



Call for Participation

FIRA RoboWorld Cup 2018

FIRA Frontier Camp 2018

3rd-5th August, 2018 // AI Robotics Hub, Taichung, Taiwan

FIRA RoboWorld Cup 2018

6th - 12th August, 2018 // Feng Chia University, Taichung, Taiwan

Hosts: FIRA, Ministry of Science and Technology Taiwan, Central Taiwan Science Park Bureau

Organizers: FIRA Taiwan Chapter, AI Robotics Hub, Robotics Society of Taiwan, National Kaohsiung University of Science Technology

Co-Organizers: Taichung City Government, Feng Chia University



Important Dates

31st May 2018 Deadline for submission of qualification material

15th June, 2018 Notification to qualified teams

30th June, 2018 Deadline for early-bird registration

14th July, 2018 Deadline for regular registration

Introduction

In 1996, the Federation of International Robot Soccer Association (FIRA) organized the first robot soccer and other sports competition. The main goal of FIRA is to promote cutting edge research into robotics, machine learning, computer vision, and artificial intelligence by using robot sports as benchmark problems. Another goal is to introduce students to teach students critical thinking and problem solving skills using state of the art technologies and methodologies in the areas mentioned above, and to prepare them for their future careers.

Many interesting research has come out of the FIRA community including the first ice skating and skiing intelligent humanoid robots. But just as robot hardware and software has changed dramatically in recent years, robot competitions must evolve to continue to act as important benchmark problem.

In 2017, the FIRA Executive Committee introduced wide ranging changes under new President Jacky Baltes. The FIRA Executive Committee believes that the new structure is better suited to support cutting edge research and education while at the same time provide exciting competitions.

1. FIRA Sports - autonomous robots competing in sport and similar events,
2. FIRA Youth - a new division for elementary, junior and high school students,
3. FIRA Challenge - more complex events such as search and rescue that can often only be solved with tele-operation, and
4. FIRA Air - a new competition for autonomous drones.

FIRA RoboWorld Cup 2018 introduces the following changes:

Major:

1. A new challenge for swarm robots
2. A new league for wheeled robots
3. A drone simulation league

Youth:

1. A new league for wheeled sports robots

Game Categories and Rules

Links to all rules can be found in the [rules document](https://goo.gl/owWvAK) (<https://goo.gl/owWvAK>)

FIRA Sports

1. [HuroCup Kid, HuroCup Teen and Adult and HuroCup Youth](#)

Chair: [Prof. Kuo Yang Tu](#),

Co-Chairs: Prof. Karla Camarillo, [Dr. Kevin Lim](#), [Prof. Young Jae Ryoo](#)

2. [AndroSot](#) & [AndroSot Challenge](#)

Chair: [Dist. Professor Tzuu-Hseng Steve Li](#) [Prof. Tae Goo Kang](#)

Co-Chair Professor Dong-Won Kim [Professor Chia-Wen Chang](#)

3. [RoboSot](#)

Chair: [Prof. Ching-Chang Wong](#)

Demo: [FIRA RoboSot Race](#), [Prof. Ching-Chang Wong](#)

4. [SimuroSot](#)

Chair: [Prof. Zhongwen Luo](#)

Co-Chair: [Gonzalo Mon](#)

Demo: FIRA Drone Simulation, [Farzad Ahmadinejad](#)

5. Demo: MiroSot

Chair: [Prof. Ho Seok Ahn](#)

FIRA Youth

Chair: [Yi-Ching Chen](#)

Co-Chairs: [Handson Lee](#) [Hossein Mahdipour](#)

1. [HuroCup Youth. \(see FIRA Sports HuroCup Youth\)](#)

2. [DRC Explorer](#) (*Autonomous*)

3. [City racer](#) (*Line tracer*)

4. **Demo:** [Wheeled Robot Sports Challenge](#), [Hossein Mahdipour](#)

5. [Cliffhanger](#) (*Sumo variant*) (*will be updated on 23rd April*)
6. [Mission Impossible](#)
7. [Mission Impossible \(United Nation, Camp participants only\)](#)

FIRA Challenge

1. Chair: [Dr. Soroush Sadeghnejad](#)

Co-Chair: [Amirali Setayeshi](#)

2. [Humanoid Robot Challenge \(Mini DRC\)](#)
3. [Mini-DRC-Wheeled](#)
4. Demo: Mini-DRC-Swarm Robots₁

Chair: [Dr. Soroush Sadeghnejad](#) Co-Chair: Mohammadmahdi Rahimi

FIRA Air

Chair: [Farzad Ahmadinejad](#)

1. [Drone](#)

Qualification

Teams that are interested in participating must submit their qualification material before the deadline. The qualification procedure is dependent on the division and league. Please contact the chairs and co-chairs of the event if you have any further questions.

FIRA Sports, FIRA Challenge, and FIRA Air

Qualification consists of two parts: (1) A max. 5 min long video showing the performance of your robot in the various sports events, and (2) a research paper (max. 12 pages in Springer LNCS format).

Videos

Videos must be uploaded to a publicly accessible video sharing site such as youtube or vimeo. Post a link into the FIRA official registration website, available in <http://firaworldcup.org>

Team description paper (TDP)

All teams from this year should submit a team description paper (TDP). The TDP is limited to 4 pages maximum and must be submitted in PDF format. This report fully describes the scientific aspects of your robot system and your research interests, includes a summary of previous relevant achievements in research and development as well as publications, and mentions prior performance in FIRA competitions.

The TDP must follow the LNCS format which can be downloaded from

<http://www.springer.com/computer/lncs?SGWID=0-164-6-793341-0> . Please pay special attention to the “Author guidelines” that you’ll be able to find there. Teams that do to follow the LNCS formatting and style guidelines will not be qualified.

Research Paper

The Easychair website for submission is <https://easychair.org/conferences/?conf=fira2018> . Note that there is no additional fee for teams submitting a paper to FIRA 2018.

FIRA Youth

Teams that are represented by a FIRA Chapter must qualify and register via their FIRA Chapter.

Teams that do not yet have a chapter may contact FIRA HQ directly for qualification. In this case, they should submit a two page write-up in English describing their previous experience in robotics and their motivation for joining the FIRA competition.

In addition, participants that would like to take part in the United Nations Mission must submit a two page write-up in English describing their previous experience in robotics and their motivation for joining the United Nations Mission.

Venue and Competition Schedule

Tentative Schedule

2nd August : Registration and check in for FFC participants

3rd - 5th August : FIRA Frontier Camp [FFC]

6th August: Set-up & registration

7th August: Opening ceremony, Competition & Welcome reception

8th - 11th August: Competition

10th August : Banquet

11th August : Closing (Victory) Ceremony

12th August: FIRA tour and social program

Venue

Feng Chia University Sports Center.



The main venue for FIRA RoboWorld Cup 2018 will take place at Feng Chia University Sports Center. This eight-story building includes an indoor track, basketball courts, fitness centers, aerobic exercise classrooms, spinning classrooms and swimming pool.

The Sports Center was built using ecologically friendly construction methods. In addition, its flowing lines provide changing visual perspectives to those enjoying its indoor and outdoor facilities.



The Youth venue for FIRA RoboWorld Cup 2018 is Recreation Building at the campus of Feng Chia University.

Registration Fees

FIRA Sport, FIRA Challenge, FIRA Air:

Category	Early bird registration fee by 15th June	Regular registration fee by 10th July	Late registration fee by 20th July	Additional member	Additional league	Condition
Sport/ Challenge/ Air	600	750	850	150	200	1 coach/ 4 members
Youth	150	200	250	-	-	up to 3 games
Youth coach	100	150	200	-		

Lunch ticket	3	5	7	-	-	1 lunch box
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Travel

Accommodation

Hotels

Taichung provides many options for accommodation and food. The nearest districts to Feng Chia University are Feng Chia night market which the most famous traditional shopping place in Taiwan. There are many hotels in this districts.

Dormitory

The dormitory at Fuhsing campus is 10 minutes by walk from the main campus of Feng Chia university.

Accommodation pack	Early bird registration fee by 30th June	Regular registration fee by 10th July	Late registration fee 20th July	Condition
Dormitory accommodation	130	150	170	8 nights (check in 5 check out 13)
Breakfast & dinner	50	70	100	8 Breakfasts/ 7 Dinners

Food and Beverages

The organizers also offer the option of buying lunch boxes for each day of the competition. The cost of the lunch boxes is \$3 each. Because hundreds of lunch boxes are hard to prepare, teams must pre-order lunch boxes during registration.

General Chair: Prof. Kuo-Yang Tu tuky@nkfust.edu.tw

FIRA Headquarter: Christine Kim christine@fira.net

Website: www.fira.net

Facebook group: <https://www.facebook.com/groups/firarobot/>

Official website FIRA 2018: http://humanoid.nkfust.edu.tw/FIRA_2018/index.php

Appendix A: Dormitory



Fig. A1. The dormitory building.

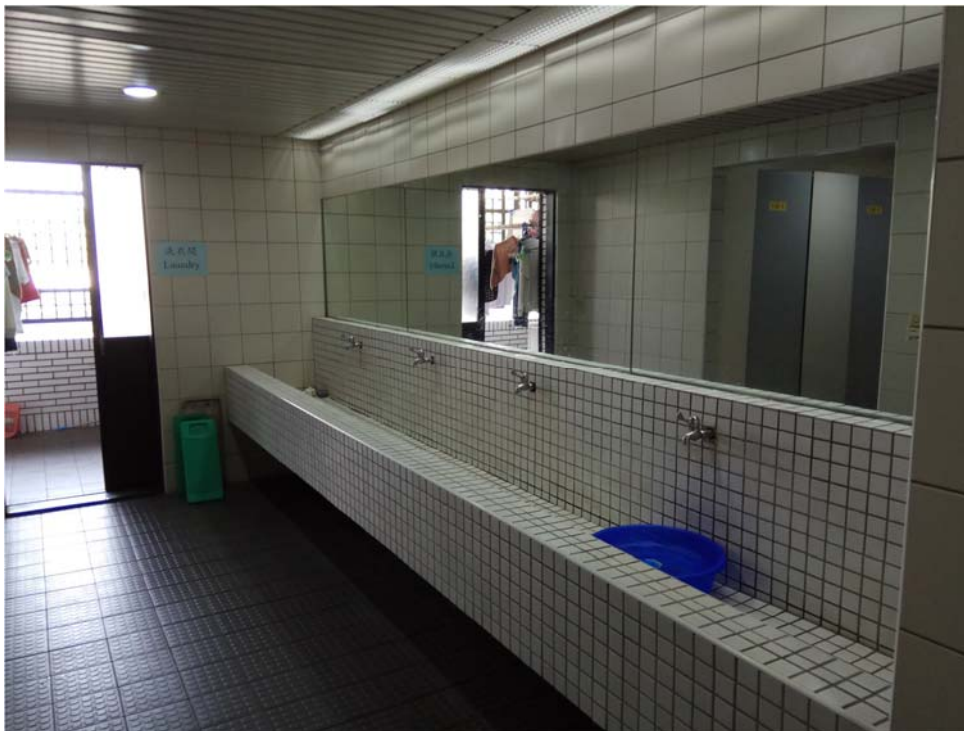


Fig. A2. The laundry room.



Fig. A3. Showers.



Fig. A4. One corner in the shower room.



Fig. A5. One public area in the dormitory.



Fig. A6. One of the public area.



Fig. A7. Laundry room with wash machine.



Fig. A8. The other view of the laundry room.



Fig. A9. Study room.

More information on

www.fira.net

<https://www.facebook.com/groups/firarobot/>

Contact

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