



香港中文大學理學院

FACULTY OF SCIENCE

THE CHINESE UNIVERSITY OF HONG KONG

Physics

SURE

Summer Undergraduate Research
Exchange Program

OPUS

Overseas Program for
Undergraduate Students

STAR

Summer Teacher AppRenticeship

Internship & Placement Programs

2000 - present



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SURE

Summer Undergraduate Research Exchange Program

Since 2000, CUHK Physics has been organizing SURE to support students to carry out summer research projects in top overseas research groups, in areas such as particle physics, biological physics, condensed matter physics, and astrophysics.



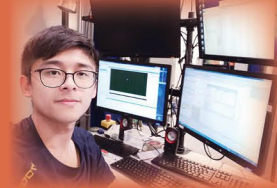
BOYKO, Alena 2019 SURE: Brown University

"The training program has been an invaluable experience to me: not only I had the opportunity to learn how to use new software and apply it towards achieving the project objectives, but also I was provided with comprehensive guidance and advice throughout the program duration. The training program has not only equipped me with practical skills and exposure to the frontier research in condensed matter, but also gave me a better understanding of modern physics research perspectives. Besides, I have learned more about US history, in particular during visits to Boston and Plymouth. I am immensely grateful to Prof. Xiao and Physics Department of Brown University for all the support I have received during my stay."

CHEUNG Cheuk Kit 2019 SURE: University of Twente

"Adapting to a slow pace of life was my first challenge when I just came to the Netherlands. Unlike Hong Kong, taking rest is really essential to Dutch people who never think it as laziness. When they work, they spend all their effort and passion on it. Nonetheless, they never hesitate to pause their work and take a rest. Comparing to Hong Kong, their working hours is much shorter. All shops and restaurants seldom keep open for more than eight hours, usually six only, but it does not mean they are lazy. In fact, I can always feel their passion for their jobs.

After living in the Netherlands for a month, I learn how necessary to maintain a work-life balance. Long working hours will only turn work to shackles, which exhaust all of our passion for work. Indeed, it is very unhealthy when most of the people in society hate their jobs."



LAI Chun Ming 2019 SURE: Oxford University

"Oxford is a city blended with historical structures and academic atmosphere. It was indeed a precious time to collaborate with professionals and take the opportunity to present my thoughts clearly to them in such an environment. Especially when I could realize that being pioneer in a project is a long journey as every minor error could significantly affect the progress of the project."

LAU Ho Chun 2019 SURE: CERN

"CERN internship is a treasureable research experience that definitely broadens my horizon. In this year there are around 300 students all over the world that participated in this program. Varieties of cultures made a lot of interesting conversation and sharing on both Physics research and lifestyle, also enjoyable traveling experience. The lectures provided by CERN are designed to be self-containing and inspiring that a student who is not majoring in Physics would understand the key concepts and the whole pictures, also Physics major students would understand those engineering design and algorithms with ease.

My task is to do a "full" data analysis with data from CMS (one of the detectors in LHC). Guided by my very nice supervisor, first I finished the Monopole production event Monte Carlo (MC) simulation, then put the MC event into detector simulator to simulate the response and finally did a reconstruction to get the details to be analyzed. Although the final results required a lot of improvements, I have learnt a lot about experimental particle physics research which I found was inaccessible by undergraduates before. I strongly suggest those who are interested in particle physics to participate in the CERN internship."



LEUNG Kwing Lam 2019 SURE: CERN

"This program gives me a chance to concentrate on doing research in successive days without worrying other workloads. This helps to improve the understanding in the field a lot. I have learned a lot about simulation and detectors for high energy physics in my collaboration with the research group."

SIEW Rui-Xian 2019 SURE: Brown University

"In this exchange program I learned about different tools used to study supersymmetry, such as adinkra and vector fields, in the wonderful Summer Student Theoretical Physics Research Session (SSTPRS) lecture series delivered by Professor Jim Gates and his PhD students. Moreover, I am also lucky enough to have a chance to lead a team working on a group project. It was an extremely fruitful experience for me as an aspiring theoretical physicist, and I highly recommend it to anyone who is interested in theoretical high energy physics."



YIP Hoi Tung

2019 SURE: Center for Computational Astrophysics (CCA), Flatiron Institute

"Apart from researching, I have attended many talks by visiting scholars at the Flatiron Institute. I better understood the institute's mission as a scientific hub when I always hear the exchanging of ideas among the speakers and the audience after the talks. I learnt that communication is fundamentally important in science to make collaboration work beneficially."

ZHOU Rongzi 2019 SURE: University of Toronto

"I feel so fortunate and honored that I have the opportunity to work in the lattice lab for laser cooling equipment at the University of Toronto. I worked with many researchers, and all these helped me to learn quickly even from the first day. Outside lab time, I hung out with friends whom I met there. Places like the Niagara Falls show me how wonderful our earth is."



OPUS

Overseas Program for Undergraduate Students

Students joining OPUS are supported financially to study in renowned universities for one semester. They also take up summer research in a related field.



JIANG Yue

2019 OPUS: University of California, Berkeley

"I was strongly influenced by the motivating environment in Berkeley. Students are highly involved in lecture, eager to ask questions and go to office hours. Besides, most of the students are affiliated with a research group, and they include research work as part of their university life."

LYU Liuke

2019 OPUS: University of California, Berkeley

"My experience at UC Berkeley is about two things, one with nature where I get to explore the fascinating new field of Biophysics, the other with culture where I connect with friends despite all the differences we have as individuals."



XIAO Xiao

2019 OPUS: University of California, Berkeley

"It was great to study at UC Berkeley and have the opportunity of working in Prof. Wang's lab. It's a place consisting of excellent students with passion in their work and full of support between each other."



Alumni

Some of the SURE and OPUS alumni who had benefited from the research experience in the programs in their careers or future study

LAM Kin Lok

2000 SURE:
University of Chicago

Where now:
Financial analyst,
Chicago



LEE Hiu Ching

2004 SURE:
Michigan State University

Where now:
Assistant Professor, The
University of Hong Kong



LEUNG Ming Lam

2001 SURE:
University of Illinois at
Urbana-Champaign

Where now:
IT Engineer



CHAN Kwok Yan

2006-2007 OPUS:
University of California,
Berkeley

Where now:
Financial Analyst,
Chicago



CHOI Kit Yan

2008-2009 OPUS:
University of California,
Berkeley

Where now:
Data Science, New York



PO Hoi Chun

2010-2011 OPUS:
University of California, Berkeley

Where now:
Postdoc, MIT



STAR

Summer Teacher AppRenticeship

Students work as teachers' aides in a secondary school to prepare teaching materials, hold tutorial classes and laboratory sessions and organize extra-curricular activities.

LAU Wing Hin 2019 STAR: Christ College (CCST)

"Numerous works have been done and infinitely many things about being a high school teacher have been taught during the program. I am grateful to my supervisor Mr. Wong, who gave me lots of work to do. I spent my whole 2019 summer time at CCST, arriving at 8am, leaving at almost 7pm every single day. I can really tell the difficulty and how much effort my high school teachers have done for me. To be honest, I am not complaining. If Mr. Wong did not let me realize the truth of a teacher's life, I would say we have both wasted our precious time. Still working after sunset doesn't mean this is an exhausting job once you realize the joy of teaching."



MAK Lok-Wai 2019 STAR: S. K. H. St. Benedict's School

"The STAR programme has been very fruitful and rewarding. It has enabled me to gain a deeper understanding of what becoming a secondary school teacher (a physics teacher, in particular) is like. During the apprenticeship, I have been offered the opportunity to conduct supplementary lessons and even part of a formal lesson for Form 4 physics students, in addition to preparing lesson materials. I have also had the chance to assist in an extra-curricular activity group involving STEM education. I have enjoyed spending time building robots, programming and participating in a STEM competition with the students. Above all, the teachers and the students there have all been very kind and warm-hearted. Thus, I have benefited a lot in this STAR programme."

WANG Cheuk Yeung 2019 STAR: Christian & Missionary Alliance Sun Kei Secondary School

"For the first half (before the summer holidays), I mainly dealt with non-teaching related activities: administrative work, exam invigilation and class observations. These are the daily routines of a school teachers, but can sometimes be overlooked, so I certainly gained some invaluable experience.

The second half of my stay was where the main action began, when I was put in charge of two F4 classes, two F5 classes and one junior form Olympiad class. I enjoyed teaching the students immensely, as most of them came back to school with the desire to revise and consolidate their knowledge of physics in preparation for the DSE (or in the case of the Olympiad class, to further their existing knowledge of science). We mostly finished past paper questions together. In order to keep their minds focused, I have found that not only should I give them breaks occasionally, but that I can sometimes break the existing mould and give them some fun daily-life physics problems. As a film buff, I found great joy in adding some questions about the physics in movies to not just maintain their interests, but also to remind them that physics is leaps and bounds beyond something only in textbooks – physics is something we can apply to every facet of our lives, from as small to atoms, to as mundane as our daily routines, to as far as the stars themselves."



WONG Si Ching 2019 STAR: Immaculate Heart of Mary College

"It was a fruitful and rewarding experience and I have explored and gained valuable insight in different aspects in the education sector. During the internship, I had chances to teach summer supplementary classes, to participate and coordinate in different events inside or outside school such as organizing STEM activities and competitions, also to prepare teaching materials like video recordings and making notes for classes, each part has a lot of aspects to learn. I was able to obtain useful advice and guidance from my supervisor, who definitely has helped improve my teaching skills in different areas and allow me to make progress and perform better in the future."

Internship & Placement Programs

Students work as student interns in the Hong Kong Space Museum to organize popular sciences activities to the public and carry research on various topics in ancient Chinese astronomy or in Pearson Hong Kong to assist in the editorial tasks of Physics, Science, Computer textbooks. The internship lasts for a summer semester.

LAM Wai Chung

2019 Summer Internship in Pearson

"I am glad to have a chance to work in Pearson Education Asia Limited, I had learnt a lot from the internship job. For example, I understood how an education publishing house work and the structure of the company. Also I learnt how to handle different documents and work under stress. It was a nice experience for me!"



WONG Shu

2019 Summer Internship in Pearson

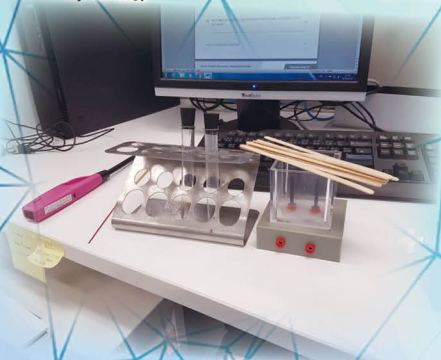
"From June to August, I worked as an assistant content developer in product development - science department. My main mission was to sort questions from HKDSE and overseas exam physics past paper by topics. To finish it quickly, I learned a lot of shortcut keys from computers from my superior Mr Ngan. Also, I was appointed to construct mock exam questions. This was a chance to investigate the flow of public exams. Sometimes I would cooperate with other workmates in taking videos. They are quiet during working but friendly. Overall, I was glad to work at Pearson."



YIP Chun Ming

2019 Summer Internship in Pearson

"The assistant content developer in Pearson is the first internship program that I have joined. After the internship, I realize that lots of work have to do in order to provide a set of teaching materials. In Pearson, I helped prepare accessories resources for teachers and students. I am surprised that I was asked to conduct experiments mentioned in textbooks. Once, I went to a laboratory and conducted experiments under a camera. It was amazing that I could do these kinds of important task. Working in Pearson is an unforgettable memory for me."



LAU Tsz Yan

2019 Summer Internship in the HK Space Museum

"The experience I had while working as an intern at the Hong Kong Space Museum (HKSpM) was so fascinating. Thanks to my supervisor Prince, he gave me many opportunities to try different aspect of work. I joined the School Program Unit which was more focused on event and activities. This year is the 50th anniversary of moon landing and also the 100th anniversary of the International Astronomical Union (IAU), HKSpM has organised various events to celebrate and so they offer me a lot of chance to participate in or assist those functions. For example, I designed the talk that is held on the moon landing LEGO workshop and be a master of ceremony in the exhibition open ceremony. Also, I have the chance to assist the public stargazing camp and Young Astronaut Training Camp. The Young Astronaut Training Camp has impressed me so much. I was familiar with those participants and I was just like a sister who looks after them."

