

ISSN: 2358-1271



Universidade Federal de Goiás



5

Goiânia | Volume nº 5 | Edition nº 1 | January-June 2018



UNIVERSIDADE FEDERAL DE GOIÁS (UFG)

Rector

Edward Madureira Brasil



ESCOLA DE ENGENHARIA ELÉTRICA,
MECÂNICA E DE COMPUTAÇÃO (EMC)

Director

Reinaldo Golçalves Nogueira



GRUPO PET – ENGENHARIAS (CONEXÕES
DE SABERES) (PETEECS/UFG)

Tutor

Getúlio Antero de Deus Júnior



GRUPO DE EDUCAÇÃO APLICADA EM
ENGENHARIA E ENGENHARIA APLICADA
AO ENSINO (ENAEN/UFG)

Coordinator

Getúlio Antero de Deus Júnior

EDITOR-IN-CHIEF

Getúlio Antero de Deus Júnior, Universidade Federal de Goiás, Goiânia, Brazil

EDITOR

Rodrigo Pinto Lemos, Universidade Federal de Goiás, Goiânia, Brazil

INTERNATIONAL EDITORIAL COMMITTEE

Aly El-Osery, New Mexico Institute of Mining and Technology, Socorro, The United States of America

Andreia Aoyagui Nascimento, Universidade Federal de Goiás, Goiânia, Brazil

Christian Weiner, Darmstadt University of Applied Sciences, Darmstadt, German

Christof Sumereder, FH Joanneum University of Applied Sciences, Graz, Austria

Emmanuel Daniel, Institute Minés-Télécom Atlantique, Brest, France

Felipe Pamplona Mariano, Universidade Federal de Goiás, Goiânia, Brazil

Getúlio Antero de Deus Júnior, Universidade Federal de Goiás, Goiânia, Brazil

Jesús Mária López Lezama, Universidad de Antioquia, Medellín, Colombia

Leonardo Guerra de Rezende Guedes, Universidade Federal de Goiás, Goiânia, Brazil

Lina Paola Garces Negrete, Universidade Federal de Goiás, Goiânia, Brazil

Lueny Morell, Lueny Morell & Associates and Director of InnovaHiED, Mayagüez, Puerto Rico

Luiz Carlos de Campos, Pontifícia Universidade Católica de São Paulo, São Paulo, Brazil

Marcelo Escobar de Oliveira, Instituto Federal de Goiás, Itumbiara, Brazil
Marcelo Stehling de Castro, Universidade Federal de Goiás, Goiânia, Brazil
Marco Antônio Assfalk de Oliveira, Universidade Federal de Goiás, Goiânia, Brazil
Marcos Lemos Afonso, Universidade Federal de Goiás, Goiânia, Brazil
Nival Nunes de Almeida, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil
Natasha Van Hattum-Janssen, Saxion University of Applied Sciences, Enschede, Netherlands
Rodrigo Pinto Lemos, Universidade Federal de Goiás, Goiânia, Brazil
Rui Manuel Sá Pereira Lima, Universidade do Minho, Minho, Portugal

REVIEWERS

Américo Augusto Nogueira Vieira, Universidade Federal do Paraná, Curitiba
Amilton Costa Lamas, Pontifícia Universidade Católica de Campinas, Campinas
Andreia Aoyagui Nascimento, Universidade Federal de Goiás, Goiânia, Brazil
Anna Cristina Barbosa Dias de Carvalho, Faculdade de Tecnologia, Itaquera
Archimedes Azevedo Raia Junior, Universidade Federal de São Carlos, São Carlos
Cassio Dener Noronha Vinhal, Universidade Federal de Goiás, Goiânia
Denise Rauta Buiar, Universidade Tecnológica Federal do Paraná, Curitiba
Eliomar Araújo de Lima, Universidade de Brasília, Brasília
Emiliano Lôbo de Godoi, Universidade Federal de Goiás, Goiânia
Estéfano Vizconde Verasztó, Universidade Federal de São Carlos, Araras
Felipe Pamplona Mariano, Universidade Federal de Goiás, Goiânia, Brazil
Frederico Nicolau Cesarino, Universidade Luterana do Brasil, Manaus
Getúlio Antero de Deus Júnior, Universidade Federal de Goiás, Goiânia
Igor Kopcak, Universidade Federal de Goiás, Goiânia
Irlan von Linsingen, Universidade Federal de Santa Catarina, Florianópolis
Kléber Mendes Figueiredo, Universidade Federal de Goiás, Goiânia
Leonardo de Queiroz Moreira, Universidade Federal de Goiás, Goiânia
Leonardo Guerra de Rezende Guedes, Universidade Federal de Goiás, Goiânia
Luiz Carlos de Campos, Pontifícia Universidade Católica de São Paulo, São Paulo
Luiz Carvalho, Universidade Federal do Rio de Janeiro, Rio de Janeiro
Luiz Eugenio Veneziani Pasin, Universidade Federal de Itajubá, Itajubá
Mara Marly Gomes Barreto, Universidade Federal do ABC, Santo André
Marcelo Stehling de Castro, Universidade Federal de Goiás, Goiânia
Maria Assima Bittar Gonçalves, Universidade Federal de Goiás, Goiânia
Maria Cristina Kessler, Universidade do Vale do Rio dos Sinos, São Leopoldo
Marlize Garcia Fagundes Neto, Universidade Federal de Goiás, Goiânia
Mauricio Leonardo Aguilar Molina, Universidade Federal de Juiz de Fora, Juiz de Fora
Miguel Angel Chincaro Bernuy, Universidade Tecnológica Federal do Paraná, Cornélio Procopio
Reinaldo Gonçalves Nogueira, Universidade Federal de Goiás, Goiânia
Rodrigo Cutri, Instituto Mauá de Tecnologia, São Caetano do Sul
Rodrigo Pinto Lemos, Universidade Federal de Goiás, Goiânia
Sarajane Marques Peres, Universidade de São Paulo, São Paulo
Sergio Pires Pimentel, Universidade Federal de Goiás, Goiânia
Sigeo Kitatani Júnior, Universidade Federal de Goiás, Goiânia
Ubirajara Carnevale de Moraes, Universidade Presbiteriana Mackenzie, São Paulo
Warley Teixeira Guimarães, Faculdades Integradas São Pedro, Vila Velha

SISTEMA ELETRÔNICO DE EDITORAÇÃO DE REVISTAS (SEER)

Cássia Oliveira Santos, Biblioteca Central (BC/UFG)
Cláudia Oliveira de Moura Bueno, Biblioteca Central (BC/UFG)

SECRETARY

Huesdra Nogueira Campos (EMC/UFG)

STANDARDS FOR THE PREPARATION OF MANUSCRIPTS EDITOR

Getúlio Antero de Deus Júnior (EMC/UFG)

PAPERS EDITORS

Getúlio Antero de Deus Júnior (EMC/UFG)
Huesdra Nogueira Campos (EMC/UFG)
Bruno Lúcio Mendes Fontes (EMC/UFG)
Lucas Ribeiro Marques (EMC/UFG)
Alexandre Godinho de Oliveira (EMC/UFG)
Isabela De Magalhães Barcelos Costa (EMC/UFG)
Isabela Lopes Magalhães (EMC/UFG)
Isabela Fontes de Araújo (EMC/UFG)
Lucas Wallace Nascimento Lima (EMC/UFG)

LANGUAGE REVIEWERS

Authors are responsible for reviewing their papers by an expert in English language.

GRAPHIC DESIGNER

Getúlio Antero de Deus Júnior (EMC/UFG)

WEBSITE DESIGNERS

Getúlio Antero de Deus Júnior (EMC/UFG)
Huesdra Nogueira Campos (EMC/UFG)

LATEX DESIGNERS

Bruno Lúcio Mendes Fontes (EMC/UFG)
Lucas Ribeiro Marques (EMC/UFG)
Alexandre Godinho de Oliveira (EMC/UFG)
Isabela De Magalhães Barcelos Costa (EMC/UFG)
Isabela Lopes Magalhães (EMC/UFG)
Isabela Fontes de Araújo (EMC/UFG)
Lucas Wallace Nascimento Lima (EMC/UFG)

SPECIAL SUPPORT

Grupo PET - Engenharias (Conexões de Saberes) (PETEECS/UFG)
Grupo de Educação Aplicada em Engenharia e Engenharia Aplicada em Educação (EnAEn/UFG)
Laboratório de Engenharia Multimeios (Engemulti/UFG)
Pró-Reitoria de Pós-Graduação (PRPG/UFG)

The Grupo de Educação Aplicada em Engenharia e Engenharia Aplicada em Educação (EnAEn/UFG) of the Escola de Engenharia Elétrica, Mecânica e de Computação (EMC) of the Universidade Federal de Goiás (UFG) promotes The International Journal on Alive Engineering Education (IJAEdu). The journal publishes issues every six months and receives papers in continuous flow, so there will be no deadlines for submitting them. IJAEdu provides to professionals and academia an electronic space for the dissemination of technical and scientific works related to Engineering Education in Brazil and other countries.

CATALOGUING DATA

INTERNATIONAL JOURNAL ON ALIVE ENGINEERING EDUCATION. Journal on the Escola de Engenharia Elétrica, Mecânica e de Computação, UFG, v. 5, n. 1, 2018 – Goiânia: IJAEEDU/EMC/UFG, 2018

v. 5, n. 1, Jan./June/2018.

Semester.

ISSN: 2358-1271

1. Universidade Federal de Goiás – Escola de Engenharia Elétrica, Mecânica e de Computação – Journals.

INDEXED IN:

IBICT/SEER (<http://seer.ibict.br/>)

CONTACT FOR EXCHANGE

SIBI/UFG, Biblioteca Central, Seção de Seleção, Aquisição e Intercâmbio
Campus Samambaia, Caixa Postal 411, CEP 74001-970, Goiânia-GO

CONTACT FOR SIGNATURE

No signatures. The journal can be accessed through the electronic address: <http://www.emc.ufg.br/ijaeedu>

CONTACT FOR CORRESPONDENCE

Escola de Engenharia Elétrica, Mecânica e de Computação (EMC/UFG), Avenida Universitária, n.º 1488, quadra 86, bloco A, 3º piso, Setor Leste Universitário, Goiânia-GO, CEP 74605-010.

Phones: (62) 3209-6079, (62) 3209-6070. Fax: (62) 3209-6292.

URL: <http://www.emc.ufg.br/ijaeedu>. E-mail: ijaeedu@ufg.br.

Editorial

This is the second issue of this journal that is fully published in English language. “Social Electrical Engineering” is the theme of the first paper in this issue where the authors show a pathway for better undergraduate education. Indeed, the participation on the project allowed the students to gain hands-on field experience in a challenge driven environment.

“Can Bloom and Kolb’s Ideas Help Us Reproduce Positive Experiences in Using Teaching Practices to Promote the Development of Active Learning in the Classroom?”, this is the main question presented in the second paper. From the Interviews protocol, the authors concluded that it is possible to infer the theoretical framework as a way for mutual interaction between professors and students.

The following activities were reported in the third paper: Cycle of Lectures; Lectures of graduated of Engineers working in the field; Computer Tool Workshops; Scientific Research Workshops; Seminar Presentations, Application of study tutorials; Surveys; among others. The authors concluded that the activities developed can broaden the knowledge about the Undergraduate Biochemical Engineering Course and also provide a basis for and academic activities.

The fourth paper presents the Nucleus of Social Attendance of the Faculty of Engineering (NASFE) who it was created in 2008 to allow the generation of social projects of Engineering and Architecture. Indeed, the extension activities propitiate to enable the students to live practical experiences, acting in real cases and developing skills and competences essential.

An active methodology was well accepted and motivates the students to understand different concepts of Digital Systems and Computer Organization. Like this, the restructuring the Digital Systems Laboratory in Computer Engineering Course is presented in fifty paper.

The last paper presents the PANC Group who it was responsible for the implementation of a photovoltaic system in a Basic Health Center in Itajubá (Brazil). The methods and the research filtration process applied by the group are discussed in this paper.

Getúlio Antero de Deus Júnior, Editor-In-Chief

Contents

1. Social Electrical Engineering: A Pathway for Better Undergraduate Education <i>Amilton da Costa Lamas</i> <i>Anderson Gomes Domingues</i>	13
2. Can Bloom and Kolb's Ideas Help Us Reproduce Positive Experiences in Using Teaching Practices to Promote the Development of Active Learning in the Classroom? <i>Samuel Tavares</i> <i>Léa Paz da Silva</i>	21
3. Motivational and Contextualization Actions in Initial Series (Freshmans) of the Undergraduate Bio-chemical Engineering Course <i>Denise da Fontoura Prates</i> <i>Gisele Medianeira Barbieri Moro</i> <i>Ligia Machado Prieto</i> <i>Diovana T Franck</i> <i>Michele da Rosa Andrade Zimmermann de Souza</i> <i>Jorge Alberto Vieira Costa</i>	29
4. The Extension Activities in The Process of Training University Students <i>Gislaine Dos Santos</i> <i>Jordan Henrique de Souza</i> <i>Julia Righi de Almeida</i> <i>Juliana Machado Rigolon</i> <i>Mariana Silva Gomes</i> <i>Marlilene Silva Gomes</i> <i>Rafael Bellose dos Santos</i> <i>Rodrigo Oliveira Cruz</i>	39
5. Restructuring the Digital Systems Laboratory in Computer Engineering Course <i>Kollins Gabriel Lima</i> <i>Maximilian Luppe</i>	51
6. Case Study: Electrical Engineering Introduction Course Using An Integrated Approach Via Group Work Viability Projects <i>Renan Luis Prado</i> <i>Paulo Ribeiro</i> <i>Tiago Castelo</i>	59

