

# GRIAL Research Group (USAL) – W-STEM Advancements

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# 1. Dissemination



## 1.1. Girls ICT Day at University of Salamanca

- Presentation of W-STEM Project as one of the initiatives to launch a work group focus on promoting STEM at schools in Castile and León
- 25 April 2019

## 1.2. Universidad Nacional de San Agustín de Arequipa

- Presentation of the project in a public university in Peru
- Attendants were professors from engineering studies and education studies, and future teacher students
- 25 August 2019
- Presentation available on <https://www.slideshare.net/grialusal/proyecto-europeo-wstem>



## 1.3. Universidade Presbiteriana Mackenzie



- Presentation to engineering students in order to sensibiliser about the project
- 27 September 2019

## 1.4. Conferences papers at CINAIC 2019 (I)

- International Conference about Learning, Innovation and Competitivity (CINAIC), Madrid, Spain, 8 October 2019
- The project was presented in from of 40 researchers, professors and teachers from different areas, all of them interested in educational innovation
- Presentation available on <https://www.slideshare.net/grialusal/la-brecha-de-gnero-en-el-sector-stem-en-latino-amrica-una-propuesta-europea>
- Publication available on <https://doi.org/10.26754/CINAIC.2019.0143>
- García-Holgado, A., Camacho Díaz, A., & García-Peñalvo, F. J. (2019). La brecha de género, en el sector STEM en América Latina: una propuesta europea. In M. L. Sein-Echaluce Lacleta, A. Fidalgo Blanco, & F. J. García-Peñalvo (Eds.), *Aprendizaje, Innovación y Cooperación como impulsores del cambio metodológico. Actas del V Congreso Internacional sobre Aprendizaje, Innovación y Competitividad. CINAIC 2019 (9-11 de Octubre de 2019, Zaragoza, España)* (pp. 704-709). Zaragoza, Spain: Servicio de Publicaciones Universidad de Zaragoza.

## 1.4. Conferences papers at CINAIC 2019 (II)





## 1.5. Conference paper at TEEM 2019 (I)

- International Conference of Technological Ecosystems for Enhancing Multiculturality (TEEM 2019), León, Spain, 16 October 2019
- The project was presented in from of 20 researchers, doctoral students, and professors from different international universities
- Presentation available on <https://www.slideshare.net/grialusal/engaging-women-into-stem-in-latin-america-wstem-project>
- Publication available on <https://doi.org/10.1145/3362789.3362902>
- García-Holgado, A., Camacho Díaz, A., & García-Peñalvo, F.J. (2019). Engaging women into STEM in Latin America: W-STEM project. In M. A. Conde-González, F. J. Rodríguez Sedano, C. Fernández Llamas, & F.J. García-Peñalvo (Eds.), *Proceedings of the 7th International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM 2019) (León, Spain, October 16-18, 2019)* (pp. 232-239). New York, NY, USA: ACM.

## 1.5. Conference paper at TEEM 2019 (II)



## 1.6. WYRED Online Festival

- Participation in a round table about gender gap in STEM
- Presentation of W-STEM project
- Video will be available soon at <https://www.youtube.com/channel/UCYUj-1xXd9332sVFhh3DFJg>

The screenshot shows a Menti quiz interface. At the top, it says "Go to [www.menti.com](http://www.menti.com) and use the code 60 32 51". The quiz title is "Solutions for dealing with gender gap in STEM". The word cloud contains the following terms: digital literacy, more subject options, co-education, tell stories of girlsstem, parents aware stereotypes, bring knowledge together, teachers more engaged, visibilization, support teachers, support parents, support, beliefs, and marketing. On the right side, there is a vertical list of participants: Andrea Vazquez Ingelmo, Wyred admin, Paul Butler, Hasnââ Chaabi, and Sabine Zauchner-Stud... with a total of 5 participants.

## 1.7. Master degree ICT in Education

- Presentation of the project to future teachers at the University of Salamanca
- 8 November 2019

## 1.8. Coimbra Group

- Presentation in Granada, Spain, 14 November 2019
- Coimbra Group Seminar about Innovation in Learning and Teaching in Science, Technology, Engineering and Mathematics (STEM) fields
- Presentation available on <https://zenodo.org/record/3538920>



## 1.9. III Conference of equality USAL

- National conference about equality in the different areas at the university, Salamanca, Spain, 19 November 2019
- Presentation of the project and the self-assessment and process mapping
- More than 70 students, professors and decision makers from different Spanish institutions



## 2. Related studies

## 2.1. Perception of engineering students about the gender gap (I)

- Study with computer engineering studies conducted in Spain, China, Peru, Argentina and Brazil
- Questionnaire defined, tested and validated (Spanish, Chinese, Portuguese)
- García-Holgado, A., Mena, J., González, C. S., & García-Peñalvo, F.J. [2019]. *Perspectiva de Género en Ingeniería Informática: Cuestionario GENCE* (Technical Report GRIAL-TR-2019-001). Retrieved from Salamanca, Spain: <https://repositorio.grial.eu/handle/grial/14>
- Presentation available on <https://www.slideshare.net/grialusal/estudio-piloto-sobre-la-percepcion-de-los-estudiantes-sobre-la-brecha-de-gnero-en-estudios-de-ingenieria-informtica>





## 2.1. Perception of engineering students about the gender gap (II)

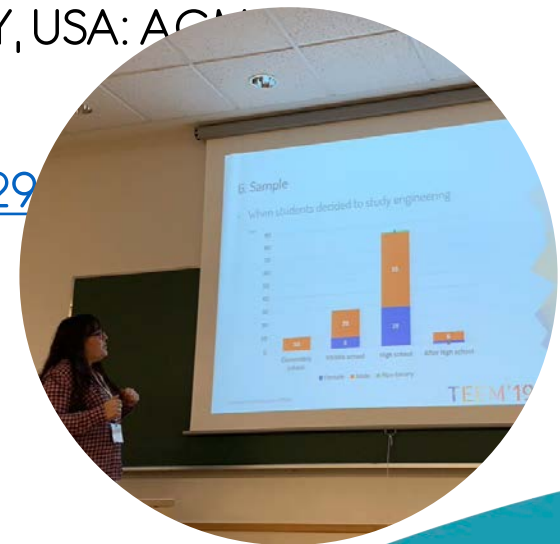
- Several publications related to this study:
- **EDUCON 2019**: García-Holgado, A., Vázquez-Ingelmo, A., Verdugo-Castro, S., González, C. S., Sánchez-Gómez, M. C., & García-Peñalvo, F.J. (2019). Actions to promote diversity in engineering studies: a case study in a Computer Science Degree. In *2019 IEEE Global Engineering Education Conference (EDUCON), (9-11 April 2019, Dubai, UAE)*. USA: IEEE.  
Presentation available on <https://www.slideshare.net/grialusal/actions-to-promote-diversity-in-engineering-studies-a-case-study-in-a-computer-science-degree>
- **CINAIC 2019**: García-Holgado, A., Vázquez-Ingelmo, A., Mena, J., García-Peñalvo, F.J., González, C. S., Sánchez-Gómez, M. C., & Verdugo-Castro, S. (2019). Estudio piloto sobre la percepción de la brecha de género en estudios de ingeniería informática. In M. L. Sein-Echaluce Lacleto, Á. Fidalgo Blanco, & F.J. García-Peñalvo (Eds.), *Aprendizaje, Innovación y Cooperación como impulsores del cambio metodológico. Actas del V Congreso Internacional sobre Aprendizaje, Innovación y Competitividad. CINAIC 2019 (9-11 de Octubre de 2019, Zaragoza, España)* (pp. 698-703). Zaragoza, Spain: Servicio de Publicaciones Universidad de Zaragoza.  
Presentation available no <https://www.slideshare.net/grialusal/estudio-piloto-sobre-la-percepcion-de-la-brecha-de-gnero-en-estudios-de-ingeniera-informtica>
- A comparative study between Peru and Argentina results has been accepted to submit to **EDUCON 2020**

## 2.2. Support perception of engineering students in Spain according to their speciality (I)

- Pilot study with engineering studies to analyse the support perception of engineering students during the different stages of their career
  - the support during the period that they decided to study engineering
  - the support received when they are in the university
  - and the support received when they have a job
- The survey was based on the instrument proposed by de Carvalho Fernandes et al.
- The instrument is not fully validated, but it has been tested in the Brazilian context

## 2.2. Support perception of engineering students in Spain according to their speciality (II)

- **Presented at TEEM 2019:** García-Holgado, A., & González, C. S. (2019). Preliminary study about the support perception of engineering students in Spain according to their speciality. In M. Á. Conde-González, F. J. Rodríguez Sedano, C. Fernández Llamas, & F. J. García-Peñalvo (Eds.), *Proceedings of the 7th International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM 2019) (León, Spain, October 16–18, 2019)* (pp. 240–246). New York, NY, USA: ACM.
- Available on <https://doi.org/10.1145/3362789.33629>



## 2.3. Analysis of the project about gender gap and STEM

- Systematic review about the European research projects focus on gender gap in STEM
- Projects were searched in CODIS Database and Erasmus+ Database
- The results are published in a conference and a scientific paper was accepted in IEEE-RITA [Scopus]
- **EnGeendering Workshop 2019**: García-Holgado, A., Verdugo-Castro, S., Sánchez-Gómez, M. C., & García-Peñalvo, F.J. (2019). Trends in studies developed in Europe focused on the gender gap in STEM. In *Proceedings of the XX International Conference on Human Computer Interaction* (pp. Article 47). New York, NY, USA: ACM.
- Presentation available on <https://www.slideshare.net/grialusal/trends-in-studies-developed-in-europe-focused-on-the-gender-gap-in-stem>

# Disclaimer

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