Webinar Series, from IEEE Education Society

Location: https://www.webex.com
Date: **13th of December 2018**
Time: **19:00 UCM TIME**

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Agenda items

7-8 PM UCT Time	*MATLAB Grader for automatically graded computational assignments* Link: https://events.vtools.ieee.org/m/183771	**By Jeff Alderson**
8-9 PM UCT Time	*Inclusive and integrative educational robotics tools for teaching STEM* Link: https://events.vtools.ieee.org/m/183785	**By Aruquia Peixoto, Pedro Plaza**
9-10 PM UCT Time	*Computing Competencies and the CC2020 Project* Link: https://events.vtools.ieee.org/m/183821	**By John Impagliazzo**
10 PM	Closing Webinar	

Additional information

REGISTER IS MANDATORY to receive the connection LINK URL to use WEBEX for the Webinar

1st *Webinar* *MATLAB Grader for automatically graded computational assignments.*

Abstract:

MATLAB Grader provides an environment for creating and automatically grading MATLAB-based homework assignments, quizzes and exams. For instructors and teaching assistants, this offers significant savings in time and effort compared to manual grading approaches, while providing the ability to scale up to any class size for residential, hybrid or online courses. For students, it offers instantaneous feedback that improves retention of technical concepts, and makes assignments more engaging. Join us for this live webinar where we will demonstrate:

- Workflows for administrators, instructors, teaching assistants and students
- Creation of question banks, courses, problems, test suites
- Managing student submissions and grading of assignments
- Integration with LTI compliant LMS like Blackboard, Canvas, Moodle, etc.

Presenter:

Jeff Alderson, Online Learning Product Marketing, MathWorks

Email: jeff.Alderson@mathworks.com

Jeff Alderson has spent his entire career working on technology that empowers students, families and educators to further their education and career, including those with special needs. Currently, he is product manager for MATLAB's autograding solution - MATLAB Grader - at MathWorks in Natick, MA. Prior to joining MathWorks, Jeff was Principal Analyst for Technology at Eduventures, covering the emerging EdTech market in higher ed. Jeff has over 15 years experience in deploying secure, standards-based, data solutions for education and government, as well as five years service as a commissioned officer in the U.S. Air Force. Mr. Alderson received his B.S. in Electrical and Computer Engineering from WPI in Massachusetts.

2nd *Webinar Title*: *Inclusive and integrative educational robotics tools for teaching STEM*

Abstract:

Science, Technology, Engineering and Mathematics Education (STEM) integrates concepts that are usually worked on separately with students. Emphasis is also placed on the application of knowledge to real-life situations. STEM lessons often ensure that students understand how concepts are connected to the real world.

Today, STEM education is the focus of the scientific community. One of the pillars of STEM education is to lead students to studies related to Engineering. Despite this, one of the main groups underrepresented in Engineering is women.

They represent around 50% of the population of any country, but their presence in Engineering, as students or professionals, is much lower in most regions of the world. This webinar is presented in two parts.

Firstly, tools and practices to inclusion and integration of students are described. In a second part, this webinar presents a series of easy-to-use and cost-effective educational robotics tools for working with STEM-related activities promoting inclusion and diversity in the classroom.

In addition, tips and tricks on its use are provided. In a second part, Finally, this webinar includes a discussion between attendees and speakers of the content shown.

The intended audience is people interested on tools and practices to inclusion and integration of students. Furthermore, the audience is also people interested in getting knowledge about the of easy-to-use and cost-effective educational robotics tools for promoting inclusion and diversity in the classroom. Obviously, the audience is also people interested in the two parties mentioned above.

2nd *Webinar Title*: *Inclusive and integrative educational robotics tools for teaching STEM*

***Presenters*:**

Aruquia Peixoto, Assistant Professor at CEFET/RJ

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Aruquia Peixoto is an Assistant Professor at CEFET/RJ in Rio de Janeiro, Brazil. She has a B.S. in Mathematics from UFRJ (Federal University of Rio de Janeiro), a M.S. in Engineering of Computing and Systems from COPPE/UFRJ and a PhD in Mechanical Engineering from PUC/RJ, all these institutions are in Rio de Janeiro, Brazil, and are some of the best universities in Brazil. She worked in the implementation of the State University of Roraima in the extreme north of Brazil, in 2006. She advised undergraduate students in scientific projects in UERJ (State University of Rio de Janeiro), where she win four prizes, co-advising the students with Paulo Rogerio Sabini, two prizes in UERJ, one as best work of Mathematics and the other as one of three best works in the technological field, and she have two national honourable mentions in student projects presentations in the Jornadas de Inicação Científica organized by IMPA (National Institute of Pure and Applied Mathematics).

She is member of the ACM SIGGRAPH International Resources Committee since 2013, member of the SIGGRAPH Asia Symposium on Education Committee since 2016 and 2017, and co-organized the meetings Women in CG during the SIGGRAPH and SIGGRAPH Asia Conferences, organized the meeting Girls in STEM in SIGGRAPH Asia 2016, and a round table Women in Engineering: Issues and Perspectives at the IEEE EDUCON 2017. During the year 2016 to 2017 she was visiting faculty at University of Kansas. Since 2017 is member of the ACM -W (Association for Computing Machinery's Council on Women in Computing) as SIG Liaison.

2ⁿᵈ *Webinar Title*: *Inclusive and integrative educational robotics tools for teaching STEM*

Pedro Plaza, R&D project engineer at Siemens Rail Automation

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Pedro Plaza is currently pursuing the Ph.D. degree in Industrial Engineering at the ETSII (Industrial Engineering School) of the Spanish University for Distance Education (UNED). He obtained a Master's degree from ETSII of UNED in 2013.

In addition, he holds a degree in Industrial Engineering from the Carlos III University of Madrid (UC3M) in 2010. He is currently an R&D project engineer at Siemens Rail Automation. Pedro Plaza is a member of the Editorial Board of the International Journal of Intelligent Machines and Robotics at Inderscience.

He is the author of several publications in prestigious conferences and journals. Pedro Plaza has collaborated in several research projects. He is a member of IEEE, IEEE Robotics and Automation Society, IEEE Education Society, IEEE Young Professionals and IEEE Women in Engineering. In addition, he is president and moderator of WIE in the student branch of the IEEE of the UNED.

3rd *Webinar Title:* *Computing Competencies and the CC2020 Project*

Abstract:

Recently, educators are seeing a growing shift in computing education from knowledge-based learning to competency-based learning. In a general sense, knowledge in an academic setting is the transfer of information to a student by a teacher, a textbook, or other entity.

While useful, knowledge is no necessarily the primary element for a technical and industrial world. Professional skills coupled with human behaviors or dispositions are becoming more important. The integration of skill, disposition, and knowledge is what we call competency.

This webinar focuses on the some of the elements that surround the growing expected trend of university graduates to have competence in computing and engineering fields. Competency is not a new idea; it has been an expectation in some professions for a very long time.

Medical and dental schools, legal and educational schools, and other professional practices have embraced competency for almost a century and longer. The transition of competency to computing and engineering fields is now emerging.

This presentation addresses these trends and explains how the Computing Curricula 2020 project provides an avenue for promoting competency in future computing programs.

3rd Webinar Title: *Computing Competencies and the CC2020 Project*

Presenter:

John Impagliazzo, Purveyor of Excellence in Computing and Engineering Education
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Professor Emeritus John Impagliazzo chaired the committee that produced the 2016 ACM/IEEE Computer Engineering Curriculum Report (CE2016) and was the principal co-author and editor of its predecessor, CE2004. Additionally, he was a key member of the committee that produced the ACM/IEEE Computing Curricula 2005 Report (CC2005), which defined computing disciplines and has become one of the most used documents on the subject in the world. He was a co-author of the information technology (IT2017) report and is now working on global computing curricular guidelines CC2020 project.

Dr. Impagliazzo chaired the IFIP Working Group 9.7 (History of Computing), served for many years on the IEEE History Committee, chaired the ACM Accreditation Committee for twelve years, and served in various capacities on the ACM Education Board for three decades. He is an ABET program evaluator for both computing and engineering programs.

As a program evaluator or team chair for governments and agencies or as an expert consultant, he has evaluated over eighty computing and engineering programs worldwide. Impagliazzo was the founding editor-in-chief of the *ACM Inroads* magazine, produced eighteen books, published hundreds of articles, promoted computing ethics, and helped develop a history of computing. Impagliazzo is an IEEE Fellow, a Life Member of IEEE, a Fellow of CSAB, and a Distinguished Educator of ACM.