

DEPARTMENT OF MATHEMATICS

The 18th 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 fifty students have been awarded since its establishment. This year twelve students receive the award while eleven 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.

Twelve Mathematics students receive the Epsilon Fund Award

Three postgraduates:

1. Hoi Ping LUK (Year 7; Part-time PhD)

陸海平：七年級兼讀制哲學博士(數學) 研究生

A research student of Professor Min YAN, Hoi Ping is pursuing the Doctor of Philosophy in Mathematics degree. He is the recipient of the HKUST RedBird Academic Excellence Award for Continuing PhD Students 2021-2022 and Li Po Chun Charitable Trust Fund Postgraduate and Undergraduate Scholarship 2021-2022. Hoi Ping has achieved excellently in research undertakings and is highly commended by Professor YAN. He said, “His thesis is the classification of edge-to-edge tilings of the sphere by congruent polygons. The problem was first studied 100 years ago, and Hoi Ping finished the most difficult cases, including the complete classification for quadrilateral tilings that was never tried before. In dealing with these difficult cases, he developed various innovative techniques that would also be useful for further tilings problems. In fact, he has already extended his work to some tilings by two congruent polygons. His whole work is much more than all the previous works combined, as illustrated by the more than 1000 pages of his final thesis. His work brings to the end of a central problem in the spherical tilings.” Hoi Ping’s tip for academic excellence is “Stay curious, challenge yourself and work hard”. He will pursue further endeavour in academia upon graduation.



2. Zhongyuan LYU (Year 4; PhD)

呂中元：四年級哲學博士(數學) 研究生

Zhongyuan is now our year-four Ph.D. student whose research supervisor is Professor Dong XIA. Apart from gaining A+ in almost all courses, he also demonstrated superb teaching and research abilities throughout all years. He received the HKUST RedBird Academic Excellence Award in 2021-2022 and the Best TA Awardees for the Din-Yu Hsieh Teaching Awards in 2020-2021. Zhongyuan achieved excellently in research undertakings and is highly commended by Professor Xia. “During the past four years, Zhongyuan worked on multi-layer network analysis, tensor factorisation and low-rank mixture model. He made many novel contributions in these fields including introducing a novel mixture model for multi-layer networks, deriving the optimality theory using tensor incoherent norms, proposing a new mixture model for matrix-valued observations, and developing the first computational and statistical theory of learning low-rank mixture model. Zhongyuan had two papers published in *Annals of Statistics*, the very top journal in this field, and another paper published in *Journal of Computational and Graphical Statistics*, which is also an influential journal in statistics.” said Professor Xia. “Work hard but keep work life balance,” advised by Zhongyuan for tips to achieve academic excellence. Zhongyuan has already been offered a postdoctoral research scientist position at Data Science Institute at Columbia University.



3. Yahong YANG (Year 4; PhD)

杨雅鸿：四年級哲學博士(數學) 研究生

Yahong is currently pursuing our Ph.D. program in his year-four study under the supervision of Professor Yang XIANG. He received the HKUST RedBird Academic Excellence Award in 2021-2022, the HKUST Overseas Research Award to visit University of Maryland, College Park 2022-2023, the Din-Yu Hsieh Best TA Award in 2019-20 and the Best TA Service Award in 2021-2022. He also helped establish and serve as the first President of HKUST SIAM Student Chapter. “Yahong has made remarkable contributions for challenging mathematical modeling problems in materials science problems and machine learning. He has rigorously proved the convergence from atomistic models to continuum models, for defects in both traditional crystalline materials and high entropy alloys with stochastic effect. He also developed a method for approximation of functionals by neural network without curse of dimensionality. Three papers of his have been published in *SIAM Multiscale Modeling and Simulation*, *Communications in Mathematical Sciences*, and *Journal of Machine Learning*. He has given a minisymposium talk at SIAM Conference on Mathematical Aspects of Materials Science online, 17-28 May, 2021,” remarked by Professor Xiang.



Nine undergraduates:

4. Sin Hang Sonia CHOY (Year 4; IRE)

蔡蒨珩：四年級理學士(數學)- 國際科研本科生

Sonia is our final-year student pursuing the elite IRE (International Research Enrichment) program. She was awarded the University Scholarship, the AEON Credit Service Scholarships, the Chern Class Scholarships, HKSAR Government Scholarship Fund - Reaching Out Award, Fung Scholarships, Lee Hysan Overseas Scholarship for International Research Enrichment (IRE) Students, School of Science Exchange Scholarship, University's Scholarship Scheme for Continuing Undergraduate Students and the Dean's List Award. She enjoys MATH5145 (Introduction to Lie Groups) taught by Professor ZHU Yongchang because she learned a lot in these courses. To achieve academic excellence, she suggests one should work hard, try to understand concepts, seek help from friends when you need it, and balance studying with life. After graduation, she will pursue the Doctor of Philosophy in Mathematics at Northwestern University.



5. Houdong LIANG (Year 4; DSCT)

梁厚栋：四年級理學士(數據科學與技術)本科生

Houdong is in his final year pursuing the Bachelor of Science in Data Science and Technology. He is also pursuing Computer Science as his second major. His excellent academic attainment brings him the Chern Class Scholarship, the HKSAR Government Scholarship, Tin Ka Ping Scholarship (Exchange), the HKSAR Government Scholarship Fund -Reaching Out Award. He also receives the Dean's List award almost every semester. Houdong obtains grade A/A+ in almost all mathematics and computer science courses. He enjoys studying MATH2431 (Honors Probability) the most because Probability is ubiquitous in our everyday life. Houdong's belief for academic success is first, to stay hungry, stay foolish; second, one should never be satisfied with what we have learned in class. Get out of the comfort zone as soon as possible so that we will find a larger picture for us to work on. He will pursue the Master of Science in Computer Science at University of California, San Diego after his graduation from HKUST.



6. Duc Huy TRAN (Year 4; IRE)

四年級理學士(物理)- 國際科研本科生

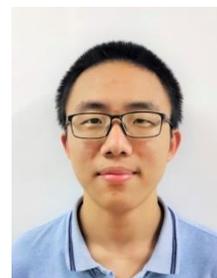
Duc Huy is a final-year student doing double majors. The IRE (International Research Enrichment) program is his primary major program of study, and the Bachelor of Science (Mathematics) Degree in Pure Mathematics (Advanced) Track is his second major. He obtains grade A+ in almost all physics and mathematics courses. The University has bestowed the Dean's List Award, the HKSAR Government Scholarship, University Scholarships and Paul Ching Wu Chu Scholarships for Physics Students. He enjoys studying MATH4033 taught by Prof. Frederick FONG the most.



7. Wan Hin MOK (Year 3; IRE)

莫雲軒：三年級理學士(數學)- 國際科研本科生

Wan Hin is a third-year student pursuing the IRE (International Research Enrichment) program. He is very outstanding both in academic study and research. He received the Dean's List Award, University Scholarships and the HKSAR Government Scholarship. He was selected as the champion in the 2023 UROP Award. He gets grade A/A+ in almost all mathematics courses. The courses he enjoys studying are MATH2023 (Multivariable Calculus) for its application, and MATH3043 (Honors Real Analysis) for its beauty. Wan Hin's advice on achieving academic excellence is that one should focus more on "why" the problem is solved that way instead of "how".



8. Thi To Uyen NGUYEN (Year 3; PMA)

三年級理學士(數學)- 純粹數學高級班本科生

Thi To Uyen is a third-year student in the program of Bachelor of Science (Mathematics) Degree in Pure Mathematics (Advanced) Track. She scores high in the mathematics courses and obtains grade A/A+ in eleven mathematics courses. Her impressive academic results bring her the awards of the Dean's List Award, Mr Liu Sing Cheong Regional Diversity Scholarships, the Chern Class Scholarship and the Chern Class Talent Scholarships. Thi To Uyen enjoys MATH3131 (Honors in Linear and Abstract Algebra II) the most because the content of this course is interesting and intuitive.



9. Tung Duong VUONG (Year 3; DSCT)

三年級理學士(數據科學與技術)本科生

Tung Duong is our third-year student doing double majors. He is now pursuing the Bachelor of Science in Data Science and Technology as his first major, and the Mathematics in Statistics and Financial Track as his second major. Tung Duong is the awardee of the Dean's List Award and the University Scholarship Scheme due to his excellent academic results. He has achieved grade A/A+ in all the mathematics and computer sciences courses he has taken. "Study hard, rest well and do exercise at home and in the gym." is Tung Duong's advocate in achieving academic excellence.



10. Monique Zoe WAH (Year 3; DSCT)

華云鈞：三年級理學士(數據科學與技術)本科生

Monique Zoe is our third-year student taking dual major programs. She is now pursuing the Bachelor of Science in Data Science and Technology as her first major, and the Mathematics in Statistics and Financial Track as her second major. She maintains her CGA always above 4.0 upon her study at HKUST. She receives the Dean's List award every semester and the University Scholarship due to her excellent academic attainment. Among all the mathematics courses she has taken, she is particularly fond of MATH4432 (Statistical Machine Learning) because she can learn a lot about the mathematical principles behind machine learning. She advises that understanding mathematical concepts is the key to learning mathematics. The concepts can be abstract, so it is helpful to have some concrete examples in your mind for better understanding.



11. Ruiming MIN (Year 2; MAEC)

閔銳明：二年級理學士(數學與經濟)本科生

Ruiming is our year-two student doing double majors. His primary program of study is Bachelor of Science Degree in Mathematics and Economics while his second program of study is the Bachelor of Science Degree in Computer Science. Ruiming is the awardee of the University Scholarships, the Chern Class Scholarship, the BDR Scholarship - Academic Performance and the University's Scholarship Scheme for Continuing Undergraduate Students. He also won the Third prize in the final competition of the 37th Chinese Physics Olympiad in 2020. In Ruiming's viewpoint, the key to academic excellence is to "Read the proof of theorems and try to give a reasonable thinking pathway for it; concatenate what we have learnt; teach others mathematics and discuss it with them."



12. Yitong ZHANG (Year 2; IRE)

张益通：二年級理學士(數學)- 國際科研本科生

Yitong is our year two student pursuing the IRE (International Research Enrichment) program. Being outstanding academically, Yitong is the recipient of the Dean's List Award, the University's Scholarship Scheme for Continuing Undergraduate Students, the University Scholarships and the Chern Class Scholarship. He has also recently won the Second Runner-up in the senior group of the 8th HKUST MATH Competition. Among all the mathematics courses he has taken, he particularly enjoys studying MATH5111 (Advanced Algebra I) and MATH 5240 (Algebraic Topology) because these courses introduce many interesting concepts. Apart from being outstanding academically, Yitong kept physical training by jogging.



Eleven Mathematics students receive Honorable Mention

1. Ke ZHANG

(UG Year 4; PMA) *left photo*

2. Jiaming LIU

(UG Year 4; IRE) *middle photo*

3. Yu Foon Darin CHAU

(UG Year 3; IRE) *right photo*



4. Haoyu WU

(UG Year 3; IRE) *left photo*

5. Tian SHU

(UG Year 3; DSCT) *middle photo*

6. Ruida WANG

(UG Year 3; DSCT) *right photo*



7. Yuk Ming CHAN

(UG Year 2; IRE) *left photo*

8. Yan Ho CHIU

(UG Year 2; IRE) *middle photo*

9. Xiyu REN

(UG Year 2; GM) *right photo*



10. Yuanfu WANG

(UG Year 2; MAEC) *left photo*

11. Ho Nam WONG

(UG Year 2; COSC) *middle photo*

