

**Programa de Pós-
Graduação em
Engenharia de
Produção da UFSCar**

IV WORKSHOP

**03 DE JULHO DE 2019
SOROCABA, SÃO PAULO**

CADERNO DE RESUMO



IV Workshop

do Programa de Pós-Graduação em Engenharia de Produção
Universidade Federal de São Carlos



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APRESENTAÇÃO

A comissão do IV Workshop do Programa de Pós-Graduação em Engenharia de Produção da UFSCar (PPGEP-So) no campus de Sorocaba teve o prazer de recebê-lo em nosso evento.

O evento é desenvolvido anualmente pela comunidade acadêmica da Pós-Graduação em Engenharia de Produção da UFSCar-So. Nesta ocasião, os estudantes compartilham suas pesquisas, ideias e contribuições científicas, em nível de pós-graduação, de forma a elaborar uma rede de conhecimento entre os alunos e Universidades de Sorocaba e região, além de fortalecer a rede de relacionamento.

Na edição de 2019, o Workshop do PPGEP-So contou com apresentações orais buscando permear todas as experiências acadêmicas vivenciadas pelos apresentadores. Abaixo é apresentada a programação do evento ocorrido no dia 03/07/2019.

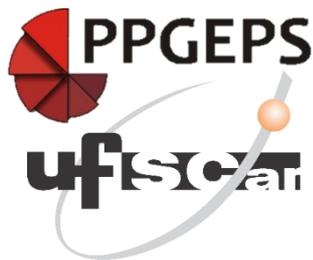
PROGRAMAÇÃO

9:00 // ABERTURA DO EVENTO

09:30 // APRESENTAÇÕES ORAIS

12:00 // ENCERRAMENTO

RESUMOS DAS APRESENTAÇÕES ORAIS



PLATFORM CAPITALISM AND ITS CONSEQUENCES ON WORK ORGANIZATION: A SYSTEMATIC LITERATURE REVIEW

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Resumo: As alterações estruturais na economia mundial e o atual avanço tecnológico têm fomentado novos modelos de negócios operados por meio de plataformas digitais ensejando novas formas de organização do trabalho em que, a extração e o processamento de enormes volumes de dados, tanto de consumidores quanto de fornecedores de mão-de-obra, se tornam novas fontes de matéria-prima, dando forma e sentido a um contexto que vem sendo chamado de Capitalismo de Plataforma (SRNICEK, 2017). Considerando essa perspectiva, este artigo tem como objetivo compreender e apresentar as características associadas ao capitalismo de plataforma com foco em suas potenciais consequências para a organização do trabalho. Para tanto foi conduzida uma revisão sistemática da literatura acadêmica a partir da análise de 25 artigos encontrados nas bases Web Of Science e Scopus. Os resultados obtidos indicam cinco principais impactos: (1) Extração de valor por meio de dados dos usuários; (2) Precarização das condições de trabalho; (3) Transferência de custos com empreendimentos, equipamentos para os trabalhadores; (4) Novas oportunidades de negócio; (5) Trabalho sob demanda. A principal contribuição deste artigo reside na sistematização das diferentes ideias de diversos autores sobre a relação entre capitalismo de plataforma e organização do trabalho.

Palavras-chave: Organização do Trabalho; Capitalismo de Plataforma; Revisão sistemática.

ECO EFFICIENCY AND WATER FOOTPRINT ASSESSMENT OF THE PROCESSING OF POULTRY MEAT IN CENTRAL-WEST OF BRAZIL

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Resumo: The water is an indispensable natural resource for life on Earth used indirectly or direct in at all productive activities. Therefore, attention to the impacts of water use is a relevant topic for the sustainable development. Water can be impacted in quantity and quality, especially in the more populated and industrialized regions, places with potential to present impacts to water resources and other environmental impacts. Thus, the objective of this dissertation is to conduct a Water Footprint Assessment in the processing of poultry meat, based on ISO 14046: 2014, from the perspective of life cycle. This study follows the steps of goal and scope definition, water footprint inventory analysis, water footprint impact assessment and interpretation of the results. In this context, the environmental impacts associated with the use and consumption of water will be evaluated, and eco-efficiency indicators will be proposed for the case study to be implement to identify ways to adding value to the process and reduce water footprint. A case study will be carried out on a poultry meat production system in central-west of Brazil to identify the environmental hotspots associated with indicators of water scarcity, freshwater eutrophication, freshwater ecotoxicity and human toxicity. From this, ecoefficiency indicators relevant to the research industry will be established. Finally, is expected to that the results obtained in this study can be used for adaptation and for future studies in other industries, towards a more sustainable production.

Palavras-chave: Life cycle assessment. Impact assessment. Manufacturing process. Agribusiness. Poultry farming. Slaughterhouse.

INFLUENCE OF FOOTWEAR WASTE ON MECHANICAL AND THERMAL PROPERTIES OF PE/PP RECYCLED BLENDS FROM WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

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Resumo: A few years ago, production, consumption and the rate of generation of solid plastic waste (SPW) increased considerably. Thus, the present work involved the development of polymeric composites with the use of recycled polyethylene (PE) and polypropylene (PP) from WEEE and the incorporation in different ratios (10 and 20%) of tennis waste (TW) in PE/PP compatibilized with Maleic Anhydride (MA). The materials were molded by extrusion and injection process. The mixtures were evaluated considering mechanical tests (flexural, tensile, impact and hardness), thermal analysis by thermogravimetry (TG / DTG) and differential scanning calorimetry (DSC). The mixture that presented better mechanical properties used 10% RT, 6% AM and PE/PP in equal proportion (50/50 w/w), improving the tensile and impact resistance compared to the properties of PE and PP separated. The increase from 3% to 6% of the AM influenced positively the flexural strength and tensile strength of the molds. It was observed an increase in the impact resistance due to the addition of filler and the compatibilizer. It was observed, through thermal analysis, that the incorporation of the TW in the PE / PP blends practically did not cause a change in the melting temperature. Thus, the incorporation of TW in the PE/PP blend presented satisfactory results, allowing the recycling of these 3 different types of polymers, promoting the possibility of reinsertion of them in the production chain and aiming the development of new products.

Palavras-chave: Circular economy, WEEE, waste management, blends, polymer composites.

MANAGEMENT TOOL TO CREATING VALUE WITH LESS IMPACT: LEAN, GREEN AND ECO-EFFICIENCY IN PROCESS CONSTRUCTION IN BRAZIL

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Resumo: The so called Lean-Green concept associate the idea of “creating more with less” and combine the lean production philosophy with premises of sustainable manufacturing. The management tools and methods offered by lean techniques have helped buildings to achieve excellent results and discover new opportunities to improve quality, profitability, efficiency and customer satisfaction simultaneously. But there is a lack of tools and methods about sustainable manufacturing and its capability of improve environmental performance to construction processes. Therefore, this paper proposes to cover this research gap through a method based on lean and green techniques to promote eco-efficiency process during the construction phase. In a study case, a Lean & Green model was developed and tested in a house high standard of three hundred meters square in Brazil, mixing tools provided by Lean (Value Stream Mapping) and Green techniques (Life Cycle Assessment). The eco-efficiency was used as indicator of economic and environment sustainability and evidenced the production hotspots, which was used to support decision making to a better future. The study case shows that concrete is most contributor for economic and environmental hotspots and the less eco-efficient process tend to be those that use more concrete. The study also shows the synergy between the use of lean and green techniques in practice. For further studies, its possible to research how to minimize this eco-efficiency hotspots through the concrete substitution.

Palavras-chave: Lean production; Value stream mapping; Sustainable construction; Life cycle management; Eco efficiency.

RECYCLING OF GLASS FIBER FABRIC WASTES IN POLYMER-BASED THERMOSET COMPOSITES

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Resumo: The investments made in wind energy have been growing globally over the years, aiming at sustainable alternatives for the segment. However, this growth carries with it an increase in the consumption of production materials and wastes from its processes, which if not properly treated cause negative impacts to the environment. Among the waste generated in the wind industry, one of the most common is the glass fiber used in the manufacture of wind turbines. Thus, the study proposes an alternative method to reuse these residues in the form of one-piece stitched and random fabrics in new thermosetting polymer composites. Four composites with different layers and fabrics arrangements were prepared and subsequently evaluated mechanically. After all, the statistical analysis of the results, performed according to Tukey's methodology, reveals that the number of glass fiber layers is determinant for the mechanical properties of the composite, whereas the distribution of the fabrics inside does not present significant differences.

Palavras-chave: Recycling, Glass Fiber Wastes, Stitched and Random Fabrics, Resin Transfer Molding, Thermoset Composites, GFRP.

HEURISTIC FOR LOT SIZING AND SCHEDULING PROBLEM IN THE INDUSTRY OF FRUITS BASED BEVERAGES

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Resumo: In this paper presents the problem of lot sizing and scheduling of fruit-based beverage production. Which is about is a two stages production with some particularities: A buffer tank the second stage and the requirement of temporal cleaning for each continuous production time of the same item. As far as the literature review was concerned, this problem with these characteristics is relatively new; hard to resolve for large real instances and has great applicability. Therefore, the objective of this paper is to propose decomposition heuristics using existing models in the literature and comparing the results obtained with the solution of a model for the problem found in the literature. Computational tests were run with instances based on real data. The results show that the best performing heuristics find solutions better than or similar that CPLEX to 85% of instances.

Palavras-chave: Production Planning. Fruit-based Beverage. Temporal Cleaning. Heuristic Methods.

LAST MILE DELIVERY OF PRODUCTS BOUGHT VIA E-COMMERCE IN THE SAO PAULO METROPOLITAN REGION (SPMR)

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Resumo: E-commerce is a growing business, each year more people are using online platforms for buying products, especially in urban areas where people adapt faster to the use of new technologies. Delivering these products is not an easy task especially when it comes to the last-mile delivery, which is an expensive procedure that involves different actors to consolidate the delivery. The lack of cooperation between the actors involved in the deliveries and bad practices reduce the effectiveness of the deliveries. To reduce these negative effects a deep study on how the agents are involved in the deliveries is necessary. This paper proposes a case study based on the last mile delivery in the city of Sao Paulo Metropolitan Region. The objective of this study is to identify the roles of the different agents involved in the delivery of products obtained via e-commerce, to understand their point of view regarding the urban restrictions and work practices in the SPMR. Results showed that urban restrictions do not have a big impact on the deliveries due to the type of vehicle chosen for this job, on the other hand, the insecurity of the city, facility management, and the reverse logistics have a bigger impact on the deliveries.

Palavras-chave: Last-mile; e-commerce; urban logistics; developing countries.