香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education
香港特別行政區政府教育局資助
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香港青年科學院講座系列 (網上版)大綱

The Hong Kong Young Academy of Sciences (YASHK) talk series (Online Version)

目錄 **Content Page**

E2TEC904T

課程名稱 Programme Title	Talk Series on Emerging Technologies - Science, Opportunities and Challenges 2023: Cancer Immunotherapy (Online Version) (This programme was identical to Talk Series on Emerging Technologies - Science, Opportunities and Challenges 2023: Cancer Immunotherapy (E2TEC004T).)
資優課程簡介 Gifted Programme Introduction	Cancer is one of the most leading causes of death worldwide. Cancer incidence will continue to rise in the next decades. Cancer represents the major health threat to our society. Many cancer patients are not suitable for surgeries, leaving chemo-therapies, radio-therapies, and targeted-therapies as the only treatment options. All these options aim to target cancer cells to limit their uncontrollable growth. However, these treatments at the same time are damaging normal cells, resulting in severe side effects in cancer patients. Recently, immunotherapies, which aim to activate the immune system to combat cancer cells, have emerged as the mainstream cancer treatment. The clinical success of immunotherapies is unprecedented which significantly contributes to its popularity. This lecture will focus on the introduction of our immune system and its importance in fighting cancer, the basic principles of different kinds of anti-cancer immunotherapies, their advantages and disadvantages, the preclinical and clinical evidence that shows the power of immunotherapies, and the future drug innovations and directions of immunotherapies as cancer treatments.
講者 Speaker	The speaker, Dr WONG Chak Lui, Carmen, is an Associate Professor at the Department of Pathology, LKS Faculty of Medicine, The University of Hong Kong. She is one of the elected members of The Hong Kong Young Academy of Sciences with research interests in tumor microenvironment formation, cancer metabolism, and the roles of hypoxia in cancer development.
課程種類/程度 Programme Type/level	Online Learning Programme (Level II) (Non Token Required)
適合對象 Target Participants	S1 to S6 HKAGE student members
講授語言 Medium of Instruction	English
預期學習成果 Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. recognise our immune system and its importance in fighting cancer; 2. outline the basic principles of different kinds of anti-cancer immunotherapy, including their advantages and disadvantages; 3. predict that immunotherapy is a promising direction for cancer treatment.
時數 Duration	2 hours
報名 Application	Click here for application.

E2TEC910T

課程名稱 Programme Title	都市太陽能邁向碳中和 (網上版) (本課程內容與新興科技講座系列 — 科學、機遇及挑戰 2023：都市太陽能邁向碳中和 (E2TEC010T) 相同。)
資優課程簡介 Gifted Programme Introduction	香港政府制定了至 2050 年實現碳中和的宏偉目標，其總體規劃的關鍵策略是增加可再生太陽能 的運用。在是次演講中，講者將討論我們如何依靠技術創新來應對這一巨大挑戰，並介紹一種嶄 新的太陽能電池，其具備可印刷、柔性、透明和顏色可調的特性。這種新一代太陽能電池技術可 結合用於建築物的窗戶、外牆或窗簾，在城市中產生更多的太陽能電力，解決城市通常只有有限 的土地和屋頂空間來安裝傳統的矽太陽能電池板的問題，促進香港太陽能發電的應用。
講者 Speaker	講者葉軒立教授為香港城市大學材料科學與工程學系及能源與環境學院教授，香港清潔能源研究 院副院長。他的研究方向主要是 1) 有機太陽能電池，2) 鈣鈦礦太陽能電池，3) 鈣鈦礦發光二極管(LED) 三者的結構與性質之關係、元件物理與光物理學、界面和器件工藝等。
課程種類/程度 Programme Type/level	網上學習課程 (程度 II) (非代幣課程)
適合對象 Target Participants	於 2024 至 2025 學年為中一至中六的香港資優教育學苑學員。
講授語言 Medium of Instruction	粵語
預期學習成果 Intended Learning Outcomes	完成本資優課程後，資優生應能： 1.明白可再生能源的背景及其主要驅動因素； 2.理解太陽能光伏電池的運作原理； 3.找出嶄新的光伏技術與建築物及其他社區設施的潛在整合方法； 4.應對香港太陽能發展的挑戰和機遇。
時數 Duration	2 小時
報名 Application	按此報名。

E2TEC915T

課程名稱 Programme Title	Talk Series on Emerging Technologies — Science, Opportunities and Challenges 2023: Diamond as next-generation semiconductor (Online Version) (This programme was identical to Talk Series on Emerging Technologies — Science, Opportunities and Challenges 2023: Diamond as next-generation semiconductor. (E2TEC015T))
資優課程簡介 Gifted Programme Introduction	Not only the hardest material in nature, diamond is also a promising semiconductor material with an ultrawide bandgap, ultrahigh carrier mobility and thermal conductivity. Unlike silicon, however, doping diamond has been always difficult which limits its microelectronics application. Our recent research shows that elastically stretching diamond can potentially address this grand challenge, and push its extreme figures-of-merit for future electronic device applications.
講者 Speaker	Prof. LU Yang is an HKU-100 Scholar Professor, Department of Mechanical Engineering, The University of Hong Kong. He a member of the Hong Kong Young Academy of Sciences (YASHK).
課程種類/程度 Programme Type/level	Online Learning Programme (Level II) (Non Token Required)
適合對象 Target Participants	S1 to S6 HKAGE student members
講授語言 Medium of Instruction	English
預期學習成果 Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. understand the outstanding mechanical and electrical properties of nanoscale diamond; 2. know the current status and challenges for diamond being used into semiconductor industry; 3. obtain a preliminary idea of what “elastic strain engineering” is, and how it can make diamond an important semiconductor material in the future.
時數 Duration	2 hours
報名 Application	Click here for application.