

## POSTERS

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Abstracts submitted to the 48th FEBS Congress from 29th June to 3rd July 2024 and accepted by the Congress Scientific Committee are published in this Supplement of *FEBS Open Bio*. Late-breaking abstracts are not included in this supplement. The abstracts are available as three PDF files: Talks (Plenary Lectures, Symposia and Speed Talks), Posters and Posters Annex.

#### About these abstracts

Abstracts submitted to the Congress are **not peer-reviewed**. In addition, abstracts are published as submitted and are **not copyedited** prior to publication. We are unable to make corrections of any kind to the abstracts once they are published.

#### Indexing

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\* Each poster has been given a unique number beginning with the letter P; the next part relates to the session in which the poster will be presented.

This motivates further changes within the course. \*The authors marked with an asterisk equally contributed to the work.

### P-E-01-11

#### Nursing-Escape Room, an integrative tool in the biochemical laboratory for the study of diabetes mellitus

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Inclusion of game in the classroom aims to motivate students in order to promote meaningful learning. All students in 1st year of the Nursing Degree participated in this experience after the practical sessions of the Biochemistry course. Students assessed: i) concentration of glucose (serum); ii) percentage of glycated haemoglobin (haemolysate); and iii) concentration of ketone bodies (serum), to monitor diabetes mellitus. The activity was aimed at reinforcing concepts, knowledge of the bases of the techniques and integration of the metabolic pathways involved. In addition, the experience intended to train skills specific to laboratory work, including determining concentrations, mastering the use of micro-pipettes, using spectrophotometers, deducing the suitability of different samples, etc. Four Nursing-Escape Rooms were held with students organised in groups of 7-8 members outfitted with a team colour. One instructor per team checked that tests were carried out correctly and that group members understood the concepts being reviewed. At the end of the game, students rated the impact of the activity on their study and learning. They considered very positive to have participated in the Nursing-Escape, as a “different” way of learning and solving doubts. Likewise, instructors evaluated the effect the game had on understanding of the contents during the experience, perceiving deductive reasoning in the tests, and once the game was over, considering the grade in assessment of the contents. The results obtained support that the introduction of challenge-based games in the laboratory helps foster motivation, an essential condition for achieving meaningful learning. InDoBio 5.0 Biochemistry Teaching Innovation Group (UAHGI21171) Funding: Proyectos para el Fomento de la Innovación en el proceso de Enseñanza-Aprendizaje. Vice-rectorado de Estrategia y Planificación de la UAH. “UAHEV-1517 Escape Rooms UAH: motivación para aprender en el laboratorio de Bioquímica, 2023.”

### P-E-01-12

#### Synthesizing proteins: a virtual learning experience

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Virtual games have gained prominence in science teaching because of their role in students' cognitive development. In biology teaching, games are suggested by the Brazilian national curriculum as a strategy for approaching science topics. Our research group, based at EIC/CIBFar, has been developing interactive educational resources containing 3-D images, which is a popular and widely disseminated form of communication and learning, contributing to the construction of knowledge in different areas of science. One of these resources is a board game aimed at high school and undergraduate courses called Synthesizing Proteins, with an investigative and applied approach. This topic is involved in practically all biological phenomena, so understanding this phenomenon is essential to understanding how cells work and how life is established. Recently EIC/CIBFar team developed an electronic version of the game, with a programming language that can be accessed in different browsers and installed on Windows or Linux systems. It simulates the protein synthesis process within a eukaryotic cell from the gene, following the steps of transcription, translation and protein synthetized addressing. The computer resources used were Inkscape, Unity, Gimp and the C# language. The game begins with the user having to choose one of four proteins after which an animation starts showing a physiological situation in which the protein is involved. Next, the user will complete five missions: 1) identifying the components of eukaryotic cells and finding their nucleus to continue; 2) getting to know the nucleus components and transcribing the gene for mRNA synthesis; 3) carrying the mRNA outreach the nucleus to the cytoplasm for decoding at ribosomes on the RER, starting protein synthesis; 4) processing, folding and forming complexes of the synthesized protein, so that it becomes functionally active; 5) to give destination of the synthesized protein to into or out of the cell after answer a quiz. \*The authors marked with an asterisk equally contributed to the work.

### P-E-01-13

#### BIOQui-EScape as an active and participative methodology for undergraduates in Biology Degree

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Active and participatory methodologies in university teaching are essential since they promote student engagement, motivation, and meaningful learning. By encouraging interaction, collaboration and critical thinking, they allow students to construct their