Title of Paper in English

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**Abstract**

This document should be used as a template for the papers submitted to PAEE/ALE’2022. It provides the intended general structure and format, as well as other relevant information. Please read the template contents carefully and follow the instructions. In order to preserve the styles and other formatting elements, copy your text into this template. Papers can be written in English. The abstract should not exceed 300 words, followed by two to four keywords. The full paper is expected to have six to eight pages.

**Keywords**: Active Learning; Engineering Education; Conference Information; Project Approaches.

# Introduction

This document is to be used as a template for the paper. It gives information on its general structure and format and uses general information on the conference to explain that. Save this document and copy your own text into this template. The paper can be written in English.

The demand for engineering professionals is characterised by requirements of deep and solid interdisciplinary technical and transversal competences. Changing Engineering programmes ([Graaff & Kolmos, 2007](#_heading=h.1t3h5sf)) to meet these requirements can be addressed by different active learning approaches ([Christie & de Graaff, 2017](#_heading=h.2et92p0); [Lima, Andersson, & Saalman, 2017](#_heading=h.2s8eyo1)) and several institutions of higher education have been addressing these requirements with project approaches to engineering education. Problem and Project-Based Learning approaches ([Edström & Kolmos, 2014](#_heading=h.tyjcwt); [Graaff & Kolmos, 2003](#_heading=h.3dy6vkm); [Helle, Tynjälä, & Olkinuora, 2006](#_heading=h.4d34og8)) have proven to be effective in making interdisciplinary connections between different subject matters, developing, in parallel, competences of project management, autonomy and communication ([Lima, Dinis-Carvalho, Flores, & Hattum-Janssen, 2007](#_heading=h.17dp8vu); [Powell & Weenk, 2003](#_heading=h.3rdcrjn)).

PAEE/ALE'2022 is an international conference on active learning in engineering education, aiming to be a place for teachers, researchers, and professionals specializing in Engineering Education to meet annually to exchange, share, and discuss ideas to enhance engineering education with Active Learning. Besides paper sessions, participants will experience active involvement in hands-on sessions, workshops, debates, industry panel, poster sessions, and student project sessions. The conference is the merging of two international events: the International Symposium on Project Approaches in Engineering Education (PAEE) organized by the PAEE association and the Department of Production and Systems of the University of Minho, Portugal, since 2009, and Active Learning in Engineering Education Workshop (ALE) organized by Active Learning in Engineering Education Network since 2000. This event joins together the International Symposium on Project Approaches in Engineering Education (PAEE'2021) and the Active Learning in Engineering Education Workshop (ALE'2021). PAEE/ALE'2021 will be the seventh collaboration of the two events.

The PAEE/ALE’2022 is hosted by the University of Alicante, Spain, and it is expected to take place at the campus of the University (https://web.ua.es/en/about-the-ua.html), Alicante, Spain (Figure 1).

More information can be found at the conference website: http://www.huro.ua.es/paeeale2022.



Figure 1. Image of the campus of University of Alicante.

# Scope

This conference will be based on different types of interaction approaches, namely: (i) paper sessions (regular sessions, debate sessions and students paper award), (ii) hands-on sessions, (iii) workshops. On paper sessions, debate sessions and students award, participants can share their work and proposals. The hands-on sessions and workshops involve small groups working as teams and enable for extensive discussions and exchange of experiences with international experts.

## Conference organisation model

The following themes are proposed, but PAEE/ALE’2021 is open to suggestions for other topics related to project approaches in engineering education:

* Experiences on Active Learning and PBL in engineering education
* Innovative experiences in engineering education
* Ethics and sustainability in engineering education
* Evaluating PBL and Active Learning
* Development and assessment of competences
* Diversity and inclusion in engineering education
* Attracting women and/or young people to engineering
* Teacher and tutor roles in PBL and Active Learning
* Inclusion of emotions in engineering education
* Teacher professional development in non-technical topics (pedagogy, ethics, sustainability, gender,...)
* Research on Active Learning and PBL
* Assessment in Active Learning and PBL
* Active Learning and ICT support
* Educational challenges during crisis
* Basic sciences in engineering education
* Curriculum design
* Project management in engineering education
* Student engagement in learning
* Workspaces for Active Learning

The programme diversity, in terms of interaction approaches and addressed themes, make the PAEE/ALE a platform for those who wish to share and learn more about active learning and project oriented approaches to teaching/learning of engineering.

## Milestones – important dates

The conference has the milestones indicated in Table 1. Please note that the tables should be formatted as below, without vertical borders.

Table 1. Milestones – important dates.

|  |  |
| --- | --- |
| Date | Milestones |
| Feb. 13, 2022 | Abstract submission for full papers |
| March 15, 2022 | Notification of abstract acceptance |
| April 18, 2022 | Full paper submission |
| April 18, 2022 | Abstract only submission |
| May 15, 2022 | Notification of acceptance |
| June 03, 2022 | Camera-ready submission for full papers |
| June 13, 2022 | Early bird registration |
| June 27, 2022 | Final registration to be included in proceedings |

# Target Stakeholders

PAEE/ALE conference aims to engage teachers, researchers on Engineering Education, deans of Engineering Schools and professionals concerned with Engineering Education in the discussion of Active Learning and Project Approaches in Engineering Education through active workshops and presentations of current practice and research in this field.

# Information for Participants

This section has information relevant for participants in terms of: (i) web platform registration, (ii) conference registration and (iii) instructions for authors.

## Submission Platform

Registration at the submission platform (https://easychair.org/conferences/?conf=paeeale2022) is free and does not necessarily require a conference registration. All participants should register at the Easychair platform in order to get a login and password to have access to the submission platform. Different roles will be assigned to participants, authors, reviewers and organisation members. Abstracts and papers must be submitted using the Easychair platform. Please register on the web platform to submit abstracts/papers.

## Conference Registration

Conference registration is compulsory for PAEE/ALE’2022 participants. Papers will only be published after registration and payment of the registration fee. At least, one of the authors is required to register and present the paper.

Please find more information on conference registration and payment on the conference website (<http://www.huro.ua.es/paeeale2022>). Participants not presenting a paper are also welcome to PAEE/ALE’2022.

## Instructions for Authors

Papers submitted to the conference must be in accordance with this document, which should be used as a template by the authors. Papers are required to have a minimum of six pages and a maximum of eight pages.

This document is in accordance with the following general rules:

* Document file must be in Microsoft Word format applying the styles used in this template.
* Page layout in A4 size with one column text format.
* Entire document written using “Segoe UI” text font.
* Left and right margins of 2 cm; top and bottom margins of 2.5 cm.
* Word style “Normal”: body text with “Segoe UI” text font size 10, single line spacing, justified, spacing after paragraph 6 pts.
* Title must use the word style “Head\_Title”, using “Segoe UI” text font, bold, size 16, left aligned.
* Word style “Authors”: author information with “Segoe UI Light” text font, bold, size 10, left aligned.
* Word styles “affiliation” and “email”: affiliation and email addresses with “Segoe UI” text font, size 8, left aligned.
* Word style “Heading 1”: first level section titles with “Segoe UI” text font, bold, size 14, distance before paragraph of 24 pts and hanging indent of 0.76 pts.
* Word style “Heading 2”: second level section titles with “Segoe UI” text font, bold, size 12, distance before paragraph of 10 pts and hanging indent of 1.02 pts.
* Word style “Heading 3”: third level section titles with “Segoe UI” text font, bold, size 10, distance before paragraph of 10 pts and hanging indent of 1.27 pts.
* Do not use section titles of level 4 and more.
* Do not use footnotes.
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* References use APA style:
	+ Cross reference has “author (year)” or (author, year).
	+ Reference list sorted by last name.

Please follow the standards above to format your document, including word styles. **Copy your text into this template, in order to comply with the standards**.

# Conclusion

This document is a quick reference guide for submission of full papers. It also gives some information about the conference in general. If you have any questions or need any further information, do not hesitate to contact the organising committee, through the conference website: <http://www.huro.ua.es/paeeale2022> or through the email: paeeale2022@ua.es.

# References

Christie, M., & de Graaff, E. (2017). The philosophical and pedagogical underpinnings of Active Learning in Engineering Education. *European Journal of Engineering Education, 42*(1), 5-16. doi:10.1080/03043797.2016.1254160

Edström, K., & Kolmos, A. (2014). PBL and CDIO: complementary models for engineering education development. *European Journal of Engineering Education, 39*(5), 539-555. doi:10.1080/03043797.2014.895703

Graaff, E. d., & Kolmos, A. (2003). Characteristics of Problem–Based Learning. *International Journal of Engineering Education, 19*(5), 657-662.

Graaff, E. d., & Kolmos, A. (Eds.). (2007). *Management of Change: Implementation of Problem-Based and Project-Based Learning in Engineering*. Roterdam: Sense Publishers.

Helle, L., Tynjälä, P., & Olkinuora, E. (2006). Project-Based Learning in Post-Secondary Education - Theory, Practice and Rubber Sling Shots. *Higher Education, 51*(2), 287-314.

Lima, R. M., Andersson, P. H., & Saalman, E. (2017). Active Learning in Engineering Education: a (re)introduction. *European Journal of Engineering Education, 42*(1), 1-4. doi:10.1080/03043797.2016.1254161

Lima, R. M., Dinis-Carvalho, J., Flores, M. A., & Hattum-Janssen, N. v. (2007). A case study on project led education in engineering: students' and teachers' perceptions. *European Journal of Engineering Education, 32*(3), 337 - 347.

Powell, P. C., & Weenk, W. (2003). *Project-Led Engineering Education*. Utrecht: Lemma.