

AMERICAN SOCIETY FOR MICROBIOLOGY

agar art[®] Contest 2024 (Preliminary Round)

國際瓊脂藝術大賽 2024 (選拔賽)

主辦單位： 齋色園主辦可譽中學暨可譽小學
齋色園生物科技流動實驗室

支持單位： American Society for Microbiology 美國微生物學會
Amino Labs

《生物科技》

生物科技應用可以追溯到幾個世紀前，例如烘焙麵包、釀酒和配種技術，應用於糧食和農業發展。隨著科技進步解開了 DNA 結構和遺傳學的奧秘，科學家們能夠設計出生長更快、營養更豐富、抗病能力更強的新農作物。在醫學領域中，生物技術也發展出更準確、更快速的診斷方法和個人化治療方案。科學家還可以培養不同顏色的細菌，並將該技術用於藝術和繪畫上。

《比賽目的》

瓊脂藝術 (Agar Art) 是新興的一種藝術流派，是通過特定模式培養微生物，用瓊脂板當成畫布，有色的細菌當作顏料，在充分培育後創作而成的微生物藝術作品，讓學生展示他們在 STEAM 學習上的創造性思維和解難能力。

去年，我們作為美國微生物學會的合作伙伴，並在生物科技公司 Amino Labs 全力支持下，於香港舉辦『國際瓊脂藝術大賽 2023』，得到空前成功。全港共有 96 隊中小學學生參加，其中一支小學隊伍更榮獲國際賽兒童組第二名。比賽成功提高中小學生對科學和生物科技以及 STEAM (科學、技術、工程、藝術和數學) 教育的興趣。

《比賽內容》

- 主題：甚麼能帶給你喜悅？ 'What Brings You Joy?'
- 參賽對象：小學組 (小四至小六級學生)；
中學組 (中一至中六級學生)；
- 比賽日期：二零二四年十月五日 (星期六)
- 比賽時間：小學組 (上午九時至下午一時)；中學組 (下午二時至六時)
- 比賽地點：東涌健東路 4-6 號 齋色園主辦可譽中學暨可譽小學
- 集合地點：中學二樓室內體育館



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- 比賽流程：當天分為兩個部分，包括知識增潤工作坊及瓊脂藝術大賽。

日程	活動	內容
5/10 (星期六)	知識增潤工作坊	<ul style="list-style-type: none"> ✓ 簡單認識生物科技的發展及應用 ✓ 簡單學習轉基因生物的原理及應用 ✓ 學習並練習瓊脂藝術的繪畫技巧
	瓊脂藝術大賽	<ul style="list-style-type: none"> ✓ 大會提供所有物資及微生物顏料 ✓ 繪製瓊脂藝術作品
7/10 (星期一)	培植瓊脂藝術作品 (由大會處理)	<ul style="list-style-type: none"> ✓ 瓊脂藝術作品會置於恆溫箱下培植四十八小時
25/10 (星期五)	作品密封及拍影 (由大會處理)	<ul style="list-style-type: none"> ✓ 所有作品會由樹脂覆蓋作保存 ✓ 大會為每個作品拍照及上載校網作展出
15/11 (星期五)	最受歡迎大獎投票 (網上投票)	<ul style="list-style-type: none"> ✓ 所有作品開放給大眾進行網上投票 (至下午五時) ✓ 每組最高票者為勝出
30/11 (星期六)	公佈及頒發獎項	<ul style="list-style-type: none"> ✓ 誠邀所有參加學校出席頒獎典禮 ✓ 獲獎學校將會個別通知

《報名須知》

- 『國際瓊脂藝術大賽 2024』是一個國際性微生物比賽，是次為香港地區之選拔賽，所有參賽隊伍必須由學校提名。而在選拔賽中獲勝隊伍 (包括冠、亞、季軍及優異獎) 將獲推薦參加『國際瓊脂藝術大賽 2024』。
- 每間學校可提名一支隊伍參賽，每隊需由四名學生組成，可混合不同級別的學生參賽。
- 學生無須具備任何微生物學的知識，大會為參賽者增潤相關知識及提供實驗技巧的培訓。
- 是次賽事不設觀眾席，學校可按需要安排一位老師接送學生出席當天比賽。

《獎項及獎品》

	獎項	獎品
小學組	冠軍	獎盃一座、獎狀乙張、手提顯微鏡套裝四盒、DNA 模型四盒
	亞軍	獎盃一座、獎狀乙張、手提顯微鏡套裝四盒、DNA 模型二盒
	季軍	獎盃一座、獎狀乙張、手提顯微鏡套裝四盒
	優異獎	獎盃一座、獎狀乙張
	最受歡迎大獎	獎盃一座

* 小學組 (小四至小六級學生)



《獎項及獎品》

	獎項	獎品
中學組	冠軍	獎盃一座、獎狀乙張、手提顯微鏡套裝四盒、DNA 模型四盒
	亞軍	獎盃一座、獎狀乙張、手提顯微鏡套裝四盒、DNA 模型二盒
	季軍	獎盃一座、獎狀乙張、手提顯微鏡套裝四盒
	優異獎	獎盃一座、獎狀乙張
	最受歡迎大獎	獎盃一座

* 中學組 (中一至中六級學生)

《報名辦法》

- 截止報名日期：二零二四年九月二十三日 (星期一)
- 申請將以先到先得的原則處理，額滿即止。主辦機構保留對接受申請與否的最後決定權。
- 天文台如於比賽開始前兩小時已經或預料懸掛八號或以上颱風訊號、紅色或黑色暴雨警告，比賽將會順延一星期至二零二四年十月十二日(星期六)進行。所有其他時間與列出的相同。
- 請填妥隨附報名表格並
 - ✓ 電郵至 bml-public@hoyu.edu.hk 或
 - ✓ 傳真至 2109 2002 或
 - ✓ 透過以下連結作網上報名
<https://forms.gle/2aAkp17L73AYdbzv9>
- 主辦機構收到報名表格後，將於三個工作天內以電郵確定有關報名。
如有任何查詢，歡迎致電 2109 1001或 Whatsapp 9373 8347 與洪楚琪老師或馮嘉齡小姐聯絡。



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Contest 2024

(Preliminary Round)

國際瓊脂藝術大賽 2024 (選拔賽)

Organizer: Ho Yu College and Primary School (Sponsored by Sik Sik Yuen)
Sik Sik Yuen Biotechnology Mobile Laboratory

Sponsor : American Society for Microbiology
Amino Labs

《Biotechnology》

With the ancestral root of biotechnology dated back to centuries, such as baking bread, brewing wine and breeding techniques, are used in food and agriculture development. As technological advances recently revealed the mysteries of DNA structure and genetics, scientists were able to engineer new crops to grow faster, more nutritious and even resistant to disease. In the field of medicine, biotechnology also enhanced the development of more accurate and rapid diagnostics and design customized treatments. Scientists can also cultivate bacteria in different colors and use the technique in art and paintings.

《Purpose of the Competition》

Agar Art is an innovative form of art, which uses agar plates as canvas and transformed bacteria with different colours as paint, to create microbial art works under optimal cultivation. The theme of this year's Agar Art Competition is "What brings you joy?". We hope that primary and secondary school students can demonstrate their creativity and problem-solving skills in STEAM learning and present the ideas on agar.

Last year, as a partner of the American Society for Microbiology and with the full support of the biotechnology company Amino Labs, we held the 'Agar Art Contest 2023' in Hong Kong, achieving unprecedented success. A total of 96 teams of primary and secondary school students in Hong Kong participated, and one primary school team even won second place in the international children's category. This competition has successfully promoted primary and secondary school students' interest in science and biotechnology as well as STEAM (Science, Technology, Engineering, Arts and Mathematics) education.



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《Competition Details》

- **Theme: What brings you joy?**
- **Participants:** Primary Section (P. 4 to P.6 students); Secondary Section (S.1 to S.6 students).
- **Date: 5th Oct, 2024 (Saturday)**
- **Time:** 9:00 am to 1:00 pm (Primary Section); 2:00 pm to 6:00 pm (Secondary Section)
- **Location:** Ho Yu College and Primary School (Sponsored by Sik Sik Yuen), 4-6 Kin Tung Road, Tung Chung, Lantau Island, N.T.
- **Gathering Venue:** 2/F Indoor Gymnasium (Secondary School Building)

Schedule	Content	Primary Section	Secondary Section
5/10 (Sat)	Knowledge Enrichment	<ul style="list-style-type: none"> ✓ Introduction to biotechnology development and application ✓ Learning principles of genetic engineering and transformation ✓ Learning and practicing Agar Art Painting techniques 	
	Agar Art Contest	<ul style="list-style-type: none"> ✓ Organizer will provide all the material for the contest ✓ Agar art works. 	
7/10 (Mon)	Incubating Agar Art works (Handled by Organizer)	<ul style="list-style-type: none"> ✓ Incubate Agar art works for 48 hours 	
25/10 (Fri)	Preserving and photo taking Agar Art works (Handled by Organizer)	<ul style="list-style-type: none"> ✓ Preserve living paintings and engineered bacteria with specialized resin ✓ Take pictures of the Agar Art works and exhibit on the Organizer homepage for polling 	
15/11 (Fri)	Polling for Most Popular Award (Online)	<ul style="list-style-type: none"> ✓ Deadline for voting the Most Popular Award (until 5pm) ✓ One Team of each section with their Agar Art woks received the most voted will be awarded 	
30/11 (Sat)	Prize Presentation	<ul style="list-style-type: none"> ✓ All participating schools will be invited to the presentation ceremony ✓ Winning schools will be notified individually 	

《Notes for Application》

- “Agar Art Contest 2024 (Preliminary)” is an international competition. We are hosting the workshop for the participants to create a microbial masterpiece. All participating teams must be nominated by their school. The winning teams (including Champions, 1st runner-up, 2nd runner-up and Merit teams) will be submitted into the 2024 ASM Agar Art Contest.
- Each school can nominate **Maximum 1 teams, each team must consist of four students** from different levels to participate in the competition according to their sections.
- Students do not need to possess any knowledge of microbiology and biotechnology. Trainings on relevant knowledge and experimental skills will be provided to participants.
- There will not be seats for audience during the competition. Schools can arrange teachers to accompany students to attend the competition **as needed**.



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《Awards and Prizes》

	Awards	Prizes
Primary Section	Champion	A trophy and a certificate Hand-held Microscope 4 sets and DNA model 4 sets
	1 st runner-up	A trophy and a certificate Hand-held Microscope 4 sets and DNA model 2 sets
	2 nd runner-up	A trophy and a certificate Hand-held Microscope 4 sets
	Merit	A trophy and a certificate
	Most Popular Award	A trophy

*Primary Section (P.4 to P.6 students)

	Awards	Prizes
Secondary Section	Champion	A trophy and a certificate Hand-held Microscope 4 sets and DNA model 4 sets
	1 st runner-up	A trophy and a certificate Hand-held Microscope 4 sets and DNA model 2 sets
	2 nd runner-up	A trophy and a certificate Hand-held Microscope 4 sets
	Merit	A trophy and a certificate
	Most Popular Award	A trophy

*Secondary Section (S.1 to S.6 students)

《Application Method》

- **Deadline: 23/9/2024**
- The application will be processed on a “first-come, first-served” basis where the reservation is subject to availability. The organizer Sik Sik Yuen reserves the right to make the final decision on whether to accept applications.
- If the Observatory has hoisted or is expected to hoist typhoon signal no.8, red or black rainstorm warning two hours before the start of the competition, the competition will be postponed to **12th Oct 2024, Saturday**. All other schedules will be the same as listed.
- Please fill in the attached application form and send it to bml@hoyu.edu.hk or fax it to 2109 2002. You may also use the link below for online application:
Email: bml-public@hoyu.edu.hk or
Fax: 2109 2002 or
Online Application : <https://forms.gle/2aAkp17L73AYdbzv9>
- After receiving the application form, the organizer will confirm the application by email within three working days. If your school does not receive any reply, please contact Ms. HUNG Chor Ki or Ms. FUNG Ka Ling at 2109 1001 or Whatsapp 9373 8347.

