DEPARTMENT OF MATHEMATICS

The 19th Epsilon Fund Award to Top Students

The Epsilon Fund Award was established in 2006 with donations from faculty of the Department of Mathematics, and from the departmental fund to honor excellent students: undergraduates and postgraduates who excel in mathematical scholarship and research. One hundred and sixty-one students have been awarded since its establishment. This year eleven students receive the award while nine students obtain honourable mention. Each of them possesses a very high cumulative grade average, especially in mathematics subjects, and some have received multiple graduate program offers from famous universities.

Eleven Mathematics students receive the Epsilon Fund Award

Two postgraduates:

1. Yang CAO (Year 5; PhD)

曹 阳: 五年級哲學博士(數學)研究生

A research student of Professor Yuan YAO, Yang is pursuing the Doctor of Philosophy in Mathematics degree. He has achieved excellently in research undertakings and is highly commended by Professor Yao. "Yang is the best student I have supervised in HKUST-Math, who did fundamental research on generalizing Barber-Candès' classical knockoff method to handle transformational False Discovery Rate (FDR) control (including the TV-variational FDR which is well known in image analysis in applied math)". His work appeared in two top



statistical journals, one in *Journal of the Royal Statistical Society: Series B*, and another one in *Journal of the American Statistical Association*. He received the HKUST RedBird Academic Excellence Award for Continuing PhD Students twice in 2021-2022 and 2022-23. Yang's tip for academic excellence is "Never be afraid of failure and remain steadfast in pursuing a valuable direction. I think these are important keys for academic accomplishments. Sometimes, it may simply be a matter of luck that determines success". For his outstanding research outcomes, he will soon be a Postdoctoral Fellow at Yale University in the Department of Statistics and Data Science after his graduation.

2. Junyi FAN (Year 4; PhD)

范 峻 逸: 四年級哲學博士(數學)研究生

Junyi won the Hong Kong PhD Fellowship Scheme (HKPFS) in 2020 and was admitted to the Department of Mathematics at HKUST pursuing the Doctor of Philosophy Degree under the supervision of Professor Jianfeng CAI. He has done superbly in his research work and career pursuits. He received the HKUST RedBird Academic Excellence Award for Continuing PhD Students in 2023-24. "Junyi's research interests are on designing effective algorithms in solving nonconvex problems in real life applications including medical physics, game theory and



distributionally robust optimization. He made important contributions to minimum-monitor-unit optimization of designing dose distributions in proton therapy, function approximation in game theory and constrained optimization in manifold. His work has been published on journal Physics in Medicine and Biology and accepted by conferences like AISTATS and ICML." said Professor Cai. Junyi will join Huawei Technologies Co Ltd as a researcher after he graduates from HKUST.

Nine undergraduates:

3. Chun SZETO (Year 4; IRE)

司 徒 進: 四年級理學士(數學)- 國際科研本科生

Chun was the 17th Epsilon Fund Awardee previously. He is our final-year student pursuing the elite IRE (International Research Enrichment) program. Achieving academic excellence, Chun was presented with the Admission Scholarship, the University Scholarship and the Chern Class Scholarship. Professor Tianling JIN has been Chun's supervisor. He is impressed by Chun's exceptional proficiency and dedication in research. "During the Fall semester, he engaged with Gutiérrez's seminal book on Monge-Ampère equations. He successfully completed

presentations exploring the cross-sections of solutions for these equations and has effectively presented on Caffarelli's work concerning strict convexity and $C^{a,alpha}$ regularity results. This semester, he has been studying the advanced convex integration techniques, further showcasing his ability to grasp and articulate complex mathematical concepts, "commented by Prof. Jin. Chun will pursue the Math PhD program at Columbia University and was also awarded the prestigious Croucher Scholarship for Doctoral Studies.

4. Pak Ho MAK (Year 4; MAEC)

麥 栢 豪: 四年級理學士(數學與經濟)本科生

Pak Ho is a final-year student doing double majors. The Bachelor of Science Degree in Mathematics and Economics is his primary major program of study, and the Bachelor of Science Degree in Computer Science is his second major. Pak Ho obtains grade A/A+ in sixteen mathematics courses. He performs incredibly fabulous by achieving a cumulative grade average

over point 4.0 for all semesters. He is awarded the University Admission Scholarship and the AIA. He also receives the Dean's List award almost every semester. Pak Ho particularly enjoys studying MATH4427 (Loss Models and their applications) and MATH4512 (Fundamentals of Mathematical Finance) with both taught by Prof. Chi Man "Ask questions immediately when encounter something not understand. Don't let them LEUNG. accumulate. Try to re-structure the knowledge and connect different parts using my own understanding." This is the advice given by Pak Ho on achieving academic excellence.

5. Hyungmin LIM (Year 4; DSCT)

四年級理學士(數據科學與技術)本科生

Hyungmin is in his final year pursuing the Bachelor of Science in Data Science and Technology. He is also taking a second major program in Computer Science. With his outstanding academic results, Hyungmin has been awarded the University's Scholarship Scheme for Continuing Undergraduate Students, CMB Wing Lung Bank Scholarship and the Joseph Lau Luen Hung Charitable Trust Scholarship. Among the attempted mathematics courses, Hyungmin enjoys

studying statistics related courses, such as MATH3424 (Regression Analysis) and MATH4425 (Introductory Time Series) because he had a lot of fun studying blockchain and artificial intelligence. Hyungmin opines that being conscious about every course that we are learning is crucial if we talk about the numbers and the CGA. However, what is more important than maintaining the CGA is finding your passion. If you have time and effort to do so, try taking many courses outside the curriculum.

6. Zian XU (Year 4; DSCT)

徐子安:四年級理學士(數據科學與技術)本科生

Zian is now pursuing her final-year study in the program of Bachelor of Sciences Degree in Data Science and Technology. Zian obtains grade A/A+ in almost all mathematics and computer science courses. She received the Chern Class Talent Scholarship, HKSAR Government Scholarship Fund - Reaching Out Award and University Scholarships. Zian enjoys studying MATH4432 (Statistical Machine Learning) the most because by learning the mathematical

theories behind machine learning, she can better understand the reasoning behind each step I take in the process. Zian's advice on achieving academic excellence is to work through the concepts multiple times and apply them to different scenarios. This can help us develop a stronger intuition and understanding for how they work and how they can be used. After graduation, Zian will pursue the Master of Science in Data Science at Columbia University.









7. Ruida WANG (Year 4; DSCT)

王 瑞 达: 四年級理學士(數據科學與技術)本科生

Ruida is our final-year student taking dual major programs. He is now pursuing the program of Bachelor of Sciences Degree in Data Science and Technology as his first major, and the Computer Science as his second major. He was awarded the HKSAR Government Scholarship Fund - Talent Development Scholarship, the University Scholarship Scheme for Continuing Undergraduate Students, the Dean's List Award, Lee Hysan Foundation Exchange Scholarship and Ng Hong

Mun Educational Foundation Outstanding Student Scholarship. He also won the UROP Award Second Runner-up in 2022-23. Among the eleven mathematics courses of A/A+, he enjoys the MATH honor courses series for analysis the most. "These honor courses are well designed, well organized, and well taught. I believe if you can go through this series, your understanding of mathematics will certainly up level. Also, its usage is not limited to mathematics, the fundamental ideas and the ability to think logically of these courses also help me a lot." said Ruida. After his graduation from HKUST, he will begin his CS Ph.D. at University of Wisconsin–Madison. He also gets offers from ETH Zurich and the University of Melbourne.

8. Xiao FANG (Year 4; COSC)

方 筱:四年級理學士(計算機科學)本科生

Xiao is doing double majors in his year-four study. He is now pursuing the program of Bachelor of Sciences in Computer Science, and also the Bachelor of Science (Mathematics) Degree in General Mathematics Track. With outstanding academic results, Xiao has been awarded the University's Scholarship Scheme for Continuing Undergraduate Students, Lee Hysan Foundation Exchange Scholarships and HKSAR Government Scholarship Fund - Reaching Out

Award. He also receives the Dean's List award every semester. Xiao gets remarkably good results for his mathematics and computer science courses. Among such thirteen mathematics courses of grade A/A+, he enjoys MATH4432 (Statistical Machine Learning) the most because Professor Can YANG's explains why machine learning algorithms could work in theory. "Understand the concepts and always keep a positive mindset" is Xiao's tips in achieving academic excellence. After graduation, he will pursue Master of Robotics in Carnegie Mellon University. He also receives offers from the University of Texas at Austin and the University of California San Diego.

9. Ho Nam WONG (Year 3; COSC)

黃浩楠:三年級理學士(計算機科學)本科生

Ho Nam is a third-year student pursuing the program of Bachelor of Sciences in Computer Science as his first major and the Bachelor of Science (Mathematics) Degree in General Mathematics Track is his second major. Being an outstanding student, he has got A/A+ in eleven mathematics courses. He is the awardee of the Dean's List Award, University Scholarships, Chern Class Scholarship, Chern Class Talent Scholarships and the HKSAR Government Scholarship. Ho Nam is fond of undertaking research work. He has a non-first-author paper

accepted to top conference in machine learning (International Conference on Learning Representation) and attended the conference in Vienna. He enjoys MATH3043 (Honors Real Analysis) the most as it serves as the foundation of probability and statistical theories. Ho Nam's belief for academic success is to be enthusiastic about the subject you study, get the intuition and "flow" behind the concepts and understand the motivations of introducing the theorems.

10. Yan Ho CHIU (Year 3; IRE)

趙 恩 浩 : 三年級理學士(數學)- 國際科研本科生

Yan Ho is our third year student pursuing the elite IRE (International Research Enrichment) program. He was awarded the Dean's List award, the Chern Class Scholarship, the University's Scholarship Scheme for Continuing Undergraduate Students, the Fung Scholarship, and the Cathay Pacific Education Abroad Scholarship. Additionally, he won the Second Runner-up in the junior group of the 8th HKUST UG MATH Competition. Yan Ho has obtained all grades A/A+ among 17 mathematics courses he has taken before, and three of which are of postgraduate level.

He enjoys studying MATH5111 (Advanced Algebra I) and MATH5251 (Algebraic Geometry I) the most as they introduce many interesting algebraic perspectives for studying problems in modern mathematics. "It is important to understand abstract concepts and work on various examples. It is also a good idea to seek help from friends, especially those who excel in the topic," advised by Yan Ho to achieve excellence in Mathematics.









11. Tsz Fung HEUNG (Year 3; IRE)

香梓鋒:三年級理學士(物理)-國際科研本科生

Tsz Fung is a third-year student doing double majors. The elite IRE (International Research Enrichment) program majoring in Physics is his primary major program of study, and the Bachelor of Science (Mathematics) Degree in General Mathematics Track is his second major. Tsz Fung obtains grade A/A+ in eleven mathematics courses. His excellent academic attainment brings him the University Scholarship, Kwai Fung Scholarship, Physics Entry Scholarship, HKTIIT Scholarship, University's Scholarship Scheme for Continuing Undergraduate Students, Paul Ching Wu Chu Scholarship for Physics Students, Cathay Pacific Education Abroad



Scholarship and Professor Albert Yuk-Keung Ip Scholarship for Overseas Exchange. He also receives the Dean's List award almost every semester. Tsz Fung's advice on achieving academic excellence is that one should try to understand the concepts before working on problems. Work hard and smart.

Nine Mathematics students receive Honorable Mention

1. Yun Chen TSAI

(UG Year 4; IRE) left photo

- 2. Hanyu XIAO (UG Year 4; MAEC) *middle photo*
- **3. Xiaonan LUO** (UG Year 4; DSCT) *right photo*
- **4. Xiaopeng WANG** (UG Year 4; DSCT) *left photo*
- 5. Joshua CHANG (UG Year 4; QFIN) middle photo
- **6. Jingrui LI** (UG Year 3; MAEC) *right photo*
- 7. Chun Ming LUK (UG Year 3; MAEC) *left photo*
- 8. Sen Yuk WU (UG Year 3; IRE) *middle photo*
- 9. Hiu Tung YAN (UG Year 3; QFIN) *right photo*

















