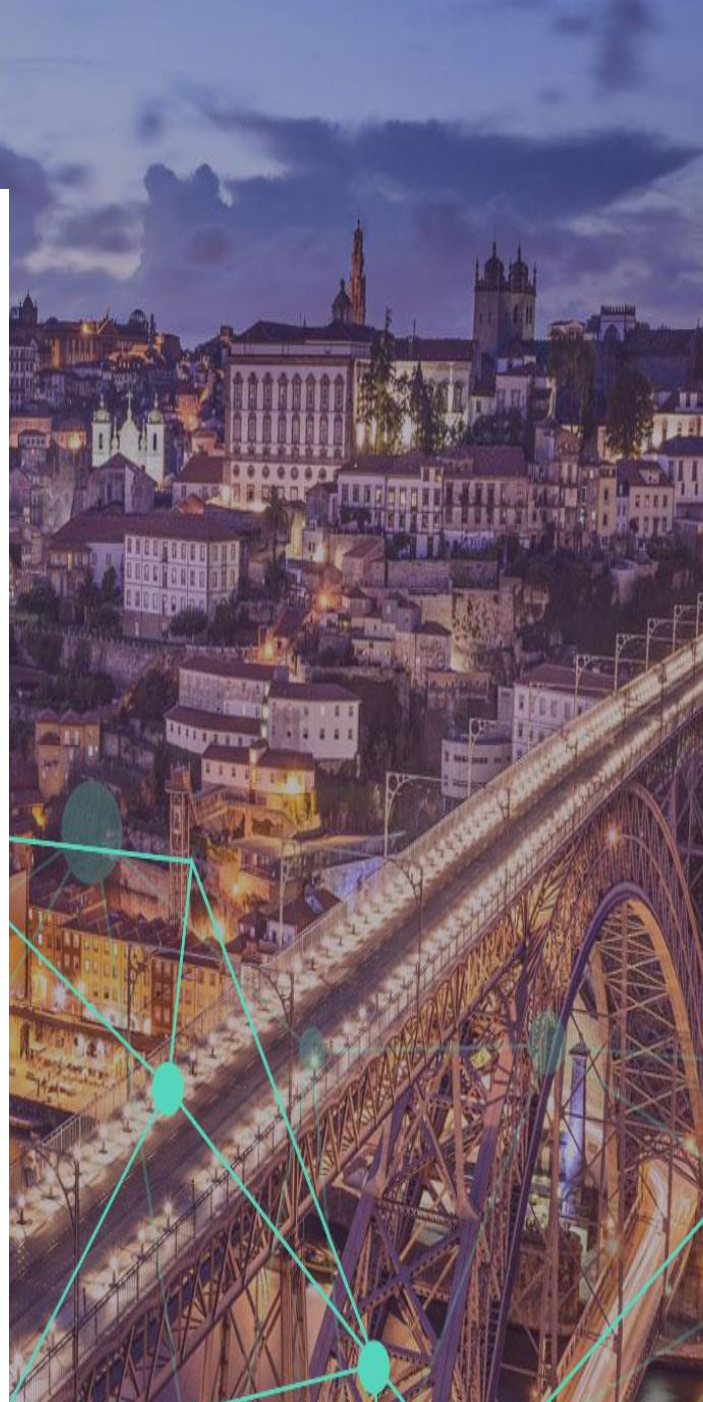


ABSTRACT BOOK

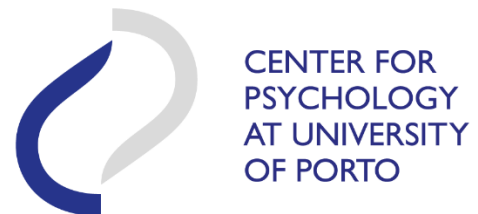
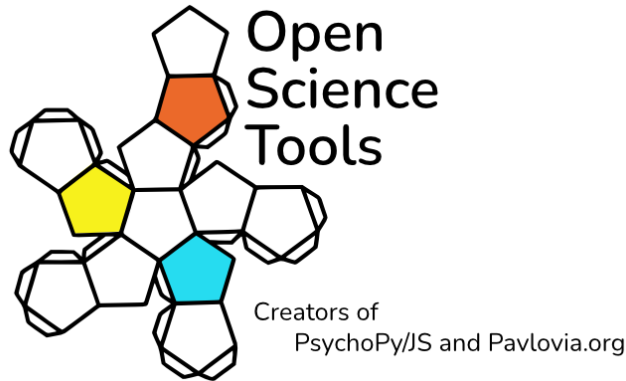
23^o CONFERENCE OF THE EUROPEAN
SOCIETY FOR COGNITIVE PSYCHOLOGY



Faculty of Psychology and Education Sciences
University of Porto



Our Sponsors



Welcome Address ESCOP's President

Dear delegates,

Welcome to the 23rd Conference of the European Society for Cognitive Psychology, here in Porto, Portugal!

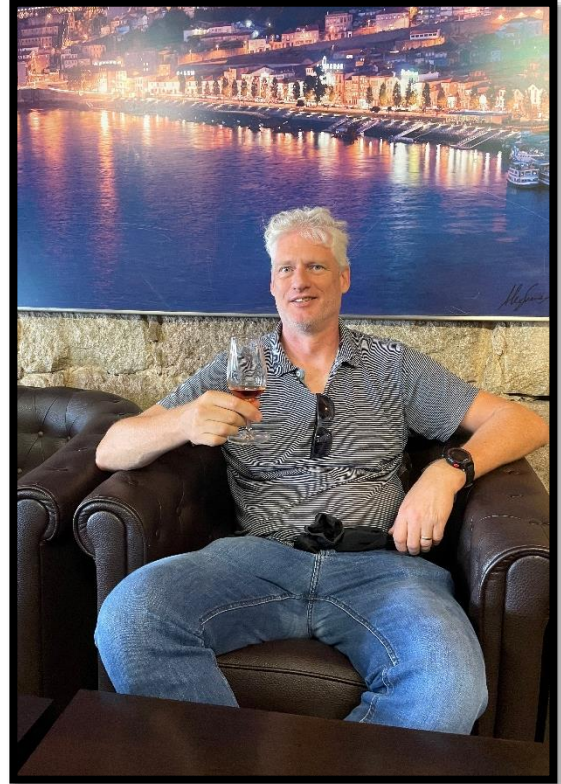
Organizing an ESCoP conference is always a challenging, time-consuming, and long-term project. This time was even more challenging than usual, as in the aftermath of the COVID pandemic it remained unclear for a long time whether the previous edition in Lille could be held in 2022 or would need to be postponed to 2023. It thus remained unsure whether Alessandra Souza and her team would need to organize the Porto edition in 2023 or 2025. To accomplish the flexibility this situation asked for, ESCoP and the organizers decided to keep this edition relatively small (although, as you will see, there are still almost 800 presentations in total!). Alessandra and her team did an amazing job in putting together this edition and have a wonderful conference in store for us. It will take place in the Faculty of Psychology and Education, but with the opening events in the amazing Casa da Música in downtown Porto.

As you can see in the program, there are many events to look forward to in the coming days. On Wednesday, after the conference opening in Casa da Música, Jonathan Grainger will deliver the Broadbent lecture. Further plenary talks will be given by Bertelson award winner Eliana Vassena and by invited keynote speaker Dorthe Berntsen. Additionally, there are 36 symposia, spanning many domains of cognitive psychology, with two parallel symposia sessions on Thursday, Friday, and Saturday, daily parallel sessions with regular talks and – a new format this year – Blitz talks, and three poster sessions. In total, we look forward to 360 talks, 40 blitz talks, and 386 posters.

There are also many very interesting satellite events on Wednesday morning and afternoon at the Faculty of Psychology and Education. These focus on topics such as citizen science, (ERC) grant writing advice, and statistics and methods. There is a Women in Cognitive Science event that focuses on career transitions inside and outside academia. Of course, next to the scientific program there is ample time to socialize with old and new friends! There is an opening reception on Wednesday, a conference dinner at famous Port winemaker Casa Ferreira on Friday, and a farewell cocktail on Saturday. Additionally, check out the social event on Thursday! And if (although I find this hard to imagine) you get tired of all the great science being presented at ESCoP – the beautiful city of Porto is there for you to discover!

I look much forward this meeting. I wish you all a very interesting, productive, successful, and pleasant conference. I have many good memories of every ESCoP I've attended. I hope that likewise ESCoP Porto will one you will never forget!

Rob Hartsuiker
President of ESCoP



Welcome Address from the Organizers

Dear ESCOP delegates

It is with immense pleasure that we welcome you to Porto!

The Faculty of Psychology and Education Sciences of the University of Porto, and the Neurocognition and Language group, are delighted to host this major event of cognitive psychology in Europe. This is the first time ESCOP is being held in Porto and only the second time it comes to Portugal - the first time was in Lisbon, nearly 30 years ago (in 1994), for its 7th edition. Porto is the second largest city in Portugal with 1.7 million inhabitants. Its historical center has been awarded *World Heritage Site* in 1996 by UNESCO. The city was built along the banks of the Douro River. It is filled with historical sites, restaurants, and bars. On the other side of the river, it is Vila Nova de Gaia which houses the Port wine cellars, a major city attraction. This is the location that will proudly host our conference dinner. We hope you can enjoy the city with its many attractions during your stay. Therefore, in addition to an impressive lineup of workshops, keynotes, talks, blitz-talks, and posters, we have arranged several opportunities to socialize and network in beautiful venues such as Casa da Música (opening reception on Wednesday), the Jazz/Blues Club HotFive (Thursday's social event), Casa Ferreirinha (conference dinner on Friday), and also at the conference venue (closing reception on Saturday).

As for the scientific program, the scientific committee, with the help of over 60 reviewers, worked hard at assessing and selecting contributions to appear in this edition. The program is filled with contributions from a broad range of topics in cognitive psychology: from learning to language, attention, memory, motor control, numerical and embodied cognition, aging and child development, decision making, and much more. We hope this will provide an overview of the current state-of-the-art research in Europe and beyond. This edition counts with ca. 360 talks, distributed in 36 symposia and 36 sessions, and over 380 posters. A novelty of ESCOP 2023 is the blitz-talks: 5-min presentations that will allow you to quickly get the main take-home message of exciting new findings. Make sure to attend one of the 5 blitz-talk sessions distributed along the conference days that will host a total of 40 presentations. Finally, we have an exciting lineup of keynotes to finish the program of three of the four conference days.

We also have some stimulating pre-conference workshops and panel discussions for the delegates arriving early on Wednesday. You can sharpen your methodological skills by learning to program online experiments (Online Tools team), learning how to use neurophysiological methods (ANT Neuro team), fitting cognitive models to your data (workshop by Frischkorn and Popov), or getting the first steps in using R (workshop by Ferreira & Nunes). Alternatively, you could focus on learning more about opportunities beyond an academic career (WISC panel), how to include citizen science in your research projects (workshop by Sales et al), or getting a more detailed view of the ERC funding scheme (with two great sessions).

We hope ESCOP 2023 will provide you with manyfold opportunities to brush up on your research skills and knowledge, network, develop new research ideas, and, above all, enjoy yourself.

Alessandra S. Souza, São Luís Castro, & Rui Alves, on behalf of the organizing committee

Committees

Organizing Committee

Alessandra S. Souza (head)
São Luís Castro
Rui Alves
Selene Vicente
Teresa Jacques
Nuno Sobrinho
Ana Mesquita
Mariana Silva
João Vieira
Theresa Kalchhauser
Sofia Magalhães

Catarina Marques
Mariana Carrito
Sara Félix
Ana Magalhães
Patricia Figueireido
Francisca Bismarck
Sónia Santos
Eda Melin Develioglu
Matilde Barroso
Raquel Rabelo
Rita Silva

Any questions to the organizing committee can be directed to org.escop2023@fpce.up.pt

Scientific Committee

Alessandra S. Souza (head), University of Porto
Alexandra Reis, University of Algarve
Ana Raposo, University of Lisbon
Catarina Hipakka, University of Azores
César Lima, University Institute of Lisbon
Fernando Barbosa, University of Porto
Fernando Ferreira Santos, University of Porto
Nuno Gaspar, University of Porto
Pedro B. Albuquerque, University of Minho
Rui Alves, University of Porto
São Luís Castro, University of Porto
Selene Vicente, University of Porto
Tânia Fernandes, University of Lisbon
Teresa Limpo, University of Porto
Candice Morey, ESCOP Board, Cardiff University
Davide Crepaldi, ESCOP Board, Scuola Internazionale Superiore di Studi Avanzati

Reviewers

We would like to thank our colleagues that helped us with the review of the abstracts submitted to the conference.

Agnes Rosner, *Leibniz Universität Hannover*
Alessandra S. Souza, *University of Porto*
Alexandra Reis, *University of Algarve*
Alodie Rey-mermet, *UniDistance Suisse*
Ana Isabel Vieira, *University of Porto*
Ana Mesquita, *University of Porto*
Ana Raposo, *University of Lisbon*
Andrea Kiesel, *Albert-Ludwigs-Universität Freiburg*
Anna-Lena Schubert, *Johannes Gutenberg- Universität Mainz*
Beatrice Kuhlmann, *Universität Mannheim*
Beatriz Bermúdez-Margaretto, *Universidad de Salamanca*
Ben Kowialiewski, *University of Zurich*
Betina van Helversen, *Universität Bremen*
Candice Morey, *Cardiff University*
Caro Hautekiet, *University of Geneva*
Catarina Hipakka, *University of Azores*
César Lima, *University Institute of Lisbon*
Christopher Fitamen, *University of Fribourg*
Claudia von Bastian, *Sheffield University*
Davide Crepaldi, *Scuola Internazionale Superiore di Studi Avanzati*
Eda Mizrak, *Sheffield University*
Elke Lange, *Max Planck Institute for Empirical Aesthetics*
Evie Vergauwe, *University of Geneva*
Fernando Barbosa, *University of Porto*
Fernando Ferreira Santos, *University of Porto*
Filipe Loureiro, *University of Aveiro*
Gidon Frischkorn, *University of Zurich*
Hannah Daves, *University of Zurich*
Henrik Singmann, *University College London*
Hsuah-Yu Lin, *Universität Bremen*
Isabel Santos, *University of Aveiro*
Joana Arantes, *University of Minho*
Jorge Almeida, *University of Coimbra*
Josefa Pandeirada, *University of Aveiro*
Kim Uittenhove, *University of Geneva*
Klaus Oberauer, *University of Zurich*
Lea Bartsch, *University of Zurich*
Marco Steinhauser, *Katholische Universität Eichstätt*
María Jesus Maraver, *University of Granada*

Mariana Carrito, *University of Porto*
Miriam Gade, *Medical School Berlin*
Naomi Langerock, *University of Geneva*
Nora Turoman, *University of Geneva*
Nuno Gaspar, *University of Porto*
Nuno Sá Teixeira, *University of Aveiro*
Nuno Sobrinho, *University of Porto*
Pedro B. Albuquerque, *University of Minho*
Peter Schepherdson, *University of Akueyri*
Philipp Musfeld, *University of Zurich*
Robert Hartsuiker, *Ghent University*
Rui Alves, *University of Porto*
São Luís Castro, *University of Porto*
Susana Silva, *University of Porto*
Tânia Fernandes, *University of Lisbon*
Teresa Jacques, *University of Porto*
Teresa Limpo, *University of Porto*
Tilo Strobach, *MSH Medical School Hamburg*
Vanessa Loaiza, *University of Essex*
Ven Popov, *University of Zurich*
Yoav Kessler, *Ben-Gurion University of the Negev*

Conference Venue

The conference will take place in the **Faculty of Psychology and Education Sciences** of the University of Porto (**FPCEUP**).

Address: Alfredo Allen, 4200-135 Porto, Portugal (GPS: 41.175300, -8.604572).



FPCEUP began its activity in 1980. It is a reference in training and research in the fields of Psychology and Education Sciences. It houses two research centers (one for Psychology and another one for Education Sciences) that are funded by the Portuguese National Science Foundation. It also comprised various other structures (laboratories and observatories) that create the conditions for the development of research in various fields, favoring the early contact of the students with research activities. FPCEUP has over 2000 degree-based training students, and about 120 teaching and PhD research staff. The Psychology Department has laboratories in Neuroscience and Language, Neuropsychophysiology, Experimental Psychology, Social Psychology, Human Sexuality, and Psychosocial rehabilitation. Among these, three laboratories conduct research in cognitive psychology: The Speech Lab, the Experimental Psychology Lab, and the Laboratory of Neuropsychophysiology.

FPCEUP is located ca. 15 km from the main airport in Porto (Aeroporto Sá Carneiro), and ca. 3 km away from the Porto city center. With easy access by metro, bus or car, researchers will have ample opportunity to appreciate the city of Porto.

The conference venue has 12 bathrooms, four per floor. There are fountains to fill water bottles throughout the faculty (usually placed next to the bathrooms).

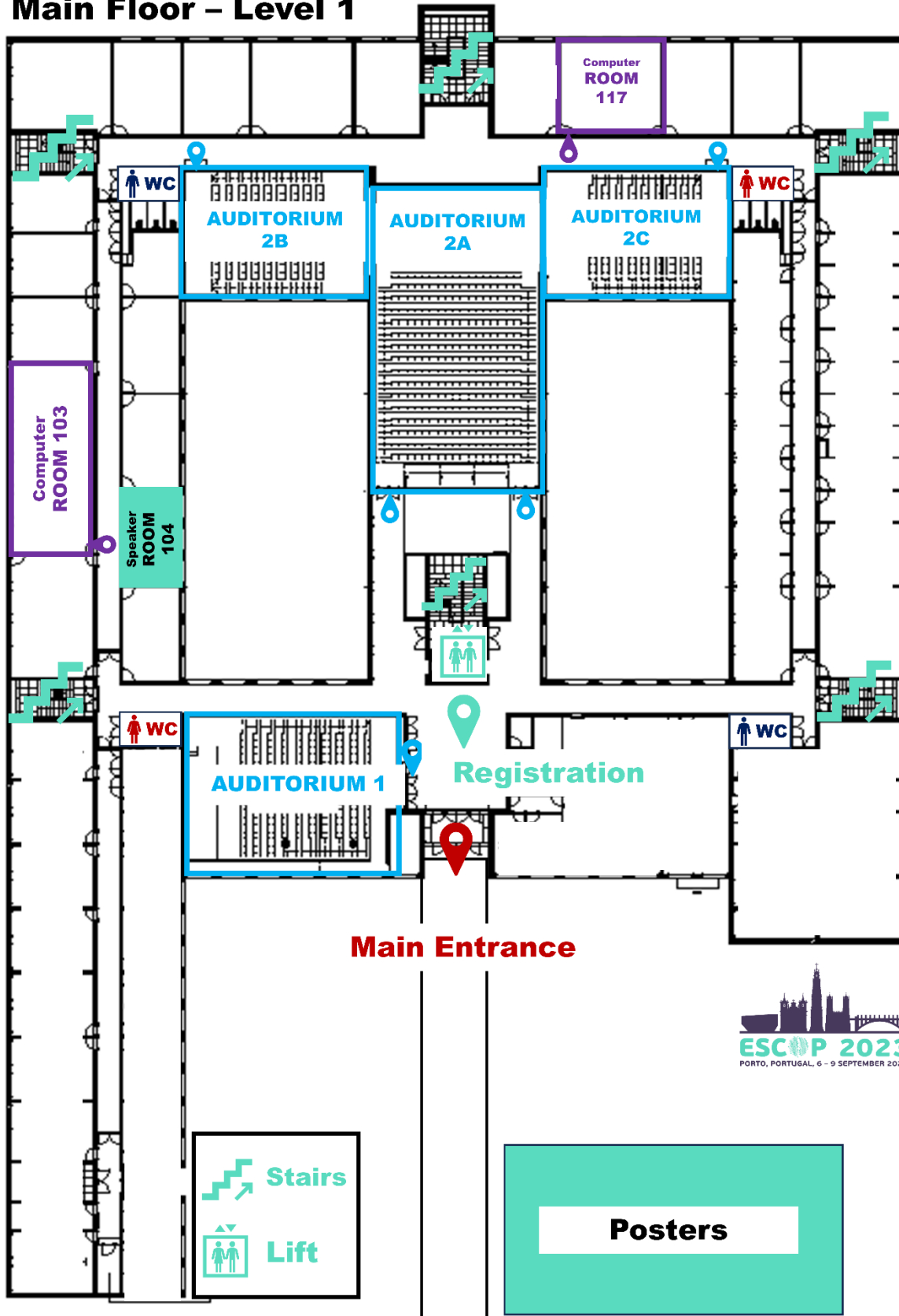
There are 6 stairs to move between floors and 4 lifts. The conference will take place in the four auditoriums (which can be accessed from the main floor – Level 1 – and down floor – Level 0) of the FPCEUP. We will also have sessions in large rooms on the upper floor (Level 2).

Some of the workshops will take place in the computer rooms on the first floor.

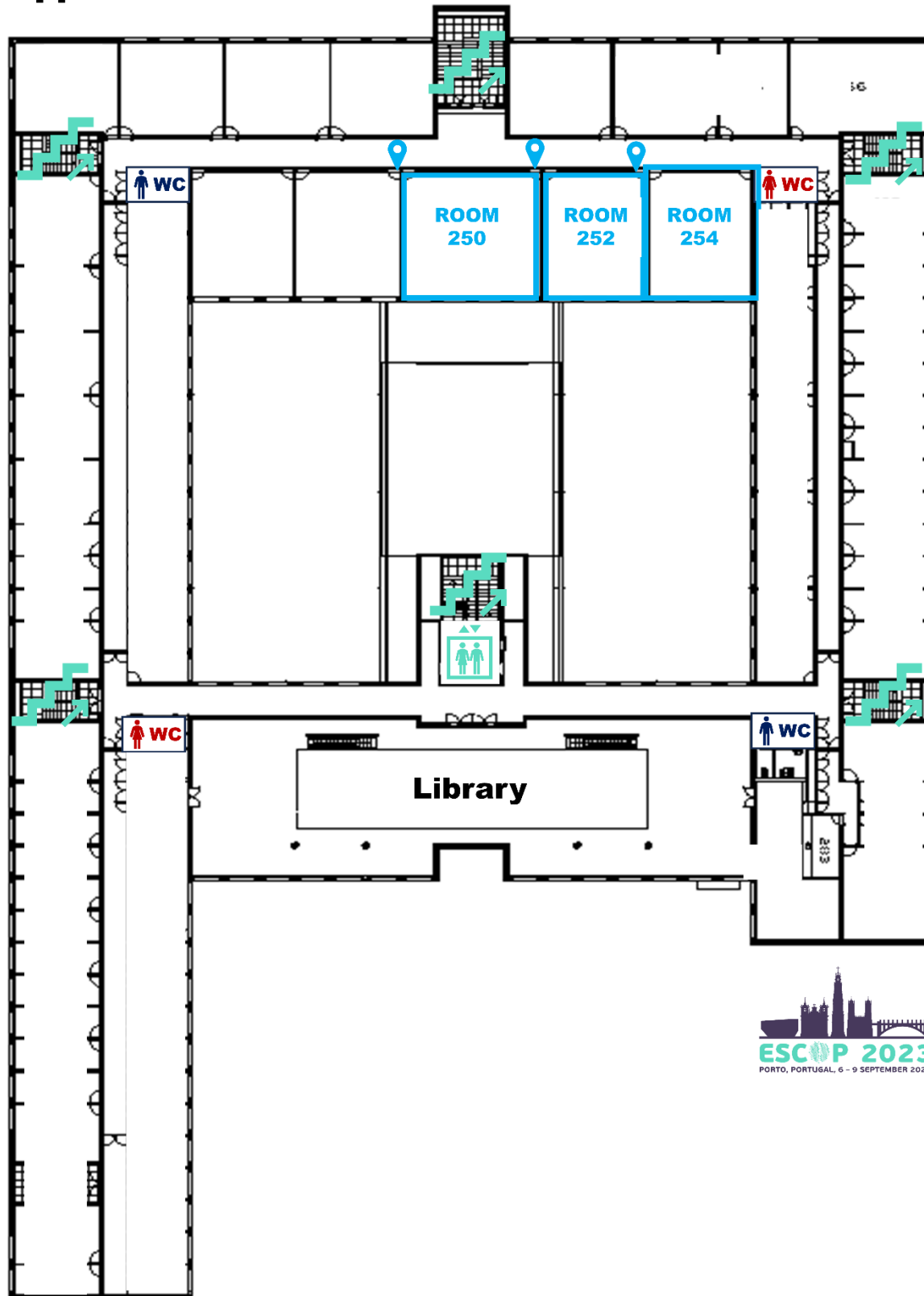
Our printing service is located in the lower level floor. If you have sent your poster to printing at the venue, you can retrieve it from 9h00 to 12h00 and 13h00 to 18h00.

Floor plans indicating the locations of the relevant facilities are provided on the following pages.

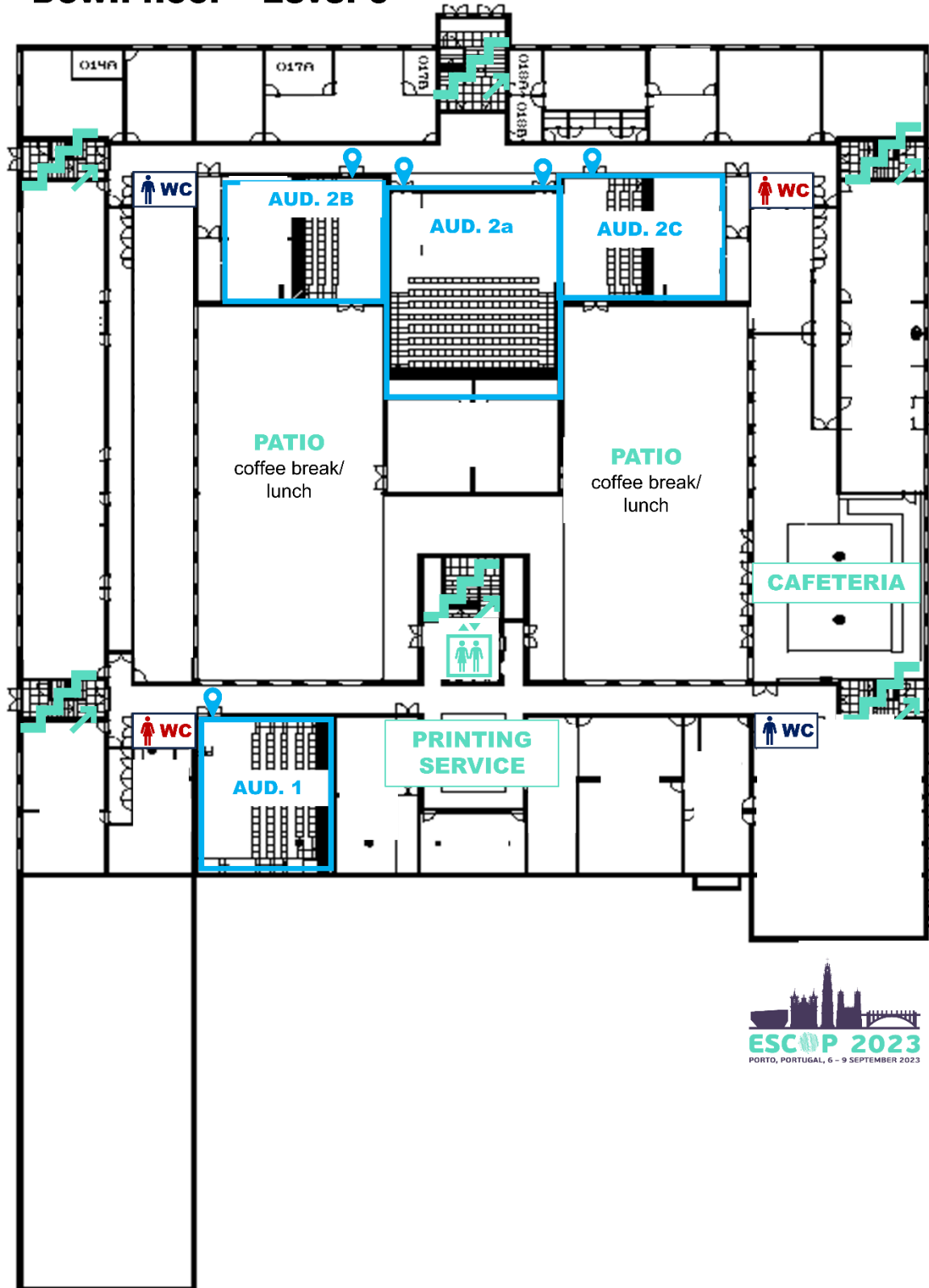
Main Floor – Level 1



Upper floor – Level 2



Down floor – Level 0

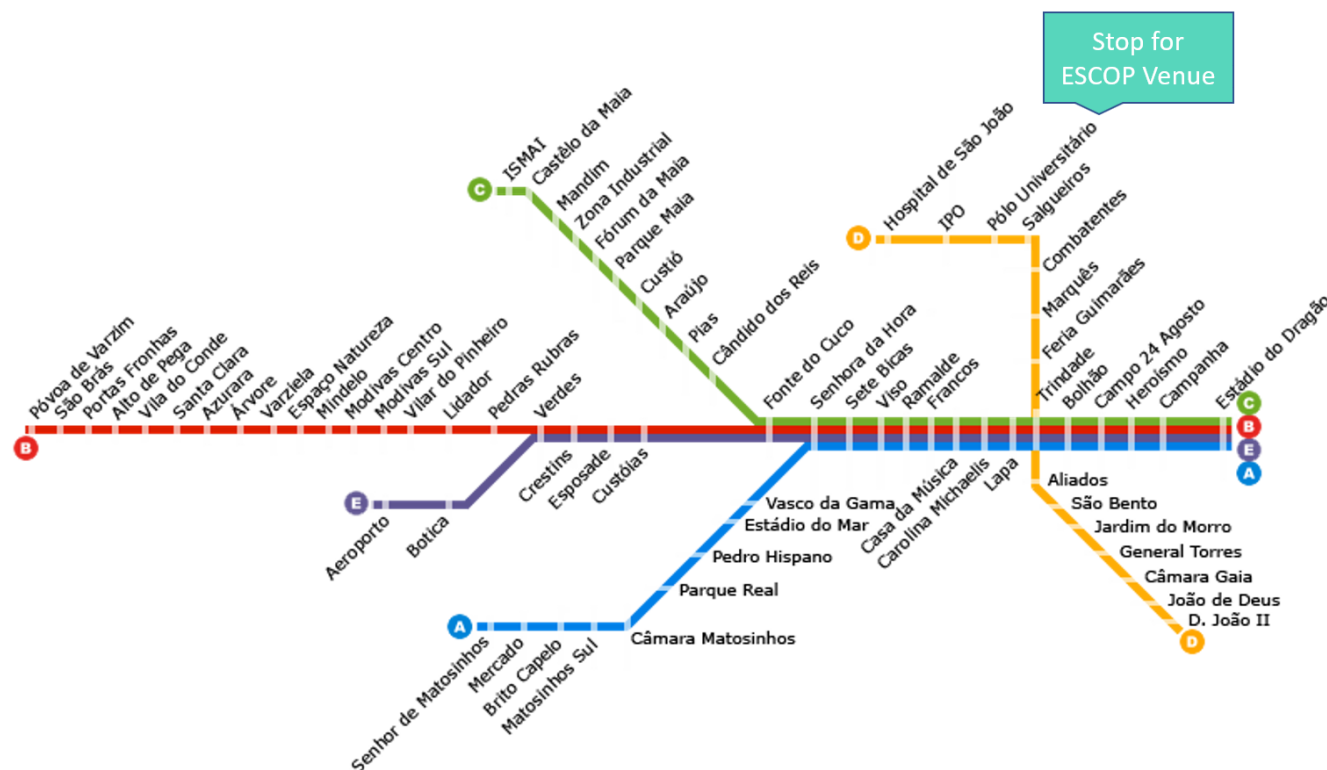


Arrival

Reaching the conference venue

By metro

Leave at the station 'POLO UNIVERSITÁRIO' from the Yellow Line. The conference site (Faculty of Psychology and Education Sciences, FPCEP) will be on your left.



By Bus

Day (6h00 - 1h00)

Stop: Pólo Universitário (Metro)

803: Boavista > Rio Tinto (Esc. Secundária)

Stop: Faculdade de Economia

204: Hospital de São João > Foz

300: Circular Hospital S. João > Aliados

301: Circular Sá da Bandeira > Hospital de São João

Stop: Igreja de Paranhos

603: Marquês > Maia

Dawn (1h00 - 4h30)

Stop: Cemitério de Paranhos

11M: Circular Hospital de São João > Coimbrões

By Car

The best way to find FPCEUP is to follow the signs to Paranhos/Hospital de São João. If you're coming from VCI, exit at "Paranhos/Hospital" and turn right at the traffic lights by the Church of Paranhos. You will be at Rua do Dr. Manuel Pereira da Silva. A few meters ahead, you will see the Bus Station 'Polo Universitário'. Turn left and FPCEUP will be on your left.

If you're coming from the Circunvalação Road (EN12), continue until you reach S. João Hospital and turn right at the traffic lights at the Portuguese Oncology Institute (IPO) (Rua António Bernardino Almeida). Continue straight and then turn left on the 2nd street. When you reach the Metro Station 'Polo Universitário', FPCEUP will be on your right.

At the Conference

Speaker Ready Room

All speakers are invited to send their paper presentations to the conference organizer prior to the meeting. Speakers can check their presentation in the **speaker-ready room (Room 104, 1st floor)**. All presentations should be prepared in Power-Point or PDF. It will not be possible to use personal computers or to upload presentations directly at the computer in the session room. Access to an online folder will be provided two-weeks before the conference for uploading of the files of the talks.

Internet Access

Wi-fi access will be provided during the conference. Researchers can also use eduroam to connect to the internet.

UPorto WIFI at the conference venue:

Username: ESCOP

Password: ESCOP2023

Mobile App

You can use the conference App to check the program at all times.

To access the Vertcom App, just flash the QR code on your smartphone or download the app from one of the available stores:

Apple: <https://itunes.apple.com/us/app/vertcom-event-com/id1421096605?l=es&ls=1&mt=8>

Androïd: <https://play.google.com/store/apps/details?id=es.infobox.eventos.app39Vertcom>

Open the Vertcom App and select the event ESCOP 2023. Enjoy!



Coffee breaks and Lunch

During the coffee breaks, coffee, tea, water, juice, and snacks will be served on the patio and gardens. Lunch will be served at the same locations. No lunch will be provided on Wednesday, September 6. Participants attending the pre-conference events can have lunch at the cafeteria or the restaurants in the neighborhood.

Smoking

Smoking is only allowed in the outside.

Wardrobe

Researchers can leave their luggage on the last day of the conference in the **speaker-ready room (Room 104, 1st floor)** which will also serve as the wardrobe. We will make the effort to keep it protected, but we do not accept any liability for your property.

Emergency Phone Numbers

Emergency line	112
Police	(+351) 22 20 92 000
Firefighters	(+351) 22 50 73 700
National Health Service	(SNS) 808 24 24 24
FPCEUP security	(+351) 93 60 79 120

Pharmacy

The closest pharmacy to the conference venue is:

Farmácia de Paranhos

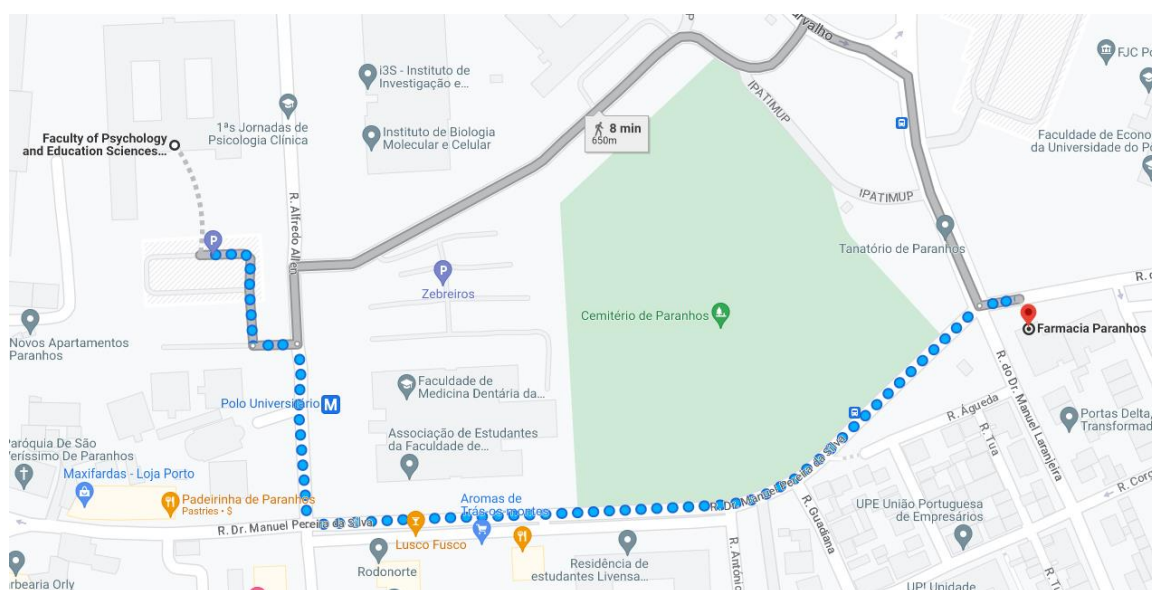
+ (351) 225 400 358

Opening hours: 9 am to 10 pm (Monday to Sunday)

farmaciaparanhos@gmail.com

Rua Actor Ferreira da Silva 395
4200-302 Paranhos

The pharmacy is ca. 550 m by feet (as illustrated in the map below).



Information for Talks and Posters

The official language of the meeting is English.

Symposia and Talk Sessions

Symposium and session chairs are asked to strictly keep to the schedule of the sessions to allow attendees to switch between sessions. **Symposium** and **regular talks** are allocated a 20-min time slot (15-min presentation followed by a 5-min discussion). **Blitz-talks** are allocated a 10-min time slot (5-min presentation followed by a 5-min discussion).

Chairs are encouraged to keep the time for the presenters and to organize the question round. Symposium and session chairs will be provided with large numbers printed to inform presenters about their remaining time (5 min, 3 min, 1 min).

For most sessions, we appointed a session chair from among the speakers in the session. If you have been appointed as the session chair but you would rather not do it (or for some reason is not able to), please contact the organization (org.escop2023@fpce.up.pt).

Poster Presentations

Poster presenters are asked to prepare their poster in portrait format (DIN A0 size, equivalent to a maximum of 84 cm width x 119 cm height). Posters can be printed at the conference venue. Authors of posters are encouraged to send their poster in pdf format to editorialfpceup@gmail.com indicating the name of the event, their name, and the date on which they will retrieve the poster. The estimated cost is less than 15 euros.

There will be three poster sessions, one on each day of September 07-09, from 10:40 to 12:00. There is a number assigned to each poster (see poster session schedule). The number of your poster indicates the board where you should hang it. Please hang your poster in the morning to give interested colleagues the possibility to view it throughout the day. During the scheduled poster session, the presenting author is expected to be available for questions and discussions. We also recommend the preparation of handouts or QR codes for making the poster available to the attendees. Finally, we kindly ask the presenters to remove their posters by 19:00 pm to allow presenters of the next day to hang their posters the next morning.

Social events

Opening Reception at Casa da Música – September 6, 2023

The conference will start officially with a session at Casa da Música. We will have the opening, first keynote and welcome reception at this location. **The opening reception is free for all registered participants.**

Address: Av. da Boavista 604-610, 4149-071 Porto

It is not obligatory to retrieve your materials at the Registration Desk before attending this session. Participants arriving late at Porto can go directly to Casa da Música and get access to the session with their regular documents (ID or Passport).



Casa da Música



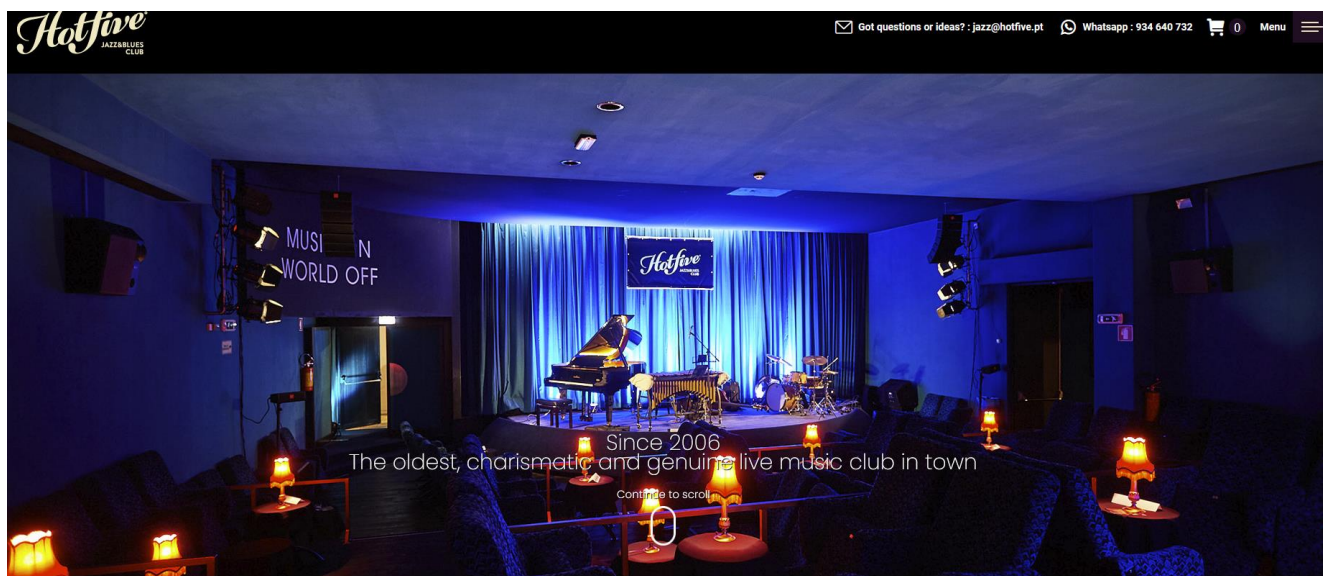
Sala Surgia

You can reach Casa da Música with the **Metro** – just stop at the station named **Casa da Música**. You can reach this metro stop with several metro lines (see image of the metro on the next page). You can even come directly from the airport to Casa da Música. If you are in the conference venue for the pre-conference events, you should take the yellow line in **Polo Universitário** until the **Trindade** stop, and then change to any other line to reach **Casa da Música** (going in the direction of Senhora da Hora – orange line; Senhor dos Matosinhos – blue line; Aeroporto – purple line; Póvoa do Varzim – red line; or ISMAI – green line).



Jazz Evening at the Hotfive – September 7, 2023

<https://hotfive.pt/uptown/>



As an additional opportunity to bond with your fellow colleagues at a modest cost, we reserved Hot5 – a music club in the center of Porto for hosting an affordable social event. **You can enjoy a concert at this space for 18 euros/ticket.** The concert will start at **21h30**.

You can have drinks at this location and connect with other colleagues, enjoy the night in Porto and relax to Jazz/Blues music.

Address: R. de Guerra Junqueiro 495, 4150-098 Porto (note: this club is very close to Casa da Música)

If you would like to buy tickets for this event, you can order them in the event registration link sent to the registered participants. If you have not received it, you can email org.escop2023@fpce.up.pt

Social Dinner - September 8, 2023

The conference dinner will be held at Casa Ferreira, a traditional Port Winemaker on the banks of the Douro River.

Address: Av. de Ramos Pinto 70, 4400-082 Vila Nova de Gaia

You can buy tickets for the social dinner at the registration platform.

Prepare your senses – Social Dinner – 08 September 2023 Ferreira Port Wine Cellar

Built by a family of winemakers from the Douro, in 1751, Ferreira possessed a rich tradition and a prominent role in the history of Porto Wine. Dona Antonia Adelaide Ferreira contributed significantly to the consolidation of the brand. A legendary woman with a unique personality, who became a myth and a symbol of strength, facing the adversities of nineteenth-century Douro.

Ferreira Cellars invite you to discover a brand over 250 years old, a symbol of the highest quality that encapsulates Portugal's heart and soul.

Participants who wish to join must purchase tickets to be admitted to the dinner.

Dinner for students: € 60

Dinner for Post-doc/Full Researcher: € 70



Farewell Cocktail - September 9, 2023

On the last day of the conference, you will be able to enjoy a farewell cocktail at the conference venue. **Participation in the farewell cocktail is free for all registered participants.**

are differences in L1 and L2 morphological processing: significant morphological priming effects for transparent (e.g., sailor-SAIL) and pseudo-derived (e.g., belly-BELL) conditions (with no significant priming effect for the orthographic [e.g., needle-NEED] condition) were present in L1, whereas in L2, no differences across conditions were observed. Moreover, studies on the processing of L2 derived words show a scarce control of individual variables which have been seen to modulate lexical access. Considering this, the present study aimed to examine such variables' contribution to the recognition of L2 derived words. To do that, Portuguese-English bilinguals with different degrees of L2 proficiency and an English native speaker control group performed a masked priming lexical decision task in English. Results showed that only in L1 a significant relatedness effect was modulated by morphological priming. This seems to indicate that the underlying mechanisms of morphological processing of derived words are not the same in L1 and L2.

LEXICAL ALIGNMENT DOES MAKE SPEAKING EASIER FOR BILINGUALS EVEN IN THE FACE OF INTERFERENCE

Diana Uribe¹, Anahy Barragan¹, Iva Ivanova¹; ¹University of Texas at El Paso

Lexical alignment is speakers' tendency to reuse the words of their interlocutor and is assumed to facilitate language production (Pickering & Garrod, 2004). We hypothesized, however, that alignment may actually hinder production when the word produced by the interlocutor creates competition with the speaker's favored word. Spanish-English bilinguals named and matched pictures with a confederate in Spanish. On critical trials, participants named objects which were previously named by the confederate with one of two possible names. Participants were fastest when they aligned with the confederate to their own favored name (established in a preliminary individual picture-naming session). Crucially, participants were also faster when they aligned to a name they disfavored than when they did not align and used instead the name they favored. These results are against our hypothesis, and suggest that alignment facilitates language production even in the face of interference produced by lexical competition. In addition, participants with lower Spanish proficiency showed numerically greater alignment, implying that alignment may also mitigate the production difficulties associated with lower proficiency.

FOREIGN LANGUAGE EFFECT ON THE JUDGMENT OF BULLSHIT

Lea Gorišek¹, Dušica Filipović Đurđević², Kaja Damjanović³; ¹Laboratory for Experimental Psychology, Department of Psychology, Faculty of Philosophy, University of Belgrade, ²Laboratory for Experimental Psychology, Department of

Psychology, Faculty of Philosophy, University of Belgrade; Laboratory for Experimental Psychology, Faculty of Philosophy, University of Novi Sad, ³Laboratory for Experimental Psychology, Department of Psychology, Institute of Philosophy, Faculty of Philosophy, University of Belgrade

The present study investigates the cognitive processing of nonsense, namely bullshit statements, in the context of the foreign language effect (FLE). We aimed to investigate if there is an FLE on the profundity assessment (PA) of bullshit statements and whether it could be attributed to emotional valence (EV)? Two pilot studies were conducted to create the necessary materials for the experiment. In the first study, we created a database of words in English and Serbian and collected lexical norms to control and manipulate the statement properties. Using the word database and the custom-made software, we created 480 bullshit and everyday statements, which were then evaluated by EV and imageability in the second study. The English statements were rated as more imaginable than their Serbian equivalents ($F(1, 71) = 59.111, p < .01, \eta^2 = .055$). In the main studies ($N_1=96; N_2=95$), participants rated the statements by profundity. Results suggest that there is no FLE on the PA of bullshit when the evaluators are highly proficient in their L2, but in the less proficient participants, a FLE was found ($F(1, 94) = 4.917, p < .05, \eta^2 = .004$). The FLE on the PA of bullshit was affected by EV ($F(2, 94) = 3.462, p < .05, \eta^2 = .002$).

BILINGUALISM AND BIASES: BILINGUAL LANGUAGE EXPERIENCE AS A MODERATOR IN THE ASSOCIATION BETWEEN INTERNAL MOTIVATION AND EXPLICIT BIASES

Sofia Castro¹, Patrycja Kalamala^{1,2}, Marcin Bukowski¹, Zofia Wodniecka¹; ¹Institute of Psychology, Jagiellonian University, ²Beckman Institute, University of Illinois Urbana-Champaign

Research indicates that bilinguals (vs. monolinguals) show reduced social biases. However, it is unclear which dimensions of the bilingual experience are responsible for this reduction. We reanalysed data from a previous study that contained the responses of 389 bilinguals to a battery of questionnaires on bilingual and multicultural experiences, explicit biases, internal and external motivation to respond without prejudice, and executive control (EC). We reduced the multidimensionality of the data and explored which dimensions of the bilingual experience predicted explicit bias, considering individual differences in motivation, EC, and sociodemographic characteristics. Internal motivation was the strongest predictor of reduced explicit bias, but its effects were qualified by bilingual experiences. Language-use diversity (i.e., greater language-use balance, less language dominance, frequent switching and mixing, frequent multicultural experiences) and language-learning diversity (i.e., diverse proficiency and age of