, highlighting its dedication to avant-garde research techniques, astute fiscal management, and unwavering stakeholder collaboration. With agility at its core and a spirit of continuous innovation, SparX epitomizes resilience in the biopharmaceutical arena.

近期統計資料指出，創新藥開發的長期回報不盡人意，收益甚至低於道瓊斯的平均水準。以原研首創藥物開發為代表的生物科技公司需要調整開發思路才能獲得質的突破。對之前大眾追逐的概念性創新藥的開發需要更謹慎，調整靶點驗證性管線的配比，增加技術為主的，更可控產品線的研發。提高產品成功商業化的機率。科霸生物通過聚焦核心管線的臨床開發，擴展探索性分子靶點的驗證機制，推動包括表型篩選等研發技術平台的深度應用。

科霸開拓性產品開發思路不僅體現在挖掘生物標記物，細化病人入組篩選、擴展以病人為中心的劑量優化方案、制訂新概念臨床設計和開發模式，實現最佳的招募和資本使用效率，找到多靶點之間最佳的臨床協同效應。通過這個報告，作者試圖演示科霸綜合、前瞻性的開發思路，培育一個新的創新藥開發理念，闡述突出前衛技術平台和臨床管理策略對臨床開發的重要性，以及開拓性思維模式和不斷創新精神對改進未來創新藥開發的重要性。



## Professor ZHU Yi Zhun 朱依諄教授

Associate Vice President, Chair Professor,  
Macau University of Science and Technology; Member of European  
Academy of Sciences & Arts; Founder of InnoDrug Lab.(HK) Co., Ltd.  
澳門科技大學協理副校長、講座教授，歐洲科學院院士，  
依諾科技（香港）有限公司創始人

### Biography 簡介

朱依諄是歐洲科學與藝術院院士、國家傑出青年科學基金獲得者、教育部長江學者特聘教授、國家重大研究計畫（973）首席科學家、國家重大新藥創制大平臺首席科學家、國家藥典委員會委員、國務院僑辦創新委員會委員、上海市白玉蘭榮譽獎獲得者，國家衛健委《中國臨床用藥》（第一版）主編、《藥理學》國家規劃教材（第七、第八版）和英文版（第一版）主編。他現任澳門科技大學協理副校長，藥學院創院院長，澳門科大醫院執業醫師（澳科大第一附屬醫院心內科主任醫師），澳門中華醫學會榮譽會長、澳門中華中醫藥學會副會長。朱依諄先後畢業自上海交通大學醫學院六年制臨床醫學（學士）和德國海德堡大學內科（醫學博士），先後任教於新加坡國立大學醫學院、復旦大學藥學院（全球招聘院長）20餘年。朱依諄發表了330餘篇科學論文，被引超過1.7萬餘次（h-index 69，i10 index 259）入選全球頂尖前10萬名科學家排名和斯坦福大學全球前2%頂尖科學家榜單（World's Top 2% Scientists）的排名。他研發的2個 first-in-class 新藥分別在中、美進入了臨床 I 期和 II 期研究。

## Novel drug candidates from natural resources : bench to bedside 天然來源的新藥研發：實驗室到臨床

### Abstract 摘要

Since the last two decades our group has reported Leonurine, an unique alkaloid found in *Herba leonuri*, played a dominant role in blood stasis/ischemia with the possible mechanism of improving micro-circulation. For the first time, we uncovered that leonurine has potent anti-apoptotic effects mediated by activating the PI3K/Akt signaling pathway both in vitro (cardiac myocyte model of oxidative stress) and in vivo (animal model of chronic myocardial ischemia), simultaneously preventing cardiac fibrosis partly through modulation of a Nox4-ROS pathway. Furthermore, leonurine can also lower cholesterol and triglyceride levels in blood, improvedilation of blood vessels in the hyperlipidemia model of rabbits, apoE<sup>-/-</sup> mice and rhesus monkeys. Besides the cardio protective effects, which are similar in the central nervous system, more specifically, inhibited mitochondrial ROS production and adenosine triphosphate biosynthesis together with the restored mitochondrial function and redox state were observed in middle cerebral artery occlusion rats by leonurine treatment, which strongly reveals its neuroprotective effects and carries a therapeutic potential for recovery and prevention of stroke. Taking advantage of the most recent findings in pharmacological research including the effects of low toxicity and good pharmacokinetics characteristics, leonurine has a very attractive prospect of clinical application. Our recent promising pharmacological results may be able to eradicate the barrier hindering its sale on market. In sum, from bench to bedside is no longer a long way for leonurine.



## **Dr. GONG Zhaolong, John** **龔兆龍博士**

Chairman and Chief Executive Officer, 3D Medicines, Inc.  
思路迪醫藥董事長及首席執行官

### **Biography 簡介**

Dr. Gong is currently serving as Chairman and CEO of 3D Medicines Inc. , a commercialization stage bio-pharmaceutical company focused on cancer treatment and listed on the Hong Kong Stock Exchange (01244.HK). He has more than 30 years of global industry and regulatory experience leading and participating in the entire process of new drug development from in-house discovery, collaborations, global clinical development and registration strategies, clinical trial designs, GLP/GCP/GMP regulations, and risk management. Dr. Gong worked as a new drug reviewer at the Center for Drug Evaluation and Research in the United States FDA from 1998 to 2008, served as Vice President of Drug Development and Regulatory Affairs at BeiGene, CEO at Labsolution Pharmaceuticals, and Chief Technology Officer at JOINN Laboratories. Dr. Gong received his medical degree from Beijing Medical University and PhD from New York University. He is a Member of the DIA China Advisory Committee, Member of the Translational Medical Expert Committee of CSCO, Member of the Pharmaceutical Clinical Research Committee of PhIRDA, and an Editorial Board Member of the Chinese Journal of New Drugs and Progress in Pharmaceutical Sciences.

龔博士有近 30 年創新藥行業經驗，從 FDA、CRO 和創新藥企業等角度全程參與或領導創新藥的研發、生產和商業化。在創新藥品種的立項、引進和合作，全球開發、註冊和商業化戰略規劃，非臨床和臨床試驗方案設計和實施，GLP/GCP/GMP 法規，以及新藥研發中的風險管控等方面積累了豐富經驗。龔博士 1984 年畢業於北京醫學院，1996 年獲美國紐約大學博士學位，1996 至 1998 年在 NIH 從事博士後研究，1998 至 2008 年任美國 FDA 新藥審評員，2008 年回國後擔任昭衍新藥首席技術官、萊博藥業 CEO、百濟神州新藥開發和藥政事務副總裁。現任思路迪醫藥董事長兼 CEO，並擔任 DIA 中國區顧

問委員會委員，CSCO 臨床研究專家委員會委員，中國醫藥創新促進會藥物臨床研究專業委員會委員，中國新藥雜誌編委，藥學進展雜誌編委等職務。

## Next-Generation Oncology Drug Development: Opportunity and Challenge 下一代腫瘤創新藥研發的機遇與挑戰

### Abstract 摘要

Cancer is still a major global health challenge. The emergence of immunotherapy has played a key role in reshaping cancer treatment paradigms. IO drugs such as PD1/PDL1 antibodies modulate the immune system to combat malignant tumors, extending patients' survival and bringing new hope to various cancer types. Looking ahead, the next generation of immune checkpoint inhibitors and cancer vaccines are crucial to the future of cancer drug development and provide better options to treat cancer as chronic diseases.

癌症已成為全球性重大健康挑戰，且發病率不斷上升，免疫療法的出現在重塑癌症治療範式上起到了關鍵作用。PD1 等 IO 藥物，利用人體自身的免疫系統對抗惡性腫瘤，延長了患者的生存期，並為各種癌症類型的患者帶來了新的希望。展望未來，下一代腫瘤免疫抑制劑具有增強的精確性，針對特定的免疫檢查點或加強免疫系統對抗癌症的反應，為應對新的抵抗機制 / 耐藥人群 / 患者分層策略帶來改進和挑戰；與此同時，癌症疫苗已經成為腫瘤創新藥物領域的另一個開創性途徑，通過刺激患者的免疫系統識別和清除癌細胞，為個性化癌症的治療、預防提供了潛在可能和挑戰。這些下一代療法所帶來的機遇和挑戰關乎癌症藥物研發的未來，為推動癌症治療提供了令人振奮的前景，通過充分利用這些創新並應對相關的複雜性，我們有望為面臨癌症挑戰的個體在腫瘤慢性病化時代提供更加有效、個性化和可及的治療方法。





## **Professor ZHENG Minghao** **鄭銘豪教授**

Medical School, The University of Western Australia  
西澳大學醫學院教授

### **Biography 簡介**

Professor Zheng has significant experience in research driven innovation. He is co-founded two university spin-off companies, Orthocell Ltd (ASX:OCC) and Marine Biomedical Pty Ltd in Australia. He is a leader in the field of bone, cartilage and tendon regeneration. I have a strong track record of translating innovative laboratory research into commercially successful therapeutic products with global impacts. The preliminary research for these technologies began at the univeristy, and was brought to commercial success at Orthocell Ltd, a Perth-based regenerative medicine company. The first, a bioactive collagen scaffold, is one of just six products from Western Australia granted approval by the US Food and Drug Administration (FDA). The scaffold has been evolved into a device for peripheral nerve repair which obtained TGA and medical device reimbursement approval in 2022. Previously, he also developed the technology of Matrix-induced Autologous Chondrocyte Implantation (MACI/Ortho-ACI™), which obtained FDA approval in 2016. In 2021, I established a second company, Marine Biomedical Pty Ltd to utilise PearlBone™, a UWA-patented invention for a natural orthopaedic bone filler substitute. This technology uses the by-product of nacre from the Western Australia pearl oyster shell as its primary ingredient.

Professor Zheng holds more than 10 patents and have over 260 scientific publications with H index of 60 and over 10,300 citations.

# The development of a collaborative approach for research driven innovation

## Abstract 摘要

Minghao Zheng MD PhD, FRCPATH, Medical School of the University of Western Australia

There were disconnects over the decades between biomedical research and clinical application, and between descriptive epidemiology in the population and the current nature of diseases. Research driven innovation is one attempt to address these gaps by taking a collaborative approach between academics, industry, community and consumers. An innovation strategy is needed to be developed to create an ecosystem that enables to steer and prioritise efforts for innovation through the collaborative approach. Over the past decades, the Centre for Orthopaedic Translational Research at the University of Western Australia has established two spin out companies, Orthocell (OCC:ASX) and Marine Biomedical Ltd. These have enabled translation of university based innovative technology into clinical products to serve patients. Notably, we have developed a collagen device for guide bone regeneration in dental, an epineural device for preimperial nerve reconstruction, and bone substitute for orthopaedic bone grafting using mother of pearl from Broome. We have also developed technology of autologous chondrocyte implantation for treatment of early stage of osteoarthritis. The technology has gained approval by FDA in 2016. The success of these research driven innovation are based on the well-established ecosystem between academics, clinicians, university commercialisation office, industry and investors. This talk will highlight the key points of research driven innovation using these as examples.

## **Dr. HE Yixin** **何伊欣博士**

Chairman and Chief Executive Officer, Aptacure Therapeutics Limited  
安沛治療有限公司董事長兼首席執行官

### **Biography 簡介**

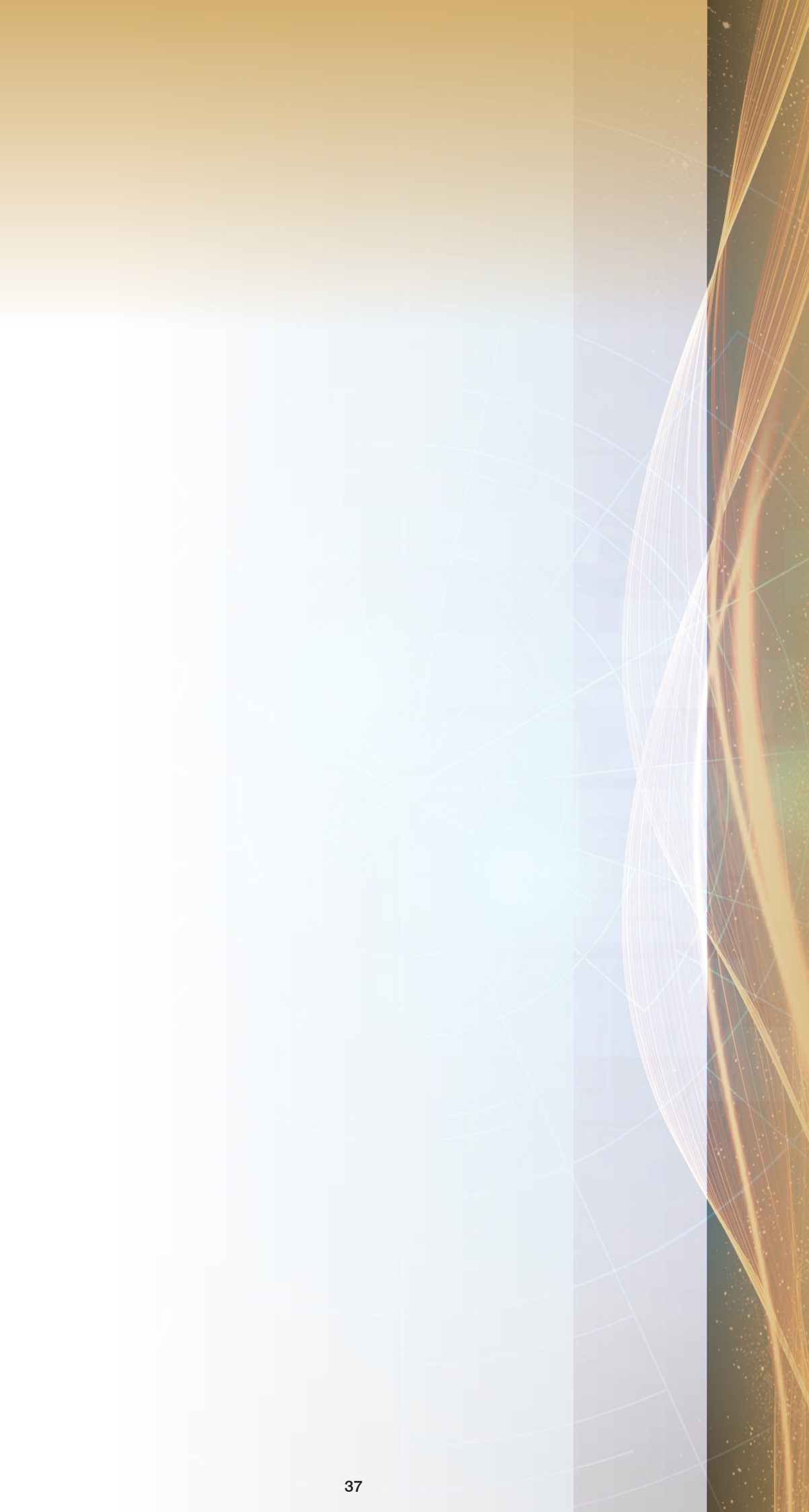
何博士從事生物醫藥戰略投資合作與研發多年，2019 年聯合創辦了安沛治療有限公司，旨在開發適配子創新藥物，並入駐了科學園；其領導團隊開發的 Apc 0010A 專案，獲得美國 FDA 孤兒藥及兒童罕見病藥認定，用於治療成骨不全，骨質疏鬆等一系列適應症。

### **Rooted in basic scientific research, a translational innovative drug development case in Hong Kong** **紮根基礎科研，香港本土創新轉化在路上**

### **Abstract 摘要**

骨質疏鬆是全球老齡化過程中面臨的重大疾病，在促進成骨上一直缺乏安全有效的長期治療藥物。硬骨抑素（Sclerostin）是成骨的負調控因子，硬骨抑素單抗雖然於 2021 年獲得了美國 FDA 批准，但由於其心血管風險，被黑框警告。張戈教授團隊基於臨床挑戰和現有藥物的缺陷，首次提出硬骨抑素 Loop3 結構域，參與抑制骨形成，但不參與心血管保護；因此開發靶向硬骨抑素 Loop3 的抑制劑可以促進骨形成，但不增加心血管風險。基於此，張教授與團隊聯合創立了安沛治療有限公司（Aptacure Therapeutics Limited），推動硬骨抑素 Loop3 的適配子抑制劑（Apc 0010A）的臨床前研究工作。除骨質疏鬆外，團隊還探索了 Apc 0010A 在罕見病成骨不全上的應用，並獲得了美國 FDA 孤兒藥及兒童罕見病藥的認定。公司也進

一步入駐了香港科學園生物醫藥科技初創企業計劃，並於今年獲得了上藥醫藥集團的投資意向。目前，公司已建立了完成的適配子藥物從序列發現，化學合成修飾，藥代長效修飾，到藥效評價的一整套平台，並建立了研發管線，推進多個適配子藥物臨床前工作，預計於 2024 年底，推動 Apc 0010A 項目進入臨床。



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