Congratulations to Our School for

Winning Three Consecutive Gold Medals in the iGEM Competition!

Warm congratulations to our school for winning three consecutive gold medals in the iGEM 2025 competition, earning international recognition with a gold medal.

Our school, in collaboration with Pui Ching Middle School, formed the joint team HK-HCY-PCMS and traveled to Paris in late October to participate in the 2025 International Genetically Engineered Machine (iGEM) Competition. The team achieved a Gold Medal. Notably, our school has won the iGEM Gold Medal for three consecutive years, earning international recognition for our students' scientific achievements.

Established by the Massachusetts Institute of Technology in 2003, iGEM is one of the most influential global competitions in synthetic biology. Each year, it attracts thousands of participants from over fifty countries, including secondary school students, university students, and researchers. In 2025, more than 400 teams and over 5,000 participants competed, showcasing the creativity and potential of young scientists worldwide.

The HK-HCY-PCMS team presented a project titled "Opthera," which introduced an innovative dual-action therapeutic eye drop designed using the "cocktail theory." This formulation integrates two functional fusion peptides, FT and BC, to address the two primary causes of glaucoma. FT effectively regulates intraocular fluid dynamics to reduce eye pressure, while BC provides neuroprotection by preventing retinal ganglion cell apoptosis. This dual-treatment strategy offers a comprehensive approach to managing both elevated eye pressure and neurodegeneration, helping to alleviate the progression of glaucoma.

After months of preparation and promotion, the team members interviewed professors, optometrists, and ophthalmologists from around the world, actively planning and hosting several educational interactive workshops and science outreach activities. They engaged with various stakeholders to raise awareness of synthetic biology and glaucoma. The team developed and produced a DNA–ATGCU card game and a glaucoma tabletop game to teach the public about DNA base pairing principles and glaucoma prevention. The activities covered multiple aspects, including visits to the Hong Kong Blind Union to collaborate with visually impaired individuals on creating a Braille DNA–ATGC card game, helping them understand basic concepts of genetics through play. They also visited primary schools to guide students in conducting banana DNA extraction experiments, allowing them to experience the wonders of genetics firsthand. The team invited ophthalmologists and optometrists to the school for specialized interviews, providing an in-depth analysis of the causes of glaucoma and the scientific mechanisms of eye drops. Additionally, they toured an eye drop production company to learn about the manufacturing process and the practical

applications of drug development. These activities not only enhanced students' scientific literacy and sense of social responsibility but also fully embodied our school's commitment to promoting STEAM education.

Additionally, participating in iGEM has greatly broadened the students' horizons and provided invaluable benefits. Team leader Leu Tsz Ling Scarlett expressed that her involvement in iGEM allowed her to interact with representatives from various schools and institutions worldwide, significantly enhancing her communication skills and confidence. Yam Hiu Hong Hugo, after visiting visually impaired individuals, gained a deep understanding of the challenges they face in daily life and is determined to pursue a career in social service to give back to society. The joint team presented their research at the Grand Jamboree stage at the Paris Convention Centre, showcasing their findings to judges, fellow teams, and media representatives. Their effective communication and problem-solving skills garnered them widespread praise and recognition.

In contemporary society, there is an increasing emphasis on innovation and inclusive education, and our school's STEAM education actively responds to this demand. Dr. Lau Sui Yee, our Principal, appreciates how the team members recognized the needs of disadvantaged communities, identified issues, and formulated research topics. She supports students' participation in international biological research activities and is committed to cultivating talent in biotechnology. Ms. Wendy Leung, Head of the Biology Department and STEAM Coordinator, is actively promoting biotechnology and STEAM education and will continue to encourage students to combine scientific knowledge with creative design to benefit society.

This year, our school's joint team is participating in the International Genetically Engineered Machine (iGEM) Competition 2025. The list of members is as follows:

Form Three	3A Chan Ngai Na Ena, 3C So Yee Sum Katy, 3C Tse Cheuk Yan Athena, 3D Qin Nga Wai Hedy, 3D Su Qitong Amy
Form Four	4A Lee Tsz Kiu Cassandra, 4A Lam Tze San Daryl, 4A Wang Junxi Tommy, 4C Shet Aydin, 4D Wong Yuet Esther, 4D Chan Hoi KeiSam, 4D Lau Lap Kan Kenneth, 4D Shi Chun Wang Kyle
Form Five	5A Sun Pui Yee Rainbow, 5C Quan Joy, 5D Leu Tsz Ling Scarlett, 5D Sun Zhi Shan Julian, 5D Yam Hiu Hong Hugo, 5D Yau Yat Hei Tristan
Form Six	6D Lam Ying Tung Jasmine
Advisors	Miss Leung Hoi Yan Wendy、Mr. Wong Kar Yin Bruce、Mr. Tam Pok Man

2025 HK-HCY-PCMS Research Content Page: https://2025.igem.wiki/hk-hcy-pcms/


HK-HCY-PCMS
Congratulations!
In celebration of your outstanding excellence,
your team has been awarded a Gold Medal
in the 2025 iGEM Competition.
Your passion and effort
will inspire and shape the future.
You are the heart of
Synthetic Biology.
OCT 31, 2025 | PARIS, FRANCE


Gamification in
Glaucoma & SynBio
Education


2025 GRAND
JAMBOREE


LITTLEBIG
COFFEE