



陳繁昌教授，香港科技大學校長。出身筲箕灣阿公谷。獲獎學金遠赴美國加州理工學院修讀本科及碩士課程，並在史丹福大學攻讀博士學位。曾任美國國家科學基金助理署長、美國國家科學基金助理署長、陳教授大半生尋找教研夢，對教育、科技發展、培育年輕一代亦有獨到見解。

月

初，有英文報章打着《首部港產無人車在港遇上障礙》的標題，再配以我坐在一輛無人車的照片，究竟是甚麼一回事？其實，這是科大機器人研究所在兩星期前舉辦的「機器人日」之報道。儘管作為校長公務繁忙，但我仍努力騰出時間出席當天早上的一連串講座，了解一下最新行情。

我們還邀請了來自世界各地的專家前來擔任演講嘉賓，包括首爾大學、瑞典皇家理工學院及大疆無人機智能導航技術總監楊碩（科大校友）等。此外，當日有不少機器人示範，還展示由大疆主辦的RoboMasters全國大學生機器人大賽的多項展品。臨走之際，我獲科大一名年輕教授劉明邀請，試坐由他與團隊研發的首部港產無人駕駛車。該輛無人車基本上是經過改装的高爾夫球車，前座放着電腦與其他設備，我坐在後座。翌日媒體廣泛報道，我亦為科大團隊這個研究成果感到驕傲。

無人車採用激光雷達感應（LIDAR），偵測附近範圍及判斷前面是否有障礙物，有別於Tesla所採用的光學攝像機。還記得一年前發生全球首宗無人駕駛致命意外，當時一部Tesla以自駕模式行駛，受日光影響下，系統無法偵測貨車的白色車身而導致意外。而劉明教授所用的光學雷達就能避免這些盲點，激光偵測不受光度及天氣影響。

記者朋友們都踴躍走近無人車拍照，大概是研發團隊將安全指標訂得比較高，當有人嘗試走近時，無人車就停下來。於是，我們提醒記者朋友保持安全距離後，無人車便順暢運行，我坐在車上，親身感受到無人車的穩定與算是快的車速。

之後，我跟劉明這位年輕新晉教授就機器人研究方面作交流。劉明教授今年一月才加入科大，不

機器人時代

足一年就已招收了六、七個博士生進研究團隊。他跟我說，科大在全球機器人領域享負盛名，其中一個原因當然是科大教授的傑出研究，另一個原因大概是科大的傑出校友如大疆的汪滔及雲州的張雲飛。而令我讚賞的是，這位年輕教授與研究生在短時間內研發出首部港產無人車，果然後生可畏。劉教授現與一些業界夥伴如BMW及順豐快遞合作，他還說他所帶領的博士生興趣廣泛，事業出路更非常廣闊；有些希望繼續在學術界發展，他朝晉身教授之列；有些可以到發展機器人的企業從事研究工作；愈來愈多人更希望嘗試創業。

有報道指，香港政府未有制訂政策讓無人車在路面進行實際測試，我就此向劉教授作了解，他說還未提交正式申請，這是媒體自行作查詢。

對於未有相關政策，觀乎香港政府對新科技一直採取相對謹慎保守的態度，我倒不覺出奇。Google母公司Alphabet旗下的無人車Waymo也已在美國進行多次路試，不過，香港真的還要比上海、深圳甚至長沙落後，這些城市都已能讓無人車進行路試。的確，香港要真正成為創科樞紐，除了需要一流的研究院型大學、頂尖人才及充裕資金外，政府的政策及法例配套亦相當重要，以便進行相關試驗，孕育更多創新科技，鼓勵開放創新。若然沒有政府的配合，香港成為創科樞紐的大志就真的遇上路障，面對寸步難行的局面了。囑

DRIVERLESS CART MOTORS ON AFTER HICCUP

Sophie-Hui

A local university making strides in developing driverless cars suffered an untoward glitch as yesterday's presentation.

Engineering students at the Robotics Institute of the University of Science and Technology publicly unveiled their autonomous golf cart.

The vehicle drove HKUST president Tony Chan Fan-chung, who was at the back seat, for a few minutes in a car park on the Clearwater Bay campus.

The golf cart boasts functions that include obstacle avoidance, mapping and navigation.

But during the media briefing, most of power and had to be pushed manually. It resumed driving a few minutes later.

The eight-member team of students and research assistants developed a computer and control processing unit to control the vehicle.

Two laser sensors were installed—used to map the mapping routes and the other in front of the steering wheel, which is able to detect obstacles from one to 75 meters, even in the dark.

Team supervisor Liao Ming, assistant professor in the department of electronics and computer engineering, said Hong Kong is suitable for autonomous driving in road conditions are good and drivers generally follow traffic rules.

"We believe this is the starting point for a new generation of autonomous vehicles that will have more power and enhance safety," Liao said.

The team hopes to test the technology on passenger cars. Liao said current Hong Kong laws do not allow fleets to test it on a private car, so they tried it on a golf cart.

The golf cart is powered by a battery that takes two to three hours to be fully charged. It can run at 20 kilometers an hour and for 40 to 60 kilometers before recharging.

Dr. Xiangyu, 24, a PhD student in the department that helped create the vehicle, said the team will improve the golf cart's look as well as increase its location accuracy and make it drive in reverse.

The team started the project in late August, spending less than HK\$150,000, including HK\$70,000 for the cart.

Liao said the team only spent a few weeks to assemble the vehicle, one of 11 projects showcased at yesterday's HKUST Robotics Day.

Other projects included smart manufacturing production lines, a robotic chess player and virtual personalization that can analyze a customer's personality or conduct therapy.

Michael Wang '16, director of the Robotics Institute, hopes the government can provide support, including designating areas for testing.

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