

## Publications

### **Examining exemplarity in problem-based engineering education for sustainability**

Servant, V. F. C. & Guerra, A. O. P. D. C., 16 Sep 2019, *Varietas delectat...Complexity is the new normality: SEFI 47th Annual Conference Proceedings*. Vince Nagy, B., Murphy, M., Järvinen, H-M. & Kálmán, A. (eds.). SEFI: European Association for Engineering Education, p. 1022-1032 11 p.

### **Sustainable Industry 4.0**

Guerra, A. O. P. D. C. & Nørgaard, B., 16 Sep 2019, *Varietas delectat...Complexity is the new normality : Proceedings SEFI 2019*. Vince Nagy, B., Murphy, M., Järvinen, H-M. & Kálmán, A. (eds.). SEFI: European Association for Engineering Education, p. 501-510 10 p.

### **Contextual Learning for Sustainability**

Guerra, A. O. P. D. C. & Holgaard, J. E., 2019, *Encyclopedia of Sustainability in Higher Education*. Leal Filho, W. (ed.). Springer

### **Students' Perspectives on Sustainability**

Guerra, A. O. P. D. C. & Smink, C. K., 2019, *Encyclopedia of Sustainability in Higher Education*. Leal Filho, W. (ed.). Springer

### **Aalborg UNESCO Certificate: Staff Development and Challenges in PBL Training Programme**

Chen, J., Kolmos, A., Guerra, A. O. P. D. C. & Zhou, C., 2019, In : *Journal of Engineering Education Transformations (JEET)*. 33, 1, 8 p.

### **7th International Research Symposium on PBL: Innovation, PBL and Competences in Engineering Education**

Sunyu, W. (ed.), Kolmos, A. (ed.), Guerra, A. (ed.) & Weifeng, Q. (ed.), 2018, Aalborg Universitetsforlag. 615 p. (International Research Symposium on PBL).

### **Academic staff expectations when enrolling in pedagogical development course for curriculum change**

Guerra, A. & Spliid, C. C. M., 2018, *7th International Research Symposium on PBL: Innovation, PBL and Competences in Engineering Education*. Sunyu, WANG., KOLMOS, A., GUERRA, A. & Weifeng, QIAO. (eds.). Aalborg: Aalborg Universitetsforlag, p. 562-572 11 p. (International Research Symposium on PBL).

### **Engineering 2030: Conceptualization of Industry 4.0 and its implications for Engineering Education**

Nørgaard, B. & Guerra, A. O. P. D. C., 2018, *7th International Research Symposium on PBL : Innovation, PBL and Competences in Engineering Education*. Sunyu, WANG., KOLMOS, A., GUERRA, A. & Weifeng, QIAO. (eds.). Aalborg, Danmark: Aalborg Universitetsforlag, p. 34-47 (International Research Symposium on PBL).

### **Aalborg UNESCO Centre Certificate: A new approach to staff training and curriculum innovation**

Guerra, A., Spliid, C. C. M. & Kolmos, A., 2018, *7th International Research Symposium on PBL: Innovation, PBL and Competences in Engineering Education*. Sunyu, WANG., KOLMOS, A., GUERRA, A. & Weifeng, QIAO. (eds.). Aalborg: Aalborg Universitetsforlag, p. 573-585 13 p. (International Research Symposium on PBL).

### **PBL in engineering education: International perspectives on curriculum change**

Guerra, A., Ulseth, R. & Kolmos, A., 13 Sep 2017, Brill | Sense. 140 p.

### **Empowering students to co-construct the PBL environment**

Holgaard, J. E., Dahms, M. L., Kolmos, A. & Guerra, A., 3 Jul 2017, *6th International Research Symposium on PBL: PBL, Social Progress and Sustainability*. Aalborg Universitetsforlag, p. 386 – 398 12 p. (International Research Symposium on PBL).

### **PBL and Engineering Curriculum Change in Latin America: 10 examples and the lessons learned**

Guerra, A., Rodriguez-Mesa, F. & González, F., 3 Jul 2017, *6th International Research Symposium on PBL: PBL, Social Progress and Sustainability*. Aalborg Universitetsforlag, p. 268 – 278 10 p. (International Research Symposium on PBL).

**Aprendizaje basado en problemas en ingeniería: Teoría y práctica**

Rodríguez-Mesa, F. (ed.), Kolmos, A. (ed.) & Guerra, A. (ed.), 2017, Aalborg: Aalborg Universitetsforlag. 276 p.

**Aprendizaje basado en problemas y educación en ingeniería: Panorama latinoamericano**

Guerra, A. (ed.), Rodríguez-Mesa, F. (ed.), González, F. A. (ed.) & Ramírez, M. C. (ed.), 2017, Aalborg: Aalborg Universitetsforlag. 240 p.

**Control del problema en un entorno de PBL**

Holgaard, J. E., Petersen, L. S., Guerra, A. & Kolmos, A., 2017, *Aprendizaje basado en problemas en ingeniería: Teoría y práctica*. Rodríguez-Mesa, F., Kolmos, A. & Guerra, A. (eds.). Aalborg Universitetsforlag, p. 130-167 37 p.

**Engineering grand challenges and the attributes of the global engineer: a literature review**

Guerra, A., Ulseth, R., Jonhson, B. & Kolmos, A., 2017, *Proceedings of the 45th SEFI Annual Conference 2017: Education Excellence for Sustainability*. Quadrado, J. C., Bernardino, J. & Rocha, J. (eds.). Belgium : SEFI: European Association for Engineering Education, p. 1222-1235

**Getting a hold on the problem in a problem-based learning environment**

Holgaard, J. E., Guerra, A., Kolmos, A. & Petersen, L. S., 2017, In : *International Journal of Engineering Education*. 33, 3, p. 1070-1085

**Guest Editorial I**

Arana Arexolaleiba, N., Guerra, A., Kolmos, A., de Graaff, E. & Lima, R. M., 2017, In : *International Journal of Engineering Education*. 33, 3, p. 940-941

**Integration of Sustainability in Engineering Education: Why is PBL an answer?**

Guerra, A., 2017, In : *International Journal of Sustainability in Higher Education (Print Edition)*. 18, 3, p. 436-454

**Los cambios hacia el PBL: Lecciones aprendidas**

Guerra, A., Rodríguez-Mesa, F. & González, F. A., 2017, *Aprendizaje basado en problemas y educación en ingeniería: Panorama latinoamericano*. Guerra, A., Rodríguez-Mesa, F., González, F. A. & Ramírez, M. C. (eds.). Aalborg Universitetsforlag, p. 212-225 14 p.

**PBL in Engineering Education: International Perspectives on Curriculum Change**

Guerra, A. (ed.), Ulseth, R. (ed.) & Kolmos, A. (ed.), 2017, Rotherdam: Brill | Sense. 152 p.

**PBL, Social Progress and Sustainability**

Guerra, A. (ed.), Rodríguez, F. J. (ed.), Kolmos, A. (ed.) & Reyes, I. P. (ed.), 2017, 1. ed. Aalborg: Aalborg Universitetsforlag. (International Research Symposium on PBL).

**Perspectives on Engineering Curriculum Change**

Guerra, A. & Ulseth, R., 2017, *PBL in Engineering Education: International Perspectives on Curriculum Change*. Guerra, A., Ulseth, R. & Kolmos, A. (eds.). Rotherdam: Brill | Sense, p. 119-134

**Principios de aprendizaje y organización curricular en el PBL**

Guerra, A., Rodríguez Mesa, F. & González, F. A., 2017, *Aprendizaje basado en problemas y educación en ingeniería: Panorama latinoamericano*. Guerra, A., Rodríguez-Mesa, F., González, F. A. & Ramírez, M. C. (eds.). Aalborg Universitetsforlag, p. 2-18 17 p.

**"Revolución" en la educación de ingeniería: ¿Cómo puede contribuir PBL?**

Guerra, A. & Rodríguez Mesa, F., 2017, *Aprendizaje basado en problemas en ingeniería: Teoría y práctica*. Rodríguez-Mesa, F., Kolmos, A. & Guerra, A. (eds.). Aalborg: Aalborg Universitetsforlag, p. 1-11 11 p.

**Sustainability accreditation in Engineering Education: Comparison between Danish and French contexts**

Guerra, A., Holgaard, J. E. & Jolly, A. M., 2017, *Proceedings of the 45th SEFI Annual Conference: Education Excellence for Sustainability*. Quadrado, J. C., Bernardino, J. & Rocha, J. (eds.). SEFI: European Association for Engineering Education, p. 137-144

**Trends in Engineering Education Research: A systematic database analysis**

Rodriguez-Mesa, F., Guerra, A., de Graaff, E. & Peña-Reyes, I., 2017, *7th Research in Engineering Education Symposium*. Curran Associates, Inc, Vol. 2. p. 835-844

**Barriers towards Sustainability Integration in Engineering Education**

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**Enhancing Critical Thinking in a PBL Environment**

Guerra, A. & Holgaard, J. E., 2016, In : *International Journal of Engineering Education*. 32, 1(B), p. 424-437

**Organisational learning and integration of sustainability in engineering education**

Guerra, A. & Holgaard, J. E., 2016, *Proceedings SEFI Annual Conference 2016, Tampere, Finland..* European Society for Engineering Education SEFI

**Strategies for education for sustainable development - Danish and Australian perspectives**

Holgaard, J. E., Hadgraft, R., Kolmos, A. & Guerra, A., 2016, In : *Journal of Cleaner Production*. 112, 4, p. 3479-3491 13 p.

**Development of a Global Network for PBL and Engineering Education**

Guerra, A. & de Graaff, E., 2015, *Global Research Community: Collaboration and Developments*. de Graaff, E., Guerra, A., Kolmos, A. & A. Arexolaleiba, N. (eds.). Aalborg Universitetsforlag, p. 257-266 9 p.

**Global Research Community: Collaboration and Developments**

de Graaff, E. (ed.), Guerra, A. (ed.), Kolmos, A. (ed.) & Arexolaleiba, N. (ed.), 2015, 1 ed. Aalborg Universitetsforlag. 537 p.

**How to make Engineering Students master problem identification and problem formulation**

Guerra, A. & Bøgelund, P., 2015, *Active Teachers - Active Students: Proceeding of The International Joint Conference on the Learner in Engineering Education (IJCLEE' 2015) and 13th Active Learning in Engineering Education Workshop (ALE)*. de Graff, E., Farreras, M. & Arexolaleiba, N. A. (eds.). Aalborg Universitetsforlag, p. 77-81

**Problem Based Learning: The Aalborg Example: The visitors workshop at AAU**

de Graaff, E. & Guerra, A., 2015. 1 p.

**Use of ICT tools to manage project work in PBL environment**

Guerra, A., 2015, *Global Research Community: Collaboration and Developments*. de Graaff, E., Guerra, A., Kolmos, A. & A. Arexolaleiba, N. (eds.). Aalborg Universitetsforlag, p. 445-455 10 p.

**Problem Based Learning and Sustainable Engineering Education: Challenges for 21st Century**

Guerra, A., 4 Jun 2014, Department of Development and Planning, Aalborg University. 439 p.

**Problem Based Learning and Sustainability: Practice and Potential**

Krogh Hansen, K., Dahms, M-L., Otrell-Cass, K. & Guerra, A., May 2014, Faculty of Engineering and Science, Aalborg University. 136 p.

**Good Examples Catalogue: "Problem Based Learning and Sustainability in Engineering and Science Education – Practice and Potential"**

Krogh Hansen, K., Otrell-Cass, K., Guerra, A. & Dahms, M-L., Apr 2014, Faculty of Engineering and Science, Aalborg University. 60 p.

**Sustainability in engineering education from a programme perspective**

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**Evaluating potentialities and constrains of Problem Based Learning curriculum: Research methodology**

Guerra, A., 2013, *PBL Across Cultures*. Mohd-Yusof, K., Arsat, M., Borhan, M. T., de Graaff, E., Kolmos, A. & Phang, F. A. (eds.). Aalborg: Aalborg Universitetsforlag, p. 238-244

**Information technology for sustainable development: a problem based and project oriented approach**

Holgaard, J. E., Guerra, A., Knoche, H., Kolmos, A. & Andersen, H. J., 2013, *Re-Thinking the Engineer*. Engineering Education for Sustainable Development 2013, University of Cambridge, UK, 8 p. 21

**Project-organized learning and the development of competences in Engineering Education for Sustainable Development**

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**Student's perspectives on Education for Sustainable Development in a problem based learning environment**

Guerra, A. & Holgaard, J. E., 2013, *Re-Thinking the Engineer*. Engineering Education for Sustainable Development 2013, University of Cambridge, UK, 33

**Problem Based Learning and Education for Sustainable Development: An overview in Engineering Education**

Guerra, A., 2 Jul 2012, *EDULEARN12 Proceedings*. International Association of Technology, Education and Development (IATED), p. 557-565 (EDULEARN Proceedings).

**What are the common knowledge & competencies for Education for Sustainable Development and for Engineering Education for Sustainable Development?**

Guerra, A., 2012, *Engineering Education 2020: Meet the Future: SEFI 40th annual conference*. SEFI: European Association for Engineering Education, 8 p.

**Assessing Learning Outcomes and Engineering PBL Project Reports**

Guerra, A. & Kolmos, A., 2011. 7 p.

**Comparing problem based learning models: suggestions for their implementation**

Guerra, A. & Kolmos, A., 2011, *PBL across the disciplines: Research into best practice*. Davies, J., de Graaff, E. & Kolmos, A. (eds.). Aalborg: Aalborg Universitetsforlag, p. 3-17

**A Aprendizagem Baseada na Resolução de Problemas e a Reabilitação das Ribeiras de Gaia: Um estudo de Avaliação**

Guerra, A. & Vasconcelos, C., 2009, *Acta - XIII Encontro Nacional de Educação em Ciências*. Castelo Branco-Portugal: Escola Superior de Educação, Instituto Politécnico de Castelo Branco, p. 1100-4521

**Aprendizagem Baseada na Resolução de Problemas e a reabilitação de cursos de água**

Guerra, A., Espinha Marques, J. & Vasconcelos, C., 2009, In : *Enseñanza de las Ciencias*. Número Extra - VIII Congreso Internacional sobre Investigación en Didáctica de las Ciencias, p. 1089-1097

**Aprendizagem Baseada na Resolução de Problemas e Construção de Materiais Didáticos: Reflexões sobre um estudo de avaliação**

Guerra, A. & Vasconcelos, C., 2009, In : *Electronic Journal CAPTAR*.

**Aprendizagem Baseada na Resolução de Problemas: A Reabilitação das Ribeiras de Gaia**

Guerra, A. & Vasconcelos, C., 2008, *Actas del XV Simposio sobre Enseñanza de la Geología. Cuadernos del Museo Geominero*. Calongue, A., Rebollo, L., López-Carrillo, M. D., Rodrigo, A. & Rábano, I. (eds.). Instituto Geológico y Minero de España, Vol. 11. p. 225-232

**Aprendizagem Baseada na Resolução de Problemas: construção de materiais didáticos sobre a problemática ambiental das Ribeiras de Gaia**

Guerra, A., 2008, 300 p. Department of Geology, Faculty of Science, University of Porto.

## **Projects**

### **Integration of Sustainable Development in Engineering Education**

Guerra, A. O. P. D. C. & Holgaard, J. E.

31/03/2015 → 31/03/2018

### **Retention and Drop out amongst 1 year bachelor students at the Faculty for Engineering and Science**

Bøgelund, P., Kolmos, A., Bylov, S. M. & Guerra, A. O. P. D. C.

01/08/2015 → 01/07/2016