中大通訊
CUHK Newsletter

第三一一期　二零零八年一月十九日
No. 311 19 January 2008

改變扶貧模式　中大生造福山區學子
CUHK Students Bring Hope to Children in Rural China

2005年，建築學系姜藝思同學參與該系吳恩融教授發起的「無止橋」計劃，為甘肅省一條偏遠鄉村興建橋樑，這道橋不但給村民帶來渡河之便，更引領她走上扶貧的路。

一年後，她夥拍同系的嚴英傑同學，牽頭為位於廣西貧困山區的紅鄧屯興建新校舍。這個原屬他們碩士論文的項目，取名「瑤學行」。替小村落造就脫貧的機會，也贏得第十屆挑戰杯特等獎。

In 2005, Kiang Ngai-sze Karen, a student of architecture at CUHK, took part in a project by Prof. Edward Ng in the Department of Architecture to build a bridge for a remote village in China. A year later, Karen initiated her own project on the mainland, jointly with classmate Yim Ying Kit Louis.

The objective of the project 'A School to Learn' is to build new premises for Hongdeng Primary School in Hongdeng village, one of the poorest villages in the Guangxi Zhuang Autonomous Region in South-western China. Not only did this final-year project of the Master of Architecture Programme at CUHK bring hope to students in the village, it also won a Special Award at the 10th Challenge Cup.

建築學系碩士畢業生姜藝思憶述，參與無止橋計劃後，認識了香港建造業研究學會創辦人楊澍人博士。兩年前，楊博士計劃協助廣西少數民族興建學校，姜藝思及嚴英傑遂隨他往廣西一行，順道物色論文題目。

到了紅瑤族聚居的紅鄧屯，那裡綠樹青山，梯田層疊，加上村民熱情款待，民風淳樸，使人流連忘返。他們發現這個九百多人的村落，校舍非常破舊，只能容納少數學生，其餘孩子每天要徒步到數公里外的學校上課，沿途山路陡峭，險象環生。兩人便向村長建議，協助當地建校。

該村傳統的房子全部用木搭建，以古法入榫，不費一口釘或水泥，且為吊腳樓，能夠防洪，底層又可飼養家禽。他們利用所學，通過實體模型研究當地榫卯建構方式，再經過科學計算修正，設計出精簡而又具承重力的木結構模式。由籌款、選址、設計、興建，到與內地不同單位對口，事事親力親為。

嚴英傑稱：「新校舍的設計，要顧及該村的建築風格，又要運用當地現有材料。此外，還要選用簡單的興建方法，不能倚靠機器，使村民易於掌握。」姜藝思補充：「我們更教村民搭建的方法，這樣，他們將來可自行修葺或興建新建築物，不會因校舍破舊而荒廢了教育，真真正正踏上脫貧之路。」這個「授人以魚，不如授人以漁」的扶貧模式，以其務實的理念，籌得達五十多萬元的捐款。

兩人多次探訪該村，並在附近遍尋木工師傅教授入榫模式，將技術傳予村民；又四處張羅可用作材料的磚瓦及比較造價。在偏遠的地方籌建工程，人生路不熟，挑戰重重，獲益卻不少，「這次計劃讓我們把在建築學系所學的東西融會貫通，一一應用，不再是紙上談兵。我們要兼顧理論、實用性、村民需要、環境因素，以及現實限制，整個計劃經過不斷修改，才慢慢有了雛型。」嚴英傑說。

除了建校，他們也與本地其他大學生結伴到紅鄧屯，教授孩童衞生常識。去年年底已畢業的姜藝思及嚴英傑，仍會繼續「瑤學行」的計劃，預計校舍於今年暑假落成。

Karen, a graduating Master's student in architecture, had made the acquaintance of Dr. Nicolas Yeung, founder of the Construction Industry Institute–Hong Kong, through Prof. Edward Ng's project. Dr. Yeung had wanted to build a school for the Hong Yao ethnic minority in Guangxi Province, so Karen and Louis accompanied him to Hongdeng village, home to more than 900 Hong Yao people, for a visit.

Karen and Louis were stunned by the magnificence of the landscape, the terraced fields, and the villagers' hospitality. The village school, however, was dilapidated and could only accommodate very few students. Many children had to hike several hours daily along rugged mountain paths to another school miles away. Karen and Louis therefore proposed to the village head to build a new school.

The traditional houses in the village are made of wood and raised on stilts to keep them safe

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from flooding. They are constructed without nails or concrete, using traditional mortise and tenon joints. Drawing upon their architectural knowledge, Karen and Louis studied local mortise and tenon structures, made adjustments based on scientific calculations, and designed a simple wooden structure that allowed for maximum loading. They also took care of other aspects of the project, such as fund-raising, site selection, construction, and negotiation with different units.

Louis explained, 'The design took into account the traditional architectural style of the village, and made use of materials available locally. Heavy machinery was not used.' Karen added, 'The construction methods were simple. This means that the villagers can make repairs and even rebuild the school when the need arises. This is a sustainable approach to eradicating poverty.'

As the saying goes, 'Give a man a fish and you feed him for a day, but teach a man to fish and you feed him for a lifetime'. With this unique vision, they raised over HK$500,000 for the project.

Karen and Louis paid several visits to the village. They searched for carpentry masters to teach them the ancient joining technique which they, in turn, taught

the villagers. They also sourced building materials. The experience was challenging but it taught them a lot. 'We integrated our knowledge with practical needs. We took everything into consideration, including theory, practicality, villagers' needs, environmental issues, and limitations. We revised the proposal repeatedly.'

Besides building the school, the two were joined by students from other institutions in Hong Kong in teaching the children basic hygiene and sanitation. Karen and Louis graduated last year but they will stay on the project to witness the completion of the new school premises in the coming summer.

童聲稚語　迎長途客
A Long but Rewarding Journey

紅鄧屯位處廣西省偏遠山區海拔約500米的山巒上，上山的道路險峻崎嶇，車輛不能到達。由香港前往紅鄧屯，要先坐十六個半小時火車到桂林，再坐五小時公車到融水縣，然後乘三小時小型巴士到大浪鄉，最後徒步三小時，每程約花時兩天半。

由於地點偏遠，鮮有外人到訪，姜藝思及嚴英傑是首兩位到該村留宿的村外人，每次到訪都得到村民熱情招待，更視他們為解困英雄。村長說當地小孩為了與他們溝通，努力學習普通話及寫字，一年內進步神速。每次見面，小孩都會爭相把親手寫的信交給這兩位哥哥姐姐。

Hongdeng village lies 500 metres above sea level and can only be reached on foot through a long and bumpy road. It took Louis and Karen two-and-a-half days to go from Hong Kong to the village—16.5 hours by train to Guilin, five hours by coach to Rongshui County, three hours by van to Da Lang, then another three hours on foot to the village.

Visitors are rare in the remote village. Karen and Louis were the first two to stay overnight. The villagers received them warmly. The village head said the children were eager to learn Putonghua so they could communicate with the two visitors from Hong Kong.

挑戰連番　捷報頻傳
CUHK Clinches Third Regional Championship in Challenge Cup

「瑤學行」和另一中大學生作品「微型精密加工中心」，於兩年一度的「挑戰杯」全國大學生課外學術科技作品競賽中，獲得特等獎，中大更贏得「港澳優勝杯」。這是香港高等院校自1997年參加挑戰杯比賽以來，首次有院校連續三屆取得港澳地區冠軍。

第十屆「挑戰杯」於去年11月15至19日在天津南開大學舉行，有一千多所內地高校參賽，包括全國所有重點高校，另有二十多所港、澳、台和新加坡的高校參加，約900件作品入圍終審決賽。大會設有兩項特等獎，頒予港澳地區56個項目中最傑出的作品。中大的六項參賽作品，全屬中大校長杯創新比賽的優勝發明，除了囊括兩項特等獎，其餘作品亦獲得一項一等獎及三項三等獎。

各方推薦　代表出選

姜藝思表示，「瑤學行」得以代表中大出戰挑戰杯，全因得到各方人士協助。她以該項目作為建築學碩士學位課程的畢業功課，但由於規模甚大，要與同學嚴英傑合作，最後獲得導師吳恩融教授極力保薦，才可打破畢業功課須為個人撰作的規定，並以此參賽。

左起：姜藝思、嚴英傑、陳毅承
From left: Karen Kiang, Louis Yim, and Chan Ngai-ching

她續稱，在校內的校長杯比賽，即挑戰杯遴選賽中，「瑤學行」並非最突出的作品。該比賽著重創新，他們的作品卻主要是改良現有技術，應用性較高，後來因副校長鄭振耀教授、化學講座教授黃乃正教授及計算機科學與工程學講座教授梁廣錫教授舉薦，才破格獲准代表參賽。

此外，學術交流處（國內事務）特別安排教師，訓練他們普通話應對及表達技巧。建築學系的研究助理、實驗室技術員的傾力協助，以及領隊鄭振耀教授、黃乃正教授，隨隊的梁廣錫教授，都曾為他們的作品出一分力，並給予支持及鼓勵。

取得特等獎的另一項目「微型精密加工中心」，由機械與自動化工程學系碩士生陳毅承設計，是一台耗能低、體積小，並能為結構複雜的零件加工的工具，可應用於機械手表零件、半導體和外科手術探針。相對現時市場上的龐大機牀，該發明可大大節省能源，而又不降低加工微小零件所要求的精密度。

中大將於1月29日至2月4日在大學圖書館展覽館舉行「2007年學生創新創業作品展覽」，展出中大參加挑戰杯及其他創意比賽的學生作品。

The Chinese University swept top awards in the Hong Kong and Macau Cup of the 10th Challenge Cup National Competition of the Chinese College Students' Extracurricular Academic and Scientific Achievements with its projects 'A School to Learn' and 'Millimetre-Scale Turning Centre'. The cup is considered the premier biennial national competiton of extra–curricular technological projects. The University was the first institution to win the Hong Kong and Macau Cup for three years in a row, since 1997.

The 10th Challenge Cup was held at Nankai University, Tianjin, from 15 to 19 November. It attracted the participation of over 1,000 mainland institutions, including all national key institutions, and over 20 institutions from Hong Kong, Macau, Taiwan and Singapore. About 900 entries made it to the final. CUHK projects won both of the Special Awards presented to the top

「瑤學行」的設計模型
The model of 'A School to Learn'

two entries of the 56 from Hong Kong and Macau. Of the other four entries from CUHK, one received the First Award and three received the Third Award.

Karen thanked different units of CUHK for their help, and in particular, Prof. Edward Ng at the Department of Architecture who she said lobbied the department to let them submit a joint, rather than individual, final-year project. She also thanked Prof. Jack Cheng, Pro-Vice-Chancellor, Prof. Wong Nai-ching Henry, Professor of Chemistry, and Prof. Leung Kwong-sak, Professor of Computer Science and Engineering, for recommending the project to represent CUHK in the Challenge Cup.

The other project receiving a Special Award was 'Millimetre-Scale Turning Centre (MMT)', designed by Chan Ngai-ching, a Master's student in automation and computer-aided engineering. The MMT centre, despite its small size, is capable of machining miniature components with complicated features such as mechanical watch components and semi-conductors.

The University will hold an exhibition on 'Student Achievements in Innovation and Entrepreneurship Exhibition 2007' from 29 January to 4 February at the University Library Exhibition Hall to showcase the winning projects of the Challenge Cup and other innovation competitions.