

DEPARTMENT OF MATHEMATICS

The 17th 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 thirty-seven students have been awarded since its establishment. This year thirteen students receive the award while six 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.

Thirteen Mathematics students receive the Epsilon Fund Award

Three postgraduates:

1. Mingxuan CAI (Year 4; PhD)

蔡銘軒：四年級哲學博士(數學) 研究生

Currently a year-four student pursuing the Doctor of Philosophy in Mathematics degree, Mingxuan has done superbly in his research work and career pursuits. Mingxuan is the rising star in the field of statistics and data science, as quoted by Professor Can YANG who is Mingxuan's thesis supervisor. "Mingxuan's research focuses on the development of fast, accurate and scalable statistical methods for large-scale data analysis, including risk prediction with biobank-scale genetic data (half a million of participants), integrative analysis of multi-omics data, and scalable Bayesian inference. He has published four papers in the top journals as the first author or the co-first author. He has also contributed two manuscripts as co-authors. In particular, his first-author paper "A unified framework for cross-population trait prediction by leveraging the genetic correlation of polygenic traits" has been published in *The American Journal of Human Genetics*, which is the flag journal in the field of statistical genetics. In this work, Mingxuan showed his solid computational and mathematical skill to develop the cross-population analysis tool and address the challenges therein." Mingxuan obtained the Postgraduate Research Excellence Award from School of Science at HKUST in 2020. He is also an effective tutor. He was awarded the Din-Yu Hsieh Best TA Award in 2021. Mingxuan is ready for his Ph.D. degree. He will join the Department of Biostatistics at City University of Hong Kong as an Assistant Professor after summer of 2022. "Have passion and stay curious" is the motto advocated by Mingxuan for research excellence.



2. Jingyang LI (Year 3; PhD)

李竟陽：三年級哲學博士(數學) 研究生

Jingyang is currently a third-year student pursuing the Doctor of Philosophy in Mathematics under the supervision of Professor Jianfeng CAI. Jingyang has achieved excellently in research undertakings and is highly commended by Professor Cai. He said, "Jingyang's research is on high-dimensional data analysis with low-dimensional models, driven by diverse real-world applications such as medical imaging, seismic data analysis, visual data inpainting, and personalized medicine. He made significant contributions to tensor/matrix completion, where high-dimensional tensor/matrix data is reconstructed from only a small subset of entries by exploiting the low-rank structure of the data of interest. His work has been published on top journals such as the *Journal of American Statistical Association*, *Journal of Machine Learning Research* and *Applied and Computational Harmonic Analysis*." Jingyang received the Hong Kong PhD Fellowship Award due to his academic excellence. He has obtained grade A+/A in all mathematics courses. Among these courses, his favorite course is MATH6450H (Mathematical Analysis of Machine Learning Algorithms) taught by Professor Tong ZHANG. Jingyang's tip for academic excellence is "to think deeply and make connections between what has been learnt".



3. Gefei WANG (Year 3; PhD)

王 戈 飞 : 三年級哲學博士(數學) 研究生

A research student of Professor Can YANG, Gefei is in his third-year of study pursuing the Doctor of Philosophy Degree in Mathematics now. Gefei performs excellently in research as well as tutoring. He was the winner of National Scholarship in 2018 and won the Hong Kong PhD Fellowship Award in 2020. He was awarded the Din-Yu Hsieh Best TA Award in 2021-2022. Professor Yang speaks highly of Gefei, "Gefei's research focuses on the development of statistical and machine learning methods for large-scale data analysis, in particular, including deep generative models and adversarial domain translation. Gefei has published one high-quality paper "Deep Generative Learning via Schrodinger Bridge" in *International Conference on Machine Learning* as the first author. Since publication, this paper has been cited 9 times as of April, 2022. Gefei is the rising star in the field of data science". When asked which course attracts Gefei, Gefei said MATH5472 (Computer Age Statistical Inference with Applications) is the course he likes the most. "Keep an open mind to new knowledge" is Gefei's tips for academic excellence.

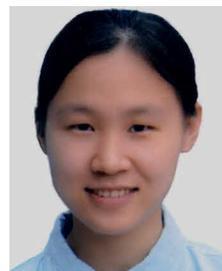


Ten undergraduates:

4. Ce BIAN (Year 4; MAEC)

边 策 : 四年級理學士(數學與經濟)本科生

Ce is our final-year student pursuing the program of Bachelor of Sciences Degree in Mathematics and Economics. She gets grade A/ A+ in most of her mathematics and economics courses. Among all the courses that she has taken, she likes MATH 3033 (Real Analysis) the most because she enjoys the rigorous proof and the course helps lay a solid foundation for her future research in economics. Ce received the University Scholarship, the Dean's List Award and HKUST Study Abroad Sponsorship due to her outstanding academic results. Regarding the advice on achieving academic excellence, she suggests one should set a long-term goal and make efforts towards it. After graduation, Ce will pursue Ph.D. in Strategy and Business Economics at UBC Sauder with full scholarships. She gets Ph.D. offers also from University of Michigan - Ann Arbor, Penn State University, HKUST and HKU, all with full scholarships.



5. Van Quyet DO (Year 4; DSCT)

四年級理學士(數據科學與技術)本科生

Van Quyet is a final-year student currently pursuing the Bachelor of Science in Data Science and Technology. He is also enrolling in the Mathematics in Pure Mathematics (Advanced) Track as his second major. Being an outstanding student, Van Quyet obtains grade A+ in numerous data science-related courses, of which sixteen are mathematics courses. Among these courses, Van Quyet enjoys studying MATH4023 (Complex Analysis) and MATH4033 (Calculus on Manifolds) the most. These two courses are difficult yet conceptually new for him. Van Quyet was awarded the University's Scholarships throughout his years of study at HKUST due to his excellent academic study. He is also the recipient of the Dean's List Award and the Chern Class Talent Scholarship.



6. Yu Hei CHAU (Year 3; DSCT)

周 裕 熙 : 三年級理學士(數據科學與技術)本科生

Yu Hei is our third-year student doing double majors, with Bachelor of Science in Data Science and Technology being his primary major program of study, and the Bachelor of Science (Mathematics) Degree in Pure Mathematics (Advanced) Track being his second major. Yu Hei obtains grade A/A+ in almost all mathematics and computer science courses. He is awarded the AEON Credit Service Scholarships and the Chern Class Talent Scholarships. Yu Hei enjoys studying courses like MATH5011 (Advanced Real Analysis I) that emphasize reasoning and proofs rather than merely doing computations. He is currently doing the UROP project on Learning Geometric Flow under Professor Frederick FONG's supervision. To achieve academic excellence, Yu Hei thinks it very important to question why the facts we were taught in school are indeed true, and to obtain a better understanding of the subject.



7. Zixuan FU (Year 3; MAEC)

傅子軒：三年級理學士(數學與經濟)本科生

Zixuan is a third-year student pursuing the Bachelor of Science Degree in Mathematics and Economics. Zixuan gets remarkably good results in her academic study. She gets grade A/A+ in almost all mathematics and economics courses, and she is fond of mathematics courses like MATH3033 (Real Analysis), MATH3322 (Matrix Computation) and MATH3425 (Stochastic Modeling). She is the awardee of the University's Scholarship Scheme for Continuing Undergraduate Students and the Dean's List Award due to her excellent academic results. Apart from being outstanding academically, Zixuan is also good at French and playing badminton. "Read textbook to enjoy the proof. Do a lot of problems to handle the examination" is Zixuan's tips for achieving academic excellence.



8. Yuchen LIN (Year 3; COSC & PMA)

林宇辰：三年級理學士(數學)- 純粹數學高級班本科生

Yuchen is a third-year student doing triple majors. He is now pursuing the Bachelor of Science in Computer Science as his first major, Physics as his second major and the Mathematics in Pure Mathematics (Advanced) Track as his third major. Yuchen gets the Dean's List Award, the HKSAR Government Scholarship and the Lee Hysan Foundation Exchange Scholarship due to his impressive academic results. Yuchen obtains grade A+ in almost all mathematics courses he has taken. He enjoys taking MATH3043 (Honors Real Analysis) the most for being the "last ride" on the "Honor Analysis Series", this course solved remaining questions in previous MATH courses and some delicate theorems and interesting examples were presented. Yuchen's tips for academic success are first, understanding constructed examples and counterexamples to build up an intuitive picture of the mathematical object; second, to discuss with peers on coursework to correct/strengthen one's understanding and to gain more insights into underlying problems.



9. Yuzhi LIU (Year 3; AM)

劉雨芝：三年級理學士(數學)應用數學本科生

Yuzhi is our third-year student doing double majors. Her primary program of study is the Bachelor of Science (Mathematics) Degree in the Applied Mathematics Track while her second program of study is Bachelor of Science in Computer Science. Yuzhi went for study exchange at UC Berkley in 2021-2022 spring. Impressed by Yuzhi's excellent academic results, the University offers Yuzhi scholarships like the Chern Class Scholarship, the Chern Class Talent Scholarship, the HKSAR Government Scholarship and the University's Scholarship. Yuzhi gets grade A/A+ in almost all mathematics and computer sciences courses. The mathematics course that Yuzhi enjoys learning the most is MATH3043 (Honors Real Analysis) as she appreciates the depth of this course. "Always be curious and have a thorough understanding of the logic behind" is the advice given by Yuzhi for achieving academic excellence.



10. Alibek ORAZALIN (Year 3; CS)

三年級理學士(數學)- 計算機科學本科生

Alibek is our third-year student pursuing the Bachelor of Science (Mathematics) Degree in Computer Science Track. "Try actually to understand what you are learning by going beyond the curriculum and simply have a habit of doing homework on time" are tips as advised by Alibek for achieving academic excellence. Alibek performs outstandingly in his academic study. He gets grade A/A+ in all the mathematics courses that he has taken and he also gets numerous grade A/A+ in computer courses. Among all mathematics courses that Alibek has taken, he is particularly fond of MATH3043 taught by Professor Ivan IP. Alibek's name has been put in the Dean's List Award due to his excellent study. He also receives award in the Regional Scholarship Scheme, the University's Scholarship Scheme for Continuing Undergraduate Students and the Chern Class Scholarship.



11. Kaiwen WANG (Year 3; MAEC)

王楷文：三年級理學士(數學與經濟)本科生

Kaiwen is a third-year student doing double majors. He is enrolling in Bachelor of Sciences Degree in Mathematics and Economics, as well as in Data Science and Technology. In Kaiwen's viewpoint, the key to academic excellence is to "Be humble. Admit your limitations and stay curious about the unknowns". He advises that only by abandoning your opinionated beliefs and your arrogance about being God's incarnation that one will get the chance to explore the world and the wisdom of others. Kaiwen gets grade A/A+ in most of the courses he has taken. He enjoys learning MATH3033 (Real analysis) the most. Kaiwen is awarded the Dean's List Award and the University's Scholarship Scheme for Continuing Undergraduate Students due to his outstanding academic study.



12. Zhaohao SU (Year 2; DSCT)

苏昭豪：二年級理學士(數據科學與技術)本科生

Zhaohao is doing double majors in his year-two study. He is now pursuing the Bachelor of Science in Data Science and Technology, and also Bachelor of Science in Mathematics (Pure Mathematics Advanced Track). Zhaohao obtains A/A+ in nearly all mathematics courses. He gets the Chern Class Scholarship and Dean's List award. Zhaohao enjoys studying MATH1023 (Honors Calculus I) by Professor Frederick FONG as he motivates him to have further learning in mathematics, and also MATH3043 (Honors Real Analysis) by Professor Ivan IP who shows that there are always some pathological functions and statements that look obviously true but may be false. Zhaohao's advice for academic excellence is to "Try to have a deep understanding of some typical theorem using more examples and applications and be familiar with the skills in their proof, which is helpful during the study of the same topic".



13. Chun SZETO (Year 2; IRE)

司徒進：二年級理學士(數學)- 國際科研本科生

Chun is currently a second-year student pursuing the elite IRE (International Research Enrichment) program. He was admitted with the Admission Scholarship and his name is put under the Dean's List due to his academic excellence. Chun is also the recipient of the University Scholarship and the Chern Class Scholarship. Chun performs remarkably outstanding. He obtained grade/A+ in nearly all mathematics courses. Among these courses, he finds Real Analysis courses most enjoyable, for its own beauty and also its connection with different disciplines, e.g. Differential Geometry, Number Theory and Physics. Chun believes that "the path of Math study is never an easy one. The key to keeping your passion is diving into questions that you are genuinely curious about, and care less about time constraints or the designated syllabus; only with curiosity being rewarded can one find the meaning in studying Math. In face of difficulties and frustrations, he often takes a rest from the problem and enjoy his leisure time like writing Chinese calligraphy".



Six Mathematics students receive Honorable Mention

1. Weiqi LU

(UG Year 3; MATH-GM) *left photo*

2. Yixuan WANG

(UG Year 3; MAEC) *middle photo*

3. Pak Ho MAK

(UG Year 2; MAEC) *right photo*



4. Wan Hin MOK

(UG Year 2; MATH-IRE) *left photo*

5. Tung Duong VUONG

(UG Year 2; DSCT) *middle photo*

6. Ziyi WANG

(UG Year 2; DSCT) *right photo*

