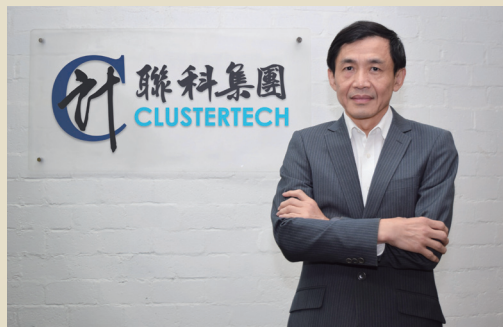


## CLUSTERTECH CULTIVATES TALENT AND PROMOTES LEADING TECHNOLOGIES IN CHINA

弘揚中國計算科技  
聯科集團精心培養人才

Interviewed by Mr. Vincent Kwok



“For over sixteen years, we have been striving to push the development of computing technology, and to enable a new generation of talented individuals to contribute to the China market,” said **Dr. Suen, Wai-Mo, Founder and CEO of ClusterTech.**

聯科集團總裁孫緯武博士：「我們十多年來努力推動計算科技產業，讓年輕人投身，讓計算科技在中國生根。」

Founded in 2000 in Hong Kong, ClusterTech is committed to driving the modernization of Chinese enterprises through advanced computing technologies. Today, ClusterTech's businesses cover a wide range of areas including cloud computing, cluster computing, financial engineering and business intelligence, etc. Clients include the Fortune Global 500 companies and industry giants, such as HSBC, Bank of China, CNPC, SINOPEC, CSL; and government, education and research institutions, such as China Earthquake Administration, China Meteorological Administration, Hong Kong Observatory, Beijing University, Tsinghua University, and eighteen institutes in the Chinese Academy of Sciences.

ClusterTech started to expand its business in the China market in 2003 and formed its fully-owned subsidiary, ClusterTech Beijing Limited in Zhongguancun, Beijing in 2005. Now, the mainland headquarters in Beijing is leading branches and representative offices in Shanghai, Xi'an, Wuhan, Guangzhou, Shenzhen, etc.

### From black hole research to real life applications

ClusterTech was formed from the vision of a scholar specializing in computing technology. Dr. Suen Wai-Mo, Founder and CEO of ClusterTech has devoted more than thirty years to teaching and research overseas. He is currently a professor of theoretical physics at the Washington University, specializing in black hole research. He witnessed the impact to enterprise development in the US during 80's and 90's, when advanced computing technologies were widely adopted in financial services, manufacturing and retail industries, etc. China was lagging behind and lacked an ecosystem to take research to the business world. As a result, he was inspired to promote modern computing technology development in China.

### US banned high performance computer to China

Dr. Suen recalled that he was invited by the Chinese University of Hong Kong to come to Hong Kong as a visiting professor in 1999. He wished to bring some of his black hole research projects to CUHK and it was necessary to purchase high

聯科集團 (ClusterTech Limited) 於2000年在香港成立，以計算技術與軟件應用為核心優勢，推動中國企業的現代化。今天聯科的業務涵蓋雲計算、集群計算、金融工程及商業智能等領域，客戶主要來自世界500強企業和行業巨頭，包括匯豐銀行、中國銀行、中石油、中石化、香港移動通訊 (CSL) 以及政府、教育和科研機構如國家地震局、國家氣象局、香港天文台、北大、清華及中國科學院十八間研究所等。

聯科集團早於2003年發展大陸市場，並於2005年在北京中關村成立全資子公司——聯智科技(北京)有限公司，全面開展在大陸的業務。經過十多年發展，今天聯科總部位於香港，國內總部設在北京，也在上海、西安、武漢、廣州、深圳等地設有分公司及辦事處。

### 從黑洞計算到現實應用

聯科的創立，來自一位計算科技學者的宏願。聯科集團創辦人兼總裁孫緯武博士是美國華盛頓大學 (Washington University) 理論物理學終身教授，專攻黑洞計算研究，在海外從事教學及科研工作三十餘年。他見證了80、90年代美國科技學術研究對企業發展的重要性，計算科技普遍應用於金融、工業製造、零售等各個社會領域。與之相比，中國在計算科技的應用方面還是相對落後，也欠缺科研貢獻企業發展的生態環境，引發他在中國推動現代計算科技的宏願。

### 美國禁運高性能電腦

孫博士回憶，1999年應香港中文大學邀請來香港任訪問教授，他希望將部分黑洞科研工作轉移到中文大學進行，必須從美國購入可進行大規模計算研究工作的高性能電腦。可是美國不讓出口，認為中國不可以有這樣高級的電腦，這引發孫博士創辦計算科技企業的雄心。他強調：「要讓計算科技在中國生根，關鍵是讓企業能利

performance computers from the US for large scale modelling research. However, the US government banned the export of high performance computers to China. This prompted Dr. Suen's aspiration to found a computing technology enterprise. He emphasized, "The key is to allow China enterprises to adopt computing technologies to improve productivity, thereby creating jobs to attract the next generation to join this direction and make development sustainable. We cannot solve the talent shortage in China by solely purchasing technologies from overseas."

He founded ClusterTech in 2000, to develop computing technology applications for the local market. He sees two major approaches for technology innovations: one is for applications aiming at the general public, i.e., going for the breadth, and the other is professional applications for industries, i.e., going for the depth. The former needs huge capital resources to gain market coverage and the latter approach requires expert knowledge of the application domains. He chose the latter and wished to use his expertise and experience to drive the modernization of Chinese computing technologies and enterprises.

### An intellectual must be broad-minded and resolute

As a university professor, Dr. Suen was well-prepared for the long-term commitment. He quoted Confucian Analects (論語): "An intellectual cannot but be resolute and broad-minded, for he has taken up a heavy responsibility and a long course." He uses this to encourage himself and his colleagues. A broad mind is needed to accommodate the different talents needed for company, and perseverance is essential for success in the long run.

In just one year after starting, ClusterTech acquired a number of well-known clients, such as the HSBC and Environmental Protection Department of Hong Kong. ClusterTech helped the HSBC build a high performance trading platform, and enabled the Environment Protection Department to analyze pollution problems in Hong Kong with high performance computing technology. Since then, ClusterTech's fame has spreaded through the Hong Kong market.

### Cultivating talent is top priority

When talking about the difficulties of starting a new business, Dr. Suen shared his dream when he was to set up the company. In the dream, he was a freshman attending classes. It was only after a few years in the business, he realized that building up a high-tech company was in fact very similar to leading an academic research group. The key is to cultivate talent. In fact, ClusterTech's business development truly relies on high-tech talent, and the major challenge is to recruit, discover and cultivate the right people for the company. "You cannot build a good company without good staff," Dr. Suen said. "To cultivate talent, the key is to establish a good company culture."

Dr. Suen strives to gather a group of enthusiastic people, working not solely for money, but for the company's long-term success. During the process, he has to resist opportunities with only short term benefits. This was particularly important during the early phase of the company.

用計算科技增加生產力，從而創造職位，讓年輕人願意投身這領域及持續發展。單靠購買外國高科技，永遠不能解決本地欠缺人才這根本問題。」

他在2000年創辦聯科集團，開拓根植於本土的計算科技應用。他認為科技創業有兩大方向，一是走普及應用，另一是走專業深度研究。前者因為覆蓋面廣需要雄厚資金，後者則要對各個專業的特別應用有深入了解。他選擇了專業路線，希望利用專長的計算技術與經驗，推動中國科技及企業的現代化。



The map of China in the conference room displays the locations of customers in China. 會議室內掛了一幅中國地圖，標示聯科國內客戶的所在地。

### 士不可以不弘毅

從大學教授到投身科研產業，他有長期作戰的心理準備。他引述《論語》「士不可以不弘毅，任重而道遠。」（意指：「讀書人不可以不寬宏而有毅力，要能夠挑重担，走遠路。」）來勉勵自己和同事。「弘」就是要心胸寬廣，容納不同人才，讓團隊有發展空間。而「毅」就是要有毅力，堅持奮發。聯科在成立之初短短一年多時間已取得大客戶，如為匯豐銀行建設高效迅速的金融交易平台，亦用高速計算技術為環保署分析香港污染問題等，漸漸打響名堂。

### 培育人才第一

談到創業困難之處，孫博士憶述創業之初期曾在夢境中回復學生身份上課學習。經過一段時間的實踐，他卻體驗到創辦高科技公司跟領導大學研究組其實十分相近，最重要的是培養人才。事實上，聯科業務發展一直依賴稀有的高科技人才，主要的挑戰就是招聘人才、發掘人才及培養人才。他說：「沒有好人才，便做不到好公司。要培養人才關鍵在建立一個良好的文化環境。」

孫博士希望匯集一班有心做事的人，不是純為金錢，要肯為長遠目標奮鬥。過程中，需要抗拒許多急功近利的機會，這種堅持在創業初期更是重要。他說：「公司過去十六年發展基本上穩步向前，我曾多次拒絕創投基金投資，就是不想為了有急功近利的壓力而損害公司長遠的成功。」

“In the past sixteen years, the company has been growing steadily and I had rejected investment proposals from several venture capitalists. We don't want to chase after short term benefits at the expense of the long-term success of the company,” he added.

## Market recognition of our technologies

Dr. Suen is striving to provide a high quality environment to unleash the potential of his colleagues. In recent years, the company has received many awards for its products. One of the key awards is the Hong Kong ICT Awards 2016 – Best Smart Hong Kong Award (Big Data Application) Silver Award for the software product PRISMA. It was initiated by staff who were aware of a special need of language processing in Hong Kong, a multi-cultural society, where people tend to mingle spoken Chinese with English. Dr. Suen respects all kinds of innovative ideas from colleagues and encourages his staff to explore solutions. Under his guidance, his staff developed a Knowledge Management System, combining big data analytics and natural language processing technology by advanced data modelling technology built on a high performance computing platform. This solution can help analyze customer feedback using a Text Mining Engine.

PRISMA is used by a leading telecommunication service operator in Hong Kong to efficiently handle massive amounts of customer feedback. The in-depth analytic results enable the enterprises to improve their business processes, enhance their customer services and facilitate precise decision-making procedure with the use of data. This technology revolutionizes the way organizations process text information. Successfully applying research results to industries, ClusterTech realized the goal set forth by Dr. Suen when he first founded the company – modernizing Chinese enterprises with advanced technologies.

Recognition from the market and society have strengthened Dr. Suen's belief in how his management style has positively influenced his colleagues to achieve the company mission.

## Resisting shortsightedness

Dr. Suen set the priority of ClusterTech as the building up of talents, followed by company reputation, customers and profit. He sees his colleagues as partners rather than employees. He believes it is utmost important to respect talents with different skills and characters. Teamwork is the only approach in the company. Dr. Suen persuades those who lack foresight to leave the company right away, and respects colleagues willing to stay for the long-term by giving them freedom and flexibility.

He used a key business of the company as an example – connecting massive personal computers to form a super computer to solve a large computational problem for a client. A lot of talents were needed in the process, including experts in computers, computational technologies, sales and project management. Connecting these talents to solve a problem for a customer is a huge challenge. “Our people have a very wide spectrum of expertise from technology development to sales. If our staff at different positions lack respect for each other, there would be a lot of conflicts which would directly affect our efficiency,” he emphasized.

## 人才研發技術獲市場肯定

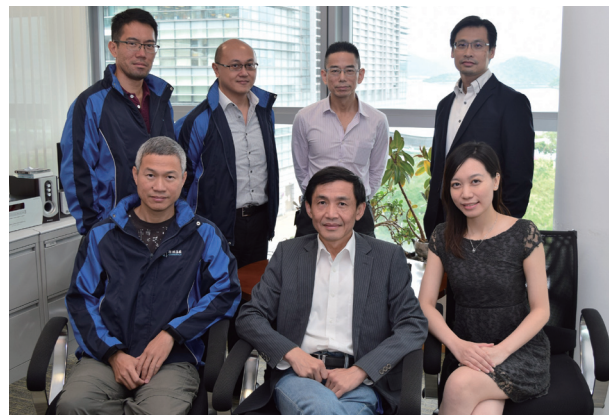
孫博士一直致力培養高科技人才，提供理想的科研環境讓同事發揮，多年來研發的產品亦獲獎無數，一個廣為人知的產品可數今年獲得的2016香港資訊及通訊科技獎——「最佳智慧香港獎—大數據應用類別」銀獎的PRISMA。這產品源自同事察覺到香港這個華洋雜處的市場，對中英夾雜和常用口語的文字挖掘有特別的需求而萌生的研發理念。對同事一切創新的意念，孫博士都非常尊重並鼓勵嘗試，在他循循善誘下，同事用先進的數據建模技術和高性能計算設備研發出一種以大數據分析結合自然語言處理（Natural Language Processing）技術的知識管理（Knowledge Management）系統，以文本挖掘（Text Mining）引擎為核心的顧客評價分析平台。

這產品亦成功為香港首屈一指的電訊服務供應商快速處理大量客戶意見數據，挖掘及分析意見數據中的關鍵信息，讓企業準確把握其客觀深入的分析結果，協助企業及時處理需要改進的地方，提升客戶服務質素，讓企業作出更精準的商業決定，改變以往人工處理文字的固有模式，促進企業現代化及計算化。能把同事科研成果融入行業應用，幫助中國企業前進，亦是孫博士一直以來的創業宏願。

市場及社會的肯定，令孫博士更確信其管理理念對同事及社會的正面作用，推動孕育科研人才的使命。

## 抵抗急功近利

孫博士強調聯科公司價值順序是人才第一，然後是商譽、客戶及利潤。他視公司同事為合作者，不是僱員，大家是一個團隊，而團隊合作是公司唯一的工作方式。他認為首要的是尊重不同技能及性格的人才。對於急功近利者，孫博士鼓勵他們盡快離開，而對願意留下為長期努力的同事，給予自由、彈性及尊重。



Dr. Suen and his team of colleagues are partners and respect each other.  
孫博士視同事為合作夥伴，互相尊重。

他以公司一個重要業務方向為例：使用大量個人電腦（PC）連接成一台超級電腦來解決大規模計算的問題。過程中涉及許多專業人才，包括電腦人才、計算科技人才、前線銷售人才、項目管理人才等，如何連貫這些不

## Guidebook for talent assessment

Dr. Suen believes the key to cultivate talent for the company is to develop self-discipline and self-motivation. ClusterTech has a twenty-nine-page guidebook of “Desired Qualities/ Abilities of our Staff”, listing what the company values in terms of the personal characters of its staff (covering sixteen traits, such as candor and long-term vision) and the professional expertise of staff in different streams: technical, business and management. These metrics are used in annual appraisals.

Dr. Suen regards the most significant index of success of the company is the happiness of the staff. “I am most delighted to hear the laughters of colleagues as results of their achievements and friendship with each other,” he said. Although some colleagues may leave the company for other careers, ClusterTech has cultivated talent in computing technology for the Chinese market.

After sixteen years of development, ClusterTech today provides advanced computing technology solutions in four directions - high performance computing, cloud computing, big data and FPGA-based computing. ClusterTech helps customers solve problems in massive data processing, large-scale computing, in-depth analysis, artificial intelligence and uninterrupted service, etc. Currently, ClusterTech provides modern computing products and services to more than 200 national-level customers and enterprises of all types.

## Cultivating talent is the key to success

To ClusterTech, the secret of success is its long term talent cultivating strategy. “Despite of the keen competition in the market, our business has been growing steadily. We believe that high-quality service is the key to solve our customers’ problems,” he pointed out. “That’s why we need devoted and engaging staff to understand our customers’ pain points in order to provide customized and cost effective solutions.”

With this belief, ClusterTech has been focusing on high quality staff to gain trust from customers and business partners.

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同專長的同事為客戶解決問題是一個重要的挑戰。他強調：「我們由技術開發到銷售，專業跨度很長。若果不同職位的同事欠缺互相尊重，過程中很容易互相指責，做成內耗，影響工作效率。」

## 精心編制人才考核手冊

對於人才養成，孫博士認為關鍵在要求同事自發和自律。聯科編制了一份共二十九頁的人才考核手冊（Desired Qualities/ Abilities of our Staff），詳列公司對同事各項人品（例如坦誠、目光長遠等十六大項）和專業才能（分為技術、商務、管理各個類別）的評審要求，作為升職的考量標準。

孫博士認為公司成功的一個重要指標就是大家的笑臉，他說：「最高興的是看到同事因工作成就而感到開心滿足，彼此之間建立友誼互信。」雖然總會有同事離開公司繼續發展事業，聯科也是為中國培養了計算科技人才。

經十多年發展，聯科集團今天為客戶提供先進計算科技解決方案，以高性能計算、雲計算、大數據和FPGA作為四大主要技術方向，為客戶解決海量數據處理、大規模計算、深度分析、人工智能、無間斷服務等多種應用問題。現在單是國家級客戶便有200多個，為各類型的企業提供現代計算科技產品和服務。

## 養成人才水到渠成

聯科集團的成功，建基於長遠的人才養成戰略。孫博士指出：「雖然競爭越來越激烈，但我們的業務也持續成長。我們深信解決客人問題不是靠工具，而是靠服務。這便需要同事熱心投入，認識客戶痛點，為客戶計算成本效益，度身訂做合適的科技解決方案。」秉持這理念，聯科集中心力做長遠有價值的事，贏得客戶、合作夥伴的信任。

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ClusterTech's conference rooms are named Candor, Openness, Frank and Straightforward to reflect its unique company culture.

聯科幾個會議室分別命名為坦誠、磊落、清心、直說，展現公司文化。