

Hang Lung Mathematics Awards

Hang Lung Mathematics Awards (HLMA) is a highly regarded biennial mathematics research competition for secondary school students in Hong Kong. Founded in 2004, Hang Lung Mathematics Awards blazed a trail in secondary school mathematics education, encouraging students to realize their creative potential in mathematics and sciences, and stimulating their passion for intellectual discovery.

Since the inaugural awards in 2004, over 2,400 students have participated in the competition and over 400 research papers were submitted. Hang Lung Mathematics Awards has made a profound impact in nurturing a cadre of young mathematics talents in Hong Kong. Among our earlier winners, many have completed their studies from top universities around the world and are now working in various sectors, such as academia and other professions, and making meaningful contributions to the society.

In 2021, Hang Lung Properties teamed up with one of the world's top young universities, The Hong Kong University of Science and Technology, as our partner in HLMA's next stage of development. Under this partnership, Hang Lung Properties donates HK\$2.5 million to each competition, of which HK\$1 million is set aside as monetary prizes, and the remainder goes towards academic consultancy, assessment process, and administration of the competition, as well as education promotion activities. The Hong Kong University of Science and Technology offers tuition scholarships for teachers nominated by the winning schools to enroll in the Master of Science Program in Mathematics for Educators.

Schools are invited to form teams of up to five students. Under the supervision of a teacher, each team decides on a mathematics topic, designs and carries out a mathematics research project, then submits a research report that summarizes the methodology, research, and results. A Scientific Committee will evaluate the research reports in a rigorous, multi-step review process that is comparable to publishing an article in a scientific journal, and determine the teams that will be invited to participate in an oral defense. The oral defense is modeled after the doctoral dissertation defense and comprises a brief public presentation of the research project, followed by a closed-door inquiry by the Scientific Committee. At the conclusion of the oral defense, the Scientific Committee will decide the winners of the Hang Lung Mathematics Awards, and the results will be announced at the awards presentation ceremony.

Up to eight awards will be presented to the teams whose mathematics research projects meet the highest academic standards in terms of methodology, research, and scholarship: a Gold Award of HK\$400,000, a Silver Award of HK\$200,000, a Bronze Award of HK\$100,000, and up to five Honorable Mentions, each worth HK\$60,000.

Each award consists of four prize components: a Student Education Award, a Teacher Leadership Award, a School Development Award, and an Educator Scholarship to pursue a MSc Program in Mathematics for Educators at The Hong Kong University of Science and Technology. In addition to the monetary prizes above, crystal trophies and certificates will also be awarded.

Etched inside the crystal trophy is a visualized representation of an Einstein-Rosen bridge. An Einstein-Rosen bridge, sometimes called a “wormhole”, is a transcendental bijection of the spacetime continuum, an asymptotic projection of the Calabi-Yau manifold manifesting itself in Anti-de Sitter space, first described by Ludwig Flamm in 1916 and rediscovered by Albert Einstein and Nathan Rosen in 1935. It represents the geometry of a “throat” that joins disparate regions of spacetime, but it is non-traversable, i.e., no physical timelike trajectory crosses the bridge. It plays a prominent role in mathematics and physics, where it has implications for geometry, gravity, information, and quantum physics.

To learn more about Hang Lung Mathematics Awards, please visit:

