

2023 世界駭客大賽 台灣聯隊 TWN48 奪第 3 名

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DEF CON (世界駭客大賽) 為全球知名資安技術研討會，議程包含資安論壇與競賽活動，其中 DEF CON CTF (搶旗攻防賽) 更是各國資安好手雲集的世界級賽事，而由本校與台大學生、資安社群及業界好手所組成的「台灣聯隊 TWN 48」，更於今年 8 月在美國拉斯維加斯舉辦的 2023 年世界駭客大賽 DEF CON 31 CTF 大賽中打敗了來自中國、日本、韓國、丹麥、義大利等國駭客高手，獲得全球第三名的佳績！此次大賽冠軍為由傳統強隊美國卡內基美隆大學 PPP 戰隊與韓國 The Duck 戰隊合組的「Maple Mallard Magistrates (MMM)」，亞軍則為 CTFTIME 目前世界排行榜排名首位的「Blue Water 戰隊」，而臺灣自從 2014 年獲得 DEF CON CTF 比賽第二名以來，每年都順利入圍決賽，迄今已為第 10 次進入決賽，今年更是第 3 次拿到全球第三名的好成績！

今年台灣聯隊 TWN48 是由新生代 TSJ 和 Balsn 兩大資安戰隊為核心主力，共計 54 名團員分別來自本校資工系學生及系友、台大資工系與電機系學生、以及資安社群與業界頂尖年輕好手。能取得本次榮耀，除了仰賴各選手平時不斷練習以磨練實戰技能，也透過賽前增能工作坊來達成實體見面交流，讓較少有同隊競賽經驗的戰隊成員培養合作默契，而這份默契也成為決勝關鍵！像參賽當天早上，發生了進場時競賽主機過電沒反應的小插曲，幸好團隊合作把機器拆解處理，趕在開賽前修好，順利進行比賽！

DEF CON CTF 賽制包括攻防 (Attack and Defense) 搶分的題目以及 King of the Hill (KOH) 以領先次數或時間多寡來決定分數高低的比賽項目。此外近年更新增了偏向運動競技性質的 LiveCTF 題目類型。除了題目更為多元，主辦單位網路架構的變數更讓競賽充滿了挑戰。然而，團隊憑藉彼此間的默契與經驗，不但合作氣氛相當融洽，更在戰隊成員遇到規則變動或是網路問題等突發狀況時，都能團結合作、一同冷靜應對。



黃俊穎老師：TWN48 是台灣最具靈力的大型資安同好團體

參與本次帶隊的指導教授之一：本校資訊工程系教授黃俊穎表示，「TWN48 是台灣最具靈力的大型資安同好團體」，以「可以解決 MISC 問題」為理念，每天與電腦形影不離；初賽結束後到決賽開始前，選手自主進行兩周一次線上會議，開發競賽期間可能會使用到的工具，包括攻擊管理程式、封包分析工具、程式修正工具、計分統計工具等。

今年五月 DEF CON 31 CTF 預賽期間，台灣聯隊歷經 48 小時不間斷的競賽，在全球 1828 支隊伍中脫穎而出，以第五名之姿前進決賽。在決賽過程中，即使在安排不利的 LiveCTF 項目中沒有取得好成績，選手們仍然熬夜奮戰，讓排名一路向上攀升，最後於決賽中取得第三名佳績！而帶隊指導教授之一的國立台灣大學資訊工程系教授蕭旭君也表示，今年入圍決賽的隊伍多為各國社群聯合組成，實力不容小覷，台灣聯隊 TWN48 能獲得此成績，真屬難能可貴。

此外，相較前幾年進決賽後還需要尋找企業贊助經費，以及因準備時間短導致選手彼此沒有足夠時間彼此熟悉與磨合，此次大賽數位部資安署、國家資通安全研究院以及教育部 AIS3 團隊也一同合作協助並帶隊參賽，除了在賽前辦理增能工作坊，協助參賽團隊整備，汲取過往參賽經驗，依各類題目所需要的專長與解題需要進行專業分工，亦引入經理人機制協調團隊運作和解題分配，讓選手們能夠無後顧之憂，在比賽中全力應戰！

資安不僅與個人生活密不可分，更攸關國家安全，數位發展部也表示，希望透過制度化的模式持續為資安人才培育注入心力，推動參與國際資安競賽，讓台灣資安年輕好手累積實戰經驗，進而提升台灣在國際上的資安實戰力及競爭力。

Taiwan team TWN 48 takes 3rd place at DEF CON 31

DEF CON (Hacking Conference) is a well-known global cybersecurity technology conference that hosts cybersecurity forums and competitions. The DEF CON CTF (Capture The Flag) is particularly renowned as a world-class competition, drawing cybersecurity experts from nations. The "Taiwan team TWN 48," consisting of individuals from our university, National Taiwan University, cybersecurity communities, and industry, accomplished a remarkable achievement at the DEF CON 31 CTF competition, which took place in Las Vegas, USA in August this year. They surpassed hackers from China, Japan, South Korea, Denmark, Italy, and other countries to secure the third position globally. The top spot in this competition was taken by the "Maple Mallard Magistrates (MMM)" team, a formidable collaboration between the well-known US-based PPP team from Carnegie Mellon University and their Korean counterparts, The Duck. Following in second place was the "Blue Water" team, which currently holds the number one rank on the CTFTIME world leaderboard. Ever since Taiwan's second-place finish in the DEF CON CTF competition back in 2014, the country has maintained a consistent presence in the finals, securing a global third-place finish for the third time this year.

In the current year, Taiwan's TWN48 team is led by two prominent cybersecurity teams, TSJ and Balsn. The team consists of 54 members, including current students and alumni of our university's computer science department, students from both National Taiwan University's computer science and electrical engineering departments, as well as a select group of promising young talents from the cybersecurity community and industry. In their pursuit of success in this competition, the participants didn't rely solely on continuous practice to sharpen their practical skills. They also utilized pre-competition workshops to enhance the bonding within the team by face-to-face communication. These workshops played a crucial role in fostering effective collaboration and synergy among team members, particularly those with less prior experience of teamwork. For example, on the day of the competition, a minor incident occurred when the competition machine stopped working accidentally. Fortunately, the team worked together to swiftly disassemble and repair the machine so as to ensure a seamless start to the competition.

During the competition, besides the "Attack and Defense" challenges and the "King of the Hill" (KOH) contests where scoring depends on leadership frequency or time, a recent introduction of LiveCTF challenges with a sports competition flavor has brought increased diversity to the event. The competition has also grown more demanding due to the various challenges and dynamic variables in the organizer's network architecture. Nevertheless, the team members, drawing upon their synergy and experience, not only sustain a deeply cooperative atmosphere but also unite to effectively address unexpected obstacles like rule modifications or network problems encountered by team members.

Professor Chun-Ying Huang: TWN48 is Taiwan's most spiritually empowered large-scale cybersecurity enthusiast group.

Professor Chun-Ying Huang, a faculty of our university's computer science department and one of the supervising professors leading the team in this competition, conveyed that "TWN48 is Taiwan's most spiritually empowered large-scale cybersecurity enthusiasts' community." Their fundamental philosophy centers on the "ability to solve MISC problems," and they maintain an unwavering connection with computers, rarely parting ways. Between the preliminary rounds and the start of the finals, team members autonomously hold bi-weekly online meetings to develop various tools that might prove useful during the competition. These tools encompass attack management software, packet analysis utilities, code correction applications, scoring statistics tools, and more.

During the preliminary round of DEF CON 31 CTF in May this year, the Taiwan team demonstrated their resilience by enduring 48 hours of non-stop competition, distinguishing themselves among 1828 global teams and securing a fifth-place spot in the finals. During the finals, even though they encountered difficulties in the challenging LiveCTF category, the players persisted, putting in tireless effort throughout sleepless nights. In the end, they secured a remarkable third-place ranking in the finals! Professor Hsu-Chun Hsiao, one of the coaching professors from the Department of Computer Science and Information Engineering at National Taiwan University, also noted that many of the teams that reached the finals were collaborations from international communities and possessed substantial capabilities. The brilliant accomplishment of the Taiwan team TWN48 is indeed praiseworthy.

Unlike previous years when the Taiwanese team had to proactively pursue corporate sponsorships to secure funding after reaching the finals and when the restricted preparation time impeded player familiarity and cohesion, this time, the competition received support and direction from the Administration for Cyber Security, the National Institute of Cyber Security, and the Ministry of Education's AIS3 program. They conducted preparatory workshops before the competition to assist the participating team. Leveraging their collective experience from past competitions, they formed a specialized team based on individual expertise and the specific problem-solving demands of each category. Additionally, a management mechanism was introduced to streamline team operations and the dispatch of problem-solving tasks, enabling the players to concentrate fully on the competition without any concerns.

Cybersecurity is inextricably intertwined with both individual well-being and the security of our nation. The Ministry of Digital Affairs is committed to persistently dedicating resources to nurture cybersecurity expertise through systematic mechanisms. They aim to encourage active involvement in international cybersecurity competitions, enabling young Taiwanese cybersecurity professionals to gain valuable hands-on experience so as to ultimately bolster Taiwan's cybersecurity capabilities and strengthen its competitiveness on the global stage.