

2018國研盃智慧機械競賽

(ASME Taiwan SPDC)簡章

壹、前言：

美國機械工程師學會(ASME) 成立於1880 年，學會為一非營利事業組織，致力於促進工程科學界的技術合作、知識共享以及技能發展，並提升工程師在學會中的重要性。學生競賽(Student Design Competition , SDC)共分成兩個層級，分別為區域賽和總決賽，優勝者可以代表參加下一層級的比賽，本次ASME SPDC競賽屬於台灣分會自行依比賽規則舉辦的榮譽賽，成績優勝隊伍可獲得獎金並參加美國ASME區域賽。若在區域賽競賽中再次獲得佳績，則可受邀參加IMECE會議中的全球總決賽 (International Mechanical Engineering Congress & Exposition)，與來自全球各區的優勝隊伍一較高下。

貳、競賽宗旨：

- 1.提供培養專業機械工程師、領導人的技術平台。
- 2.創造國際間工程技術分享與交流。
- 3.提供參賽學生認識美國機械工程師學會的機會。

參、辦理單位：

主辦單位：美國機械工程師學會 台灣分會



國家實驗研究院 儀器科技研究中心

NAR Labs 國家實驗研究院
儀器科技研究中心
Instrument Technology Research Center

承辦單位：美國機械工程師學會 臺灣大學學生分會

美國機械工程師學會 清華大學學生分會

美國機械工程師學會 交通大學學生分會

贊助單位：國家儀器股份有限公司



台大嚴慶齡工業研究中心



國立台灣大學工學院

肆、競賽時間與地點：

時間: 2018 年 3 月3日 星期六。

(詳細時程安排會公布於FB粉絲專頁上)

地點: 國立台灣大學 工學院綜合大樓

(如遇不可抗拒之因素，主辦單位得更改競賽時間與地點)

主辦單位提供參賽者午餐，請於報名時一併填寫欲訂購的份數。

注意:我們將於2/24(六)當天開放設計競賽隊伍可以到現場進行測試及調整，詳細開放時間會再另外公布。

伍、競賽項目：

國內賽包含二種項目：

1. Student Design Competition學生設計競賽：

2018年SPDC設計競賽題目為Robot Football: Gooooaaaalll !!!!!

請依照題目設計出作品進行參賽。詳細規則請參照附錄一或ASME官方網站(第1條不適用於本榮譽賽)。

注意: 依ASME過去數年慣例，競賽規則會隨參賽者反應而時有修訂，請參賽隊伍主動注意總部規則修正，並請隨時密切注意ASME官方的Q&A，Q&A之問答亦屬於比賽之規則，相關資訊可由此獲得：

<https://www.asme.org/events/competitions/student-design-competition>

2. Old Guard Oral Presentation Competition演講競賽：

演講題目不限，機械相關即可，全程以英文演講和問答。詳細資訊請參照附錄二或ASME官方網站。比賽評審重點在大學生個人對機械相關議題的分析與分享能力或是個人在學期間研究成果的發表，並不是英文能力的鑑定。

陸、參賽資格：

國內大專院校全職在學學生(非研究生)，在職進修學生及教師不受理報名。學生設計競賽可跨院校混合組隊，每組最多4人。演講競賽則限以個人為單位參賽。

(學生設計競賽須有一人為ASME會員；演講競賽參賽者須為ASME會員)

柒、參賽方法：

參賽者可自行選擇欲報名參加之項目，並於國內賽之前完成作品或簡報，在國內賽當日前往比賽地點進行競賽。優勝隊伍或個人可獲得獎金以及ASME台灣分會所頒發的證書。

國家儀器並提供學生設計競賽參賽隊伍嵌入式系統NI myRIO的免費租借服務，租借辦法請參照附件四。myRIO相關資訊請參閱下方連結

myRIO - Project essentials guide：<http://www.ni.com/white-paper/14621/zht/>

myRIO - 3 hours seminar manual：<http://goo.gl/VrC5nQ>

myRIO - 線上教學短影片：<http://taiwan.ni.com/myrio/video>

捌、競賽流程：

學生設計競賽：

競賽當天開放場地試用，正式開始前30分鐘停止試用比賽場地，以利主辦單位進行場地最後確認。當天會場備有準備區，參賽選手可以在準備區做最後的調整測試工作，並在開始前10分鐘收回各隊的遠端控制器，交回時請參賽者自行關閉電源，之後依序取回進行比賽，順序將以抽籤方式決定，詳細競賽流程將於當天宣布或以行前通知方式告知。

演講競賽：

競賽現場提供電腦與投影機，參賽者僅需自備內含簡報檔之隨身碟或光碟。

玖、評分標準：

由美國機械工程師學會台灣分會邀請學業界專家組成評審團，並按照美國機械工程師學會頒佈之評分標準進行評分。各項競賽的評分準則請見附錄。

注意：參加設計競賽之隊伍，須於進行任務前向評審委員說明相關設計理念及動力裝置等(約3分鐘)，再進行任務。

拾、競賽獎項與獎金：

獎項和獎金原則上依下方設定品項頒發，實際頒發獎項得因參賽隊伍數目和比賽成績狀況從缺。

一、學生設計競賽：

第一名：50,000元

第二名：20,000元

佳作：10,000元 (一名)

美商國家儀器特別獎：30,000元 (一名，得與上述獎項合併領取。本獎項主要頒發給參賽作品中有使用到美商國家儀器軟、硬體產品之隊伍。若隊伍使用免費租借之NI myRIO，獲獎隊伍可保留NI myRIO，細節請參照附件四。)

美商國家儀器耗材補助：5,000元 (兩名，得與上述獎項合併領取。本獎項主要頒發給參賽作品中有使用到美商國家儀器相關產品之隊伍，擇優取兩名進行補助。)

注意：第一名之隊伍之判定，評審委員有決定是否為從缺之最終決定權。

二、演講競賽：

第一名：10,000元

第二名：5,000元

拾壹、冠軍隊伍晉級競賽規定：

本次ASME SPDC競賽屬於國內賽，成績優勝隊伍可獲得獎金。由於今年ASME組織重整，區域行政層級已廢除，因此今年晉級方式會不同於往年先晉級亞太賽再晉級世界賽，確切競賽晉級方式請詳見ASME總部官方網站。

拾貳、報名辦法：

報名時間：即日起至2018年2月14日截止。

報名方式：網路報名，詳細報名方式，詳見附錄三

保證金：一隊1000元整，需準時報到，並全程參與活動，在頒獎結束後，退還全額保證金1000元。

拾叁、聯絡資訊：

ASME學生競賽(SPDC)國內賽 總召 洪瑄璞 0911-671-704

email: b04502088@ntu.edu.tw

ASME學生競賽(SPDC)國內賽 副召 周政濤 0928-203-075

email: b04502107@ntu.edu.tw

如詢問規則相關問題請私訊粉絲專頁其他問題也可私訊粉絲專頁

ASME SPDC 台灣國內賽

<https://www.facebook.com/ASME.SPDC.Taiwan/>

拾肆、競賽網站：

相關資訊會公布**或修改**在網站上，請密切注意。

ASME官方網站網址：

https://www.asme.org/events/competitions/student-design-competition?_ga=2.139068662.49016842.1510994536-1990042056.1488987097

Facebook搜尋：

ASME SPDC 台灣國內賽

**ASME Student Design Competition
2018 Contest**

**Robot Football⁴:
Gooooaaalll !!!!!**

Design Problem Setup

In the summer of 2018 the sporting world's attention will be drawn to the FIFA World Cup in Russia, where the best football (soccer in the US) teams will compete. The 2018 Student Design Competition challenges your imagination and technical design skills to create a "team" to compete against three other teams in a modified four-way football competition. You may choose to construct a team that is just one device or a team with multiple devices that are remotely controlled and must fit in a specified box provided by your team. The competition will have a multi-game group stage followed by a semi-final and final round for the top teams.

The constraints and competition procedures for all devices are as follows:

Pre-Game Warmup (General Rules)

1. Students participating in the competition must be undergraduate engineering students (any engineering discipline is allowed) and must be ASME members. There is no limit on the number of students on a team.
2. At the start of the competition, your *football squad* (all robot devices and controls, any extra batteries, and any tools your team would use to make minor repairs during the competition) must fit within a rigid sizing box that is no more than 50 cm x 50 cm x 50 cm (internal dimensions). This sizing box **must be provided** by your team.
3. Your *football squad* will be sequestered inside your sizing box throughout all of the rounds of the competition. Teams will have one minute to prepare your device(s) to compete in each round after removal from the box.
4. All energy for the device must be provided by rechargeable batteries. No other forms of stored energy (such as pre-compressed springs or gas) are allowed unless the stored energy of this component is returned to the initial state (for example an initially compressed spring must be re-compressed using the energy from the battery).
5. Teams may replace batteries between rounds, however replacement batteries must be identical to the original and mounted in the same way to the device.
6. Your device or devices must be controlled either via remote control through a transmitter/receiver radio link or through an umbilical cord.
7. Transmitter/receiver radio links may be any commercially available model controller. Radio transmitters may have their own batteries and these batteries **do not** have to be rechargeable. All radio controllers will be shut off and stored within the team's box during the competition unless the team is competing.
8. Communication between controller and device(s) must be able to be secured to allow for at least 3 other teams simultaneously using live controllers, as well as other games taking place in the same auditorium area.

9. If umbilical cord controller(s) are used, mechanical forces on the umbilical cord may not be used to help propel or control the device, and **a dedicated team member must manipulate any cords to avoid interference with other competitors**. The umbilical cord must be detachable from the vehicle using a commercial connector. The umbilical cord may not be a part of the supporting structure of the device. The umbilical cord may only be used to transmit the commands from the controller. Teams will receive a penalty for any event where the umbilical cord is used to apply mechanical force to the device.
10. Flying devices are not allowed. Devices must remain intact throughout the game (for example, a part of the device may not be fired at a ball).

Kick Off! (Individual Game Rules)

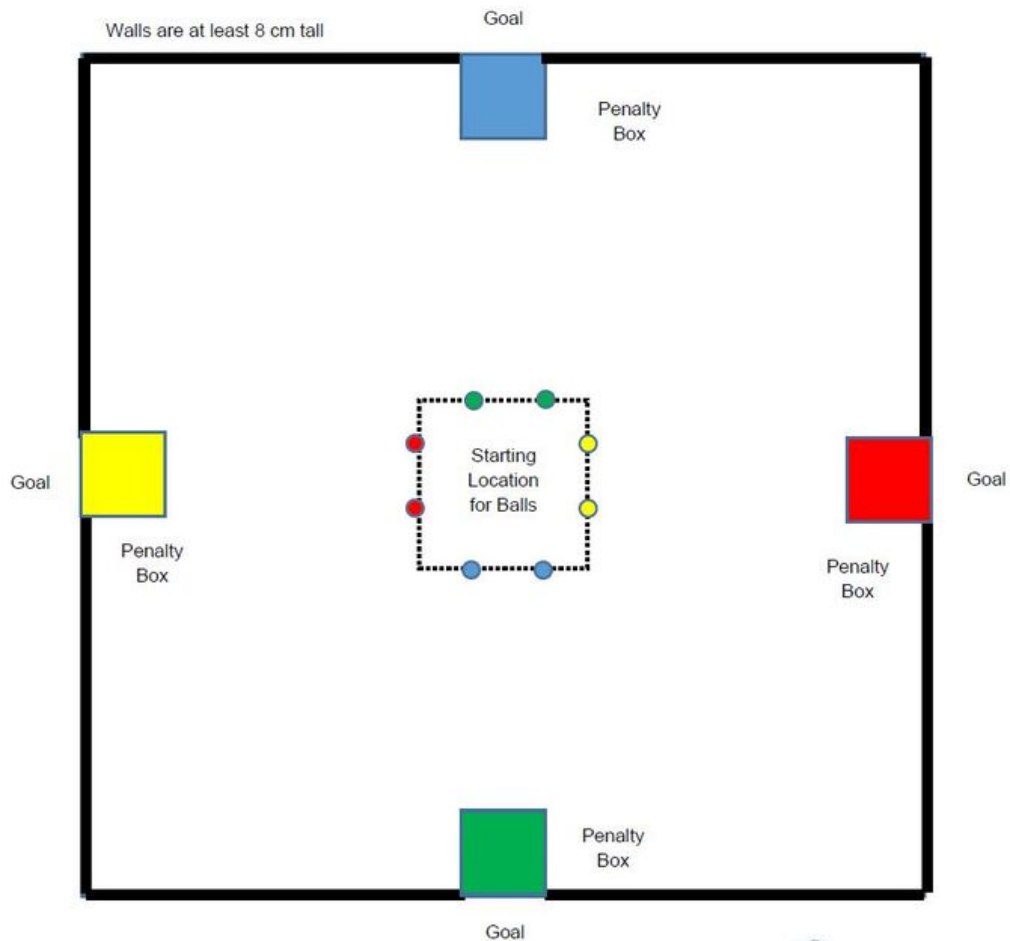
11. The playing surface dimensions are 5m x 5m, with boundary wall barriers that are at least 8 cm tall. Goals are 50 cm wide by 50 cm high, located in the center of each side of the playing surface. A 50 cm x 50 cm penalty box in front of each goal will be marked by tape on the ground. See Figures 1 and 2.
12. The playing surface will be level, and may be either hard surface or carpet typically found in public areas.
13. At the start of each game, the four teams will be randomly assigned a color (blue, red, green, or yellow) for that round. The color determines the goal the team is defending and the points that will be earned for each goal scored.
14. Games consist of **two 5 minute halves**. At the start of the 1st or the 2nd half of each game, eight tennis balls (two balls marked with each of the four colors) will be placed on a 1m x 1m square marked by tape on the ground as shown in Figure 1.
15. All teams' devices will begin both the 1st the 2nd half of each game within the penalty box that is their designated color for that game.
16. All devices must leave their penalty area at the start of play, and **all teams** must stay outside of **all penalty areas** during the game unless there is a ball inside a penalty box.
17. All the teams' devices will attempt to gain control of the balls and score goals in any of the other three goals that are not their team's designated color. A team scores a goal when a ball that they **control and propel** goes into another teams' goal.
18. Teams will earn points for goals scored against the other teams as follows:
 - five points for scoring with a ball into the same color goal
 - two points for scoring with a ball into a different color goal
 - shot that deflects off another team, into a goal counts as a goal for the original team controlling and shooting the ball
19. Teams lose one point for every goal scored in their own goal. This includes deflected or own-goals.
20. Once a ball has been scored it will remain off the playing surface, but will be repositioned at the start of the 2nd half. If a ball leaves the playing surface over the boundary wall, a judge will quickly replace the ball at its original starting position in the middle.
21. If all eight balls are scored in less than 5 minutes, the half will end at that time.
22. The following rules apply to team control of a ball:
 - A team may push, or secure a ball within their device in any way they chose
 - Teams may only attempt to control one ball at a time

- Teams may only attempt to steal a ball from another team when the ball is touching the ground (see next rule for further interactions between teams)
23. The following rules apply to team interactions:
- Some contact between devices will be allowed and should be expected. Devices must be robust to survive low speed collisions
 - Teams are allowed to play defense and block other teams (but must remain outside all penalty boxes)
 - Intentional *fouls* and overly aggressive behavior will be stopped by the judges
 - Excessive contact with other devices, or repeated attempts to control more than one ball may result in a **yellow card** – the team must then remain motionless for 60 seconds before the judge allows the team to resume competing. Teams may earn more than one yellow card in a game, but multiple yellow cards do not turn into red cards as they do in traditional football.
 - Behavior that is unprofessional and likely to damage another device may result in a **red card** – the team will be removed from that game. A second red card during another game will cause that team to be removed from the entire competition

And the Winner is! (Overall Competition Scoring Rules)

- Each team will receive a score for each round (points for all balls in the other team goals, minus balls scored in their team goal)
- All teams will compete in as many preliminary rounds as can be run during the competition (the group stage), and every team will get to compete the same number of times.
- Preliminary rounds will have either four or three teams in each round. If a round only has three competitors the two colored balls for the missing team will not be put in play.
- Teams will be sorted during the group stage so that different teams compete against each other as much as possible.
- At the end of the preliminary rounds, total scores for each team will be added. The top eight scoring teams will continue to the semifinals. If necessary, the tiebreaker will be 1) total number of five point goals scored in preliminary round, 2) if still tied, highest number of points scored in one preliminary game, 3) if still tied, a coin toss.
- In the semifinal rounds, seeded teams 1, 4, 5, and 8 will compete, and seeded teams 2, 3, 6, and 7 will compete.
- Each of the two semifinals will consist of two rounds with the same teams (colors will be re-drawn for the 2nd round). The top two scoring teams from each of the two semifinals will advance to the finals. If necessary, the tiebreaker will be 1) total number of five point goals scored in two semifinal rounds, 2) if still tied, the higher seeded team.
- There will be one final match between the top finishers from the semifinals. The team with the most points is the champion. If teams are tied, only the tied teams will compete in a final shootout: all eight balls will be put in play and the tied teams will compete in one five minute half. If tied, this will be repeated until there is a winner.

Figure 1: Top View of the Playing Surface



The 5m x 5m playing surface has boundary walls made from wood 2x4's or comparable height material. 50 cm wide gaps in the center of each edge are the goals. Goals are 50 cm high. A 50 cm x 50 cm "penalty box" will be taped on the ground in front.

At the start of each game and 2nd half, each team will start in their designated color penalty box, with eight marked tennis balls (two balls of each of four colors) placed on a 1m x 1m square in the center. Teams are trying to score goals with any of the balls in any of the other teams' goals, and trying to defend their own goal.

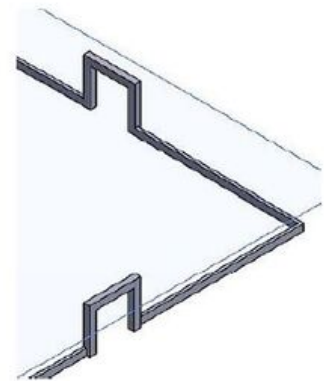


Figure 2: View of the Goals

附錄二 (本附錄僅供參考，請以ASME官網公布之規則為準)

Old Guard Oral Presentation Competition

Rules and Procedures

Like all professionals, engineers must possess a well-developed ability to synthesize issues and communicate effectively to diverse audiences. Among the highlights of ASME's Student Professional Development Conference (SPDC) program is the Old Guard Oral Presentation Competition. This competition is designed to emphasize the value of an ability to deliver clear, concise and effective oral presentations, particularly pertaining to some sphere in which an engineer is or should be involved.

Each student presentation lasts fifteen minutes and is followed by a five minute "Question and Answer" (Q&A) period. First Place winners from each of the District Conferences are invited to compete at the Society level at the International Mechanical Engineering Congress & Exposition.

Each presentation in the Oral Presentation Competition must be delivered in English. The subject matter of each presentation must address a technical, economic or environmental aspect of engineering or other basic engineering theme, provided it pertains to some sphere in which an engineer is or should be involved. A major portion of a competitor's total score is based on the judges' evaluation of his/her relative capability to communicate orally, including evidence of a talent to respond effectively in the Q&A period.

A competitor may utilize any available resource but must realize that the presentation is to be an individual effort. Assistance in the use of visual aids is advisable (Powerpoint, etc.). Film clips, if used, may not exceed one-minute total duration (i.e. a maximum of one minute of each student presentation may be used for video). Film clips may not be accompanied by any recorded sound. Good practice and courtesy suggests credit be given during the presentation for any outside help related to the reported project. A written paper or manuscript is not required.

Eligibility and Requirements

To be eligible to participate, each competitor must be a Student Member who:

- a. has not yet received an engineering degree* and,
- b. has been selected by his/her Student Section or ME Department to participate; and,
- c. is a Student Member in good standing.

* Student Members who complete the requirements for their baccalaureate engineering degree, or who actually receive that degree at the end of a term, semester, or quarter a short time before a scheduled conference may still

participate. These Student Members, however, must not have completed their degree requirements before December 1 of the calendar year prior to the Conference.

At least two (2) weeks before the date of the District Conference, each participant's Student Section Advisor of his/her Student Section (or Department Head, if there is no Student Section) shall advise the Student Section Advisor of the host institution and ASME Staff of the names of their competitors and titles of their presentation (ASME Staff can be reached at oldguard@asme.org).

Competition Entry

The Old Guard Oral Presentation Competitions are held locally at ASME Student Professional Development Conferences (SPDCs). Students who wish to participate must:

- Visit the Student Professional Development Conferences website.
- Choose the location of the conference he/she plans to attend.
- Complete the appropriate entry form for that location.

Students entering the Old Guard Oral Competition may not enter the Old Guard Technical Poster Competition. There is no restriction on entering the Old Guard Technical Webpage Competition..

Conduct of the Contest

Each presentation in the Old Guard Competition shall be made by one contestant. Any questions regarding procedure shall be resolved by the Student Section Advisor and District Leader before the Conference.

The Chair of the Host Student Section usually presides during the contest and ensures that there is adherence to the time schedule given in the printed program. The Presentation's duration is fifteen (15) minutes plus five (5) minutes for Q&A immediately thereafter. Any time remaining or exceeding the fifteen minutes must be added to or subtracted from the five minute discussion.

Questions may be asked by any attendee of the competition except those from the competitor's own educational institution. Each person posing a question to a speaker must stand, identify himself/herself and school, and then proceed with the question. The Host Student Section must appoint two timekeepers from two visiting student delegations. Timekeepers must be non-contestant Student Members. They are to be introduced by name and college at the beginning of each session and instructed to keep time as follows:

- At the end of twelve minutes, the first timekeeper will rise to signal to the speaker that there are three minutes remaining.
- After the speaker nods to acknowledge the signal, the timekeeper will sit down.

- At the end of fourteen minutes, the second timekeeper will rise to signal to the speaker that there is one minute remaining.
- After the speaker acknowledges the signal, the timekeeper will sit down.
- At the end of fifteen minutes, both timekeepers will rise together and remain standing until the speaker concludes the presentation.
- Both timekeepers will rise at the end of five minutes to terminate the discussion period.

Judging and Scoring Criteria

Each contest is to be judged by the same individuals throughout, preferably ASME members of mature judgment, who are selected along with one or two alternates. Local ASME Sections and District Leaders will be pleased to cooperate in the search for judges. As an alternative, some Districts use one faculty member and one student from each represented school as judges, with the faculty and student not judging their own presenter(s).

The Presentations will be judged in four categories; Content, Organization, Delivery and Effectiveness, and Discussion.

Content

To what extent is the subject of interest to a technical audience? Is credit given for source of material or contribution by others? How much knowledge of subject was exhibited? Is work independent and original? Is the subject technical or general in nature?

Organization

Is there any novel approach to the subject? Is there sufficient background information provided in order to introduce the audience to the subject? Are the facts developed in logical and continuous sequence? Is there a definite conclusion, and was it adequately based on the facts or data presented?

Delivery and Effectiveness

Are the words distinctly pronounced and was proper volume used to be heard by all? Is proper English used, and is the vocabulary sufficient? Is personal appearance appropriate? Are there any distracting mannerisms? Is the manner of delivery (conversation, memorized, read from manuscript) satisfactory? If visual aids are used, how effectively are they used? Is the presentation within the time limit of 15 minutes allowed?

Discussion

Is the presentation evoking spontaneous questions from the audience? Are the questions indicating the need for clarification of facts presented, or were they merely of the type seeking additional information? How readily and with what self-assurance did the speaker answer the questions? Are the answers indicating knowledge of the subject beyond that disclosed in the original presentation? Is the ability to think clearly demonstrated?

Judges are to use the Scoring Sheet provided (see Appendix A) as the basis for judging all the Student Professional Development Conferences. The Scoring Sheet has been developed for the convenience of the judges in evaluating the presentation in competition. Scoring Sheet samples should be sent to the judges for familiarity ahead of the contest. Scoring Sheets are not to be given to the presenters. Judges should be informed that they must agree to serve through the entire contest, be it one or two days.

Judges are encouraged to fill out the Feedback Sheet (see Appendix B) on each student's presentation and give them to the contestants at the conclusion of the presentations. The Feedback Sheet has been developed for the convenience of the judge to assist him/her in this process.

District Awards and Recognition

Each Student Member that participates in the District competition will receive an ASME membership upgrade to Member, compliments of the Old Guard.

Judges at each conference are to select First, Second, Third and Fourth Place winners based on the criteria specified in the competition score sheet. A Fifth Place winner may be selected, at the judges' discretion. An additional award is available for "Best Technical Content." This prize may be given to one of the top four winners or any other presenter at a conference.

Student Conference (SPDC) Awards		Society Awards (Finals at IMECE)	
First	\$500.00 plus a trip to compete in the final competition at ASME's IMECE	First	\$2,000.00
Second	\$150.00	Second	\$1,500.00
Third	\$100.00	Third	\$1,000.00
Fourth	\$50.00	Fourth	\$500.00
Fifth		\$25.00	
Technical		\$50.00	

Competition Finals

Each ASME District is entitled to select one (1) Old Guard Oral Presentation finalist at its Student Professional

Development Conference (SPDC) to represent the District at the finals of the Old Guard Oral Presentation Competition. Finals take place at the International Mechanical Engineering Congress and Exposition (IMECE) in November. North American Districts choosing to have more than one Student Professional Development Conference in a given year are entitled to select a maximum of two (2) Oral Competition winners, but no more than one per conference.

No substantial changes from the presentation given at the District Student Professional Development Conference may be made for the finals at IMECE. Any substantial change of title or major revision of the presentation given at the District SPDC will result in disqualification and may result in loss of travel reimbursement.

The final competition at IMECE is judged by a panel of volunteers from within the ASME community, based on the same criteria as the District events. The top four presenters among the finalists are eligible for Society awards. The winners are also recognized at Society events and featured in various ASME publications and web sites.

Adopted by the Old Guard Committee

August 11, 2011

附錄三

2018年國研盃智慧機械競賽(ASME Taiwan SPDC)報名流程

1. 報名時間：即日起至 2018 年 2 月 14 日截止。
 - A. 填寫報名及基本資料表單 <https://goo.gl/forms/sPp9uE1eWWKXaxiJ3>
 - B. 填完表單後請掃描所有參賽人員，學生證正反面，並寄到 asmetwspdc@gmail.com 信箱中，主旨: "xxxx 隊伍 成員學生證"
 - C. 繳交保證金 1000 元，請至下列繳費系統填寫資料與繳款，
 - D. **2018 年國研盃智慧機械競賽 (ASME Taiwan SPDC) 報名訂金繳費系統**
 - E. 線上資料填寫完成後，請選擇「信用卡繳費」完成繳費程序，或「列印收費單」至全省超商門市 (7-11、全家、OK、萊爾富) 繳費；亦可利用自動提款機、網路銀行、網路 ATM 轉帳繳費 (需自付手續費)。
 - F. 註：因超商繳費入帳時間需費時約 5-7 日，利用全省超商門市 (7-11、全家、OK、萊爾富) 繳費者，若有問題煩請一週後，再來電 (賴小姐 (03-5779911 轉 656)) 查詢，謝謝！
 - G. 保證金一隊 1000 元整，需準時報到，並全程參與活動，在頒獎結束後，退還全額保證金 1000 元。
 - H. 報名後約三到五天之間會傳簡訊至隊長手機確認報名，如果沒有收到訊息，請聯絡：
 - I. 總召：洪瑄璞 0911671704
 - J. 副召：周政濤 0928203075
2. 填寫報名及基本資料表單
<https://goo.gl/forms/sPp9uE1eWWKXaxiJ3>
3. 填完表單後請掃描所有參賽人員，學生證正反面，並寄到 asmetwspdc@gmail.com 信箱中，主旨: "xxxx隊伍 成員學生證"
4. 報名後約三到五天之間會傳簡訊至隊長手機確認報名，如果沒有收到訊息，請聯絡
總召：洪瑄璞 0911671704
副召：周政濤 0928203075

附錄四

2018 國研盃智慧機械競賽(ASME Taiwan SPDC) 國家儀器科技 (NI) myRIO借用辦法

國內賽基本資訊：

- 1、 競賽時間：2018年3月3日
- 2、 競賽地點：國立台灣大學 工學院綜合大樓
- 3、 主辦單位：美國機械工程師學會 台灣分會
國家實驗室研究院 儀器科技研究中心
承辦單位：美國機械工程師學會 臺灣大學學生分會
美國機械工程師學會 清華大學學生分會
美國機械工程師學會 交通大學學生分會
贊助廠商：國家儀器科技股份有限公司
- 七、 競賽網站：Facebook搜尋 ASME SPDC 台灣國內賽

借用辦法：

一、申請資格：

已報名參加2018 ASME SPDC國內賽之隊伍。

二、借用儀器設備：

由美商國家儀器根據各隊伍所提交之構想書進行選核，借用NI myRIO 控制器一套。

NI myRIO控制器之相關資訊參閱下列網址：

myRIO - Specifications: <http://www.ni.com/myrio/zht/>

myRIO - Project essentials guide : <http://www.ni.com/white-paper/14621/zht/>

myRIO - 3 hours seminar manual : <http://goo.gl/VrC5nQ>

myRIO - 線上教學短影片：<http://taiwan.ni.com/myrio/video>

三、申請方式：

- 欲申請myRIO借用之競賽隊伍，請於2018年01月20日（六）前將競賽構想書（附件五），以電子郵件方式寄至美商國家儀器曾恩祥工程師(email: an-hsiang.tseng@ni.com)，逾期恕不受理。
- 競賽構想書由美商國家儀器科技全權選核，選核標準將以構想書內容之創新性、實用性、可行性、與完整性為主。收件後採隨到隨審，於1週內完成審核和myRIO寄件程序。

四、本補助辦法未盡事宜，主辦單位保留隨時解釋、修正內容之權力。

2018年國研盃智慧機械競賽(ASME SPDC)

競賽構想書

競賽隊伍名稱				
指導教授	姓名		連絡電話	
學校/科系			E-mail	
隊長	姓名		連絡電話	
學校/科系			E-mail	
隊員	姓名		連絡電話	
學校/科系			E-mail	
隊員	姓名		連絡電話	
學校/科系			E-mail	
隊員	姓名		連絡電話	
學校/科系			E-mail	

競賽平台構想概述(至多 2 頁，含圖片)：

技術特點及預期成果(至多 2 頁，含圖片)：