

香港科學館 HONG KONG SCIENCE MUSEUM

教育通訊 Education Newsletter

春季 SPRING 2017

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HK SciFest 香港科學節

18.2 - 23.4.2017

各位親愛的校長和老師：

新的一年又開始了，在此謹祝各位工作順利、新年進步。香港科學館將繼續舉辦一連串專為老師和學生而設的教育活動，歡迎各位踴躍參加。

香港科學館拓展組

Dear principals and teachers,

We wish you a great success in the New Year. The Hong Kong Science Museum will continue to organise an array of educational programmes for teachers and students. We look forward to your participation.

Development Unit, Hong Kong Science Museum

超感官暴龍展

「超感官暴龍展」是一個沒有珍貴化石和仿真模型的恐龍展覽。傳統的恐龍展覽只展出珍貴的化石和相關的圖像以及解說文字。現今科技的發展突破了傳統展覽的展示方式，讓觀眾進入虛擬國度，甚至與展覽的主角互動起來。「超感官暴龍展」是首個結合尖端科技和嶄新科研成果的展覽。展覽利用擴增實境(AR)及虛擬實境(VR)技術，帶領觀眾進入栩栩如生的恐龍世界，體驗一個創新及身臨其境的參觀經驗。



暴龍是史上最兇猛和最著名的肉食恐龍，牠帶有鋸齒的牙如牛扒刀一樣鋒利、咬合力比現今最強的鱷魚還要強超過三倍、而速度更堪比當今的百米飛人，暴龍絕對是史前世界的無敵霸王。這展覽透過多組以最新的AR及VR技術製作的互動展品，讓觀眾回到6,600萬年前的史前世界，翱遊在史前的天空尋找恐龍的足跡，近距離接觸兇猛的暴龍和認識牠的身體構造及生活習性，與及了解科學家如何透過研究其頭骨，推斷出暴龍擁有的超級感官等有趣課題。

在參觀前你只需下載AR應用程式或使用展覽場內的平板電腦，即可與我們一起展開旅程，揭開暴龍的神秘面紗。

展期：2016年12月2日至2017年3月1日

地點：香港科學館特備展覽廳

常設展覽廳參觀人士不另收費

常設展覽廳票價：\$20, \$14[#], \$10*

常設展覽免費開放予全日制學生

逢星期三免費入場

博物館通行證持有人及由攜票成人陪同參觀的四歲以下小童免費入場

#20人或以上於同日參觀的團體之標準票特惠價

***適用於殘疾人士（及一名同行照料者）及60歲或以上高齡人士**

康樂及文化事務署主辦

香港科學館 及 Globe Creative Limited 聯合籌劃

媒體夥伴：國家地理頻道

技術夥伴：小米科技有限責任公司

聯繫課程：

小學常識科：「人與環境」

中一至中三科學科：「觀察生物」

中四至中六生物科必修部分：「生物與環境」

中四至中六組合科學科生物部分：「生物與環境」

T-Rex Revealed – The Augmented + Virtual Reality Experience

“T-Rex Revealed – The Augmented + Virtual Reality Experience” is a dinosaur exhibition with an entirely virtual experience. In traditional dinosaur exhibitions, only precious fossils, relevant illustrations and text could be seen. Advanced technology has made new presentation techniques possible, immersing visitors in a virtual world and even allowing them to interact with the featured elements of the exhibition.

“T-Rex Revealed – The Augmented + Virtual Reality Experience” is the first exhibition that integrates cutting-edge

technology with the latest scientific research. Making use of Augmented Reality (AR) and Virtual Reality (VR) technologies, the exhibition creates an immersive and adventurous experience, taking visitors into the vivid world of the dinosaurs.



Tyrannosaurus was the most ferocious carnivorous dinosaur and is certainly the most famous one. It had serrated teeth as sharp as a steak knife; its crushing bite was over three times stronger than crocodile's, which has the most powerful bite among animals today; and it could run as fast as the fastest man alive. *Tyrannosaurus* was a matchless predator in the prehistoric world. In this exhibition, various interactive exhibits employing the latest AR and VR technologies and video programmes take visitors back to the prehistoric world 66 million years ago. Visitors can fly through the sky looking for dinosaur footprints or even have a close encounter with the ferocious *Tyrannosaurus*. Learn about its body structure, living habits and other interesting topics say how scientists deduced the super senses they had from the study of their skulls.

Simply download the AR App before your visit or use the tablets provided in the exhibition to go on a myth-busting journey with us!

Exhibition Period: 2.12.2016 - 1.3.2017

Venue: Special Exhibition Hall, Hong Kong Science Museum

No extra fee is required for museum visitors of Permanent Exhibition

Permanent Exhibition Ticket: \$20, \$14[#], \$10*

Free admission to permanent exhibition for full-time students

Free admission on Wednesday

Free admission for Museum Pass holders and children under 4 years old accompanied by an adult with ticket

[#]Special rate of Standard Ticket for groups of 20 people or more per visit

*People with disabilities (and one accompanying carer) and senior citizens aged 60 or above

Presented by the Leisure and Cultural Services Department

Jointly organised by the Hong Kong Science Museum and Globe Creative Limited

Media Partner: National Geographic Channel

Technology Partner: Xiaomi Inc.

Curriculum Links:

Primary School General Studies: “People and Environment”

S1-3 Science: “Looking at Living Things”

S4-6 Biology Compulsory Part: “Organisms and Environment”

S4-6 Combined Science Biology Part: “Organisms and Environment”

一年一度的科學盛事又來了！「2017香港科學節」於2月18日至4月23日舉行

「香港科學節」期間，香港科學館聯合不同的科學機構和組織合作伙伴，共提供逾170項科學活動，內容涵蓋各個科學領域，包括天文學及太空科技、化學、生命科學、數學與物理、地球科學與氣候學、科技與工程等科目，再加入以「醫學與健康」為題的特色活動，讓大家認識到中西醫學的科學理念。活動包括展覽、參觀及導賞、科學工作坊、家庭同樂日、科學劇場、趣味實驗班、專題講座和科學比賽等項目。

開幕特備活動「玩轉科學嘉年華」，設有互動攤位遊戲包括醫學與健康、STEM教育、光污染、生物多樣性和地球科學等不同科學領域。期間並有來自美國的資深科學傳意專家艾迪·高德斯坦，在科學館表演街頭科學劇及魔法數學科學劇，他亦主持一系列工作坊，於2月22日至24日，和老師及科學傳意工作者分享科學傳意的心得，為科學教學帶來新思維。這些活動設有學校專場和教師工作坊，歡迎老師報名參與。

今年新設的「講座獎勵計劃」，鼓勵大家多參與科學講座，與專家講者交流，深入地了解各門科學的知識和最新發展。

為期兩個多月的「2017香港科學節」，必定有令你心動的活動。機不可失，大家快來參加「2017香港科學節」，一起探索、發掘和尋找科學的樂趣！請瀏覽「2017香港科學節」網頁，發掘更多精彩節目及最新資訊：<http://hk.science.museum/scifest2017/>

An exciting annual science event is coming again!

HK Scifest 2017 is held from February 18 to April 23

In this fabulous large-scale event, we have collaborated with scientific institutes and organisations to provide more than 170 scientific activities to elevate the public awareness and interest in science and technology. Topics of astronomy and space technology, chemistry, life sciences, mathematics and physics, earth science and climatology, technology and engineering are covered in the festival. We have also organised a series of “Medicine and Health” thematic programmes which help to introduce the scientific concepts behind western and Chinese medicines, and recognise the contribution of medical research and disease treatments to our health. The festival offers interesting scientific activities, including exhibitions, visits and guided tours, science workshops, family days, science drama shows, fun experiment classes, science lectures and science competitions.

In the opening event “Fun Science Carnival”, game booths with topics of medicine and health, STEM education, light pollution, biodiversity and earth science will be set up for the public. In addition, fantastic street science shows and magical maths and science shows will be performed in the HK Science Museum by Eddie Goldstein, a veteran expert on science communication from the USA. Special sessions have been set aside for schools, so please book in advance. Want to have a chance to chat with Eddie to get new insights in science education? Don't miss his science communication workshops for teachers.

To encourage deepening the learning, the Lecture Award Scheme is launched to promote participation in lectures where the public can meet the scientists and understand the latest development.

There are more exciting programmes in the HK SciFest 2017. Visit our website to find out more about them and get the latest news: <http://hk.science.museum/scifest2017/>

2017 活的科學

要追溯全球環保運動及教育的源頭，相信可從美國海洋生物學家雷切爾卡森於1962年出版的《寂靜的春天》一書開始。18年後，科學家卡爾薩根堅持要從外太空拍攝一幅以地球為主的照片。自此，這照片上那一點暗淡的藍光，成為了地球脆弱與微小的象徵。當英國太空人提姆皮克於2015年執行升空任務時，或許仍帶着對這張劃時代照片的記憶，希望自己能親身目睹這難忘一刻。時光飛逝，再看今時今日的地球，不論是海洋、森林、空氣以至生物多樣性，無一不受威脅，諷刺的是，這一切的罪魁禍首，是仰賴大地而生的人類。今年，「活的科學」會從欣賞、理解和行動三方面來帶出保護地球的重要性，期望讓這「暗淡藍點」永遠美麗和充滿生機。



今年的科學互動講座題材十分廣泛，包括如何由零開始重建文明、氣候變化、基因組編輯新技術及恐龍生理學等；精裝科學劇則藉生動和別出心裁的活動，引領觀眾認識不同形式的能量，以及如何讓常人擁有超級英雄的力量。此外，還有專為教師而設，探討如何啟發學生投入STEM學習的教學工作坊，以及讓家長陪同小朋友一起做實驗的親子工作坊。

此外，深受大眾歡迎的「家庭同樂日」今年繼續會在戶外舉行，現場設有科學表演和攤位活動等讓市民參加。請一同前來感受一下「活的科學」的奇妙之處吧！

詳情請到 <http://hk.science.museum/ms/sa2017/index.html> 瀏覽。



科學互動講座 Science Interactive Lecture



精裝科學劇 Science Drama Show

地點：香港科學館

語言：英語，部分活動提供廣東話傳譯

聯繫課程：小學常識科、中一至中三科學科、中四至中六生物科、化學科、地理科、綜合科學科及組合科學科

公眾人士可到英國文化協會網頁 www.britishcouncil.hk 登記免費入場，大會亦預留部分座位予現場觀眾，先到先得。

由香港科學館、英國文化協會、教育局及香港教育城有限公司合辦

裘槎基金會贊助

查詢電話：2732 3220 (星期一至五：上午9時至下午1時及下午2時至5時，公眾假期除外)

Science Alive 2017

The birth of the global environmental movement, and with it environmental education, started with the publication of “Silent Spring” by Rachel Carson in 1962. Eighteen years later, the world was given a unique glimpse of the Earth from space through a photo that was almost never taken. A photo that scientist Carl Sagan insisted be taken, one that would endure to be a symbol of the Earth’s fragility and vulnerability. This photo, or the anticipation of seeing it first-hand, may have been on the mind of UK astronaut Tim Peake as he ascended into space in 2015. Fast forward to present day: the Earth is still under threat, from its water to its forests, and from its air to its biodiversity. Ironically, it is us humans, living and depending on the Earth, who are the reasons why it is under threat. This year, Science Alive will highlight the importance of appreciating, understanding and acting to preserve the beauty and complexity of the Earth, this “pale blue dot”.

Science Interactive Lectures of this year will cover a wide range of topics including the rebuilding civilisation from scratch, climate change, new genome editing technique and dinosaur physiology. Meanwhile, the Science Drama Shows will be performed in a vivid and stunning way to foster the interest of audience in understanding different types of energy, and turning the powers of superheroes into reality. Moreover, workshops specially designed for teachers to inspire students to study STEM subjects, and family workshops that let parents do experiments with their children will be held again.

The well-received Family Day programmes with street science performance and drop-in activities will be held in the outdoor area again. Come and be amazed by these activities as we bring science alive!

Please visit the website <http://hk.science.museum/ms/sa2017/eindex.html> for details.



科學家庭同樂日 Family Day



親子工作坊 Family Workshop

Venue: Hong Kong Science Museum

Language: English, with Cantonese interpretation for some activities

Curriculum Links: P1-P6 General Studies, S1-S3 Science, S4-S6 Biology, Chemistry, Geography, Integrated Science and Combined Science

Audience can reserve seats through the British Council website www.britishcouncil.hk, or be admitted on-site on a first come, first served basis.

Jointly organised by the Hong Kong Science Museum, the British Council, the Education Bureau and Hong Kong Education City Limited

Sponsored by the Croucher Foundation

Enquiries: 2732 3220 (Mon to Fri: 9am - 1pm, 2pm - 5pm, except public holidays)

巡迴展覽 Travelling Exhibitions

香港科學館為推展博物館教育服務至學校，製作了不同類型的教材，供學校免費借用。教師可以在校內利用本館的展品教材，實踐活動教學，豐富學生的認知。

我們一共提供三套巡迴展覽給學校作教學用途，展覽以中英對照的展板形式製作，主題包括：

1. 腦與認知

以人類腦部結構和功能為主題，揭示腦部神經傳遞信息機制與腦神經疾病的關係。展覽內容適合中四至中六生物科必修部分「生物與環境」、綜合科學科必修部分「體內平衡」，及組合科學科生物部分「生物與環境」課程。

2. 幻影

以視覺感觀為主題，挑戰觀眾的知覺及常識，揭開人類認知的奧秘。展覽內容適合中四至中六生物科必修部分「生物與環境」及組合科學科生物部分「生物與環境」課程。

3. 「沙士」與病毒

以「沙士」及病毒為主題，揭開病毒傳播的途徑。展覽內容適合中四至中六生物科選修部分「微生物與人類」、綜合科學科選修部分「持守健康」及組合科學科生物部分「健康與疾病」課程。

學校須自行安排運送、裝拆及歸還展覽。

查詢借用詳情可致電2732 3220 (星期一至五：上午9時至下午1時及下午2時至5時，公眾假期除外) 或瀏覽 http://hk.science.museum/zh_TW/web/scm/ed/travelling.html。

To extend the Museum's education services to schools, the Hong Kong Science Museum produces various types of educational kits on loan to schools for free. Teachers can utilise these resources to supplement their teaching in order to enrich students' knowledge.

There are three exhibitions available on loan to schools. They are produced in the format of graphic panels with English and Chinese texts. Topics include:

1. Brain and Cognition

Exhibits the structure and functions of human brain and reveals the linkage between neural transmission and brain problems. This exhibition is suitable for S4-6 Biology compulsory part "Organisms and Environment", Integrated Science compulsory part "Balance within Our Body" and Combined Science Biology part "Organisms and Environment".

2. Optical Illusion

Challenges your common perceptions and unveils the mystery of human recognition through illusion games. This exhibition is suitable for S4-6 Biology compulsory part "Organisms and Environment" and Combined Science Biology part "Organisms and Environment".

3. SARS and Viruses

Demonstrates the pathway of viral infection with SARS and some typical viruses as examples. This exhibition is suitable for S4-6 Biology elective part "Microorganisms and Humans", Integrated Science elective part "Keeping Ourselves Healthy" and Combined Science Biology part "Health and Diseases".

Schools shall be responsible for installation and dismantling as well as round-trip transportation of the exhibition.

For enquiries, please contact us at 2732 3220 (Monday to Friday: 9am - 1pm and 2pm - 5pm, except public holidays) or browse the website http://hk.science.museum/en_US/web/scm/ed/travelling.html.

其他學生活動 Other Student Programmes

1. 「小小科學家」探索活動 — 「聲音知多少」

Little Scientists Exploration Programmes – “Sound so Funny”

香港科學館舉辦「小小科學家」探索活動，旨在藉着饒富趣味的實驗，向高小學生介紹與特定主題有關的科學知識。本館將於二零一七年二至四月份期間推出「聲音知多少」探索活動，讓學生瞭解聲音傳播的原理、模式及其特點等。本活動歡迎學校及家長教師會報名參加，詳情請瀏覽本館網頁 http://hk.science.museum/zh_TW/web/scm/ed/lsep.html。

地點：香港科學館實驗室

適合程度：小四至小六學生

費用：每人34元

名額：每節40人

截止報名日期：活動日期前兩星期

語言：粵語 (to be conducted in Cantonese)

聯繫課程：小學常識科「日常生活中的科學與科技」

2. 學校參觀 School Visit

凡學校團體人數達20人或以上，或特殊學校團體人數達10人或以上，即可以學校名義申請學校參觀。所有申請會以先到先得方式處理。

註：如學校團體中有家長義工，請先聯絡本館職員查詢購票事宜。

School groups of **20 or more members**, or groups from special schools of **10 or more members**, are eligible for School Visit application. All applications will be processed on a first come, first served basis.

Remarks: For school groups with parents / volunteers, please contact our staff for details of admission fee before the date of visit.

各項活動查詢及報名 Programme Enquiries and Registration

申請方法：填妥有關活動的申請表，並傳真至「香港科學館」拓展組。

How to apply : Complete the application form and fax it back to the Development Unit of the Hong Kong Science Museum.

查詢電話 Telephone : 2732 3220 (劉小姐 Ms Lau)

服務時間 Office Hours : 星期一至五：上午9時至下午1時及下午2時至5時 (公眾假期除外)
Monday to Friday : 9am to 1pm and 2pm to 5pm (except public holidays)

傳真 Fax : 2311 2248

網址 Website : http://hk.science.museum/zh_TW/web/scm/ed.html