

# IEEE RAS SUMMER SCHOOL ON MULTI-ROBOT SYSTEMS 2022

August 1-5  
Prague, Czech Republic



# IEEE RAS SUMMER SCHOOL ON MULTI-ROBOT SYSTEMS 2022

## 2022 IEEE RAS Summer School on Multi-Robot Systems PROGRAM

The program is scheduled in the CEST time zone.

### 1.8. - Monday

08:00-08:45 - **Registration (for later coming possible during the day)**

09:00-09:30 - **Martin Saska - welcome and organizational details**

09:30-10:30 - **Aníbal Ollero Baturone part I**

10:30-11:00 - Coffee break

11:00-12:15 - **Aníbal Ollero Baturone part II**

#### **GROUP 1**

12:15-13:00 - **Lunch**

13:00-13:30 - Free Time/Networking/Beer

13:30-14:45 - **Martin Saska - Research of groups of aerial robots at CTU in Prague**

#### **GROUP 2**

12:15-13:30 - **Martin Saska - Research of groups of aerial robots at CTU in Prague**

13:30-14:15 - **Lunch**

14:15-14:45 - Free Time/Networking/Beer

14:45-16:00 - **Tomáš Báča - Introduction into MRS system in ROS**

16:00-16:30 - Coffee break

16:30-17:30 - **Pavel Petráček, Vít Krátký, Tomáš Báča - Practical seminar tasks introduction**

17:30-18:45 - **Workshop**

On-board perception - Main Lecture Hall

Subterranean navigation - KN: E-s109

Cooperative motion - KN: E-112

Control and navigation - KN: E-127

Human-Robot interaction - KN: E-128

UAV Swarms - KN: E-132

Aerial dosimetry - KN: E-218

Computer vision - KN: E-230

Cooperative navigation - KN: E-307

Multiple agent planning - KN: E-310

Vision-based localization - KN: E-311

UAV Control - KN: G-205

19:00-21:00 - Social program: Welcome drink

There will be a grill party in the backyard of the building E. Please follow your workshop lecturer or the navigation arrows to the site.



# IEEE RAS SUMMER SCHOOL ON MULTI-ROBOT SYSTEMS 2022

## 2.8. - Tuesday

08:45-09:00 - Registration (for later coming)

09:00-10:15 - **Vito Trianni part I - Collective Decisions in Robot Swarms**

10:15-10:45 - Coffee break

10:45-12:00 - **Vito Trianni part II - Collective Decisions in Robot Swarms**

**GROUP 1** 12:00-12:45 - **Lunch**

12:45-13:15 - Free Time/Networking/Beer

13:15-14:30 - **Practical in PC lab (simulations in Gazebo)**

A - KN: E-311

B - KN: E-307

C - KN: E-310

D - KN: E-230

**GROUP 2** 12:00-13:15 - **Practical in PC lab (simulations in Gazebo)**

E - KN: E-311

F - KN: E-307

G - KN: E-310

H - KN: E-230

13:15-14:00 - **Lunch**

14:00-14:30 - Free Time/Networking/Beer

14:30-16:00 - **Guido de Croon - Autonomous swarms of tiny drones**

16:00-16:30 - Coffee break

16:30-18:00 - **Tomáš Svoboda - Robots go deep - multi-robot missions in unknown undergrounds**

18:30-21:00 - Guided tour in Prague's Old Town

We will gather together in the front yard of the building E in the university campus at 18:30.



# IEEE RAS SUMMER SCHOOL ON MULTI-ROBOT SYSTEMS 2022

## 3.8. - Wednesday

08:45-09:00 - Registration (for later coming)

09:00-10:30 - **Rachid Alami part I**

10:30-11:00 - Coffee break

11:00-12:15 - **Rachid Alami part II**

**GROUP 1**      12:15-13:00 - **Lunch**  
13:00-13:30 - Free Time/Networking/Beer  
13:30-14:45 - **Practical in PC lab (simulations in Gazebo)**  
A - KN: E-311  
B - KN: E-307  
C - KN: E-310  
D - KN: E-230

**GROUP 2**      12:15-13:30 - **Practical in PC lab (simulations in Gazebo)**  
E - KN: E-311  
F - KN: E-307  
G - KN: E-310  
H - KN: E-230  
13:30-14:15 - **Lunch**  
14:15-14:45 - Free Time/Networking/Beer

14:45-15:45 - **Lino Marques part I - Basic terms and MRS approaches**

15:45-16:15 - Coffee break

16:15-17:15 - **Lino Marques part II - Multi-robot olfactory search**

17:15-18:45 - **Konstantinos Alexis - CERBERUS in the DARPA Subterranean Challenge: A Quest for Resilient Autonomy**

19:30-22:00 - Banquet

Art Restaurant Mánes

It is a 5 minute walk from university campus to the venue.

You can use the QR code to find the way to the restaurant.



# IEEE RAS SUMMER SCHOOL ON MULTI-ROBOT SYSTEMS 2022

## 4.8. - Thursday

08:45-09:00 - Registration (for later coming)

09:00-10:30 - **Short presentations of students, part I**

10:30-11:00 - Coffee break

11:00-12:30 - **Alyssa Pierson - Designing Cooperative Multi-Agent Teams and Socially-Aware Autonomy**

### GROUP 1

12:30-13:15 - **Lunch**

13:15-13:45 - Free Time/Networking/Beer

13:45-15:00 - **Practical in PC lab (simulations in Gazebo)**

A - KN: E-311

B - KN: E-307

C - KN: E-310

D - KN: E-230

15:00-16:00 - **Lab tour**

16:00-16:30 - Coffee break

16:30-17:30 - **Briefing on the experimental part, organizational details, safety instructions**

### GROUP 2

12:30-13:45 - **Practical in PC lab (simulations in Gazebo)**

E - KN: E-311

F - KN: E-307

G - KN: E-310

H - KN: E-230

13:45-14:30 - **Lunch**

14:30-15:00 - Free Time/Networking/Beer

15:00-16:00 - **Briefing on the experimental part, organizational details, safety instructions**

16:00-16:30 - Coffee break

16:30-17:30 - **Lab tour**

17:30-19:00 - **Short presentations of students, part II**



# IEEE RAS SUMMER SCHOOL ON MULTI-ROBOT SYSTEMS 2022

## 5.8. - Friday

09:00-17:00 - **Outdoor experiments with awards announcement**

Císařský ostrov, GPS coordinates: **50.111541, 14.418615**

Take e.g. tram 6 or 17 from university campus to

Výstaviště Holešovice, then it is a 20 minute walk to Císařský ostrov.

You can use the QR code to find the way to Císařský ostrov.



11:00-15:00 - Outdoor lunch

## General information

**Wi-Fi:** MRS2022

**Password:** Prague2022

You can use the QR code to add the network settings to your device.



## Catering

Coffee breaks and lunches will be held **in the corridors of the first floor**.

Please, for your drinks, use the **beer glass** you received during the registration. You can wash it in the **E-128** room in the glass washer. Feel free to ask the organizers how to use it.

If you want, you can also use plastic cups, but please sign them and reuse them to help us save the environment. You can find markers for beer glasses and plastic cups at the info desk.

You can also **sit outside in the front yard** or **E-127** and **E-128 (beer tap)** rooms during and after lunch.

**Please pay attention to the informational slides each day for detailed information.**

