

2023 Taiwan Science Festival

臺灣科學節

Basic Sciences Create Future
基礎科學 開創未來





02 臺灣科學節
Taiwan Science Festival

48 歷屆原民科學活動成果
Indigenous science

04 五館簡介
Introduction to Five Museums

56 第四屆臺灣科學節
精選活動
Featured Events in the 4th
Taiwan Science Festival

08 歷屆臺灣科學節
活動成果
Successive Taiwan Science
Festival Movanle Achievement

78 國家科學及技術委員會
科普活動
Popular Science Events of the
National Science and Technology Council

08 國立海洋科技博物館
Activities of NMMST

16 國立臺灣科學教育館
Activities of NTSEC

84 科普基地
SciBases

24 國立自然科學博物館
Activities of NMNS

32 國立科學工藝博物館
Activities of NSTM

100 合作夥伴
Partners

40 國立海洋生物博物館
Activities of NMMBA

臺灣科學節

Taiwan Science Festival

科學研究及科技進展為人類帶來便利的生活，引導人類認識我們的地球及宇宙的奧秘。推廣科學知識、培育科學研究人才及提供友善的科學學習環境，人類才能持續面對各種挑戰，建立永續發展的社會。

Scientific research and technological advancement have brought a convenient life for humans, guiding us to learn more about the mysteries of our Earth and the Universe. Promoting scientific knowledge, cultivating science researchers and providing a friendly science learning environment enable humans to continue to face all kinds of challenges and build a sustainable society.

自2020年起，過去三年的臺灣科學節期間，每年推出百餘種、近千場次各類精采的科學活動，已經吸引一百五十萬民眾熱情參與，透過新奇又有趣的動手探究、演示與體驗方式，啟發全民對科學的興趣和好奇心，更深入地了解 and 探索科學。

Since 2020, the Taiwan Science Festival has promoted over one hundred kind of science activities and promoted nearly one thousand sessions of spectacular science activities each year in the past three years. The festival has attracted 1,500,000 people to attend passionately. Novel and interesting hands-on inquiry, demonstrations and experiential activities have inspired the general public's interest in and curiosity about science, guiding them to comprehend and explore science more profoundly.

第四屆臺灣科學節以「基礎科學開創未來」為主題，由教育部與國家科學及技術委員會共同主辦，以五大科學博物館為基地，結合科普基地及大專院校等合作單位，展現臺灣基礎科學能量，促進民眾對基礎科學和科技的關注和認識。今年提供了豐富多彩的科學展覽、科學實驗秀、工作坊和互動演出等，讓參加民眾可以深入認識基礎科學的發展，同時也能夠展現自己的創造力，親身體驗科學的趣味魅力。

The fourth Taiwan Science Festival which is themed with “Basic Sciences create the future” is co-hosted by the Ministry of Education and National Science and Technology Council. The festival will be based at five major science museums, integrating SciBases, colleges and universities, and other partnerships to present the power of Taiwan’s basic sciences, and also promoting people’s concern and understanding of basic science and technology. The 4th Taiwan Science Festival will provide rich and colorful science exhibitions, experiments, workshops and interactive performances to enable participants to have a deeper understanding of the development of basic sciences. The participants can show their creativity and can experience the interesting charm of science in person at the same time.

Taiwan Science Festival



五館簡介

Introduction to Five Museums

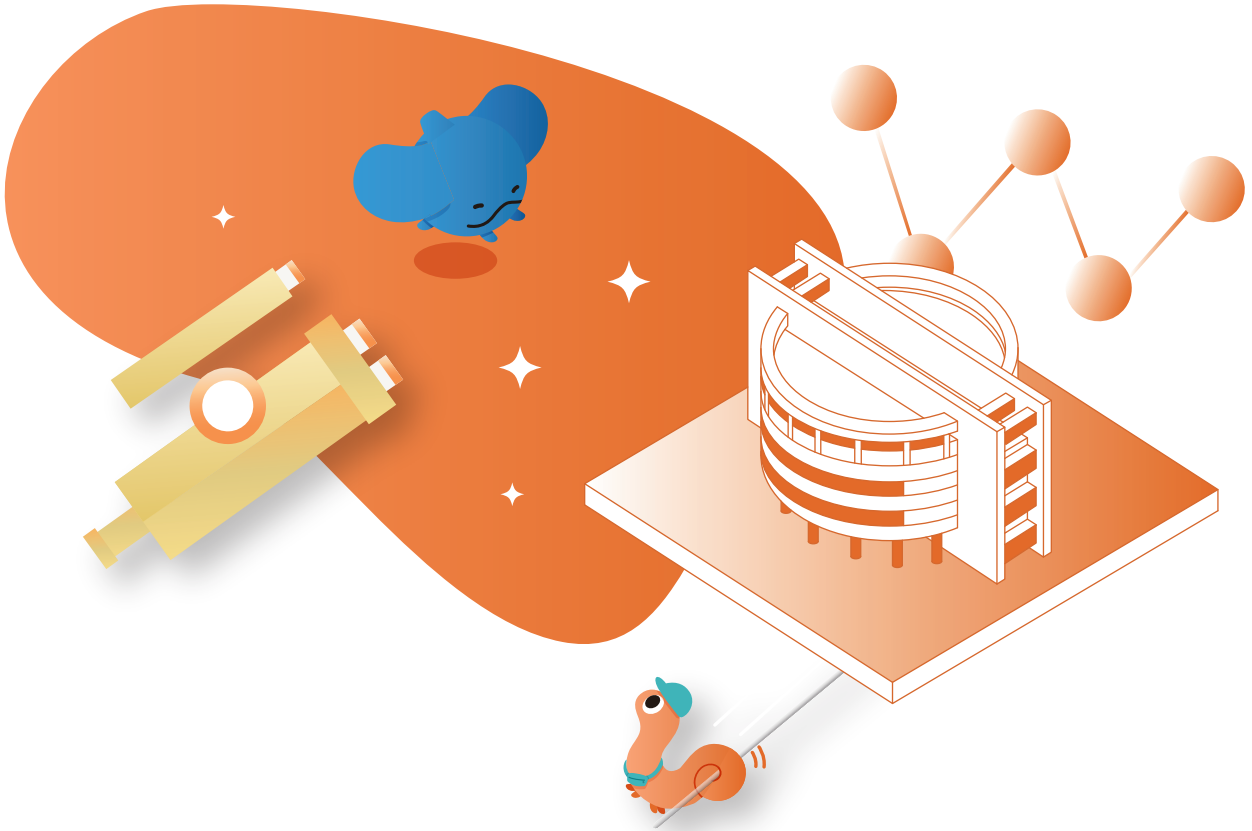
國立海洋科技博物館

National Museum of Marine Science and Technology

國立海洋科技博物館自2014年正式開館迄今，秉持「知海、親海、愛海」之建館使命，從軟硬體兼具的展廳，生動知性的體驗課程與渾然天成的山海環境出發，深入在地文化，結合北海岸得天獨厚的自然與人文資源，深化國人海洋素養與環境意識。

Since its founding in 2014, The National Museum of Marine Science and Technology has remained committed to its founding spirit of “Understanding, Supporting, and Loving the Ocean”. We employ exhibition halls that are well-equipped with software and hardware, vibrant and passionate demonstration classes, and seamlessly created natural environments to increase people’s awareness and appreciation of local culture, harness the unique natural and cultural resources of Taiwan’s northern coast, and reinforce of Taiwan’s people the oceanic knowledge and environmental awareness.





國立臺灣科學教育館

National Taiwan Science Education Center

國立臺灣科學教育館是一個提供全民學習科學教育的大寶庫，館內的常設展區能讓您飽覽生物、物理、化學、數學與地球科學等豐富的科學知識，並將最新、最生活化的科學新知透過最精彩、有趣的展示方法呈現，讓您發現原來科學這麼好玩！而兼顧動手操作的親身體驗，更能讓各年齡層民眾，以及所有對科學有興趣的人都能FUN心玩科學，進而愛上科學。

The National Taiwan Science Education Center is a great place for the general population to learn about the sciences. Inside the center, the permanent exhibition area allows the visitor to partake of abundant scientific knowledge about Biology, Physics, Chemistry, Mathematics and the Earth Sciences, and also presents the latest and most relevant scientific knowledge in the most magnificent way. All age groups are served by the excellent popular science events, which provide everyone who is interested in science with the opportunity to enjoy some lighthearted fun with science and fall in love with it!



國立自然科學博物館

National Museum of Natural Science

國立自然科學博物館館藏超過160萬件標本和文物，每件都是特定的時空膠囊，代表過去地球自然歷史故事的片段；研究人員從這些物件中，探索收集新的資訊，這些關於過去的發現，有助於我們預測未來。每年我們的員工和志工，藉由展示及教育計畫，與上百萬的訪客分享我們的藏品和從中汲取的知識，從而加深他們對科學、自然文化世界及當代挑戰的認知。

There are more than 1.6 million specimens and artifacts on display in the National Museum of Natural Science. Each one is a specific time capsule which represents a fragment of the natural history of Earth. Curators continuously explore new information from those objects to not only help us understand the past but also predict the future. Staff and volunteers share our collections and related knowledge with millions of visitors via exhibits and educational programs, in order to raise visitors' awareness about science, the natural and cultural world, and the challenges of today.

國立科學工藝博物館

National Science and Technology Museum

國立科學工藝博物館為國立社會教育機構，推廣社會科技教育為其主要功能，故建館任務為研究、設計、展示各項科技主題，引介重要科技之發展及其對人類生活的影響。當「氣候變遷」為國際社會共同面臨的急迫挑戰之際，該館以聯合國及行政院發布之永續發展目標為綠博館計之基礎，積極推動各項目標，以實踐永續發展理念及社會教育使命。

The National Science and Technology Museum is a national social education institution aimed at promoting science and technology education. Therefore, NSTM is dedicated to the research, design, and display of various technological themes, to introduce important technological development, and to present its influence on everyday lives. Corresponding to the urgent challenge of "climate change" facing the global community,

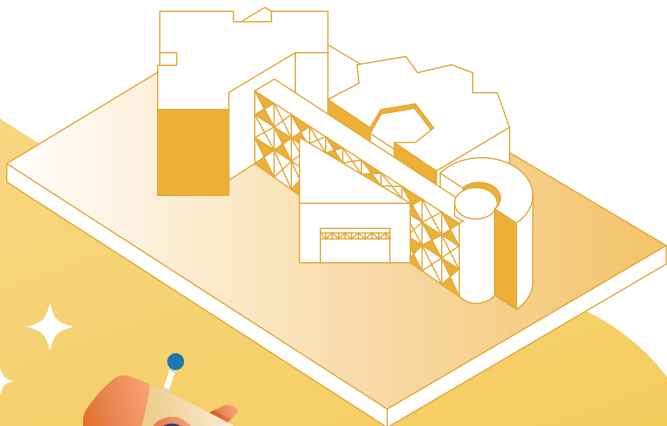
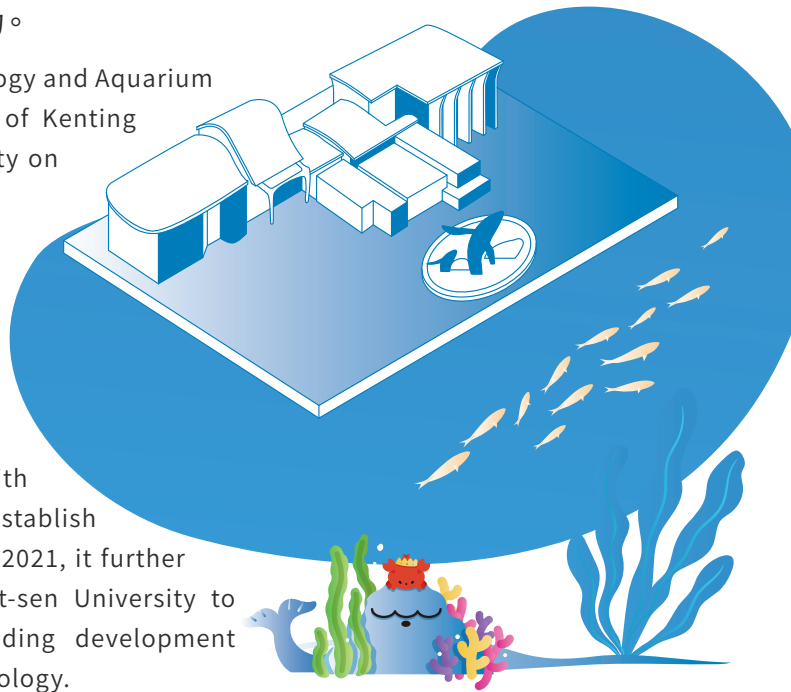
NSTM actively promotes various goals to implement the concept of sustainable development and social education of Sustainable Development Goals as announced by the United Nations and Executive Yuan as the basis for the Green Museum project.

國立海洋生物博物館

National Museum of Marine Biology and Aquarium

國立海洋生物博物館位於墾丁國家公園境內西北角，是全國進行海洋與淡水環境教育、研究與保育的最大場域。主要設施可分為四個展覽館：臺灣水域館、珊瑚王國館、世界水域館以及鯨典館。另自2005年起與國立東華大學聯合成立了「海洋科學學院」，2021年起與國立中山大學合作設立研究所，為未來海洋生物科技發展增加開發潛力。

The National Museum of Marine Biology and Aquarium is located at the northwestern tip of Kenting National Park. It is the largest facility on the island to offer venues for education, research and preservation of Taiwan's marine and fresh water environments. There are four main exhibits including Waters of Taiwan, Coral Kingdom, Waters of the World and Whale Explorium. Since 2005, it had also partnered with National Dong Hwa University to establish the "College of Marine Sciences." In 2021, it further collaborated with National Sun Yat-sen University to establish a research institute, adding development potential for future marine biotechnology.





國立海洋科技 博物館

National Museum of
Marine Science and Technology





歷屆臺灣科學節活動成果

Successive Taiwan Science Festival Movanle Achievement

國立海洋科技博物館 NMMST

國立海洋科技博物館(以下簡稱海科館)，於三屆臺灣科學節期間，共舉辦494場次活動，參與活動計有80,301人次，善用博物館周邊資源及自然生態環境辦理各項活動與展示，如：「藍海綠能探索基地」定點導覽(圖1)，推廣潔淨能源議題及能源教育；「海洋職涯探索基地」展示RB-02搜救船(圖2)，透過實體船艦展出，增進大眾對救難的認識，並瞭解海域活動安全之重要；與新北市瑞芳老街文化觀光推展協會合作「藝術光雕-亮藝點·環保藝術燈飾展」，將魚燈結合編藝型塑，以帶動地方發展與地方創生，共同美化生活環境與美感教育；「地景變遷」則帶領親子到戶外探索，了解造成地景及海蝕地形的海水運動及動植物生態等。



圖1 「藍海綠能探索基地」定點導覽
Fig.1 Guided tour of “Blue Ocean Green Energy Exploration Base”

The National Museum of Marine Science and Technology (hereinafter referred to as the NMMST) held a total of 494 events during the Taiwan Science Festival in the past three years, and a total of 80,301 people participated in these events. The NMMST made the best use of local resources and natural ecological environment around to organize events and exhibitions such as; the guided tour of “Blue Ocean Green Energy Exploration Base” (Fig. 1) to promote the issue of clean energy and energy education, the exhibition of RB-02 Search and Rescue Boat in the “Marine Career Exploration Base” (Fig. 2) to improve people’s understanding of rescue and of the importance of safety of marine activities by displaying the actual vessel, the environmental art lighting exhibition of “Art Light Sculpture—Art Highlight” organized with Ruifang Old Town Culture with the Tourism Develop-



圖2 館長在RB-02搜救艇的水上摩托車

Fig. 2 “The NMMST director is on the jet ski of the RB-02 search and rescue boat.

ment Association in New Taipei City to integrate fishing lights with weaving art to promote local development and placemaking to beautify our living environment and aesthetic education, and the event of the “Change of Landscape” which led parents and children to explore outdoors to learn about landscapes and sea-eroded terrain formed by the movement of the sea, and the ecology of animals and plants.

將科學知識及藝術展演結合推出多元演出內容及形式，以嶄新的戲劇方式呈現，讓觀眾能藉由觀賞戲劇同時學習科學新知，包含與臺灣京崑劇團合作推出「西遊記之大鬧龍宮」（圖3）及「八仙過海」的海洋科學舞臺劇；與瓶子先生魔術劇團合作推出「瘋狂麥西實驗室科學劇」結合魔術、氣球元素於戲劇；與慾望劇團合作推出「海底的守護神」以海洋保育為議題及「森林國小不一樣」（圖4）融合性別平等及海洋保育元素；「我的英雄請答有」及明日之星舞蹈團「老人與海基隆」等創意展演。

The NMMST promoted diverse content and forms of performances by integrating scientific knowledge with art performances. Brand-new these dramas were presented to enable the audience to gain new scientific knowledge while admiring these dramas. The dramas included: the marine science stage plays of “Journey to the West: The Dragon Palace” (Fig. 3) and “Eight Immortals Crossing the Sea” promoted with Taiwan's Jingkun Opera Troupe, “Mad Science Laboratory” with the combination of magic tricks and balloon elements, which was promoted with Mr. Bottle Magic Troupe, “Guardian of the Sea” featuring the issue of marine conservation, and “You Are Unique” (Fig. 4) with the combination of gender equality and marine conservation elements, which were promoted with You Want Troupe, “My Hero Please Say Yes,” and “The Old Man and the Sea Keelung” promoted by Super Star Dance Plus Dance Studio, and other creative performances.

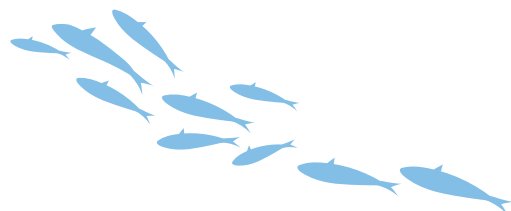




圖3 西遊記之大鬧龍宮

Fig. 3 Journey to the West: The Dragon Palace



圖4 森林國小不一樣

Fig. 4 You Are Unique

結合食魚教育舉辦「生態廚房」與「海洋永續廚房」等系列活動(圖5)，呈現食物及料理中的科學，以體驗活動來瞭解「食」與「魚」關聯，從認識水產品生產到銷售過程，讓在地海洋環境與飲食文化結合，實踐吃在地食當季的永續理念。海科館在臺灣科學節期間也舉辦多項工作坊，讓親子共同體驗學習，包含結合日本仿生技術藝術團隊，將科學融合美學「仿生藝術幻影工作坊」；化身為一日水族飼養員的「水族科學好好玩工作坊」(圖6)；真實鯉魚游動進行仿生分析的「機械魚工作坊」(圖7)及「永續海洋工作坊」(圖8)等。

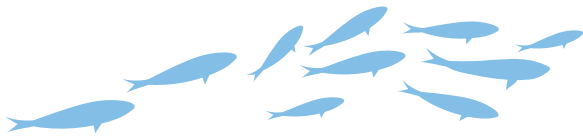


圖5 館長向民眾說明吃在地及當令海鮮概念

Fig. 5 The NMMST director explains the concept of eating local and seasonal seafood to the public.



圖6 水族科學好好玩工作坊

Fig. 6 Interesting Aquarium Science Workshop

To introduce the food and fisheries education, the NMMST held the activities of “Ecological Kitchen” and “Marine Sustainable Kitchen” (Fig. 5) to present science in food and dishes to enable participants to comprehend the relation of “food” and “fish” with experiential activities. Participants first learned about the production and sales of aquatic products through the activities which integrated local marine environment with dietary culture, implementing the sustainable philosophy of eating local and seasonal food. Additionally, the NMMST held numerous workshops during the Taiwan Science Festival to enable parents to experience these activities and learn together with their children. The workshops included “Bionic Art Light & Shadow Workshop” integrating science with aesthetics, which was promoted by Japan’s biomimicry and art group, “Interesting Aquarium Science Workshop” (Fig. 6) in which participants turned into an aquarist for a day, “Robot Fish Workshop” (Fig. 7) which conducted the bionic analysis of real carp swimming, “Sustainable Ocean Workshop” (Fig. 8), and so on.



圖7 機械魚工作坊

Fig. 7 Robot Fish Workshop



圖8 海洋永續工作坊

Fig. 8 Sustainable Ocean Workshop

為鼓勵青少年發揮創意並實際「動手做」探究科學，舉辦多項競賽活動，如：「全國中學生遙控帆船STEAM創客大賽」（圖9），鼓勵學生跨學科學習、培養海洋科技素養及解決問題的能力；「海洋議題黑客松：海洋漁村創客松競賽」共同激盪出改善海洋問題的方案，對海洋永續發展有更多的省思與加深推動可行性。「科普暨國際海廢青年論壇」活動透過倡議與行動提高海洋廢棄物議題關注與討論，並由高中生用各種創意方式執行減塑行動。



圖9 全國中學生遙控帆船STEAM創客大賽

Fig. 9 Marine Technology Maker:
Remote-Controlled Sailboat Competition

To encourage teenagers to elaborate their creativity and probe into science by conducting “hands-on learning,” the NMMST held various competitions such as “Marine Technology Maker: Remote-Controlled Sailboat Competition” (Fig. 9) to encourage students to conduct interdisciplinary learning and cultivate them with marine technology literacy and problem-solving abilities. In “Marine Hackathon: Marine Fishing Village Makeathon Competition,” participants were urged to brainstorm solutions to improve marine issues, giving more reflections upon the sustainable development of the ocean, and strengthening the feasibility of promoting it. In the event of “Science Education and International Marine Waste Youth Forum,” the concerns and discussions about the issue of marine waste were elevated through initiatives and action, and senior high students were asked to implement plastic reduction on creative ways.



辦理年青女性科學家培力計畫，包括「看見海洋科研女力」系列專題講座及「海好有女-海洋女力論壇」（圖10）等活動，探討海洋女力的貢獻，邀請在各領域發光發熱的女性代表現身說法，展現海洋科學研究及海洋產業發展上，女性科學家的貢獻及職涯分享，落實性別平等。

圖10 海好有女-海洋女力論壇

Fig. 10 Good to Have You—Marine Women’s Power Forum

Additionally, the NMMST conducted the project of “Young Female Scientist Training Program” which included the seminars of “Meeting Female Marine Scientists” and “Good to Have You—Marine Women’s Power Forum” (Fig. 10) to discuss female scientists’ contributions to the ocean. Moreover, outstanding female representatives in various fields were invited to share their career experience at the seminars, which showed female scientists’ contributions to marine science research and to the development of marine industry, and the implementation of gender equality as well.



圖11 未來哥倫布

Fig. 11 Future Colombo



「未來哥倫布」教育活動(圖11、12)，提供北部及中部地區弱勢團體能善用社教機構資源機會，透過參訪導覽展廳與潮境工作站，觀賞8K海洋劇場，規劃海洋科學及科技課程，提升弱勢學童海洋科技素養，如：水下滑翔機 DIY、我是造船高手、大堡礁學尋寶課程、魚兒辨辨辨課程遊戲等，以有趣及淺顯易懂方式，探索已知的海洋世界，傳達認識海洋、善待海洋、永續海洋的目標。

The educational activity of “Future Colombo” (Fig. 11 & 12) provided disadvantaged groups in Northern and Central Taiwan with the opportunity to make the best use of resources in social education institutions. They visited the exhibition halls and iOcean, and watched films at 8K Ocean Theater. Additionally, marine science and technology courses were planned to enhance the marine technology literacy of disadvantaged school children such as Underwater Glider DIY, I am a Shipbuilding Master, the Scavenger Hunt at Great Barrier Reef, and All about Fish Course and Game to guide students to explore the marine world that is already known by us with interesting and easy ways, and to explain the goals of learning about the ocean, being kind to the ocean and making the ocean sustainable.



圖12 未來哥倫布

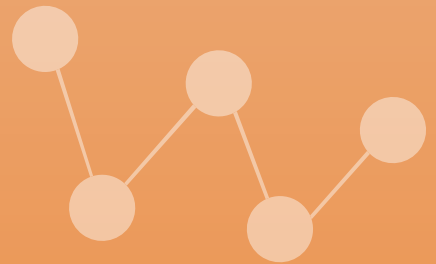
Fig. 12 Future Colombo







國立臺灣科學 教育館

National Taiwan Science
Education Center



A photograph of the National Taiwan Science Education Center building. The building is a large, modern structure with a curved facade and a prominent entrance. The upper part of the building features a curved roof structure with a grid of metal beams and glass panels. The main facade is composed of large, light-colored rectangular panels. The entrance is supported by several white columns. In the foreground, there are some trees and a paved area. The sky is clear and blue. The image is framed by a large orange shape on the left side.

 國立臺灣科學教育館
National Taiwan Science Education Center

歷屆臺灣科學節活動成果

Successive Taiwan Science Festival Movement Achievement

國立臺灣科學教育館 NTSEC

國立臺灣科學教育館(以下簡稱科教館),於三屆臺灣科學節期間,共舉辦658場次活動,參與活動計有272,526人次,連結鄰近的臺北市立兒童新樂園、臺北市立天文科學教育館及美崙科學公園的臺北科學藝術園區中,以STEAM、科學科技、環境教育、多元學習為主題辦理大型科學市集,例如:「韌性不任性-科學嘉年華」、「不寂寞療癒市集」及夜間科學市集「逛夜市」(圖1),打造科學與藝術結合的夜晚,並用音樂來沉澱週末療癒的科學饗宴。

The National Taiwan Science Education Center (hereinafter referred to as the NTSEC) held a total of 658 events during the Taiwan Science Festival in the past three years, and a total of 272,526 people participated in these events. The NTSEC cooperated with Taipei Science and Art Park Alliance including Taipei Children's Amusement Park, Taipei Astronomical Museum and Meilun Science Park to hold a large science bazaar featuring STEAM, science and technology, environmental education, and diversified learning. Besides, other events such as "Be Resilient, But not Willful—Science Carnival" and "Not Lonely Healing Market," "Science Night Market" (Fig. 1), were created to combine science and art on evenings, and offered a healing science experience on weekends with music.



圖1 逛夜市

Fig. 1 Science Night Market



圖2 不行不行別"碳"息

Fig. 2 No Carbon

以觀眾喜愛的表演形式學習科學,讓學習科學變得有趣,推出各式舞臺表演,演出內容多元不受限,包含科學魔術、科學演示、大師秀、國外雙人劇團「Cal-culus:The Musical」微積分科學音樂劇及幕後工作坊;探討溫室效應議題的科學劇「不行不行別"碳"息」(圖2);結合數學與音樂、戲劇、舞蹈的舞臺劇如你不知道的統計學家—南丁格爾「玫瑰的數字」(圖3)或是以印度百年外送為發想的「達巴瓦拉到你家」;人與生物共存及生物多樣性實驗劇場三部



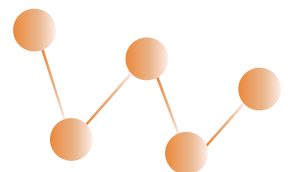
曲「共想 世界」、「共響 塑屆」、「共享 世界」等。此外也有科普影片的放映及座談，如臺灣自產自製的科學動畫電影「重甲機神：神降臨」；甫獲第57屆金鐘獎自然科學紀實節目獎「下一步，AI。NEXT，愛」，影片結合科學紀實與愛情偶像劇，以一段愛情故事，引出臺灣人工智慧的發展歷程。

The audience could learn science by watching performances which made learning science fun at the science festival. The NTSEC promoted various stage performances with diversified content, including science magic tricks and masters' science demonstrations. Furthermore, "Calculus: The Musical", was a science musical on calculus performed by a foreign double theater and its backstage workshop. "No Carbon" (Fig. 2), was a science drama that discussed the issue of the greenhouse effect. "The Number of A Rose" (Fig. 3), was a stage play that combined mathematics, music, drama and dance about Nightingale, a statistician who you might not know. "Dabbawala in the House" was a drama inspired by the lunch delivery service with hundreds of years of history in India. "Thinking World," "Plastic World" and "Sharing World" was an experimental theater trilogy about the coexistence of humans and living creatures and biodiversity. Additionally, popular science films were played, and informal discussions were held, such as "Deus Ex Baryon," a science animated movie produced and filmed in Taiwan, and "Next, AI," the combination of a science documentary and love drama, which just won the 57th Golden Bell Awards for the Natural Science Documentary Program. The film introduces the development history of artificial intelligence in Taiwan with a love story.



圖3 南丁格爾「玫瑰的數字」

Fig. 3 Nightingale's Number of A Rose



科教館每年搭配臺灣科學節主題規劃創新展示，並舉辦主題講座、工作坊與體驗活動，包含「找家 Homing」生物多樣性，透過生物標本及機械裝置等，讓觀眾了解生物多樣性重要性（圖4），集合民眾合力製作1,024個小型風箏所組成的「重返貝爾實驗室：巨型正四面體風箏」（圖5），讓觀眾讚嘆數學呈現的美麗；「敲敲打打工作坊」、「與四季共好、與五行共鳴」等主題的科學窩客夏（圖6）強調探索學習的重要；更打破學習疆界，以「iShow線上科學課」讓各縣市師生同步線上學習，達到科普零距離、終身學習的目的（圖7）。



圖4 「找家 Homing」生物多樣性
Fig. 4 “HOMING Finding Home”
featuring biodiversity

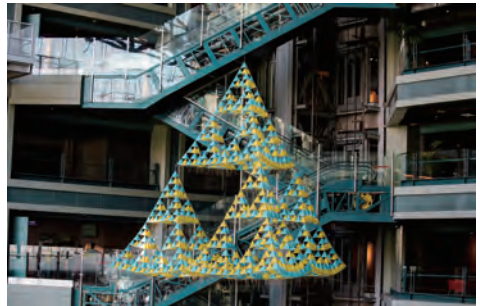


圖5 重返貝爾實驗室：巨型正四面體風箏
Fig. 5 Regular Tetrahedron Challenge

For the Taiwan Science Festival every year, the NTSEC planned innovative exhibitions and held seminars, workshops, and experiential activities with themes, including “HOMING: Finding Home” (Fig. 4) featuring biodiversity; and fostering the importance of biodiversity with specimens and mechanical devices, “Regular Tetrahedron Kite Challenge” (Fig. 5), being composed of 1,024 small kites made by the public, which amazed the audience with the beauty of mathematics. Besides, “Tinkering Workshop,” “Living Harmoniously with Four Seasons and Five Phases” and other science workshops (Fig. 6) emphasized the importance of exploring learning. Moreover, the NTSEC has broken the boundary of learning to enable teachers and students from different counties and cities to learn online simultaneously with “iShow Online Science Courses” (Fig. 7) which promote accessibility to popular science and lifelong learning for everyone, regardless of location.



圖6 科學窩客夏
Fig. 6 Science Workshops



圖7 「iShow線上科學課」
Fig. 7 iShow Online Science Courses



多元性別及性別平等是科教館重視的議題，因此科教館與國家發展委員會及史汀實驗室合作辦理多項性別平等教育活動，如：「設計我們的世界-科技性別化創新」常設展、「性別展議題教學年會」、「性別展工作坊」（圖8）、大師有約講座「女力與努力」系列等（圖9）。將女性科技人才培育的成果呈現給觀眾，過去創新研發的過程中，缺少了更多元的角度與觀點，一起反思過去所忽略的視角，為世界帶來更為平等而永續的創新。



圖8 性別展工作坊

Fig. 8 Gender Exhibition Workshop

The NTSEC highly values the issues of sexual and gender diversity and gender equality; therefore, it worked with the National Development Council and STEAMLab to hold many gender equality educational activities, such as the permanent exhibition of “Design Our World - Gendered Innovations,” the “Annual Teaching Conference of Gender Exhibition,” the “Gender Exhibition Workshop” (Fig. 8), “Women’s Power and Endeavors” (Fig. 9), and the “Seminar - Meeting with Masters,” which presented the achievements of cultivating female talents in the field of science and technology to the audience. The past innovation and R&D process lacked more diversified points of view. Therefore, let us reflect on viewpoints that we may have overlooked in the past, and bring more equal and sustainable innovations to the world.



圖9 大師有約講座

Fig. 9 A Date with Masters Seminar

配合十二年國民基本教育課程綱要，科教館推廣科學探究與實作精神，舉辦多項科學競賽及工作坊，例如：「全國探究實作暨科普闖關科學競賽營」、「尬科學-科學演示播臺賽」（圖10）及配合2030年雙語國家政策培養雙語人才專業「2022臺灣科學節全國高中科學探究英文辯論競賽」（圖11）等，吸引學生親近科學，並運用想像力與創造力，探索科學的原理及奧妙。

In line with the Curriculum Guidelines of 12-Year Basic Education, the NTSEC has been promoting the spirit of science inquiry and practice by organizing numerous science competitions and workshops such as the “National Inquiry and Practice and Popular Science Contest Camp,” “Fun Contest of Science Demonstrations” (Fig. 10), and “2022 Taiwan Science Festival National Senior High School Science Inquiry English Debate Competition” (Fig. 11). These events aimed to cultivate professional bilingual talents in line with the Bilingual Nation 2030 Policy, and attracted students to learn more about science, enabling them to explore the principles and secrets of science with their imagination and creativity.



圖10 尬科學-科學演示播台賽
Fig. 10 Fun Contests



圖11 全國高中科學探究英文辯論競賽

Fig. 11 National Senior High School Science Inquiry English Debate Competition

「『愛』迪生出發」公益學習活動計畫（圖12），邀請偏遠地區或經濟弱勢之學童免費到館參觀、參加課程；並以臺北市為基地進行北部區域及離島縣市科普串連活動，拓及宜蘭縣、桃園市、新竹縣、新竹市、苗栗縣、澎湖縣、金門縣、連江縣等，辦理科學市集、探究與實作科學營及假日科學廣場；另外也特別規劃「愛迪生到校服務Easy go」將科教館的課程外送到校，並辦理教師實作增能工作坊，將臺灣科學節延伸至更多縣市，普及學習資源藉以縮小城鄉差距。

“Edison's Adventure” (Fig. 12) was a public welfare learning project that invited students from remote townships or those who were financially disadvantaged to visit the NTSEC and attend courses for free. The project also conducted popular science connection activities in Taipei City and extended to Northern Taiwan, including Yilan County, Taoyuan City, Hsinchu County, Hsinchu City, Miaoli County, Penghu County, Kinmen County, and Lianjiang County. These activities included science bazaars, inquiry and practice science camps, and holiday science squares. Additionally, the project organized “Edison's

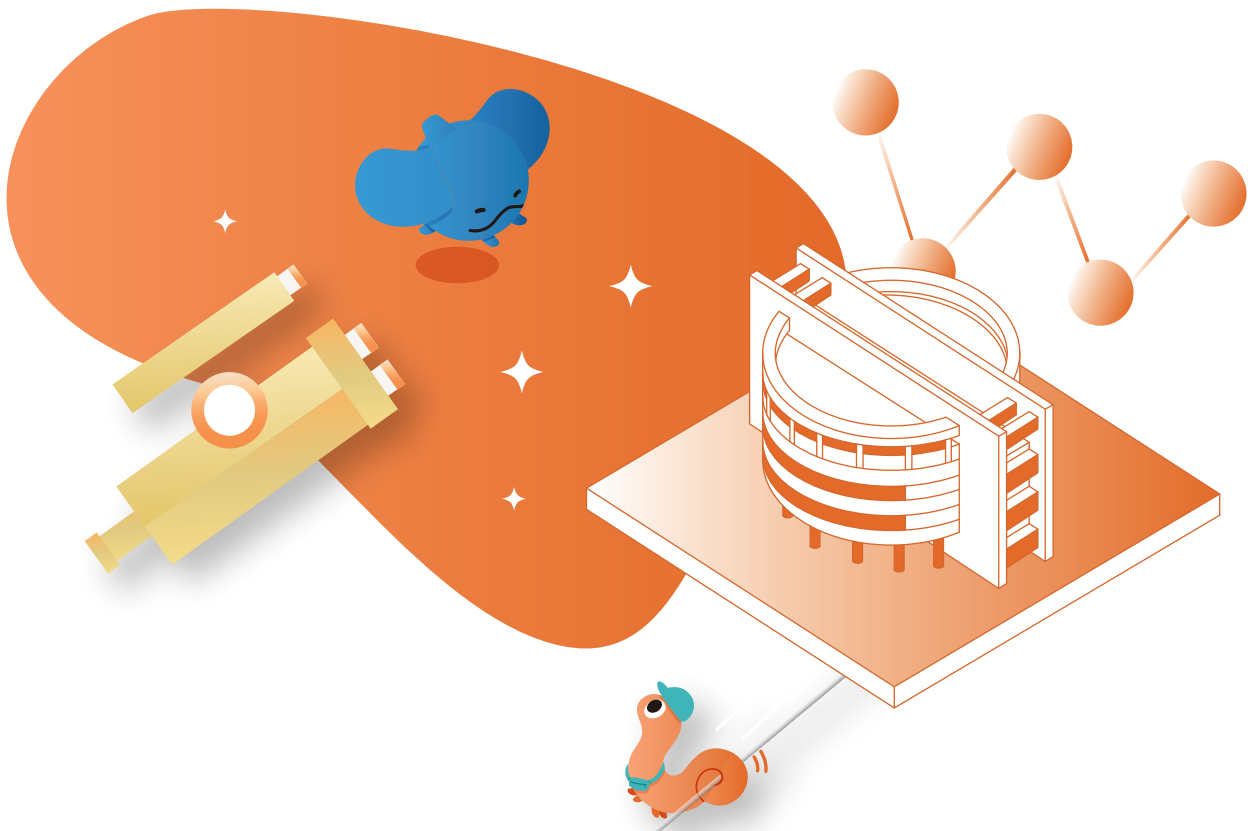


Adventure: Easy Go Service to Schools” to deliver courses held by the NTSEC to schools and held empowerment workshops for teachers to extend the Taiwan Science Festival to more counties and cities. This made learning resources more accessible and helped to reduce the urban-rural gap.



圖12 「『愛』迪生出發」公益學習活動計畫

Fig. 12 Public welfare learning activity project of “Edison’s Adventure”





國立自然科學 博物館

National Museum of
Natural Science





歷屆臺灣科學節活動成果

Successive Taiwan Science Festival Movanle Achievement

國立自然科學博物館 NMNS

國立自然科學博物館（以下簡稱科博館），於三屆臺灣科學節期間，共舉辦1,177場次活動，參與活動計有513,930人次，官方粉絲累積觸及達4,969,877人次，打造出從白天到黑夜都能享受與體驗科學的盛宴。「夜探博物館」安排夜間光影營造（圖1）及各式表演活動，推出適合親子觀眾的「巧虎愛地球」表演（圖2）；結合科博館「漢人的心靈生活」展廳與九天民俗技藝團合作的「炫音鼓舞祭」音樂會（圖3）；融合生命科學廳暴龍及木乃伊等展示品的「尋找恐龍大作戰」中文版音樂劇及「鐘乳石夢幻石林」等。

The National Museum of Natural Science (hereinafter referred to as the NMNS) held a total of 1,177 events during the Taiwan Science Festival in the past three years, and a total of 513,930 people participated in these events. The number of accumulated reach on the NMNS' s official Facebook page was 4,969,877 people. The NMNS created a science feast that everyone could enjoy and experience from day to night. The light and landscaping show and various performances at night were arranged for the event of “Night at the Museum” (Fig. 1). The performance of “Eric Tiger Loves Earth” (Fig. 2), which was suitable for parents and children, was promoted. Additionally, the concert of “Dazzling Dance with Drums Festival” (Fig. 3) organized with Chio Tian Folk Drums and Arts Troupe by integrating with the exhibition hall of “The Spiritual Life of Han People” at the NMNS, the Chinese musical of “Dinosaur Searching Adventure” and “Fantastic Stalactite Forest” integrating with the Tyrannosaurus Rex (T. Rex) and mummies in the Life Science Hall were among the events held during the Taiwan Science Festival.



圖1 夜探博物館-夜間光影造景

Fig. 1 Night at the Museum—Light and landscaping show at night



圖2 「巧虎愛地球」表演(劉德祥攝)

Fig. 2 Performance of “Eric Tiger Loves Earth” (photo taken by De-Xiang Liu)



圖3 「炫音鼓舞祭」音樂會(劉德祥攝)

Fig. 3 Concert of “Dazzling Dance with Drums Festival” (Photo taken by De-Xiang Liu)



圖4 「土精靈，怎麼了?!」戲劇

Fig. 4 Drama of “What’s Wrong, Soil Elf?”

運用藝術包裝科學內涵的科普舞臺劇「星空的立法者-克卜勒的一生」，講述中世紀末科學革命中主要推手克卜勒及他的老師第谷的故事，這齣原創大型舞臺劇在第一屆臺灣科學節期間於臺北、臺中及高雄巡迴演出，帶領觀眾享受藝術饗宴的同時也體驗科學學習的趣味。除了大型舞臺劇外，科博館也推出「土精靈，怎麼了?!」(圖4)及「歸(龜)向何方」等戲劇，帶領觀賞小朋友認識環境保護議題及深耕保護山林及海洋動物的意願。

“The Legislator of the Starry Sky – The Life of Johannes Kepler,” a popular science stage play that showed the content of science with art, talked about the story of Johannes Kepler, who was the chief promoter in the Scientific Revolution at the end of the Middle Ages and his teacher Tycho Brahe. This original large stage play was performed during the first Taiwan Science Festival in Taipei, Taichung and Kaohsiung, and it led the audience to enjoy the feast of art, while experiencing the fun of learning science. In addition to large stage plays, the NMNS promoted the dramas of “What’s Wrong, Soil Elf?” (Fig. 4) and “Where to Back” to lead participating children to learn about the issues of environmental protection, and to fortify their willingness to protect mountains, forests and marine animals.

以「探究與實作」課程精神構思，辦理多項科普推廣及科學演示活動，讓平常只存在課本裡的書面知識，變成具體化的立體呈現，包含：「大科學」（圖5）科學演示活動，將物理現象放大的科學實驗如「怒髮沖冠」及「奪命保齡球」等；「曬科學」市集邀請各縣市學校共同參與設攤；「臺科秀」（圖6）以生活息息相關科學原理，結合優秀的自然科教師與科普推廣者進行演示，透過直播讓更多觀眾共同參與學習。



圖5 「大科學」科學演示活動

Fig. 5 Science demonstration of “Mad Science Show”



圖6 「臺科秀」科學演示表演

Fig. 6 Science demonstration and performance of “Taiwan Science Show”

The NMNS held various popular science promotion events and science demonstrations with the course spirit of “inquiry and practice” to present written knowledge found only in textbooks in front of the audience. The events included the science demonstration of “Mad Science Show” (Fig. 5), science experiments that enlarged physical phenomena, such as “As Mad as a Hornet” and “Life-taking Bowling,” and “Science Bazaar” in which schools in different counties and cities were invited to set up stands. Additionally, “Taiwan Science Show” (Fig. 6) invited outstanding teachers in the area of natural science and popular science promoters to demonstrate scientific principles that were closely related to our life. Moreover, these events were livestreamed to allow more people to participate in science learning.

為推廣對太空科學及天文學科普知識，並培育太空科技人才，科博館與東海大學合作辦理「火星任務」競賽（圖7），讓學生探討太空科學，運用科學原理解決火星生存問題，並邀請法國在臺協會辦理專題演講討論各種太空議題（圖8）；與中興大學合作辦理「國際科學大師講座」邀請國內外著名的天文科學家進行演講；運用天文臺辦理「星象探索活動」，推廣天文星象知識。



圖7 火星任務競賽-成功降落

Fig. 7 Mission Mars Competition—
Successful Landing



圖8 火星任務與法國在臺協會合作

Fig. 8 Missions on Mars organized with
French Office in Taipei

To promote popular science on space science and astronomy, and to cultivate space technology professionals, the NMNS cooperated with Tunghai University to organize “Mission Mars Competition” (Fig. 7) to enable students to probe into space science, and to solve the issue of surviving on Mars with scientific principles. Additionally, French Office in Taipei was invited to organize speeches to discuss various space issues (Fig. 8). Moreover, the NMNS held “International Science Master Lecture” with National Chung Hsing University and invited renowned astronomers from home and abroad to deliver speeches. The NMNS also organized “Star Exploration” with the observatory to promote the knowledge of astronomy and celestial bodies.

科博館輔導的自然史教育館也響應臺灣科學節，推出許多精采科普活動，例如：宜蘭館推出自然科學戲劇「海底尋寶」的黑光劇（圖9）及認識家中蟲住民的「ㄟ～蟲蟲在我家」偶劇（圖10）；南投館演出「賽德克·巴萊」布袋戲；嘉義館、屏東館及高雄館則是「昆蟲彩繪」、「植物果實小帆船」與「散穗高粱掃帚」動手做等活動，連結更多單位有趣的活動，豐富且多元化臺灣科學節的科普活動內容。

The NMNSs of Natural History guided by the NMNS also responded to the Taiwan Science Festival by promoting numerous brilliant popular science events. For example, Yilan Museum promoted the natural science drama of “Black Light Theater: Treasure Hunting” (Fig. 9) and the puppet show of “Hmm.....Are Bugs in My House?” (Fig. 10) to enable the audience to learn about bugs in our houses. Nantou Museum promoted the “Puppet Show: Seediq Bale.” Chiayi Museum, Pingtung Museum and Kaohsiung Museum organized the DIY activities of “Coloring Insects,” “Fruit Sailboats” and “Sorghum Brooms.” The NMNS cooperated with more units to offer interesting activities to enrich and diversify popular science activities at the Taiwan Science Festival.



圖9 宜蘭縣自然史教育館「海底尋寶」黑光劇
Fig. 9 “Black Light Theater: Treasure Hunting” organized by Museum of Natural History Yilan County



圖10 宜蘭縣自然史教育館「ㄟ~蟲蟲在我家」偶劇
Fig. 10 Puppet Show of “Hmm.....Are Bugs in My House?” organized by Museum of Natural History Yilan County

台積電文教基金會與科博館攜手合作，共同舉辦「台積電女科學家之旅」(圖11)，包括「半導體的世界」展示廳參觀，由台積電工程師進行導覽解說，帶領學生認識半導體設計、製造及應用；邀請國內知名女性科學家及傑出女工程師，辦理「女科學家座談會」，分享女性科學及科技人才的學習過程及職涯發展經驗。

TSMC Education & Culture Foundation cooperated with the NMNS to organize “TSMC Journeys of Female Scientists Lectures” (Fig. 11), and participants were able to visit the exhibition hall of “The World Semiconductors.” Engineers of TSMC guided students to learn about the design, manufacturing and application of semiconductor by giving them a guided tour. Famous female scientists and outstanding female engineers were invited to organize “Female Scientists Forum” to share their experience in learning and career development as female scientists and technology professionals.



圖11 「台積電女科學家之旅」
Fig. 11 TSMC Journeys of Female Scientists Lectures

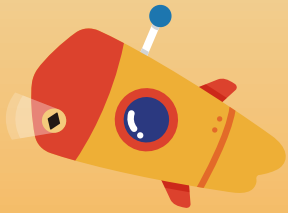


圖12 『探索科博尋寶趣-恐龍的秘密』實境解謎
Fig. 12 Reality puzzle game of “Treasure Hunt at the Museum—Secrets of Dinosaurs”

均衡偏鄉與都會學校使用教育資源之機會，及鼓勵偏鄉學校善用博物館社會教育資源，與苗栗縣、南投縣、彰化縣、雲林縣、金門縣、大臺中地區偏鄉學校合作，除邀請學童實際到館參觀，導入『探索科博尋寶趣-恐龍的秘密』實境解謎活動(圖12)、安排結合科博館蒐藏的「標本探索-貝類的秘密」學習課程，及「動手做飛行器」等多項動手做課程外，更推出「把知識送上門」到校服務的方式，提供更多元的博物館學習資源與機會，讓臺灣科學節活動在全臺更多地點開花推展！

To balance the opportunities of schools in the remote area and in the city to use educational resources, and encourage schools in the remote area to make the good use of social and educational resources provided by the Museum, we cooperated with schools in remote areas of Miaoli County, Nantou County, Changhua County, Yunlin County, Kinmen County, and the Greater Taichung. In addition to inviting school children to visit the NMNS, we provided the reality puzzle game of “Treasure Hunt at the NMNS—Secrets of Dinosaurs” (Fig. 12), arranged the learning course of “Specimen Exploration—Secrets of Shellfish” with shellfish specimens collected by the NMNS, and numerous DIY courses, such as “Flight Vehicle DIY.” Moreover, the NMNS promoted the service of “Delivering Knowledge to Schools” to provide students with more diversified learning resources and opportunities from the Museum, enabling the activities of the Taiwan Science Festival to be promoted all over Taiwan!





國立科學工藝 博物館

National Science and
Technology Museum





歷屆臺灣科學節活動成果

Successive Taiwan Science Festival Movement Achievement

國立科學工藝博物館 NSTM

國立科學工藝博物館（以下簡稱科工館），於三屆臺灣科學節期間，共舉辦1,134場次活動，參與活動計有417,525人次，所推出活動內容均呼應聯合國17項永續發展目標，如：與國家發展委員會及台塑企業合作的「前往環境永續的地圖」（圖1），透過展示與體驗傳達人類行為與環境狀態相互影響，參與活動的民眾可以啟動象徵永續地球的渾儀燈光展演，導覽及展示中同時融入雙語元素，提供友善的雙語學習環境。

The National Science and Technology Museum (hereinafter referred to as the NSTM) held a total of 1,134 events during the Taiwan Science Festival in the past three years, and a total of 417,525 people participated in these events. Activities that the NSTM promoted all responded to the 17 Sustainable Development Goals (SDGs) of the United Nations, such as “The Map of Environmental Sustainability” (Fig. 1) co-organized with the National Development Council and Formosa Plastics Group to present the mutual influence of human behavior and environmental state with exhibitions and interactive games. Participants could launch the “Light Show with Armillary Sphere” that symbolized the sustainability of the Earth. Bilingual elements were integrated into guided tours and exhibitions to offer visitors a friendly bilingual learning environment.



圖1 前往環境永續的地圖

Fig. 1 The Map of Environmental Sustainability



圖2 地球保衛戰 Action!

Fig. 2 Action! The Fight for Earth

科工館在每屆科學節均與劇團合作，規劃全新的科普戲劇，希望以藝術表演方式讓學習科學更有趣，從2020年「極速-逆轉氣候變遷皮影戲劇」運用傳統藝術呈現環境議題、2021年「地球保衛戰 Action!」（圖2）科普戲劇以光影說書

方式將動畫與真人互動演出、2022年「小黑王子歷險記」環境行動劇(圖3)以
 科工館園區動物為主角，融入本土語文並以邊走邊演方式，帶領民眾深入了解
 周遭的環境。臺灣首部以人工智慧為主題的商業科普電影「科學少女」(圖4)，
 融合性別平權及生命教育元素，也在科工館大螢幕電影院放映。



圖3 「小黑王子歷險記」環境行動劇

Fig. 3 The Outdoor Theater: The Adventures of the Black Prince



圖4 科普電影「科學少女」

Fig. 4 Popular science movie of “S-Girl”

The NSTM cooperated with theatrical companies at the Taiwan Science Festival each year to plan brand-new popular science dramas in the hope that performances made learning science more fun. In 2020, “Zoom and Reverse: Traditional Shadow Puppet Show on Climate Change” presented environmental issues with traditional art. The popular science drama of “Action! The Fight for Earth” (Fig. 2) promoted in 2021 was a live-action animated performance with the method of storytelling by light and shadow. Animals in the NSTM starred in the environmental action drama of “The Outdoor Theater: The Adventures of the Black Prince” (Fig. 3) in 2022, which incorporated native languages. In the drama, the characters performed while walking, guiding the public to have a deep understanding of their surroundings. Additionally, Taiwan’s first commercial popular science film, “S-Girl” (Fig. 4), featuring artificial intelligence integrated the elements of gender equality and life education, and was released in the large-screen theater of the NSTM.



圖5 渾儀科學演示活動
Fig. 5 Armillary Sphere Demonstration



圖6 科普市集
Fig. 6 Science Bazaar

為了讓博物館教育功能延續到夜間，邀請學童共同創作「夜間光影造景」，讓夜間的科工館戶外園區成為民眾在臺灣科學節期間休閒與寓教於樂場所，並融入防災教育及環境保護議題，傳遞愛護地球、科學學習及美感體驗精神。科工館開發的「渾儀科學演示」（圖5），演示古機械觀測天體的原理，透過演示中的操作及任務，認識地球環境變化。

To extend the educational function of the Museum into the evening, the NSTM invited students to create “Light and Shadow Landscapes at Night” to turn the outdoor area of the NSTM into a recreational and educational venue for the public during the Taiwan Science Festival. Additionally, the issues of disaster prevention education and environmental protection were incorporated to pass on the spirit of protecting Earth, learning science, and experiencing aesthetics. The “Armillary Sphere Demonstration” (Fig. 5) developed by the NSTM demonstrated the principle of observing celestial bodies with the ancient machinery, and participants learned about the environmental change of the Earth from the demonstration and missions given by the NSTM.



圖7 高雄市中小學科學園遊會活動
Fig. 7 Kaohsiung Primary and Junior High School Science Fair





結合十二年國民基本教育課程綱要，發揮探究與實作的精神，科工館在臺灣科學節期間辦理各年齡相關活動，如：「假日科學饗宴」、「機器人挑戰賽」、「科普市集」（圖6）、與高雄市政府教育局合作辦理「高雄市中小學科學園遊會」（圖7）、「潔能科技創意實作競賽」、「玩具醫生」工作坊等，培養臺灣學生發現問題及解決問題的能力，連續兩屆臺灣科學節舉辦的「玩具醫生」工作坊，參與活動的民眾可以實際學習修復玩具的過程、了解玩具的科學原理，進而愛物惜物。

To integrate with the Curriculum Guidelines of 12-Year Basic Education and to elaborate people's inquiry and application spirit, the NSTM held activities for different age groups during the Taiwan Science Festival such as "Weekend Science Feast," "Creative Robotics Competition," "Science Bazaar" (Fig. 6) "Kaohsiung Primary and Junior High School Science Fair" (Fig. 7) organized with Education Bureau of Kaohsiung City Government, "Clean Energy Innovation Contest," "Toy Doctor" and other workshops to cultivate Taiwanese students' abilities to discover questions and solve them. The workshop of "Toy Doctor" that was held for two consecutive years at the Taiwan Science Festival enabled participants to learn how to repair toys, understanding the scientific principles of toys to treasure and cherish what they have.

自第一屆到第三屆臺灣科學節，科工館持續串連南部各縣市政府、大專院校、民間團體及標竿企業等協同辦理多項活動，越來越多的單位持續加入臺灣科學節。例如：與水土保持局合作辦理「水保防災加油讚」、「風雨時落－水土保持暨量測」文物展、「淼垚众－水保60巡迴展」，介紹水土保持及防災的重要性；與海洋委員會合作辦理「海洋能源探索之旅」、「海洋教育嘉年華」（圖8），一起親海、愛海、知海；與高雄市政府環境保護局辦理「世界地球日-邀你逗陣來守護地球」活動；與日月光、金屬工業研究發展中心、佛光山文教基金會及慈濟慈善事業基金會等非營利組織共同推出「循環生活嘉年華」；與中油、工業技術研究院及台塑企業推出「告訴你萬物長生的秘密-Circle journey」；與玩偶的家合作辦理「大小玩童木育森林遊樂趣」（圖9）；與國際中橡投資控股股份有限公司及淡江大學理學院科學教育中心合作辦理「碳黑急急棒」（圖10）；與財團法人信誼基金會合作辦理「幼兒紙科學」。

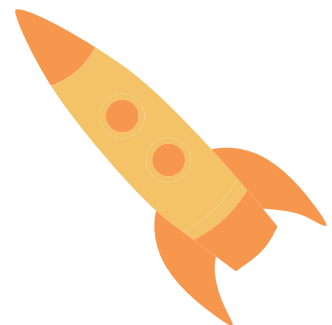




圖8 海洋教育嘉年華
Fig. 8 Marine Education Carnival



圖9 大小玩童木育森林遊樂趣
Fig. 9 Play Together, Learn Green

From the first to the third Taiwan Science Festival, the NSTM continued to cooperate with county and city governments, colleges and universities, private groups and benchmark enterprises in Southern Taiwan to organize numerous events. More and more units have continued to participate in the important occasions of the Taiwan Science Festival. For example, “Soil and Water Conservation for Disaster Prevention”, “Rain and Rock—Soil and Water Conservation Cultural Artifact Exhibition” and “Water, Soil, People—Special Exhibition for the Sixtieth Year of Soil and Water Conservation” organized with Soil and Water Conservation Bureau introduced the importance of soil and water conservation and disaster prevention. “Interactive Experience of Marine Energy Teaching Aids” and “Marine Education Carnival” (Fig. 8) organized with Ocean Affairs Council helped cultivate participants’ marine literacy by guiding them to get close to the sea, love the sea, and learn about the sea. Additionally, “Earth Day—Let’s Protect Our Earth” was organized with Environmental Protection Bureau, Kaohsiung City Government “Circular Economy Fair” was promoted with ASE Technology Holding Co., Ltd., Metal Industries Research and Development Center, Fo Guang Shan Foundation for Buddhist Culture and



圖10 碳黑急急棒
Fig. 10 Black Carbon Sticks



圖11 弱勢關懷
Fig. 11 Caring for the disadvantaged



Education, Buddhist Compassion Relief Tzu Chi Foundation and other non-profit organizations. “Circular Journey” was promoted with CPC Corporation, Taiwan, Industrial Technology Research Institute, and Formosa Plastics Group. “Play Together, Learn Green” (Fig. 9) was organized with PlayMe Toys “Black Carbon Sticks” (Fig. 10) was organized with International CSRC Investment Holdings Co., Ltd. and Tamkang University Center for Science Education, and “Circular Science Paper for Young Children” was organized with Hsin Yi Foundation.

科工館透過多元及有趣的科學教育活動，吸引觀眾體驗科學並關心地球環境，也致力於關懷弱勢學生並弭平城鄉落差（圖11）。在三屆臺灣科學節期間，官方粉絲專頁累積觸及人次達4,969,877人次、互動人次達193,335人次，經營出臺灣科學節的口碑及品牌。

By organizing diversified and interesting science education events, the NSTM attracted the audience to experience science and care about the environment of the Earth. Additionally, the NSTM has dedicated to caring for disadvantaged students and reducing the urban-rural gap (Fig. 11). During the Taiwan Science Festival in the past three years, the number of accumulated reach of the NSTM’s Facebook page was 4,969,877 people, and that of engagement was 193,335 people, showing that the NSTM has earned a good reputation and created its own brand at the Taiwan Science Festival.





國立海洋生物 博物館

National Museum of
Marine Biology and Aquarium





歷屆臺灣科學節活動成果

Successive Taiwan Science Festival Movement Achievement

國立海洋生物博物館 NMMBA

國立海洋生物博物館（以下簡稱海生館），於三屆臺灣科學節期間，共舉辦353場次活動，參與活動計有88,817人次。於不同縣市特別舉辦「城市遇見海生館」，將海生館重要的科學研究及典藏內容，帶到臺南市美術館2館跨域展演廳（圖1）及高雄市駁二藝術特區蓬萊倉庫（圖2），內容包含海洋探索發展、海洋生物標本、珊瑚保育及海洋女力主題等，讓更多觀眾能認識海洋及女性對海洋科學界的重要貢獻（圖3）。

The National Museum of Marine Biology and Aquarium (hereinafter referred to as the NMMBA) held a total of 353 events during the Taiwan Science Festival in the past three years, and a total of 88,817 people participated in these events. The NMMBA held “Come Across NMMBA in the City” in different counties and cities, and brought important scientific research and collections, including the themes of marine exploration and development, the specimens of marine creatures, coral conservation, and marine women’s power to the Performance Art Theatre of Tainan Art Museum Building 2 (Fig. 1) and the Penglai Warehouse of the Pier-2 Art Center (Fig. 2) to enable more people to learn about the ocean and important contributions that women have made to the world of marine science (Fig. 3).



圖1 城市遇見海生館

Fig. 1 Come Across NMMBA in the City



圖2 城市遇見海生館

Fig. 2 Come Across NMMBA in the City

海生館在臺灣科學節期間推出的「Knowledge Fishing Fair 漁識場-科學市集」（圖4）以「與海洋共遊」為主題，在海生館展區內規劃海洋生態保育與海洋科技探究的互動性遊戲（圖5），結合全國各地海洋與環境教育領域的單位與團體，共同將海洋科學及生態保育的成果，透過市集方式呈現給觀眾，讓觀眾透過動手操作的方式瞭解全國各單位推展海洋科學的成果。



圖3 海洋女力

Fig. 3 Marine Women's Power



圖4 漁識場-科學市集

Fig. 4 Knowledge Fishing Fair—Science Bazaar

During the Taiwan Science Festival, the NMMBA promoted “Knowledge Fishing Fair—Science Bazaar” (Fig. 4) featuring “Ocean Fair” to provide interactive games on the conservation of marine ecology and the exploration of marine technology (Fig. 5) in the exhibitions of the NMMBA. Additionally, it cooperated with others in the fields of marine and environmental education all over Taiwan to present the achievements of marine science and ecological conservation in the bazaar, enabling the audience to know about these achievement about marine science through interactive games.



圖5 多媒體互動性遊戲

Fig. 5 Multimedia Interactive Games

運用海生館現有展示與館藏，以「探究與實作」精神規劃「與海共探」海生館探究手冊(圖6)，特別邀請自然領域中各科的現職教師共同討論，內容設計上先以呈現「生物特色」引起學生興趣，實地參訪「觀察」瞭解現象，回到課堂中將「原理」結合，強調不只眼看手做，還要動腦思考，讓展場內的學生可自行探索海生館，更提供教師海洋教育素材運用的靈感。

此外也舉辦「營在海洋-探究實作營隊」活動，如：「Under the Sea 海洋英語探究營隊」(圖7)，學生以雙語方式學習海洋知識及「海生館探究任務營隊」等，落實海洋教育。





圖6 「與海共探」海生館探究手冊

Fig. 6 Inquiry within the Ocean Guidebook



圖7 Under the Sea 海洋英語探究營隊

Fig. 7 Under the Sea—Marine English Exploration Camp

By using the present exhibitions and collections, the NMMBA planned “Inquiry within the Ocean Guidebook” (Fig. 6) with the spirit of “inquiry and practice.” In-service teachers who specialized in the area of natural sciences were invited to discuss on lessons. First, they were designed to attract students’ interest with the “characteristics of living creatures”, then planned field trips for students to “observe” on-site to comprehend phenomena. After students returned to the classroom, they could integrate what they had observed at the NMMBA with “principles.” The course not only stressed the importance of observing with eyes and doing with hands, but also wished students to brainstorm, and explore the NMMBA on their own. Moreover, the NMMBA provided teachers with inspirations required to compile marine education materials. Furthermore, the NMMBA held “Ocean Exploration Camps” such as “Under the Sea—Marine English Exploration Camp” (Fig. 7) for students to gain marine knowledge, using both Chinese and English. The “Ocean Exploration Mission Camp” was a way to implement marine education.

為鼓勵學童養成閱讀的習慣，以閱讀探索海洋內涵與知識，提升閱讀素養，海生館辦理「筆下海洋」《奧秘海洋》徵文暨繪圖活動(圖8)，吸引全臺多所學校學生投稿報名參加，經由文字與繪畫傳達對海洋的心聲，同時增進臺灣海島居民之海洋素養，累積永續經營海洋的智慧。為了推廣臺灣國家語言與保存原住民文化，海生館辦理「沿河而上找母語」活動(圖9)，蒐集嘉義地區鄒族部落、高屏地區排灣部落與魯凱部落的原住民族語的淡水魚讀法和相關漁獵知識，並編撰為海洋科普教材。

To encourage students to develop a reading habit, and explore the meanings and knowledge of the ocean through reading to enhance their reading literacy. The NMMBA organized the event of “The Omics in the Ocean Essay & Drawing Contest” (Fig. 8) for students to write and draw about the ocean. The event attracted contributions from numerous school students all over Taiwan. Meanwhile, the event improved the marine literacy of people living in Taiwan, accumulating the wisdom for the sustainable development of the ocean. To promote Taiwan’s languages and preserve indigenous peoples’ cultures, the NMMBA held the event of “Discovering Mother Tongues along The Creeks” (Fig. 9) to collect the pronunciations of freshwater fish in the indigenous languages and their fish hunting knowledge of the Tsou Tribe in Chiayi, the Paiwan Tribe and the Rukai Tribe in Kaohsiung and Pingtung, which have been compiled as teaching materials for popular marine science.



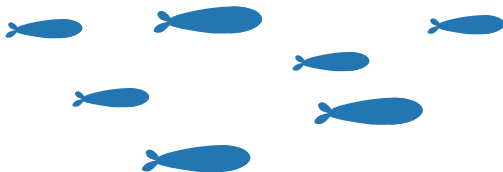
圖8 筆下海洋

Fig. 8 The Omics in the Ocean Essay & Drawing Contest



圖9 沿河而上找母語

Fig. 9 Discovering Mother Tongues



結合十二年國民基本教育課程綱要中「探究與實作」精神，並提升學生海洋素養，海生館推出「海洋long stay」活動(圖10)，以屏東、臺東、花蓮三縣市的學校為知識傳播場域，提供直送到校的海洋教育，如：特展的行動教具箱、低年級「我魚你不同」、中高年級「生物不同的理『油』」等。讓學校師生能使用「議題融入教學」的海生館資源，並透過親身操作將創意與知識結合，體驗「做中學」的樂趣。為了提供學校教師更多海洋教育資源，讓海洋科學內容融入學校正式課程中，舉辦「教師與海」(圖11)活動，提供全國對海洋教育有興趣的教師，從工作坊中認識與共同開發運用海生館內相關資源，讓海生館與第一線教師未來能建立合作關係。



圖10 與海共探海洋long stay

Fig. 10 Inquiry with the Sea—Ocean Long Stay



圖11 教師與海

Fig. 11 Teachers with Ocean

In line with the spirit of “inquiry and practice” in the Curriculum Guidelines of 12-Year Basic Education, and to elevate students’ marine literacy, the NMMBA promoted the event of “Ocean long stay” (Fig. 10) to directly deliver marine education to schools in Pingtung, Taitung, and Hualien. Providing knowledge dissemination venues, such as the action teaching aid box for the special exhibition, “Your Fish is Different from Mine” for the first and second graders, and “Different Kinds of Oil in Living Creatures” for the third to sixth graders. Teachers and students were able to use the NMMBA’s resources of “issue-based integrated instruction,” and to combine their creativity with knowledge by accessing the resources in person to experience the pleasure of “learning by doing.” To provide school teachers with more marine education resources, and to integrate marine science into the formal curricula of schools, the NMMBA held the workshop of “Teachers with Ocean” (Fig. 11) for teachers all over Taiwan who were interested in marine education. In the workshop, teachers were able to know about developing and using relevant resources at the NMMBA. In this way, the NMMBA can build partnership with frontline teachers in the future.

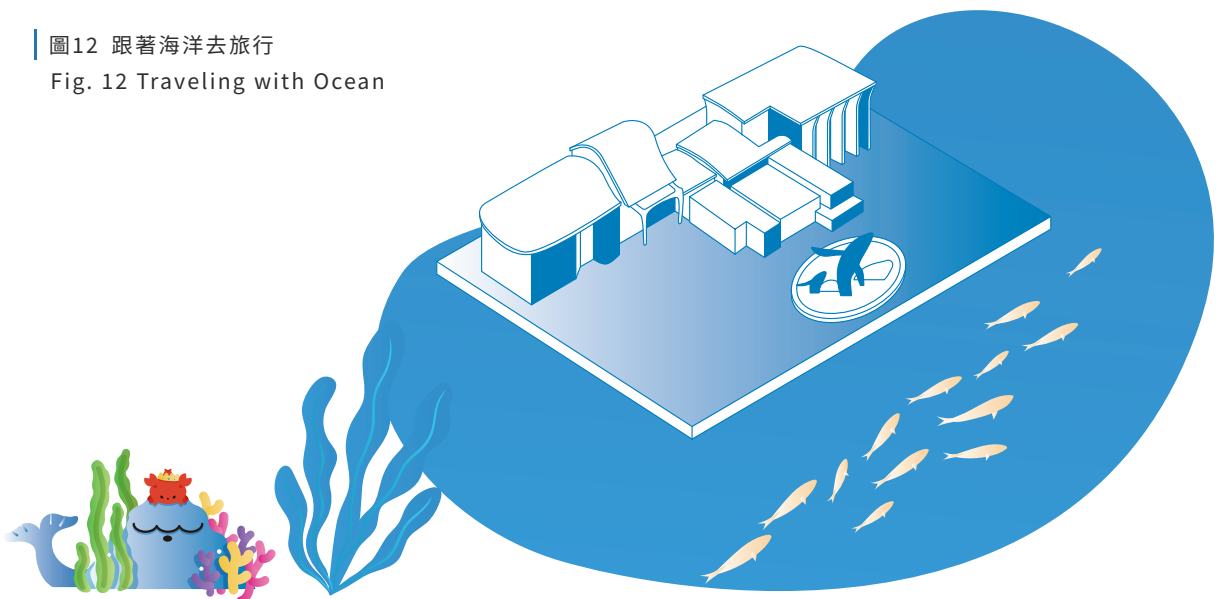
「跟著海洋去旅行」(圖12)邀請鄰近縣市弱勢族群共同到訪海生館，結合館內水族實驗中心及標本典藏室進行導覽解說，親眼看見海龜、水母等海生動物，認識購買海鮮時的海鮮選購指南，培養永續行動的消費意識。藉由瞭解海洋文化的特殊與珍貴，反思人類活動所造成的海洋環境汙染，以及對大自然生態系所造成的問題，讓更多觀眾能學習海洋保育知識與珍惜海洋資源的重要性。

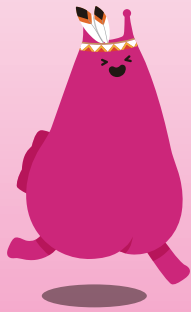
In the event of “Traveling with Ocean” (Fig. 12), the disadvantaged groups in neighboring counties and cities were invited to visit the NMMBA, which provided guide tours in Aquarium Experiment Center and Specimen Collection Room, enabling visitors to observe sea turtles, jellyfish and other marine creatures. Additionally, the NMMBA taught visitors how to purchase seafood with the Seafood Guide, cultivating an awareness of sustainable consumption. By comprehending unique and precious marine culture, visitors were able to reflect upon the issues of marine environmental pollution and the destruction of the ecosystem caused by human activity, which enabled more people to learn about the knowledge of marine conservation and the importance of cherishing marine resources.



圖12 跟著海洋去旅行

Fig. 12 Traveling with Ocean





歷屆原民 科學活動成果

Indigenous Science

節

展備忘錄儀

11/



國立科學工藝博物館 NATIONAL SCIENCE AND TECHNOLOGY MUSEUM (國立海 博物館 協辦單

歷屆原民科學活動成果

Indigenous Science

原住民族文化蘊藏許多與自然和諧相處的科學智慧，因此於三屆臺灣科學節期間，五大科學博物館便透過多元原住民族科學系列活動，讓你我一起認識原住民的文化與科學。

The cultures of indigenous peoples contain a lot of scientific wisdom, which teaches them to get along harmoniously with Nature. Therefore, during the Taiwan Science Festival in the past three years, five major science museums enabled us to learn more about indigenous culture and science with the diverse science activities of indigenous peoples.



圖1 科工館-傳統穀倉建築體驗活動
Fig. 1 NSTM-Traditional Barn Experience Activity



科工館結合排灣族、泰雅族傳統穀倉建築（圖1），帶領觀眾就地取材動手做引入綠建築、綠建材的永續精神；以第32屆東京奧運的臺灣原住民選手樣式與其部落圖騰辦理「絹印體驗」；透過「原住民香蕉紗線創作體驗」介紹噶瑪蘭族香蕉纖維紡織技術（圖2）；規劃「刺球體驗」（圖3）、「密室逃脫遊戲」及「射擊體驗」，介紹臺灣原住民分布、祭典、狩獵文化與機關結構。

The National Science and Technology Museum led the audience to participate in hands-on activities with materials being obtained locally with the traditional barns of the Paiwan and Atayal (Fig. 1), and introduced the sustainable spirit of green buildings and building materials to them. The activity of “Silk Screen Printing” was held based on the style of Taiwan’s indigenous contestants of the 32th Tokyo Olympics, and their tribal totems, “Indigenous Weaving Culture & Banana Fiber Works” (Fig. 2) introduced the banana fiber weaving skills of the Kavalan, and “Djemuljat (Ball Stabbing Game)” (Fig. 3), “Escape Room” and “Shooting Game” were planned to introduce the distribution, festivals, hunting cultures, and organization of Taiwan’s indigenous peoples.



圖2 科工館-原住民香蕉紗線創作體驗

Fig. 2 NSTM-Indigenous Weaving Culture & Banana Fiber Works



圖3 科工館-刺球體驗

Fig. 3 NSTM-Djemuljat (Ball Stabbing Game)

海生館「沿河而上找母語」活動，與高屏地區排灣部落及嘉義地區鄒族部落合作，採訪在地耆老與老師實地記錄及體驗（圖4、5），學習部落的漁獵文化與原住民族語的淡水魚讀法保存為影像資料，並發展為課程教案、教具及解說活動（圖6），此外辦理「魯凱漁你相遇」特展（圖7），將調查成果於臺灣科學節期間展示以傳承及推廣原住民族語。



圖4 海生館-沿河而上找母語

Fig. 4 NMMBA-Discovering Mother Tongues



圖5 海生館-小小解說員

Fig. 5 NMMBA-Little Tour Guides

The National Museum of Marine Biology and Aquarium held the activity of “Discovering Mother Tongues” (Fig. 4 & 5) with the Paiwan Tribe in Kaohsiung and Pingtung, and the Tsou in Chiayi. In the activity, local elders and teachers were interviewed, and participants were able to record what they had observed and experienced. Additionally, they learned about the fishing and hunting cultures of the tribes, and how freshwater fish were pronounced in indigenous languages, which were recorded in films and photos. Moreover, the activity was made into lesson plans for courses, teaching aids and guided tours (Fig. 6). Furthermore, the exhibition of “Rukai Fish and River Fishing” (Fig. 7) was organized to display survey results during the Taiwan Science Festival to pass on and promote indigenous languages.



圖6 海生館-淡水魚解說

Fig. 6 NMMBA-All about Freshwater Fish



圖7 海生館-魯凱漁你相遇

Fig. 7 NMMBA-Rukai Fish and River Fishing

海科館邀請基隆在地原住民社區與團體共同響應臺灣科學節，參與市集活動設置特色攤位(圖8、9)，攤位包含特色手工工藝品及以當地當季食材製作的特色美食攤位，讓觀眾除了能享用美味佳餚同時也能瞭解製作過程的減碳實踐。此外於第三屆科學節開幕典禮邀請基隆市原住民族經濟發展協會演出「戀戀不忘太魯閣」舞蹈(圖10)，表演花蓮太魯閣族的傳統慶豐收舞蹈，展現文化與科技融合為人類文明發展的重要動力。

The National Museum of Marine Science and Technology invited Keelung’s indigenous communities and groups to respond to the Taiwan Science Festival by setting up stands in the bazaar (Fig. 8 & 9). The stands included special handmade handicrafts and food made with local and seasonal ingredients, which enabled participants to enjoy delicacies as well as understand the implementation of carbon reduction in the manufacturing process. Moreover, the Keelung City Indigenous Peoples Economic Development Association was invited to perform the dance of “Unforgettable Taroko” (Fig. 10) at the opening ceremony of the 3rd Taiwan Science Festival. The dance presented the traditional harvest

dance of the Taroko in Hualien, showing that the integration of culture and technology has become important power for the development of human civilization.



圖8 八斗高中原住民文化及舞蹈活動

Fig. 8 NMMST- Badou Senior High School Indigenous Culture and Dancing Activities.



圖9 海科館-原住民特色皮革製作與彩繪

Fig. 9 NMMST-Indigenous Leather Making and Coloring



圖10 海科館-基隆市原住民族經濟發展協會「戀戀不忘太魯閣」舞蹈

Fig. 10 NMMST-“Unforgettable Taroko” Dance Organized by Keelung City Indigenous Peoples Economic Development Association

科教館以「原住民族科學節市集」(圖11、12)，集結包含國立臺東大學、臺北市立大學、國立臺灣師範大學、國立中山大學等21個研究團隊的研究成果，並向民眾介紹原住民族在科學、科技、工程及數學等的智慧。此外，在第三屆科學節期間的「夜探博物館」動中，特別邀請阿美族原住民 DJ 汝妮 Dungi Sapor 用電子音樂結合阿美族文化(圖13)，帶動夜晚氣氛，令民眾流連忘返。

“Indigenous Science Festival Bazaar” (Fig. 11 & 12) organized by the National Taiwan Science Education Center assembled the research results of 21 research teams, including National Taitung University, University of Taipei, National Taiwan Normal University, and National Sun Yat-sen University, and introduced indigenous peoples’ wisdom in science,



圖11 科教館-原住民科學市集
Fig. 11 NTSEC-Indigenous Science Bazaar

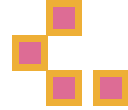


圖12 科教館-原住民科學節展示原住民文化中的數理觀
Fig. 12 NTSEC-Indigenous Science Bazaar demonstrate the concept of mathematics and science in Indigenous culture.



圖13 科教館-電子音樂結合阿美族文化(阿美族原住民 DJ 汝妮 DungiSapor)

Fig. 13 NTSEC-Integrating Electronic Music with Amis Culture. DJ DungiSapor of the Amis

technology, engineering and mathematics to the public. Moreover, in the event of “Night at the Museum” at the 3rd Taiwan Science Festival, DungiSapor, the indigenous DJ of the Amis, was invited to spice up the night by integrating electronic music with the Amis culture (Fig. 13), making people enjoy themselves so much as to forget to go home.

科博館辦理「獵人與山豬」說故事，從中瞭解鄒族服飾及狩獵相關禁忌。「我與山上的朋友－臺灣哺乳動物」從原民巡山員的觀點談起講座活動(圖14)，邀請擔任巡山員的原住民朋友分享對於臺灣哺乳動物深度的觀察及體認生態保育的重要性。此外與所屬的各自然史教育館，以原住民科學及文化辦理各項活動，如南投館透過「賽德克·巴萊」布袋戲講述霧社事件、「織布動手做」(圖15)則是透過體驗認識原住民圖騰，另臺南館則以「史前臺灣奇遇記動手做」活動介紹西拉雅文化(圖16)。



圖14 科博館-「我與山上的朋友－臺灣哺乳動物」從原民巡山員的觀點談起

Fig. 14 NMNS-“My Friends on Mountains and I—Taiwan’s Mammals” from the Perspectives of Indigenous Mountain Rangers

The National Museum of Natural Science held the storytelling activity of “Hunters and Wild Boars” to let participants learn about the clothing and hunting taboos of the Tsou. “My Friends on Mountains and I—Taiwan’s Mammals” (Fig. 14), a seminar from the perspectives of indigenous mountain rangers, invited indigenous mountain rangers to share their detailed observation of Taiwan’s mammals, and their realization of importance of ecological conservation.



圖15 科博館-織布動手做

Fig. 15 NMNS-Weaving DIY



圖16 科博館-史前臺灣奇遇記動手做

Fig. 16 NMNS-The Adventures of Prehistoric Taiwan DIY

Additionally, other affiliated natural history education centers organized various activities featuring indigenous science and cultures. For example, the Nantou Center talked about the Wushe Incident with the “Puppet Show: Seediq Bale,” and let visitors learn about indigenous totems with the “Weaving DIY” (Fig. 15) activity. Moreover, the Tainan Center introduced the Siraya culture with “The Adventures of Prehistoric Taiwan DIY” (Fig. 16) activity.



第四屆 臺灣科學節 精選活動

Featured Events
in the 4th Taiwan Science Festival





第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立海洋科技博物館 NMMST

搶救珊瑚大作戰 Save the coral reefs



科學演示
基隆市

4/22 Sat. - 10/10 Tue.

每周六、日
14:00-16:30

國立海洋科技博物館 第一特展廳

National Museum of Marine Science and Technology
Special Exhibition Hall

一般大眾/Public

活動費用1000元(含主題館及臺灣是世界的臺灣航海時代特展與地球脈動中生態及藝術特展門票各1張)/Event registration fee NT\$1000 (includes 1 ticket each for the Main Exhibition Building, Taiwan-Global Island Exhibition, and Earth Pulsing: Nurturing Life Exhibition).

中文/Mandarin

張小姐

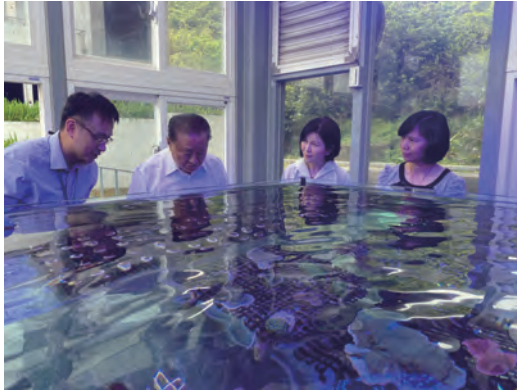
02-2469-6000分機 5018

cwt@mail.nmmst.gov.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



保育及永續利用海洋生態系，以確保生物多樣性並防止海洋環境劣化



讓民眾實際操作珊瑚復育工作，以瞭解珊瑚復育的辛苦

Let the public join the restoration of coral reefs, to understand the hard work of restoration



第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立海洋科技博物館 NMMST

地景變遷步道巡禮 Landscape Change Trail Tour



其他
基隆市

11/4 Sat. - 11/5 Sun.
11/7 Tue. - 11/12 Sun.

14:00-16:30

國立海洋科技博物館 潮境公園

National Museum of Marine Science and Technology
Chaojing Park

一般大眾/Public

活動報名費150元/Event registration fee NT\$150.

中文/Mandarin

邱先生

02-24696000分機3015

jkchiu@mail.nmmst.gov.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



保育及永續利用海洋生態系，以確保生物多樣性並防止海洋環境劣化



保育及永續利用陸域生態系，確保生物多樣性並防止土地劣化



藉由潮境公園之地形瞭解海蝕平台的地景變遷

By touring the sea erosion platform of Chaojing Park to understand the landscap change.



第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立臺灣科學教育館 NTSEC

基礎科學主題展演活動

Basic Science Themed Exhibition and Performance Activities



其他

11/4 Sat. - 11/5 Sun.

09:00-17:30

臺北市

11/11 Sat.

19:00-22:00 (18歲以上限定)

國立臺灣科學教育館

National Taiwan Science
Education Center

一般大眾/Public

其他/Other

中文/Mandarin

高小姐

02-66101234分機1518

shkao@mail.ntsec.gov.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



確保有教無類、公平以及高品質的教育，及提倡終身學習



實現性別平等，並賦予婦女權力



確保所有人都能享有水、衛生及其永續管理



建構具包容、安全、韌性及永續特質的城市與鄉村



促進綠色經濟，確保永續消費及生產模式



完備減緩調適行動，以因應氣候變遷及其影響



保育及永續利用海洋生態系，以確保生物多樣性並防止海洋環境劣化



保育及永續利用陸域生態系，確保生物多樣性並防止土地劣化



建立多元夥伴關係，協力促進永續願景



科學節第一周，科教館將科學展示知識遊戲化，實際場域轉譯成串聯活動，在輕鬆氛圍下學習、體驗科學，呼應今年議題基礎科學開創未來，以年度新常設展人體奧秘展、半導體展為活動內涵，將從科學角度出發，提供到館民眾在科技、科幻、科學藝術、設計、生活等等面向，觀察體驗科學與人們息息相關、密不可分，期盼今年度科學節活動能夠再度使民眾可體驗不同以往的事物，以達科教館社會教育機構的本質。

The National Taiwan Science Education Center (NTSEC) gamifies the scientific knowledge and transforms actual venues into a series of activities for the audience to learn and experience science in a joyful atmosphere. This annual theme of “Basic Science Creates Future” is echoed by the new permanent exhibitions “From Me to We: Mysteries of the Human Body” and “Semiconductor Pavilion of the Future”, which serve as the activities backbone. From a scientific perspective, NTSEC provides the visitors a wide range of view point related to technology, science fiction, scientific art, design and life to observe and experience the close relationship between science and people. The aim for this year Science Festival is to offer opportunities for people to experience something different and to achieve the essence of the museum as a social educational institution.





第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立臺灣科學教育館 NTSEC

尬科學-科學演示播臺賽 Science Demonstration Challenge



科學競賽

臺北市

11/5 Sun.

決賽日

9:00-16:00

國立臺灣科學教育館 5F極大極小

National Taiwan Science
Education Center, 5F

國小(含以上)/Elementary School

參加決賽活動，除入選決賽團隊，其他參觀者需須憑當日科教館常設展門票或有效賽恩斯卡入場/To participate in the finals event, apart from the finalists' teams, other visitors must present a valid NTSEC permanent exhibition ticket or a valid Science Card for entry.

中文/Mandarin

王小姐

02-6610-1234 分機1510

totoro073@mail.ntsec.gov.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



確保有教無類、公平以及高品質的教育，及提倡終身學習



科學演示尬起來!! 只要你敢秀, 就大膽秀出來, 組隊報名科學演示擂台賽, 設計各種科普演示, 展示有趣的科學理論和現象, 讓一般大眾也能親身感受科學的魅力, 而不再是枯燥無味的課堂知識!

Hurray! Science Demonstration Fun Contests! As long as you dare to show it, you can show it boldly! Form a team to sign up for the Fun Contest, design various science demonstrations, show interesting scientific theories and phenomena. Make everyone feel the charm of science! Science is no longer boring classroom knowledge!



第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立自然科學博物館 NMNS

《吉娃斯愛科學》偶戲

Go Go Civas- Puppet Show & Exhibition



戲劇

臺中市

10/28 Sat. - 11/19 Sun.

每週六、日

11:00-11:30

14:00-14:30

16:00-16:30

國立自然科學博物館微觀世界前

National Museum of Natural Science,
Microscopic World

一般大眾/Public

免費(須購買入館門票)/Free(Admission ticket is required)

中文/Mandarin

陳先生

04-23226940 分機322

shujuo@nmns.edu.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



確保及促進各年齡層健康生活與福祉



確保有教無類、公平以及高品質的教育，及提倡終身學習



實現性別平等，並賦予婦女權力



減少國內及國家間的不平等



建構具包容、安全、韌性及永續特質的城市與鄉村



保育及永續利用陸域生態系，確保生物多樣性並防止土地劣化



建立多元夥伴關係，協力促進永續願景



吉娃斯是一位泰雅族女孩，在動畫吉娃斯愛科學中，與友人一同推介原住民族科學知識。此次把吉娃斯請到科博館，以偶戲方式呈現吉娃斯縮小後的世界，介紹館內動物、植物、人類、地質學研究成果。

Ciwas is an Atayal girl. In the animation Go Go Ciwas, she and her friends promote the scientific knowledge of indigenous peoples. This time, Ciwas will be invited to the NMNS to present a world by a shrinking Ciwas, and introduce the research results of animals, plants, humans, and geology in the museum.





第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立自然科學博物館 NMNS

大科學

Mad Science Show



科學演示

11/4 Sat. - 11/5 Sun.

14:30-15:20

臺中市

11/11 Sat. - 11/12 Sun.

國立自然科學博物館 多用途劇場

National Museum of Natural Science

一般大眾/Public

依官網公告為主/Admission ticket is required

中文/Mandarin

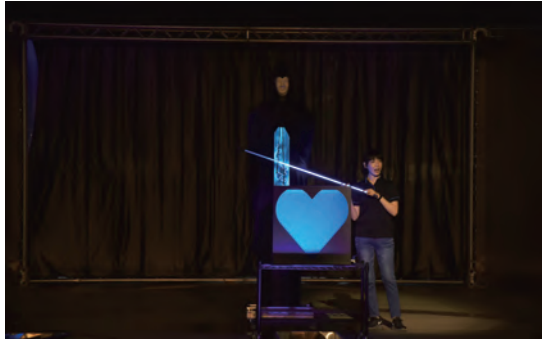
許小姐、鐘小姐

04-23226940分機346、353

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



確保有教無類、公平以及高品質的教育，及提倡終身學習



繼上年度「瘋狂科學秀」的成功後，今年我們將帶來更多元的科學體驗，特別是透過波的形式，展現科學的真理與藝術的美態。此外，我們將舉辦全新的「黑洞特展」，無論你是否參加過去年的活動，或是首次接觸到這個展覽，我們都熱烈歡迎你在科學節期間，於科博館多用途劇場一同來體驗這份科學與藝術的結合。

Science shows can be entertaining. Based on the success of last year's Mad Science show, we prepare a new science show that includes Aerodynamics and static electricity. No matter whether you attended last year or just learned about this show, we welcome you to experience it during the Science Festival.





第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立科學工藝博物館 NSTM

蕃薯森林奇遇記

The Adventures of Sweet Potato Forest



戲劇
高雄市

11/4 Sat. - 11/5 Sun.

18:00-19:00

國立科學工藝博物館 南館 度量衡廣場

Multiple Measurement Square, South Complex,
National Science and Technology Museum

一般大眾/Public

免費/Free

中文/Mandarin

陳小姐

07-380-0089分機5107

cys0273@mail.nstm.gov.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



完備減緩調適行動，以因應氣候變遷及其影響



保育及永續利用海洋生態系，以確保生物多樣性並防止海洋環境劣化



保育及永續利用陸域生態系，確保生物多樣性並防止土地劣化



建立多元夥伴關係，協力促進永續願景



Featured Events in the 4th TSF



蕃薯國王生病了沒有笑容，虎克船長及小飛俠想盡各種方法取悅國王，但都無效。後來發現要治好國王的病，必須要找到「幸福鳥」。但東海龍王為了一己之私濫砍山林，把幸福鳥的家全都摧毀...，究竟虎克船長及小飛俠可否順利救出幸福鳥，治好了蕃薯國王的病？

The King of Sweet Potato Kingdom lost his smile because of illness. Captain Hook and Peter Pan tried every means to make the King happy, but to no avail. To cure the King, we must find the “Happy Bird.” But the Dragon King destroyed the mountains and forests, and ruined Happy Bird's homes..., Can Captain Hook and Peter Pan rescue the Happy Bird successfully and cure the King of Sweet Potato Kingdom?





第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立科學工藝博物館 NSTM

懷舊電影院

Nostalgic cinema event



影展與展覽

高雄市

11/11 Sat. - 11/12 Sun.

18:00-20:10

國立科學工藝博物館 北館 戶外空間

National Science and Technology Museum
Outdoor space

一般大眾/Public

免費/Free

中文/Mandarin

王小姐

07-380-0089分機5306

yuning@mail.nstm.gov.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



確保有教無類、公平以及高品質的教育，及提倡終身學習



建立多元夥伴關係，協力促進永續願景



碳精棒電影放映技術是影像放映的無形文化資產，透過現場放映讓觀眾親歷這項瀕臨失傳的老技術，藉由辦理懷舊電影院活動，使民眾認識電影科技的演進發展歷程，並了解電影膠片的搶救以及碳精棒放映技術的文化資產保存經驗。

The carbon arc film projection technology is an intangible cultural heritage of image projection. Through live screenings, audiences can experience this endangered old technology. By organizing nostalgic cinema events, the public can gain an understanding of the historical development of film technology and learn about the preservation of film negatives and the cultural heritage of carbon arc projection technology.





第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立海洋生物博物館 NMMBA

城市遇見海生館

Come Across NMMBA In The City



影展與展覽

屏東縣

11/4 Sat.

11/5 Sun. - 11/26 Sun.

13:00 - 17:00

10:00 - 17:00

屏東縣屏菸1936文化基地修理工廠

Pingtung 1936 Tobacco Culture Base

Repair Shop

一般大眾/Public

免費/Free

中文/Mandarin

楊先生

08-882-5001#5502

hello9300102a@nmmba.gov.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



確保有教無類、公平以及高品質的教育，及提倡終身學習



建構具包容、安全、韌性及永續特質的城市與鄉村



完備減緩調適行動，以因應氣候變遷及其影響



保育及永續利用海洋生態系，以確保生物多樣性並防止海洋環境劣化



建立多元夥伴關係，協力促進永續願景



本次特展將帶領您踏上一段穿越時間的旅程，重新認識恆春半島的過去、現在與未來。展覽以化石和曾經存在的鯨豚捕捉事業為起點，連結到2020年的藍鯨擱淺事件，並延伸至現今海生館對海洋生物研究的成果。在這個特展中，您將有機會探索恆春半島深藏的化石寶庫，包括古代植物、動物化石。經由2020年的藍鯨擱淺事件，深入探討這起事件對保護鯨豚及其生存地的重要性。最後介紹海生館現今對海洋生物研究的進展，將呈現最新的科學技術和研究成果，揭示海洋生物多樣性的奧秘。

This special exhibition will take you on a journey through time, allowing you to rediscover the past, present, and future of the Hengchun Peninsula. Starting with fossils and the historical whaling industry. The exhibition connects to the 2020 blue whale stranding incident and extends to the current research achievements in marine biology at the NMMBA. In this exhibition, you will have the opportunity to explore the hidden treasure trove of fossils on the Hengchun Peninsula, including ancient plant and animal fossils. By delving into the 2020 blue whale stranding incident, we will deeply explore the significance of protecting whales and their habitats. Finally, the exhibition will showcase the current research achievements in marine biology at the NMMBA. It will present the latest scientific technologies and research findings, unveiling the mysteries of marine biodiversity.



第四屆臺灣科學節精選活動

Featured Events in the 4th Taiwan Science Festival

國立海洋生物博物館 NMMBA

沿河向海找母語

Discovering Mother Tongues along the Creeks and Ocean



工作坊

將配合地區與學校單位進行規劃與辦理

花蓮縣、屏東縣、嘉義縣

Hualien, Pingtung
and Chiayi County

國小/Elementary School

國中(含以上)/Junior High school

免費/Free

中文/Mandarin

蔡小姐

08-882-5001#5516

chiting@nmmba.gov.tw

聯合國永續發展目標 (Sustainable Development Goals, SDGs)



確保有教無類、公平以及高品質的教育，及提倡終身學習



減少國內及國家間的不平等



建構具包容、安全、韌性及永續特質的城市與鄉村



保育及永續利用海洋生態系，以確保生物多樣性並防止海洋環境劣化



本活動將分為兩階段，第一階段為至花蓮縣的阿美族部落，採訪在地耆老或老師，搜集原住民族語的淡水魚與海洋生物讀法以及相關漁獵知識，並進行記錄與保存原住民族的族語。第二階段為將獲得之素材編入海洋科普教材中，用於到校教學推廣課程中，讓更多學生能接觸到原住民的傳統漁獵智慧及語言。

This activity will be divided into two stages. In the first stage, we will visit the Amis tribe in Hualien County and interview local elders and teachers to collect the pronunciation of related fishing knowledge of freshwater fish and marine organisms in the indigenous language. We will also record and preserve the indigenous languages. In the second stage, the gathered materials will be incorporated into educational materials on marine science, which will be used for school outreach programs. This aims to expose more students to the traditional fishing wisdom and language of indigenous communities.





國家科學 及技術委員會 科普活動



Popular Science Events of the
National Science and Technology Council



國家科學及技術委員會科普活動

Popular Science Events of the National Science and Technology Council

Kiss Science 科學開門，青春不悶

Kiss Science



圖1 國立臺北科技大學互動設計系互動體驗

Fig. 1 Department of Interaction Design, National Taipei University of Technology (Interactive Experience)

活動時間 10/14 Sat.-11/12 Sun.

活動地點 全臺約100個科研場域
Around 100 research venues
throughout Taiwan

活動官網 <https://www.kissscience.tw/>

QR CODE



開放國家實驗室、科學園區、大學研究中心、海洋研究船、企業展館或廠辦等約100個科研場域，並舉辦定時導覽、科普演講、互動體驗及動手做實驗等活動。

We have opened around 100 research venues throughout Taiwan, including national laboratories, science parks, university research centers, research vessels, corporate exhibition halls and factories. We have also organized regular guided tours, science lectures, interactive experiences, and hands-on experiments.



圖2 臺灣智駕測試實驗室 (自駕車乘坐)
Fig. 2 Taiwan CAR Lab (Self-driving Ride)



圖3 成功大學馬達科技研究中心參觀
Fig. 3 Electric Motor Technology
Research Center, National Cheng Kung
University (Tour)



圖4 2022年啟動典禮
Fig. 4 “2022 Kiss Science” Opening Ceremony



圖5 國家實驗研究院國家地震工程研究中心參觀
Fig. 5 National Center for Research on
Earthquake Engineering, National
Applied Research Laboratories (Tour)



圖6 國家實驗研究院 國家實驗動物中心動手做
Fig. 6 National Laboratory Animal Center,
National Applied Research Laboratories
(Hands-on)

國家科學及技術委員會科普活動

Popular Science Events of the National Science and Technology Council

臺灣科普環島列車

Popular Science Train



圖1 2022年車體彩繪行經花東

Fig. 1 2022 decorated train with its exterior featuring theme images, travelled through Hualien

活動時間 10/30 Mon.-11/3 Fri.

活動地點 全臺火車站點
Train Stations

活動官網 <https://www.nstctrain.tw/>

QR CODE



透過8節車廂的科普環島列車行程，讓全國各地的國小學生在火車站周邊及搭乘科普環島火車時體驗豐富的科學實驗活動。

Taking the popular science round-island train, elementary school students from across Taiwan can enjoy interactive science experiments in eight carriages and in science fairs around train stations.



圖2 2022年開幕式表演
Fig. 2 2022 Opening Ceremony Performance



圖3 2022年車廂活動(竹蜻蜓)
Fig. 3 2022 activities on the train (Hopter)



圖4 2022年臺北站開幕式
Fig. 4 2022 Opening Ceremony (Taipei Main Station)

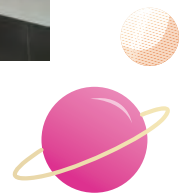
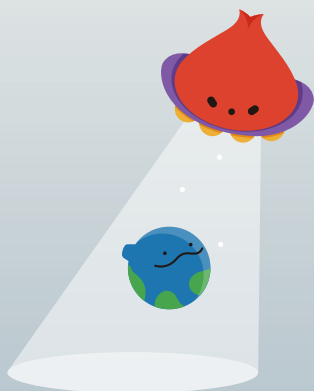


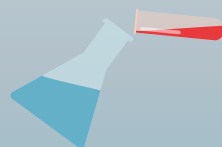
圖5 2022年車廂活動(指紋辨識原理)
Fig. 5 2022 activities on the train (Finger-Print Recognition 101)



圖6 2022年宜蘭站點活動(水火箭)
Fig. 6 2022 activities at Yilan Station (Water Rocket)



科普基地



SciBases

ERLAB



POWER

科普基地

SciBases



■ 國家實驗研究院台灣海洋科技研究中心

Taiwan Ocean Research Institute

台灣海洋科技研究中心成立於2008年，致力成為國家海洋科技學術研究之後盾；發展重點為建置海洋科技研究之核心設施及技術團隊，支援學術活動與執行政府部門交付的任務，成為培育臺灣海洋科技人才的重要平臺；應用海洋資料庫與增值，提供創新服務，以促進產、官、學的合作架構並推動在地價值與全球頂尖前瞻研究議題，及研究船隊之管理與維運，以提升我國海洋研究與探測能量。



The Taiwan Ocean Research Institute (TORI), under the National Applied Research Laboratories, was established in 2008. Development directions include building core facilities and teams for marine science and technology research, supporting academic activities, and implementing projects commissioned by public agencies to become an important platform for cultivating Taiwan's marine science and technology talent. In addition, by applying marine resources databases and added value, innovative services are provided to advance industry-government-academia cooperative frameworks and promote local value and forward-looking research on the world's most pressing issues. Lastly, through the management and maintenance of research vessels, Taiwan's marine research and exploration capabilities are elevated.

■ 基隆市教育創新研發實驗中心

Keelung Research Center of Educational Innovation



基隆市教育創新研發實驗中心提供基隆市教師創新、研發、實驗、觀摩及研習的交流平臺，提升本市教育品質，並提供學生及民眾科技融入教學與活動之體驗，設立基隆市創新研發實驗中心

The Keelung Research Center of Educational Innovation functions as a platform for teachers to invent, design, and explore resources of teaching and learning, and learn from each other. This space is also open to the public and students, providing opportunities to experience technology-based learning activities.

■ 國立臺灣海洋大學臺灣海洋教育中心 Taiwan Marine Education Center

臺灣海洋教育中心係由教育部協助於2013年9月1日設置，為配合國家海洋教育政策之發展，建置永續推動海洋教育之整合性機構，設立宗旨為：「秉持國家海洋教育政策，整合國內外海洋教育資源、調查海洋專業人才供需情形、建置海洋教育推動平臺、提升全民海洋意識，並協助政府推動海洋教育，及結合社會各界永續發展海洋教育。」



On September 1, 2013, the Taiwan Marine Education Center was established with assistance from the Ministry of Education. This is a sustainable integrative institution for promoting marine education that adheres to national marine education policies. Its purposes are to integrate marine education resources at home and abroad, investigate the supply and demand of marine professionals, establish a marine education platform, enhance public awareness of issues related to the oceans, assist the government in promoting marine education, and work with society and various industries to achieve sustainable development of marine education.

■ 陽明海洋文化藝術館 YM Oceanic Culture & Art Museum

[基隆1915] 為一棟落成於1915年，位在基隆港旁的歷史建築。歷經百年海運產業的洗禮，2005年改建為推廣海洋文化的陽明海洋文化藝術館。2021年館舍重新整理再出發，以[基隆1915]作為文創品牌識別，結合海運、港口為論述主題，從基隆航行到世界大洋，邀請大家跟著『海運人』一起Moving, On Board出發，找尋海運工作者的移動經驗、鼓舞片刻與動人時光，並感受基隆港獨有的城市海景、每一位打拼人的市井日常。

The YM Oceanic Culture & Art Museum (YM OCAM) is located in Keelung's inner harbor beside the Keelung railway station. The original building was first completed on May 4, 1915 as a "Historic Style Building" with steeple and arches for the Nippon Yusen Kaisha (Japan Mailboat Steamship Line). The steeple was later destroyed by a bomb in World War 2. After the

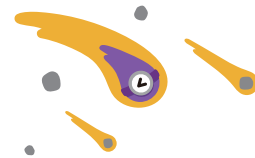
■ 墾丁國家公園管理處

Kenting National Park Headquarters



墾丁國家公園的發展目標是-在自然保育的前提下，發揮遊憩功能，提升服務品質；兼顧居民權益，凝聚社區意識，呈現國家公園與當地共生共榮的價值與意涵；推廣環境教育，拓展解說層面；持續海域生態監測、推動海洋遊憩活動多元化；與世界接軌，建立墾丁優質的國際形象。

The developmental goals of Kenting National Park are expanding its recreational function and increasing service quality under the premise of conservation. In addition, by protecting residents' rights and building community awareness, local areas grow in value and meaning with the park. We hope to build a superior international image by promoting environmental education and interpretation, continuing to carry out ocean monitoring, and diversifying marine activities to be in line with global trends.



liberation of Taiwan, it was taken over by the China Merchants Bureau and has since been operated by the Yang Ming Marine Transport Corp.

It is a building with special meaning to Keelung's history Yang Ming Marine Transport places great importance on the marine tradition, so it decided to "revitalize" the historic building through reuse. While preserving the classic exterior of the building, the company hoped to transform the entire structure

into a retro yet modern oceanic culture and art museum. Planning and re-development began in 2003 with the museum opened to the public on December 28, 2004.



■ 國家海洋研究院

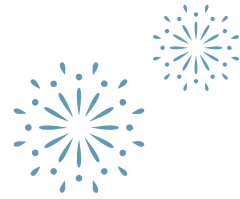
National Academy of Marine Research



國家海洋研究院的主要任務為協助海洋委員會辦理海洋政策規劃、海洋資源調查、海洋科學研究、海洋產業及人力培育發展業務，定位為國家海洋智庫。研究重點有：1. 整合國家海洋研究量能，提升海洋科研與法政文化之研究能力。2. 進行長期性、應用性與基礎性之調查研究。3. 建立國家海洋資訊系統，強化海洋學術與產業之應用研究。

The main missions of the National Academy of Marine Research (NAMR) are to assist the Ocean Affairs Council with planning marine policy, surveying marine resources, researching marine science, developing marine industries, and cultivating talent. NAMR has positioned itself as a national marine think tank. Its research focuses are to:

1. Integrate national marine research capabilities and enhance research in marine science, law, and culture.
2. Conduct long-term, applied, and basic marine research.
3. Establish a national ocean data bank and enhance the applications of marine science and industry.



■ 國家森林遊樂區雙流自然教育中心

Shuangliu Forest Recreation Area

雙流自然教育中心位於恆春半島的北端，園區內有楓港溪貫穿，使得園區內有豐富的生物多樣性。讓我們在這裡一起體驗溪流與森林生態的氣息和流動，從有趣的活動及遊戲中啟發對自然的關懷與尊重，在自然中快樂的學習。



The Shuangliu Forest Recreation Area is located at the northern end of the Hengchun Peninsula. The park is traversed by Fenggang Creek, which creates a rich biodiversity within the park. Let's experience the essence and flow of the stream and forest ecology together here and gain inspiration for caring and respecting nature through interesting activities and games. It's a joyful learning experience in nature.

■ 財團法人台達電子文教基金會

Delta Electronics Foundation



台達電子文教基金會於1990年成立，感念台灣社會對台達電子的貢獻。基金會致力於科技研發、教育和環境保護，希望回饋社會。初期主要培養科技人才和贊助學術研究，後逐漸將環境保護視為首要任務，提倡能源效率和文明發展與自然永續的平衡。近年，基金會集中資源，強化專業，關注能源與氣候教育、低碳生活概念普及和人才培育，致力於讓環保成為生活方式，創造美好社會。

The Delta Electronics Foundation was established in 1990, as a gesture of gratitude to Taiwanese society for its contributions to Delta Electronics. The foundation is committed to technology research and development, education, and environmental conservation, aiming to give back to the community. In its early stages, the foundation focused on cultivating technological talent and sponsoring academic research. Recognizing the fragility of the global environment, endangered species, and resource depletion due to global warming, the foundation gradually prioritized environmental protection. It strives to enhance energy efficiency and seek a balance between civilized development and natural sustainability. In recent years, the foundation has concentrated its resources and strengthened its expertise in three key areas: "Energy and Climate Education Promotion," "Popularization of Low-Carbon Lifestyles," and "Talent Cultivation," aiming to have a greater impact and address environmental challenges. The goal is to make environmental protection a way of life and create a better and more compassionate society.

■ 財團法人國家衛生研究院

National Health Research Institutes

國家衛生研究院是「任務導向」專責醫藥衛生研究機構，針對臺灣重大衛生健康問題，整合動員研究專業協助政府，並為政府智庫，以科學研究提供政策建言，共同保衛全民健康。設有8個研究所、3個研究中心及論壇，研究涵蓋醫學、藥物、公衛流病、生醫工程、疫苗研發等領域，及1座cGMP生物製劑廠，肩負疫苗開發與銜接產業任務。



Established in January 1996, the NHRI are "mission-oriented" research institutions dedicated to medical and public health research. NHRI currently houses eight institutes, three centers, a forum, and bioproduction plant (cGMP facility), to carry out research and development in the fields of medicine, pharmaceuticals, public health, biomedical engineering, and vaccines. These institutes also serve as a think tank for the government, providing timely health policy recommendations.

■ 國家太空中心 Taiwan Space Agency



國家太空中心成立於1991年，是我國唯一負責太空科技政策執行及太空科技研發的機構。國家太空中心擁有研發實驗室、衛星整測廠房、衛星控制中心與影像處理中心；可研發製造衛星的元件、進行衛星的組裝並模擬火箭與太空環境的測試、在衛星發射後進行控制以及處理、分析衛星所拍攝到的影像資料。對人造衛星充滿好奇，想要一窺人造衛星的祕密嗎？歡迎蒞臨臺灣的衛星夢工場-國家太空中心。

Established in 1991, Taiwan Space Agency is the only space agency in Taiwan. As such, it is responsible for national space science and technology policy implementation and space science and technology development, especially satellites. Its missions are to strengthen the promotion of academic research, establish Taiwan's self-reliance in space science and technology, conduct cutting-edge space scientific research, and promote satellite applications.



■ 行政院農業部苗栗區農業改良場 Miaoli District of Agricultural Research and Extension Station, Ministry of Agriculture

苗栗區農業改良場業務為掌理蠶業、蜂業、生物防治相關之全國性業務與苗栗地區農作物改良及農業推廣業務等，同時經營「臺灣蠶蜂昆蟲教育園區」，提



供環境教育相關科普活動。以建構苗栗健康農業、活化蠶業、安全蜂業、普及生物防治及推動環境教育為機關目標，持以「臺灣農業生態資源永續利用的守護者」為機關願景。

■ 財團法人國家實驗研究院國家地震工程研究中心 National Center for Research on Earthquake Engineering

臺灣位於環太平洋地震帶，為減少地震的危害，國震中心配合震前準備、震時應變、震後復建之需要，發展「結構耐震實驗及數值模擬」、「結構耐震設計及評估補強」、「地震災損評估」三大核心技術，運用大型實驗設施、實驗技術及地震資料庫之優勢，結合國內產官學研，強化國際合作，逐步將臺灣打造成為耐震永續家園。



Taiwan is in a seismically active zone on the Pacific Ring of Fire. To meet the needs for earthquake preparedness, emergency response, and post-earthquake restoration, NCREE has developed three core technologies: earthquake resistant structural testing and numerical simulation, seismic design and retrofit evaluation, and rapid evaluation of structural damage. NCREE uses its large-scale experimental facilities, experimental technologies, and earthquake database to connect with domestic industries and schools, as well as to enhance international cooperation, to make Taiwan more sustainable and safer.

MDARES carries out research on sericulture, apiculture, and biological control, as well as crop improvement, plant protection, and agricultural extension missions in the Miaoli area. Additionally, it manages an insect education park to provide environmental education. The station has formulated five strategic goals: construct healthy agriculture in Miaoli, activate sericulture, promote safe apiculture, popularize biological control, and encourage environmental education.



■ 行政院農業部生物多樣性研究所 Biodiversity Research Institute, Ministry of Agriculture

行政院農業部生物多樣性研究所成立於民國81年7月1日，並於民國112年起配合業務與組織調整作業改隸行政院農業部。該中心之成立係為呼應全球對生態保育的日益重視，提升我國對本土生態的瞭解，自成立至今始終為臺灣唯一專職於本土特稀有動植物、生態系調查、研究、保育及推廣之政府單位。



Originally known as the Taiwan Biodiversity Research Institute, Ministry of Agriculture, BRIMA was established on July 1, 1992. It came under the jurisdiction of the Ministry of Agriculture in 2023. This is an experimental research organization that undertakes survey of and research on Taiwan's rare and endemic animals, plants, habitats, and ecosystems and promotes ecological education.

■ 電幻1號所 (台灣電力股份有限公司) TAIPOWER D/S ONE



台電打造全臺首件綠能場域品牌－電幻1號所，將無形電力延伸的概念、知識與美感，透過有形場域－ENERGYM、POWERLAB、D/S ONE GALLERY，轉換為綠色、智慧、未來的無限可能。

■ 農業部林業及自然保育署臺中分署

Taichung Branch, Forestry and Nature Conservation Agency,
Ministry of Agriculture

農業部林業及自然保育署臺中分署隸屬農業部林業及自然保育署，轄管中臺灣林班地，行政區域屬臺中市和平區、東勢區、石岡區、新社區、豐原區、北屯區、太平區、后里區、苗栗縣泰安鄉、宜蘭縣大同鄉、南投縣仁愛鄉。主要業務包含保護與永續利用轄內豐富的林業資源、造林撫育、治山防洪、動植物保育工作、森林育樂場域之經營管理、林業與保育知識教育及推廣。轄管的武陵、大雪山、八仙山三個國家森林遊樂區及東勢林業文化園區均為本分署辦理各項森林育樂活動、體驗森林生態之美及環境教育推廣之場域。



Taichung Branch, Forestry and Nature Conservation Agency, Ministry of Agriculture, which administrative regions belong to Taichung City, Tai'an Township in Miaoli County, Datong Township in Yilan County, and Ren'ai Township in Nantou County.

Its missions are to sustain the health, diversity, and productivity of forests, to protect forests and wildlife, and to educate the public on forestry and conservation.

Within the jurisdiction of this district office are three national forest recreation areas: Wuling, Daxueshan, Baxianshan, as well as the Dongshi Forestry Culture Park, all offering opportunities for relaxation and education.

Taiwan Power Company built the island's first green energy brand – D/S ONE, through the tangible experiences of ENERGYM, POWERLAB, and GALLERY, Taiwan Power Company plans to transform the concepts, knowledge, and aesthetics of intangible power into a green smart future.

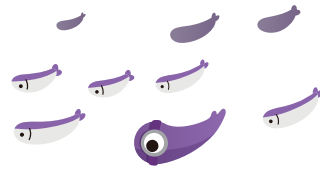


■ 國立臺灣大學生物資源暨農學院實驗林管理處(溪頭自然教育園區) Xitou Nature Education Area

溪頭自然教育園區係教學實習及自然教育之重要基地，前人筆路藍縷規劃經營下，區內設有服務中心、紅樓國際會議廳、森林生態展示中心及各項森林遊憩設施。本區早期經營以營林為主，至今以推動教學實習、森林療育、科普教育及環境教育等多目標經營，提供各學校師生寒暑假實習、舉辦生態教育研習外，更是國人遊憩健身的好去處。



The Xitou Nature Education Area is an important base for internships and nature education. This area is equipped with a service center, international conference rooms, a forest ecological exhibition center, and forest recreation facilities. The original focus was on forest management, with operations expanding to include internships, forest therapy, popular science education, and environmental education. Winter and summer internships are held for teachers and students, in addition to ecological education workshops. This is also a recreational destination.



■ 國立臺灣大學動物博物館 National Taiwan University Museum of Zoology

國立臺灣大學動物博物館自1928年即創立，典藏許多珍貴的動物標本，2007年對外開放後，亦積極規劃與辦理各種科普活動，致力於推動科普教育，臺大未來更將結合戶外歷史建築、植物及日據時代溫室園區，及各系所珍貴的藏品，規劃「臺灣大學總博物館」，期能透過博物館內外之展示，賦予標本與老建築新活力，作為科學研究與民眾生活的橋樑。



■ 國立臺灣大學生物資源暨農學院附設山地實驗農場 Highland Experimental Farm of National Taiwan University

臺大山地農場設立於1937年，位於南投縣仁愛鄉，總面積約1,092公頃，海拔分跨900至2,700公尺。場區內氣候變化差異大，四季鮮明遞嬗，生態資源豐富，為一獨特的教學研究場域。該場持續進行場區自然資源調查、造林復育及原生植物蒐集與保存。自1998年起舉辦生態體驗營，推廣環境教育。期許成為臺灣環境教育推廣基地，以達資源永續發展。



The Highland Experimental Farm of National Taiwan University, founded in 1937 in Renai Township of Nantou County, covers an area of 1,092 hectares, with elevations ranging from 900 to 2,700 meters. Due to the large variations in climate, there are obvious seasonal changes, and abundant ecological resources, making it an ideal place for teaching and research. Natural resource surveys, reforestation, and native plant collection and conservation are carried out here. Ecology-themed camps began to be offered in 1998 to promote environmental education. This farm is expected to be a base for environmental education in Taiwan and to achieve the objective of sustainable development of resources.

"Since 1928, the National Taiwan University Museum of Zoology (NTUMZ) has acquired many precious animal specimens. After opening to the general public in 2007, NTUMZ actively planned and hosted various events dedicated to science education and the popularization of science.

National Taiwan University further plans to integrate the historical buildings, gardens, and greenhouses built during the Japanese colonial era, and collections currently held in different departments to serve as the blueprints for the future "NTU Museum." Through the exhibitions of indoor and outdoor collections, we would like to revitalize the specimens and historic buildings and bridge the academic research to the visitors' everyday lives.

■ 國家實驗研究院國家實驗動物中心 National Laboratory Animal Center, NARLabs

成立於1994年，提供實驗動物資源及相關技術服務，主要使命為支援基礎生醫研究、新藥開發與醫療器材發展，同時，也積極投入科學人才培育與科普教育，推廣實驗動物科學與動物福祉。透過辦理各項科普教育活動，建立科學和大眾的連結，將與生命為伍的實驗動物科學知識，融入福祉與生命教育，傳遞給社會大眾、孕育科學幼苗。



The National Laboratory Animal Center (NLAC) was established in 1994 to provide diversified laboratory animal resources and related testing services. The NLAC aims to support basic biomedical research and pre-clinical evaluation of new drugs, medical devices, and biotechnology products. At the same time, the NLAC has also actively engaged in nurturing scientific talents, popular science education, and promotion of laboratory animal science and animal welfare. The Center has integrated scientific knowledge of laboratory animals with animal welfare and life education and passed it on to the public.



■ 財團法人技嘉教育基金會 GIGABYTE Education Foundation

依據技嘉科技公司使命『創新科技、美化人生』籌設之『技嘉教育基金會』，於91年3月15日通過教育部申請設立審查，獲准成立，以推動科技教育、藝術人文、美化人生、創造和諧進步之社會為發展宗旨。期透過推動科技教育、創新、藝術人文、關懷弱勢等活動，落實企業回饋社會之理念。並引導同仁參與志願服務工作，進而讓我們所處的社群，因技嘉人的參與而更美好。



■ 日月光半導體製造股份有限公司

ASE(Advanced Semiconductor Engineering, Inc.)

「水」是地球上重要的資源，然而受全球極端氣候影響，暴雨及早災等現象加劇，影響生活環境及經濟發展甚鉅。日月光身為封裝測試龍頭科技大廠，呼應聯合國可持續發展目標(SDGs)，以「資源循環」、「節能減碳」、「珍惜生態」的理念，建置此能資源認知與科技體驗的綠科技教育館，藉由環教推動，落實永續行動。



Water is an important resource. However, due to the effects of extreme weather, heavy rains and droughts have intensified, greatly affecting living environments and economic development. As a leader in semiconductor assembly and testing, ASE has echoed the United Nations Sustainable Development Goals (SDGs) to create a green technology hall based on the concepts of "resource cycling", "energy conservation and carbon reduction", and "cherishing nature". Its purposes are to promote resource-related knowledge and technology-based experiences. Lastly, through environmental education, sustainable actions can be undertaken.

“Upgrade Your Life” is the corporate purpose of GIGABYTE, and also the core vision of our commitment to social welfare promoting science education with core capabilities while paying attention to humanistic development and sponsoring cultural or educational activities that benefit society.

In terms of science and technology education, in addition to the long-term product design contest and digital competence workshops, GIGABYTE also co-organizes a cross-disciplinary Transaction Award with the government and industry to actively cultivate multitaskers for the industry. At the same time, GIGABYTE fully sponsors art and cultural activities and brings art into the community and the company to cultivate humanistic literacy for the whole generation.

Cultivating technological talents and implementing digital inclusion as a technology hardware manufacturer at the forefront of technology and innovation, GIGABYTE firmly believes that everyone should have the opportunity and ability to experience the convenience and progress brought by technology. Therefore, the GIGABYTE Education Foundation has continuously promoted science and technology education in multiple forms since 2010, such as building a wonderful science and technology city in which people of different genders, age groups, education levels, and other backgrounds can experience the surprise and happiness created by science and technology.

我們衷心感謝各夥伴與單位的參與，使2023第四屆科學節順利進行。

We would like to thank all partners and units for making the 2023 4th Taiwan Science Festival possible.

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