

FINAL PROGRAM



14 – 16 September 2022



Lisbon, Portugal
Organized and Sponsored by



AREA42



PROGRAMME AT A GLANCE

Due to the lingering effects of COVID19 some presentations will be online while others will be onsite making GAME-ON® 2022 a hybrid event. Online presentations will be denoted with the affix ONL after the paper number. All times in the programme are local times ([WEST — Western European Summer Time](#))

Videos and Slides of the online presentations will be made available to view for all GAME-ON® 2022 participants only on the EUROSIS website.

Wednesday September 14

08.30-14.30 Registration
 09.15-09.30 Onsite and Online Welcome
 09.30-10.30 Keynote **Gary Ushaw**
 10.30-11.00 Coffee Break
 11.00-12.30 Session **Gaming Environments Creation**
 12.30-13.30 Lunch
 13.30-15.00 Workshop **Designing Game Narratives**
 15.00-15.30 Coffee Break
 15.30-16.30 Session **VR Gaming Environments**
 16.30 end of Day 1

Thursday September 15

08.30-15.30 Registration
 09.30-10.30 Keynote **Rute Costa and Micaela Fonseca**
 10.30-11.00 Coffee Break
 11.00-12.00 Session **Board Games Programming**
 12.00-13.00 Lunch
 13.00-15.00 Workshop **Using Modern Board Game Mechanisms to develop Simple Analog Serious Games**
 15.00-15.30 Coffee Break
 15.30-16.30 Participants Break
 16.30-23.00 Conference Visit and Dinner

Friday September 16

08.30-09.00 Registration
 09.00-10.00 Keynote **Marco Francesco Funari**
 10.00-10.30 Coffee Break
 10.30-12.00 Session: **Player Analysis**
 12.00-12.15 Closing Session
 End of Conference

GAME-ON'2022 FINAL PROGRAMME

Overhead and LCD Projector are standard. The room has a screen for online presentations

The underlined authors are usually the presenters.

Conference Site: **Colégio Almada Negreiros, Campus de Campolide da NOVA, Amphitheater CAN 219, 1099-085 Lisboa, Portugal /or ONLINE ROOM**

For any local information contact: 📞 Tel:+351 961824948, ✉ Email: jpaulino@fcsb.unl.pt,
or 📞 Tel:+351 937020249, ✉ Email: hebarbas@fcsb.unl.pt

Coffee breaks and lunches at the University or at the comfort of everybody's home

Only papers in gray boxes are eligible for the best paper award

Wednesday, September 14, 2022

08.30 - 14.30 **Registration**

09.00 - 09.30 **Amphitheater CAN 219 - WELCOME**

Welcome and General Information

Helena Barbas, GAME-ON'2022 General Conference Chair
Philippe Geril, EUROSIS-ETI, Ostend, Belgium

Opening of GAME-ON'2022

Daniel Alves, NOVA - FCSH, Lisbon, Portugal
Helena Barbas, GAME-ON'2022 General Conference Chair

09.30 - 10.30 **Amphitheater CAN 219 /Online Room - SESSION I
KEYNOTE SPEAKER**

09.30-10.30

Session Chairperson:

Joana Paulino, Lab_HD, IHC, NOVA FCSH, Lisbon, Portugal



GAME_KEY_02

**Guidelines and Case Studies on Collaboration with Computer
Game Industry for Academic Research and Education**

Gary Ushaw, Richard Davison and Graham Morgan.....5

Wednesday, September 14, 2022

10.30 - 11.00 **Coffee Break**

11.00 - 12.30 **Amphitheater CAN 219 /Online Room - SESSION II
GAMING ENVIRONMENTS CREATION**

11.00-12.30

Session Chairperson:

Jose Manuel Viegas Neves, NOVA - FCSH, Lisbon, Portugal

GAME_DEV_01_ONL

**Macro-Controlled Generation of Geometry Using Vector Fields
and their Application**

Robert Roth and Bernard Beitz..... **13**

STRAT_01

GAN-Based Content Generation of Maps for Strategy Games

Vasco Nunes, João Dias and Pedro A. Santos **20**

AFFECT_01

Playable Characters in Digital Games: A Genre Taxonomy Proposal

Tânia Ribeiro and Ana Isabel Veloso..... **32**

12.30 - 13.30 **Lunch**

13.30 - 15.00 **Amphitheater CAN 219 /Online Room - SESSION III
WORKSHOP**

13.30-15.00

Session Chairperson:

Tânia Ribeiro, University of Aveiro, Aveiro, Portugal



WORK_02

Designing Game Narratives

Pedro Beça and Mónica Aresta, University of Aveiro,
Department of Communication and Art DigiMedia, Digital
Media and Interaction Research Center, Aveiro, Portugal

Wednesday, September 14, 2022

15.00 - 15.30 **Coffee Break**

15.30 - 16.30 **Amphitheater CAN 219 /Online Room - SESSION IV
VR GAMING ENVIRONMENTS**

15.30-16.30

Session Chairperson:

Rute Costa, NOVA - FCSH, Lisbon, Portugal

SER_03

Minogrid: A Framework for the Creation of Virtual Reality Experiment and Therapy Applications

Christoph Pressler, Patrick Pazour, Daniel Martinek, Helmut Hlavacs and Charly Harbord.....**67**

GAME_DES_05_ONL

Interaction Design in Virtual Reality and Games: From a Comparative Human Social and Psychological Needs Perspective

Li Zheng and Mei Si.....**75**

FREE EVENING

Thursday, September 15, 2022

08.30 - 15.30 **Registration**

09.30 - 10.30 **Amphitheater CAN 219 /Online Room - SESSION V
KEYNOTE SPEAKER**

09.30-10.30

Session Chairperson:

Pedro Santos, University of Lisbon, Lisbon, Portugal



KEY_03

[Com@Rehab – Terminology meets VR in Rehabilitation Scenarios based on Real-Life Activities](#)

Rute Costa, Linguistics Department, FCSH, NOVA University Lisbon, and Micaela Fonseca, Lusófona University, HEI-Lab, Lisbon, Portugal

10.30 - 11.00 **Coffee Break**

11.00 - 12.00 **Amphitheater CAN 219 /Online Room - SESSION VI
BOARD GAMES PROGRAMMING**

11.00-12.00

Session Chairperson:

Alexandra Gago da Câmara, Universidade Aberta, Lisbon, Portugal

SER_02_ONL

Designing Programming Exercises from Board Games

Maxim Mozgovoy and Marina Purgina.....89

METH_01

Playing at Class: Increasing the Awareness of Tabletop Game Design for Videogame Development

Micael Sousa and Ivan Barroso81

12.00 - 13.00 **Lunch**

Thursday, September 15, 2022

13.00 - 15.00 Amphitheater CAN 219 /Online Room - **SESSION VII WORKSHOP**

13.00-15.00

Session Chairperson:

Helena Barbas, NOVA - FCSH, Lisbon, Portugal



WORK_01

[Using Modern Board Game Mechanisms to develop Simple Analog Serious Games](#)

Micael Sousa, University of Coimbra, Coimbra, Portugal

15.00 - 15.30

Coffee Break

15.30 – 16.30

Participants Break

16.30 - 23.00

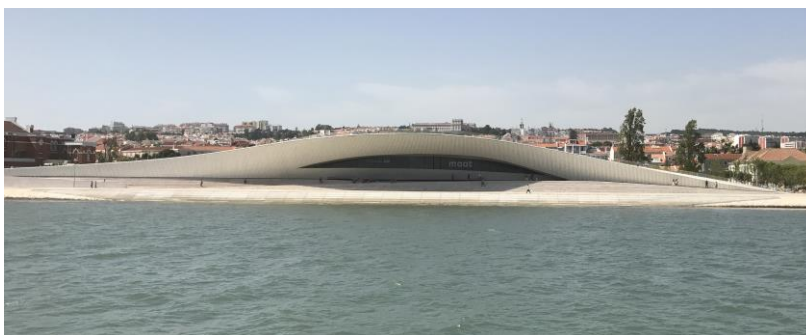
CONFERENCE VISIT AND CONFERENCE DINNER

16.30 – 17.00

Transfer by bus to the [MAAT Museum](#)

17.00 – 19.00

Conference Visit



[MAAT Museum](#)

(Museu de Arte, Arquitetura e Tecnologia)

Av. Brasília

1300-598 Lisboa, Portugal

 [+351 21 002 8130](tel:+351210028130)

19.30 – 23.00

Conference Dinner at the [CAFÉ IN Sushi & Meat](#)




[CAFÉ IN Sushi & Meat](#)

Av. Brasília

Pavilhão Nascente 311,

1300-596 Lisboa, Portugal

 [+351 21 362 6248](tel:+351213626248)

Friday, September 16, 2022

08.30 - 09.00 **Registration**

09.00 - 10.00 **Amphitheater CAN 219 /Online Room - SESSION IX
KEYNOTE SPEAKER**

09.00-10.00

Session Chairperson:

Daniel Alves, NOVA - FCSH, Lisbon, Portugal



KEY_01

How can State of The Art Digital Tools help Architectural Heritage Representations in Video Games?

Marco Francesco Funari, Department of Civil and Environmental Engineering, University of Surrey, Guildford, United Kingdom, and Paulo B. Lourenço and Daniel V. Oliveira, Department of Civil Engineering, University of Minho, ISE, Guimarães, Portugal and Javier Ortega, Instituto de Tecnologías Físicas y de la Información "Leonardo Torres Quevedo" (ITEFI), CSIC, Madrid, Spain

10.00 - 10.30 **Coffee Break**

10.30 - 12.00 **Amphitheater CAN 219 /Online Room - SESSION X
PLAYER ANALYSIS**

10.30-12.00

Session Chairperson:

Pedro Beça, University of Aveiro, Aveiro, Portugal

GAME_DES_01

Player Needs Inventory (PNI): An Analytical Framework for Analyzing Player Motives in Video Games

Barbaros Bostan and Diğdem Sezen.....41

GAME_DES_02

Passive Collaboration and Connections in a 'Strand Game': Changing the Way We play

Barbaros Bostan and Sercan Şengün48

GAME_DES_03_ONL

Creation of Digital Games for Environmental Awareness by Young Adult Students: Systemization and Critical Analysis of the Process

Tanira M. H. Suandique, Pedro Beça and Monica Aresta56

Friday, September 16, 2022

12.00 - 12.15 Amphitheater CAN 219 /Online Room - **SESSION XIII**
CLOSING SESSION AND BEST PAPER AWARD

12.00-12.15

Session Chairpersons:

Helena Barbas, GAME-ON'2022 General Conference Chair
Philippe Geril, EUROSIS-ETI, Ostend, Belgium

SESSION CHAIR INFORMATION

Information for Session Chairs

Session Chairs are chosen on a voluntary basis by proposals by either authors or local committee members or are appointed by the Track Chairs, General Program Chair or General Conference Chair. They are responsible for their assigned session. They make sure their speakers are available, take care of the timing within the session, chair the discussion after each presentation and introduce each speaker based on the CV's given to them by the authors. In case they chair a session featuring **extended papers**, then they are required to distribute and collect the reviews of that or those papers at the beginning and end of the session. If they have time they should also indicate in their papers the number of session participants.

THE NUMBERS NEXT TO THE PRESENTATIONS DENOTE THE PAGE-NUMBERS IN THE PROCEEDINGS. IF NO NUMBERS ARE MENTIONED THEN THIS PAPER IS NOT PUBLISHED IN THE PROCEEDINGS

THE AUTHORS WHO ARE UNDERLINED ARE NORMALLY THE PRESENTERS

ONLY PAPERS IN THE LIGHT BLUE/GREY BOXES ARE THE EXTENDED PAPERS ELIGIBLE FOR THE BEST PAPER AWARD

PAPER NUMBERS IN THE FINAL PROGRAMME FOLLOWED BY “ONL” MEAN THESE PAPERS WILL BE PRESENTED ONLINE

FOR ONLINE PRESENTATIONS ZOOM™ WILL BE USED

GAME 2023 FIRST ANNOUNCEMENT



SEE YOU ALL NEXT YEAR AT GAME-ON® 2023
September 2023
Location to be announced soon

Proposals for special tracks/tutorials/demos can be sent in by November 30th 2022

CONFERENCE LOCATION

Conference Venue



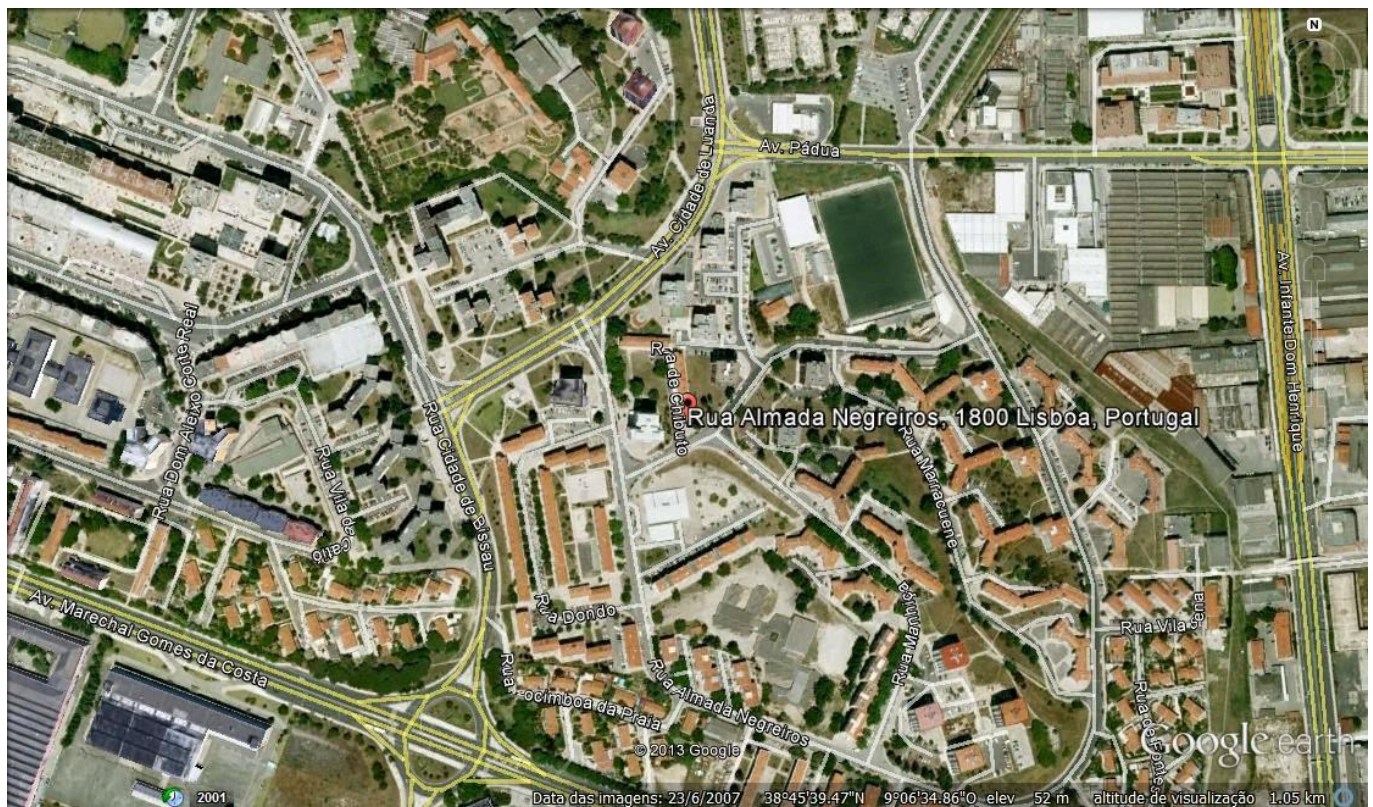
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Amphitheater CAN 219

1099-085 Lisboa, Portugal /or ONLINE ROOM

Tel: 351 961824948, or :+351 937020249

Email: jpaulino@fcsb.unl.pt, or hebarbas@fcsb.unl.pt

Lisbon Map of surrounding Area



CONFERENCE LOCATION

How to Reach Lisbon and the University

BY PLANE

Lisbon's [Portela Airport](#) - (other [website](#)) is located within the city limits. It is the headquarters and hub for TAP Portugal as well as a hub for Easyjet, SATA International, Luzair, EuroAtlantic Airways, Portugália, White Airways, and High Fly airlines.

Bus from Airport There is a bus network from the airport that offers services to passengers who are travelling to various destinations from the airport. For passengers heading for [Cais do Sodre Railway Station](#) the No. 722 bus service offered by [Carris](#) is the bus for you. There are also other bus routes operating from the airport heading to various locations within the city. A ticket to the city centre should cost from €1.50 to €6.50.- [AEROBUS](#): Linking the Airport to downtown Lisbon and Cais do Sodre (every 10 minutes from 8 a.m. to 9 p.m.)- [CARRIS BUSES](#): No. 5, 8, 22, 44, 45, 83.


Taxi from Airport Outside the terminal buildings one is able to obtain taxi services. These generally charge an average of €20 to the city centre. Some of the taxis have meters in them. They charge a minimum of €3.50 during the day and €3.90 at night. Though some of the taxi drivers may take longer routes to keep the meter running, the trip should take an average of 15 minutes to the city centre. [Average Taxi Rates](#).

Metro from the Airport There is a direct metroline from the Airport to the [Gare do Oriente trainstation](#) and then via the **Metropolitan Metro System** following the **Blue line** on to [São Sebastião](#) and [Praça de Espanha](#) metro stations. From both stations, it's a 10 minutes walk to the campus.

By TRAIN

There are four commuter train lines arriving in Lisbon: the Cascais, Sintra and Azambuja lines (operated by CP Comboios de Portugal), as well as a fifth line to Setúbal (operated by Fertagus) crossing the Tagus river, over the 25 de Abril Bridge. The major railway stations are [Santa Apolónia](#), [Rossio](#), [Gare do Oriente trainstation](#), Entrecampos, and [Cais do Sodre Railway Station](#).

Train Network Links:

- [CP – Combóios de Portugal –](#)
- Lisbon urban trains - Sintra line; Azambuja line; Cascais line; Sado line. – [map](#) 
- [Fifth line to Setúbal](#), operated by Fertagus) crossing the Tagus river, over the 25 de Abril Bridge.
- You can download the train link map [here](#).

BY METRO

Another great way of getting around Lisbon is by a [Metro \(link 1\) with updated info](#) and [Metro \(link 2\)](#). (see the [zoomable metro map](#)). The closest stops to Colégio Almada Negreiros are on the blue line, [São Sebastião](#) and [Praça de Espanha](#) metro stations. From both stations, it's a 10 minutes walk to the campus. You can download the map [here](#).

CONFERENCE LOCATION

BY TRAM

The current lines are: 12 - Praça da Figueira - Miradouro de Santa Luzia circular route 15 - Praça da Figueira - Algés 18 - Cais do Sodré railway station - Cemitério Ajuda 25 - R. Alfândega - Campo de Ourique 28 - Praça Martim Moniz - Chiado - Campo de Ourique The five remaining lines only operate in the southern centre and west of the city. Despite the relevant tourist attraction, those lines are still very important because of sections of the city's topography that can only be crossed by small trams. Tram 15 also connects the entire western river front of the city to the centre and allows a better flow of passengers with the bus system towards an area that still is not served by the metro.

More tram info is available on this [website](#).

BY BUS

The closest bus stop to Colégio Almada Negreiros is at the **Stop Rua de Campolide (Escola)**. Busses for this stop are from [CARRIS BUSES](#). You can follow the bus connections at Colégio Almada Negreiros in realtime [here](#). Busses you can take are the **716, 718, 726, 742, 758**.

ON FOOT

All chosen hotels are within easy walking distance of Colégio Almada Negreiros. (see [hotel page](#))

EUROSIS upcoming Conferences



ESM'2022

October 26-28, 2022

ISEP

**University of Porto
Porto, Portugal**



SCIFI-IT'2023

April, 2023,

**Location to be announced shortly
Belgium**



ISC'2023

May 31-June 2, 2023



**University of Malta
Valletta, Malta**



EUROSIS was borne out of discussions with the European Community to set up a new kind of Society, which would be project driven instead of driven by pure membership and conferences.

The aim of the new Society is to set up topic related Technical Committees which link directly to European Projects in the field of computer simulation and related areas and to act as a knowledge pool for future European Networks of Excellence, like MOSAIC.

If you would like to receive more information about EUROSIS, please contact

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 **Tel: +32.59.255.330**
 **Email: Philippe.Geril@eurosis.org**

Please send me info on EUROSIS:

Name:.....

Address:.....

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Email:.....

GAME-ON'2022 at Conference Registration Form

Please legibly print or type and fill out completely. (Check appropriate boxes where necessary)

FIRST NAME	LAST NAME	M.I.
COMPANY OR AFFILIATION		
Mailing address (tick one): <input type="checkbox"/> HOME <input type="checkbox"/> BUSINESS		
STREET		
CITY		
ZIPCODE	COUNTRY	
TELEPHONE	FAX	
E-MAIL		
DATE	SIGNATURE	
1. <input type="checkbox"/> EUROSIS member € 570 Member Number: _____		€ _____
2. <input type="checkbox"/> Members of Sponsor or Affiliate Society € 570		€ _____
3. <input type="checkbox"/> Non-Member Participant € 615		€ _____
4. <input type="checkbox"/> Students, <u>who are not authors</u> but who wish to attend the conference, or ONE DAY PARTICIPANTS pay: € 420		€ _____
(Above registration fees include, one copy of the PROCEEDINGS, all midday meals, cocktail, refreshments, coffees and social program,) One Day Participants and Non-Author Students cannot participate in the conference dinner. – NOT APPLICABLE		
5. <input type="checkbox"/> Conference Dinner Ticket for Companion € 60 <input type="checkbox"/> Lunch Ticket for Companion €25 /day		€ _____
6. <input type="checkbox"/> Extra Conference Proceedings € 40 Cash and Carry		€ _____
VAT Number if applicable: _____		
TOTAL AMOUNT DUE		€ _____
		€ _____
TOTAL AMOUNT REMITTED		€ _____

Pay by **CREDIT CARD** and fill in the information below:

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