

科技改變生活，創意成就夢想

全港中小學生科學素養訓練營暨科學創意海報大賽

主題：光學與生活

Technology changes Life: Design thinking & scientific ideation training
camp and scientific idea poster competition

Topic: Optics & Life

創新科技近年在全球，以至香港急速發展，疫情爆發亦推動了各項科技在生活中的創新應用。創新科技將成為世界各國各地經濟及人才發展核心引擎，無論是科技與創新的基礎，都是建基於對不同領域科學認知，由堅實知識基礎，通過深入探究而創造出無限可能。

融HUB共創空間為了讓更多學生更好裝備自己，將與不同科創範疇出色科研與創新機構合作，推出面向全港中小學生科學素養訓練營。以不同科目為主題，邀請中小學生參與計劃，以體驗式活動和沉浸式學習，激發學生的好奇心，主動探究不同科學理論與技術在生活中的應用，並以個人或小組的形式，使用相關知識解決特定的難題，一同經歷一次既特別又有趣科學訓練營。

最後每組均要遞交科學海報（Scientific Poster）作為分享。優秀隊伍或學員除獎杯及獎金外，更可能得到實現科學創意機會（實驗，撰寫及投稿學術期刊輔導）與由合作組職提供的實習機會。

本次活動以光學與生活為主題，配以人工智能應用，由科學園孵化公司Centauri Optics Limited 合辦，並得到商湯科技公司Sensetime教育團隊及香港科技大學創業中心的全力支持。

主辦方將有機會邀請報名同學參加面試，並做出相應篩選。

具體時間及內容安排如下（將會根據實際情況作出調整）：

日期 Date	時間安排 Time	內容 Content	地點 Venue
Nov 12	10:00-10:45	破冰及自我介紹/期望設定 Ice Breaking /Expectation Setting Session	融HUB共創空間 /Zoom
	10:45-11:30	設計思維工作坊 <ul style="list-style-type: none"> - 什麼是設計思維？什麼是同理心？ - 如何尋找生活中的問題？ - 其他設計思維元素 Design Thinking Workshop <ul style="list-style-type: none"> - Essentials on design thinking - Finding issues/problems you want to solve in life - How to equip yourself with design thinking 	
	11:30-12:45	將你的想法表達出來：如何寫Scientific Poster Scientific Poster workshop	
Nov 13	10:00-11:00	科學園參觀並聽取分享 Science Park visit and guest sharing	科學園 Science Park
	11:00-12:00	商湯科技有限公司參觀並聽取分享 <ul style="list-style-type: none"> - 從實驗室到上市公司，商湯做對了什麼？ - 在科技制裁的大環境下，我們需要如何面對挑戰？ Visit Sensetime Group and guest sharing <ul style="list-style-type: none"> - From lab to listed company, what has Sensetime walked through? - Facing challenges under the “sanction” 	商湯科技 Sensetime Group Limited
Nov 19	10:00-10:30	光學科技 <ul style="list-style-type: none"> - 光是什麼？對人類生活有什麼影響 - 放大鏡和顯微鏡的工作原理 - 使用放大鏡觀察不同樣本 Science of light and optics <ul style="list-style-type: none"> - What is light and how it affects human life - Basic knowledge of magnifying lens and microscope - Looking at different samples through magnifying lens 	融HUB共創空間
	10:30-11:30	組建屬於自己的顯微鏡 <ul style="list-style-type: none"> - 使用顯微鏡觀察不同樣本（如昆蟲、植物種子、纖維等） - 比較與放大鏡的分別及背後原因 Making your own microscope <ul style="list-style-type: none"> - Looking at different samples through microscopes - Making comparison and the reason for the differences 	

	11:30-12:00	<p>光學的「魔術」</p> <ul style="list-style-type: none"> - 相機 (針孔/ 單鏡片/ 双合透鏡) - 水滴投影機 <p>The Magic of light</p> <ul style="list-style-type: none"> - The making of camera (Pinhole/Single Lens/Doublets) - Water-Drop Projector 	
	12:00-13:00	<p>小休 Lunch Break</p>	
	13:00-13:30	<p>嘉賓分享: 從想法到現實——漂書機解決了什麼問題? Guest Sharing: Address the right issues to convert ideas to reality</p>	
	13:30-14:30	<p>嘉賓分享—科學+商業: 推動人類進步的原因</p> <ul style="list-style-type: none"> - 核酸檢測是如何做的 - 傳感器的發明和發展 	
	14:30-15:00	<p>課程小結: 科學技術在生活中的應用</p> <ul style="list-style-type: none"> - 嘉賓 Q&A - 總結兩天課程內容 - 分享更多科學與生活的關係 (光刻機及晶片製作) <p>The application of Science in life</p> <ul style="list-style-type: none"> - Guest Q&A - Wrap up the two days' workshop and - Case study for lithography machine and chips 	
	15:00-15:30	<p>分組討論及確定需要希望解決的問題 Group discussion and confirm the issues you want to address with science in life</p>	
Nov 20	9:00-17:00	<p>一對一輔導: 按照不同個人及小組進行導師輔導 每隊大約20分鐘 One-on-one drill on case presentation Each team around 20 minutes</p>	融HUB共創空間 /Zoom
Nov 26	10:00-15:00	<p>展示日暨比賽 Ideation Day and competition</p>	香港科技大學創業中心

講者介紹

Speaker Bio (Partial)

Dr. Christopher Chan has been awarded his Phd degree from Oxford University and UG degree from Imperial College. Currently, he is a research scientist in the physics of solar energy harvest, semiconductor lighting, and nanotechnology with more than fifty scientific papers in the field. Dr. Chan has also devoted lots of time on photography education. Including teaching photography workshops in a few schools in Hong Kong and the UK, and holding multiple photo exhibitions in the UK.. He is also the co-founder of Centauri optics ltd, and the director of a molecular diagnostics startup company spinning off from the Hong Kong University of Science and Technology and a visiting researcher at the University of Hong Kong.

Mr. Albert Wai Kit Lau is a Ph.D. candidate in the Hong Kong University of Science and Technology. He works in the field of instrumental and experimental astronomy, supervised by Prof. George Smoot, 2006 physics Nobel laureate. Albert has extraordinary knowledge and understanding in the photonic sensors field and has published multiple papers on inventing and building new photonic sensors. He is also the co-founder of Centauri optics ltd, and the director of a molecular diagnostics startup company spinning off from the Hong Kong University of Science and Technology.

Mr. Anthony Lam is a Ph.D. candidate in the Hong Kong University of Science and Technology now. However, he is not only good at scientific development and research but also devotes lots of time on studying and practicing in entrepreneurship, technology transfer, and STEM education events. Anthony has been awarded the MPhil degree on technology leadership and entrepreneurship in HKUST and launched a tech start-up (Centauri Optics Ltd) with Prof K.S. Wong in HKSTP. Moreover, Anthony has also taught and planned multiple lectures alone for different organizations including DJI R Club, many secondary schools, HKPHAB, and etc.

Dr. Frank Liu is the Co-founder of Orange Biotech Diagnostics Technologies Limited. Obtained his PhD at hkust in the development of crispr technologies for diagnostics, he is currently a researcher at hkust and company director. Frank is also a singer turning his interests into businesses. He is a director at a music production company.