

Addressing the Gender Gap in Computer Science

Susan McKeever

Ayesha O'Reilly

TU Dublin

Abstract

In the context of the W-STEM [1-15] ERASMUS + Capacity-building in Higher Education European Project (Ref. 598923-EPP-1-2018-1-ES-EPPKA2-CBHE-JP), the W-STEM Chile International Conference was held on 19-20 April 2022 in Valparaíso (Chile), hosted by the Pontificia Universidad Católica de Valparaíso and the Universidad Técnica Federico Santa María, after more than two years working virtually on the global COVID-19 pandemic [16-18].

The keynote by Susan McKeever and Ayesha O'Reilly, researchers of the TU Dublin, was devoted to address the gender gap in computer science in their institution.

Keywords

Women, Science, CBHE, EU, gender, STEM, W-STEM, Latin-America; Gender Gap in Computer Science

Link to the presentation

<https://zenodo.org/record/6510115>

DOI

10.5281/zenodo.6510115

Recommended citation

S. McKeever and A. O'Reilly, " Addressing the Gender Gap in Computer Science," presented in Conferencia Internacional W-STEM Chile, Valparaíso, Chile, 19-20 de abril de 2022, 2022. Available from: <https://zenodo.org/record/6510115>. doi: 10.5281/zenodo.6510115.

Disclaimer

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

References

- [1] A. García-Holgado, A. Camacho Díaz and F. J. García-Peñalvo, "La brecha de género en el sector STEM en América Latina: Una propuesta europea," in *Actas del V Congreso Internacional sobre Aprendizaje, Innovación y Competitividad. CINAIC 2019 (9-11 de Octubre de 2019, Madrid, España)*, M. L. Sein-Echaluce Lacleta, Á. Fidalgo-Blanco and F. J. García-Peñalvo, Eds. pp. 704-709, Zaragoza, Spain: Servicio de Publicaciones Universidad de Zaragoza, 2019. doi: 10.26754/CINAIC.2019.0143.
- [2] A. Camacho Díaz and F. J. García-Peñalvo, "W-STEM Project overview at the International Leadership Summit," presented in W-STEM International

- Leadership Summit, Cartagena de Indias, Colombia, November 25th, 2019. Available from: <https://bit.ly/2XIN5pL>. doi: 10.5281/zenodo.3552377.
- [3] A. García-Holgado, A. Camacho Díaz and F. J. García-Peñalvo, "Engaging women into STEM in Latin America: W-STEM project," in *TEEM'19 Proceedings of the Seventh International Conference on Technological Ecosystems for Enhancing Multiculturality (Leon, Spain, October 16th-18th, 2019)*, M. Á. Conde-González, F. J. Rodríguez-Sedano, C. Fernández-Llamas and F. J. García-Peñalvo, Eds. ICPS: ACM International Conference Proceedings Series, pp. 232-239, New York, NY, USA: ACM, 2019. doi: 10.1145/3362789.3362902.
- [4] F. J. García-Peñalvo, "Women and STEM disciplines in Latin America: The W-STEM European Project," *Journal of Information Technology Research*, vol. 12, no. 4, pp. v-viii, 2019.
- [5] F. J. García-Peñalvo, "W-STEM Project Overview," presented in W-STEM Erasmus+ project Kick-Off, Salamanca, Spain, March 25-27, 2019, 2019. Available from: <https://goo.gl/19vjtx>. doi: 10.5281/zenodo.2605431.
- [6] F. J. García-Peñalvo, "Innovative Teaching Approaches to attract, engage, and maintain women in STEM: W-STEM project," presented in Coimbra Group Seminar. Innovation in Learning and Teaching in Science, Technology, Engineering and Mathematics (STEM) fields, Granada, Spain, 14 November 2019, 2019. Available from: <https://bit.ly/2NWGFyA>. doi: 10.5281/zenodo.3538939.
- [7] F. J. García-Peñalvo, A. Bello, Á. Domínguez and R. Romero Chacón, "W-STEM International Leadership Summit World Café Report," W-STEM Consortium, Brussels, Belgium, Technical Report, 2019. Available from: <https://bit.ly/2RMAHUy>. doi: 10.5281/zenodo.3575091.
- [8] F. J. García-Peñalvo, A. Bello, A. Dominguez and R. M. Romero Chacón, "Gender Balance Actions, Policies and Strategies for STEM: Results from a World Café Conversation," *Education in the Knowledge Society*, vol. 20, art. 31, pp. 31-1 – 31-15, 2019. doi: 10.14201/eks2019_20_a31.
- [9] A. García-Holgado *et al.*, "Gender equality in STEM programs: a proposal to analyse the situation of a university about the gender gap," in *2020 IEEE Global Engineering Education Conference (EDUCON), (27-30 April 2020, Porto, Portugal)* pp. 1824-1830, USA: IEEE, 2020. doi: 10.1109/EDUCON45650.2020.9125326.
- [10] A. García-Holgado, S. Verdugo-Castro, M. C. Sánchez-Gómez and F. J. García-Peñalvo, "Facilitating Access to the Role Models of Women in STEM: W-STEM Mobile App," in *Learning and Collaboration Technologies. Design, Experiences. 7th International Conference, LCT 2020, Held as Part of the 22nd HCI International Conference, HCII 2020, Copenhagen, Denmark, July 19–24, 2020, Proceedings, Part I*, P. Zaphiris and A. Ioannou, Eds. Lecture Notes in Computer Science, no. 12205, pp. 466-476, Cham, Switzerland: Springer Nature, 2020. doi: 10.1007/978-3-030-50513-4_35.
- [11] A. García-Holgado, S. Verdugo-Castro, C. S. González-González, M. C. Sánchez-Gómez and F. J. García-Peñalvo, "European Proposals to Work in the Gender Gap in STEM: A Systematic Analysis," *IEEE Revista Iberoamericana de Tecnologías del Aprendizaje (IEEE RITA)*, vol. 15, no. 3, pp. 215-224, 2020. doi: 10.1109/RITA.2020.3008138.
- [12] A. García-Holgado and F. J. García-Peñalvo, "El Proyecto W-STEM y la Mujer en la Ciencia," presented in Encuentro Internacional de Investigación e

- Innovación en Ciencias Básicas, Universidad Autónoma de Bucaramanga (Colombia), 11 de noviembre, 2021. Available from: <https://bit.ly/3omI9V1>. doi: 10.5281/zenodo.5675815.
- [13] S. Verdugo-Castro, A. García-Holgado, M. C. Sánchez-Gómez and F. J. García-Peñalvo, "Multimedia Analysis of Spanish Female Role Models in Science, Technology, Engineering and Mathematics," *Sustainability*, vol. 13, no. 22, art. 12612, 2021. doi: 10.3390/su132212612.
- [14] A. García-Holgado, M. Estrada, G. Marín-Raventós and F. J. García-Peñalvo, "Gender gap perception of computer science students in Costa Rica: A case study in two public universities," in *Proceedings of the XIII Congress of Latin American Women in Computing 2021 (LAWCC 2021) co-located with XLVII Latin American Computer Conference (CLEI 2021), San José, Costa Rica, October 28, 2021*, M. Estrada and A. García-Holgado, Eds. CEUR Workshop Proceedings Series, no. 3000, pp. 12-21, Aachen, Germany: CEUR-WS.org, 2021.
- [15] S. Verdugo-Castro *et al.*, "Identificación de barreras y motivaciones percibidas por mujeres estudiantes de ingeniería y matemáticas: Estudio de caso en España y Latinoamérica," in *Estudios interdisciplinarios de género*, M. del Pozo Pérez and A. Rodríguez Sánchez, Eds. Estudios, pp. 813-828, Cizur Menor, Navarra: Aranzadi, 2021.
- [16] F. J. García-Peñalvo and A. Corell, "La COVID-19: ¿enzima de la transformación digital de la docencia o reflejo de una crisis metodológica y competencial en la educación superior?," *Campus Virtuales*, vol. 9, no. 2, pp. 83-98, 2020.
- [17] F. J. García-Peñalvo, A. Corell, V. Abella-García and M. Grande-de-Prado, "La evaluación online en la educación superior en tiempos de la COVID-19," *Education in the Knowledge Society*, vol. 21, art. 12, 2020. doi: 10.14201/eks.23013.
- [18] M. Grande-de-Prado, F. J. García-Peñalvo, A. Corell and V. Abella-García, "Evaluación en Educación Superior durante la pandemia de la COVID-19," *Campus Virtuales*, vol. 10, no. 1, pp. 49-58, 2021.