University of Guayaquil

Faculty of Chemical Engineering

INQUIDE
Chemical Engineering and Development
https://revistas.ug.edu.ec/index.php/iqd

ISSN – e: 3028-8533 / INQUIDE / Vol. 07 / Nº 02

Editor's Letter

Presentation. -

Volume 7, Issue 2 – INQUIDE: Chemical Engineering and Development

Dear Readers and Researchers,

It is an honor to present the second issue of Volume 7 of INQUIDE: Chemical Engineering and Development, a journal that reaffirms its commitment to disseminating innovative research across various fields of engineering and related disciplines. This edition brings together five scientific contributions addressing technological, energy, and ergonomic challenges, highlighting practical solutions with industrial and environmental impact.

The first article, "Analysis of the Calorific Power of Pellets and Briquettes from Banana Pseudostem (Musa paradisiaca)", explores the energy potential of solid biofuels derived from agricultural biomass. The results demonstrate high calorific values for pellets (22.657 MJ/kg) and briquettes (22.680 MJ/kg), complying with international standards such as ENplus and NTC 2060, positioning these biofuels as viable alternatives for renewable energy generation.

The second paper, "Thermal-Hydraulic Design of a Multi-Tube Heat Exchanger for Methanol Heating", presents the detailed design of a key industrial equipment. The study calculates critical parameters such as the overall heat transfer coefficient (575.17 W/m²·K) and the required area (2.025 m²), validating its efficiency with pressure drops below established maximum limits.

The third contribution, "Thermal-Hydraulic Design of a Finned Double-Tube Heat Exchanger for Acetone Cooling", delves into the optimization of counterflow heat exchangers. With a thermal load of 276,030 W and a cleanliness factor of 0.359, the proposed design ensures optimal performance under turbulent flow conditions, underscoring its applicability in the chemical industry.

The fourth article, "Comprehensive Ergonomic Proposal for Reducing Musculoskeletal Risks in Soap Production", addresses a critical occupational health issue. Through statistical analysis and postural assessments, risks such as forced postures (67% of workers) and manual load handling (33%) are identified, proposing practical solutions to enhance productivity and well-being in industrial settings.

Finally, the fifth study, "Application of Non-Automated Lean Strategies for Quality Improvement in Manual Assembly Processes", demonstrates how low-cost interventions, such as visual standardization and Kaizen events, can reduce defects by 3.25% in manual assembly lines, offering a replicable model for resource-limited industries.

Invitation to Readers.
This issue of INQUIDE provides a multidisciplinary perspective on real-world problems, combining scientific rigor with industrial applicability. Readers are encouraged to explore these articles, which not only enrich academic knowledge but also offer valuable tools for engineering professionals, researchers, and decision-makers.

Call for Contributors.
INQUIDE renews its invitation to the scientific community to submit original work that advances chemical engineering and related disciplines. The journal is committed to a rigorous and transparent editorial process, ensuring the dissemination of high-quality research with global impact. Interested authors are welcome to contribute to the next volume, expanding the frontiers of knowledge in an inclusive and collaborative scientific forum.

Wishing you a rewarding read, we thank you for your continued support of our journal.

Sincerely,

Francisco Javier Duque-Aldaz
Editor-in-Chief
INQUIDE
Chemical Engineering and DevelopmentAtentamente,