7 AVRIL 2019

FRANCE-HKUST INNOVATION HUB

SUMMARY

CAiRE
Center for Artificial Intelligence Research

ARTIFICIAL INTELLIGENCE FOR A BETTER TOMORROW?

On November, 24th, 2018, the France HKUST Innovation Hub, the HKUST Centre for Artificial Intelligence Research (CAiRE), and the HKUST Institute for Advance Studies, have welcomed the French mathematician Cédric Villani, awarded the Fields Medal in 2010, for a conference where he exposed his insights on Artificial Intelligence (AI).

The conference gathered more than 100 people and was followed by a panel discussion by **Prof. Wang Yang**, Dean of Science, HKUST, **Prof. Pascale Fung**, Director of Center for Artificial Intelligence Research (CAiRE), HKUST, **Dr. David Hanson**, Founder of Hanson Robotics and **Dr. Liu Yang**, Associate Fellow at the Leverhulme Center for the Future of Intelligence, University of Cambridge.

"ARTIFICIAL INTELLIGENCE IS FOR SURE NOT A GOOD DENOMINATION"

According to Professor Villani, the so-called "Artificial Intelligence" is not an appropriate name. These terms were first introduced during the 50's when scientists wanted to use algorithms to reproduce the human capacity to learn, and copy their behaviour. But nowadays, artificial intelligence is at a tipping point, even though current AI programs can be rather described as enhanced algorithms. They can only reproduce some tasks originally dedicated to humans. Even the most brilliant experts do not understand how AI works so far, and they are somehow at the same point as alchemists were in their time.

REVERSING USUAL METHODS

Nevertheless, the development of this new technology is a turning point for both mathematics and algorithmics. As an expert, Cédric Villani explained that we had used computer science for decades to solve equations, but AI is completely reversing these usual methods.

"In the old days, computers were designed to solve mathematical problems that we knew, such as differential equations and partial differential equations. Turing, Shannon, Von Neumann, they all dreamed of having computers to build solutions to mathematical objects. Nowadays, it is the opposite. We have created computers, but we don't know what the mathematical problem being solved is."

But we have to keep in mind that what is simple in mathematics, such as multiplication, is often complicated, related to an algorithm and also the opposite; which bring the notion of efficiency in computer science.

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A PERSONAL TRAVEL THROUGH AI

The first time Cédric Villani encountered AI was during his teenage years, in the 80s, when he read a book written by Douglas Hofstadter where he mentions Alan Turing. It raises fascinating questions such as what is reasoning, what is self-conscience, what is a process that is self-referring? Several years later, he built a software coded in Lisp (a programming language mostly use in AI software) with his friends, and a professor at the Ecole Normale Supérieure, which aimed to identify the rhythm of music. However, AI was not a trendy topic in the 90ˢ when he started his career, except for researchers who wanted to understand cognitive processes. This stayed as a single project before he decided to study mathematics, applied to physics.

A few years later, one of Cédric Villani's students told him that he wanted to pursue AI. Villani tried to dissuade him because it wasn't a promising subject at the time. He later received an invitation to a conference in machine learning.

"I thought, what is this? Is it a mistake? I don't know anything about machine learning, the heart of artificial intelligence. I asked my friend if he understands why they invited me. We discussed, and he told me: they invited you because the kind of maths that you have been doing is now very helpful in AI."

AI IS NOW A POLITICAL PRIORITY

A few years ago, AI was a research area like any other, but things have changed recently. In the past couple of years, many papers have been published, especially in China and the US, and the rest of the world is wondering how to stand not to be forgotten in this new deal. It is now a priority for all governments around the world, which is the reason Cédric Villani was commissioned by the French President to study all aspects of AI (scientific, social, economic). The mathematician has written a global report on France's strategy within 6 months, with the participation of 3 specialists of a social science background, and 3 in hard sciences, including Marc Schoenauer from INRIA. This report can be summarised in 3 keywords:

1) **Experimentation**: As there is no valid theory on AI yet, the only possible way of development is empirical
2) **Hearing**: It is a subject in which you can progress by sharing data
3) **Sovereignty**: Technologies and practices we do not want will not be imposed on us

The French government is looking for allies, first and foremost at the European level, for reasons of scale and economic size. France cannot stand up to international competition alone. There will be undoubtedly collaborations with other continents, but the alliance at the European level will remain the priority.

F. Bretar, D. Hanson, A. Cohen, C. Villani, P. Fung, Y. Liu, J. Salençon

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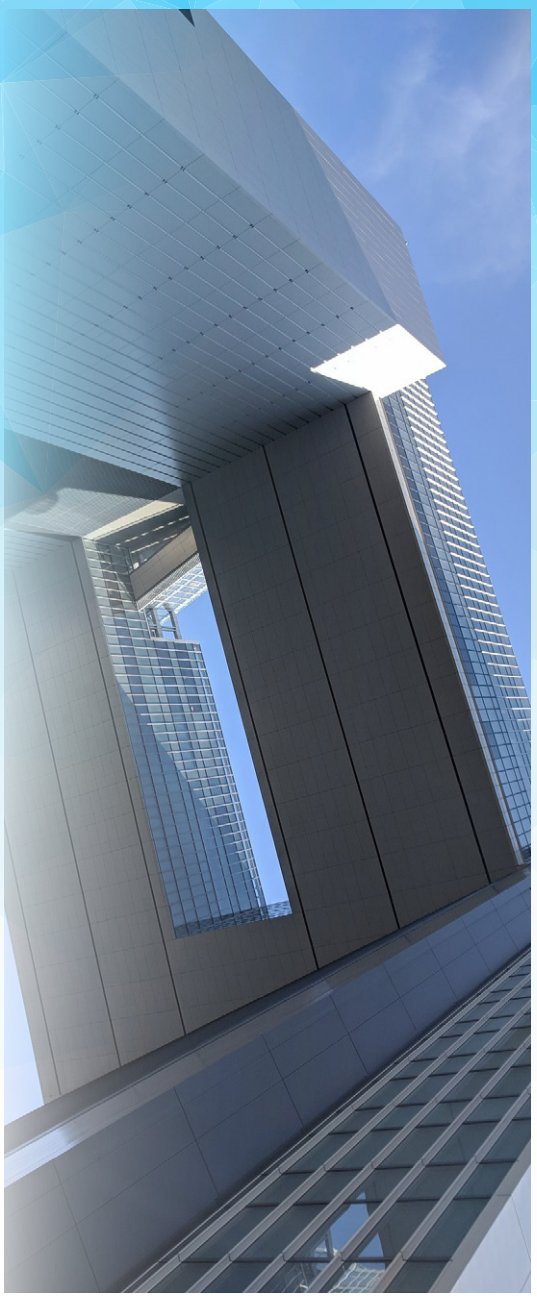

INTERVIEW

ENAC
ECOLE NATIONALE DE L'AVIATION CIVILE

ZHANG YIMING

MASTER'S STUDENT OF THE FRANCE HKUST IATOM PROGRAM

Mr. Zhang Yiming was a student of the Master of Science in Aerospace - International Air Transport Operations Management (MSc IATOM) program in 2018.

IATOM is a two-year degree accredited by the French Ministry of Education for students who hold a Bachelor's degree in a relevant subject. Located in Toulouse, a major centre for science and technology and the European aviation capital, ENAC is a gateway to air transport worldwide, and recognized by ICAO and major civil aviation organizations as one of the world's leading air transport educational institutions.

The MSc IATOM is designed to emphasize the application of up-to-date engineering and management concepts or methods in the aeronautical and aviation industry. The full-time two-year Master IATOM aims at providing the technical and management expertise necessary for a future manager in an international company. The Master IATOM provides graduates with in-depth knowledge in aeronautical engineering, aeronautical project management and technology management. This meets the demands of the aeronautical industry for innovative engineers needed to strengthen and develop their businesses.

WHAT LED YOU TO CHOOSE YOUR FIELD OR MAJOR?

I am currently studying the Civil Aircraft Certification in Operations and Maintenance Management. The most important reason for choosing this major is my full passion towards the aviation industry. I have been a fan of air vehicles since I was a little child. The second consideration is the fast-growing global market of air transport. All related businesses, from air vehicles manufacturing, operations to technical support services, will provide a large number of opportunities to me. Recently, the Hong Kong government emphasized the important role of civil air transport and set a long-term strategy to develop the advanced training system to satisfy the demand of aviation professionals. I believe the future development of the civil aviation industry in Hong Kong will be flourishing.

WHY DID YOU CHOOSE TO STUDY AT ENAC?

ENAC is one of the Grandes Écoles in France, which represents the highest level of education. In the civil aviation field, ENAC is an outstanding school throughout the whole of Europe. The school is located in Toulouse, which is the 'capital of aeronautics and aerospace of Europe'. The headquarters of the Airbus group is also in this city. Therefore, there are plenty of opportunities to learn from and to also communicate with aviation experts during the programme; this will absolutely benefit my future career.

WHAT ARE THE MAIN DIFFERENCES BETWEEN YOUR LIFESTYLE AND EDUCATION IN FRANCE AND HONG KONG?

For the lifestyle, I have to say that there are some huge differences between France and Hong Kong. The pace of life in Hong Kong is extremely high, and the efficiency is always the first priority. Work is the majority of daily life for most people in Hong Kong. While in France, people focus more on the quality of life. 'En vacances' mode appears much more frequently in daily life compared to Hong Kong. There are always many people sitting outside in cafés to have a chat, drink coffee and enjoy the sunshine in the afternoon.

For the education, in my opinion, the universities in Hong Kong focus more on the academic knowledge and all-round development (many soft skills) of students. While, in France, especially in engineering schools, the school focuses more on teaching students practical and professional techniques. There will be more industry exposure and real application for students. The half-year internship in related industries required

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by French engineering schools is really a valuable chance to gain some professional experience before graduation. For me, I am currently doing my internship in an airship manufacturer in Paris. The working content is closely related to what I learned from school.

HOW WILL YOUR CAREER BENEFIT OF THIS DOUBLE DIPLOMA?

As I said before, the education systems in Hong Kong and France have their own advantages. Just like my double Master's degree provided by HKUST and ENAC, I have learned quite a lot of advanced engineering theories and developed many soft skills in Hong Kong, followed by my time in France to obtain more practical knowledge and professional experience.

Apart from studying, the combination of French advanced aviation technologies and the booming air transport market in China will definitely add value to this joint program. Therefore, I consider that this double diploma will not only improve my knowledge and skills, but also broaden my professional network and the horizon for the global aviation market.

NOVELTIES FOR THE 2019 PROMOTION!

From January 2019, 15 students of Chinese, Indian and Thai nationality will stay in Toulouse for two semesters at ENAC. One year of student life in France requires cultural adaptation and basic communication skills to live on a campus where the dominant language is French. Thus, ENAC offers, on arrival, a welcome and language training of French as a foreign language. The organisers of the IATOM Master's program have asked the **Alliance Française** to reinforce this preparation.

This **«Taste of French»** course, conducted in both English and French, has several theoretical and practical objectives: to grasp the critical elements of intercultural competence, to understand the concepts of culture(s), to question the notions of stereotypes. Besides, the training offers topics on the daily life of an international student in France, the city of Toulouse, the Rangueil campus, and presents many practical details that will facilitate their adjustment to France. Twelve hours of training also made it possible to tackle the first steps of level A1.1 in French. During the last hour, the Alliance Française ended with a culinary touch: a tasting of wine and cheese to discover the food culture and conclude with a typical French way of life.

香港科技大學
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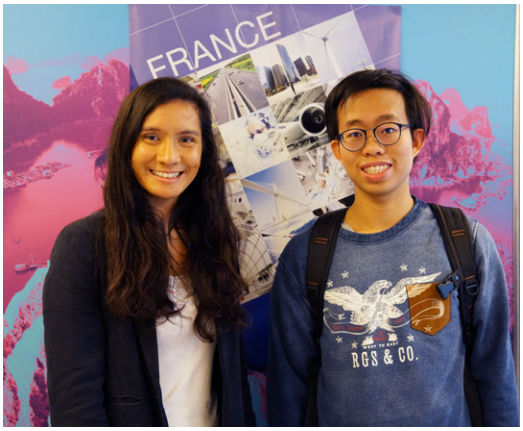
CAMPUS FRANCE
campusfrance.org HONG KONG

CAMPUS FRANCE-HONG KONG AT HKUST'S STUDY ABROAD FAIR 2019

From March 20th – 21st, 2019, the HKUST Office of Global Learning held its bi-annual HKUST Study Abroad Fair on campus. Counters were set up for students to meet and greet representatives to learn more about different institutions and countries they could go to on exchange. Students at HKUST were able to have their curiosities satisfied by approaching different representatives to learn more about their study abroad opportunities.

As part of the occasion, Campus France Hong Kong had the pleasure of receiving up to 700 registered students on March 20th as part of their exhibition on 'Programmes in Europe'. Whether students were new to opportunities in France, were already planning on going to France, or had already been on exchange to France, discussions were held which demonstrated the growing intrigue students in Hong Kong have towards the attractivity of France and French education. As described by Tim Wong, a 3rd Year Electronic and Computer Engineering student from HKUST, *"France has a strong historical background, and I am really interested in experiencing a culture different from my own in Hong Kong."*



Ms. Yasmin Chafra, Head of Campus France – Hong Kong office (left) and Mr. Tim Wong – Engineering student at HKUST (right) following discussions at the Study Abroad Fair

"I went on exchange to SKEMA Business School as part of my degree at HKUST. Lille is a very nice city with a very young and friendly dynamic. The people were very welcoming to diversity. It made me want to go back to France to explore more of what it has to offer. I'll be starting a Master's in Management in Business Management at EDHEC next semester. My plan is to stay behind and work in France after I graduate,"
- Tony Man To Ip, HKUST, Year 4 BBA in Operations Management -

Mr. Vincent de Brix – Scientific Officer, HKUST (left) and Mr. Tony Man To Ip – BBA student at HKUST (right)

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Whilst enquiries regarding business schools in France remained popular, interest was peaked in discovering more about programmes in aerospace engineering, mathematics, science and economics. It was even more motivating to discover that students who had previously visited Campus France Hong Kong came back to keep us updated on their confirmed future study plans in France.

"My decision to pursue a Master's degree at Ecole Nationale de l'Aviation Civile (ENAC) next semester is influenced by the institution's strong industry connections, and how they combine the teaching of engineering and management. I'll also be able to study entirely in English and learn French, too!"
- Benny, Tsz Ho Wong, HKUST, Year 4 Aerospace Engineering -

In order to put dreams of choosing France as a higher education destination into reality, students in Hong Kong have the option of consulting in Campus France, the national agency for the promotion of higher education, international student services and international mobility. With 255 Campus France offices and branches in 124 countries worldwide, Campus France Hong Kong, as part of the Department of Culture, Education and Science (SCAC) at the Consulate General of France in Hong Kong and Macau provides information on programmes that exist in France, helps students develop their goals, and accomplish the administrative procedures required in making their time in France happen.

Information is not only provided for programmes taught in French, but also the 1400+ programmes taught in English as part of full-time degrees and short-term courses. Campus France Hong Kong participates in fairs and talks to engage with students and parents in Hong Kong and Macau. Moreover, complimentary and personalized consultation sessions for students are also arranged to provide in-depth guidance on finding the perfect path and plan for student's future endeavours in France. Lastly, an all-inclusive France Alumni network is managed to allow those who have completed their studies in France to connect back with an extensive, global network of individuals and businesses who have ties to France.

Ms. Rachel Yan - Assistant Manager of the Office of Global Learning at HKUST (left) with Ms. Yasmin Chafra – Head of Campus France – Hong Kong Office (right).

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SPOTLIGHT ON

ALEXANDRE YERSIN SCHOLARSHIP

For the 20th consecutive year, the Consulate General of France in Hong Kong and Macau offers scholarships for excellence to Master students. This scheme for Hong Kong and Macau residents provides €660/month, social welfare, public liability and repatriation insurance, accommodation help, a social and cultural activities guide, and - 50% off for Intensive French classes at the Alliance Française before departure.

FOR THIS EDITION, THE DEADLINE FOR APPLICATIONS IS APRIL 30TH, 2019

HUBERT CURIEN PARTNERSHIP
THE PROCORE SCHEME

The Hubert Curien program (PHC), "Procore", has been developed by the French Ministry of Foreign affairs, with the support of the French Ministry of National Education, Higher Education and Research as well as the Hong Kong Research Grant Council (RGC). Its objective is to foster collaborations in science and technology between France and Hong Kong in all areas including the social sciences.
This program covers the costs of transportation and accommodation for researchers, the organization fees of bilateral workshops.

FOR THIS EDITION, THE DEADLINE FOR APPLICATIONS IS JULY 5TH, 2019

CentraleSupélec université PARIS-SACLAY

CENTRALESUPÉLEC SUMMER SCHOOL PROGRAMME

CentraleSupélec is launching its Summer School Programme. The programme takes place in the first two weeks of July and offers two academic tracks in Artificial Intelligence and Industry 4.0.

The initiative is intended for 3rd and 4th year bachelor students enrolled in an Engineering or Science degree programme. Each intensive course is fully taught in English and comprises 35 hours of lectures and tutorials led by professors from CentraleSupélec. The school in Industry 4.0 will also include selected lectures by professors from Ecole Normale Supérieure Paris-Saclay. Both schools will feature team projects and conferences run by international guest speakers. The courses will provide a unique opportunity to learn about the latest developments in the fields of AI and industrial innovation, collaborate with peers from all over the world, and get a taste of CentraleSupélec's academic excellence.

In addition to attending classes and lectures, participants will get the chance to tour Paris with a professional guide and see some of its most renowned tourist spots. They will also visit some research and industrial facilities located in the fast-growing Paris-Saclay industrial and technological cluster, sometimes called the "French Silicon Valley"

APPLICATION DEADLINE: 27 MAY 2019
TUITION FEES: €1,800