Editorial

THIS YEAR MARKS THE 24th anniversary of the Academic Area of Engineering and Architecture (AAI&A), belonging to the Institute of Basic Sciences and Engineering of the Autonomous University of the State of Hidalgo (UAEH). The purpose of this dossier is to show new ideas and findings related to the areas of architecture and engineering for the solution of complex problems, specifically in the areas of systems engineering, industrial engineering, and urban planning.

The topics presented are related to urban planning and its analysis from different perspectives, as well as the analysis of engineering and organizational problems from a systemic, metaheuristic, and computational point.

These works are just an example of the daily research work carried out at the AAI&A of the UAEH where current problems of interest in architecture and engineering are addressed with an interdisciplinary approach for the generation and innovative application of knowledge.

The works presented in the dossier of this issue focus first on architectural problems and their urban and social relevance, then engineering problems are addressed that range from the application of computational algorithms in industrial situations to the use of systemic methods and tools to treat gender and health problems.

- "Housing mapping. Manifesto of social inequality", of Juárez-Sedano *et al.*, aims to show the urban configuration of the city of Pachuca based on the new housing for sale and the social inequality that is marked through its acquisition.
- "Pachuca's mining industrial architectural heritage and social identity. Mathematical model towards the behavior of the phenomenon", of Lozada-Amador *et al.*, uses statistical analysis to identify the cultural elements of Pachuca and its mining-industrial architectural legacy, to see their social connection.
- "Optimization of workers and workstations in multi-manned assembly lines using genetic algorithms", of Seck-Tuoh-Mora *et al.*, proposes a genetic algorithm to minimize the number of workers and the number of workstations in assembly lines with multi-manned stations. The results are evaluated against test instances presented in the specialized literature.

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- "The rich image as a tool for expressing gender inequality in organizations. An approach through soft systems", of Niccolas-Morales *et al.*, describes what a rich image in the methodology of soft systems, to study gender inequality in the performance of organizations in the state of Hidalgo, in search of awareness and improvements in management processes the organizations.
- "Analysis of the hibiscus flower as a strategic product for human health in the context of Mexico", of Montaño Arango *et al.*, evaluates the main extracts derived from the hibiscus flower, its impact on health, and its value chain through the Delphi tool, and developing a dendrogram. The results show that it has a great impact in three aspects: alternative medicine, as a disinfectant, and as a food supplement.

Closing the articles in the dossier is the interview with Dr. Liliana Guadalupe Lizárraga Mendiola, professor and head of the Academic Area of Engineering and Architecture, belonging to the Institute of Basic Sciences and Engineering of the Autonomous University of the State of Hidalgo, recognized expert in the areas of hydrology, development of sustainable urban systems and low impact technologies.

Finally, Dr. Joselito Medina Marín reviews the book "Introduction to Matlab® to solve engineering problems applying genetic algorithms."

We invite readers to consult and analyze the contribution of each of the articles, hoping that these works are a small sample of the interdisciplinary work carried out in our academic area to give an idea of our lines of research and invite those interested in these problems to be able to contact and collaborate with us.

Juan Carlos Seck-Tuoh-Mora
Guest editor