FOREWORD

Dear Readers,

Welcome to the second issue of the GLL Journal for the year 2024. This edition marks a significant step in the journal's ongoing journey of scientific excellence, presenting 14 articles prepared by 41 researchers. These articles cover key concepts, methods, and strategies in geomatics, landscape studies, and land management technics. They highlight the pivotal roles of geography, mining geology, and cartography in advancing the geomatic sciences, advocating for a spatially-oriented vision and multidisciplinary approaches to address environmental challenges locally and globally. The technological advancements presented in this issue, including innovations in AI, GIS, RS, and ICT, have revolutionized research in these fields. The wide range of topics explored in these articles, from ecological assessments to advanced environmental, mining, and geological analyses provides valuable insights that enrich our understanding of natural phenomena and their interconnectedness with human activities.

The first paper presents advanced measurement methods used in the inventory of the historic Potocki Palace in Krzeszowice. It focuses on terrestrial laser scanning and low-altitude photogrammetry techniques that create a detailed 3D representation for analysis, damage identification, and future conservation efforts. The paper also highlights the potential of modern technologies such as VR and AR for visualizing inventoried objects, improving their accessibility, and enabling further research applications. The second article presents research results on the automated acquisition and processing of photogrammetric data using drones for calculating mass volumes in mining areas. The study involves collaboration between AGH, the Silesian University of Technology, and the 3D Format Company. The research team developed a system based on low-altitude photogrammetry and artificial intelligence (AI) algorithms for cyclical volume measurements in open-pit mines. The third paper focuses on evaluating the ecological quality of El Kala National Park by utilizing remote sensing data. The research results indicate a decline in high quality ecological classes, emphasizing the need for environmental protection measures and monitoring indicators in this tourist area. The next paper studies the impact of blasting on fragmentation in the Djebel Bouzegza C01 quarry. This research investigates the relationship between powder factor, load, spacing, and average fragment size. The findings provide guidance for optimizing blasting practices in aggregate quarries. The fifth article utilizes linear regression model-

ling to develop a model for mapping mean annual precipitation in the Cheliff basin. The resulting maps, integrated into Geographic Information Systems, support water management and climate change applications in the region. The sixth paper focuses on energy-efficient building designs in desert environments. The paper highlights the benefits of square buildings and extended shapes, as in the case of Mini Arrival. The results contribute to the enhancement of energy performance and natural lighting in desert architecture. The next article presents the forest fire vulnerability assessment in Tizi Ouzou province, using the integration of AHP and GIS. The eight paper examines the geological features of the Aures Basin. This research provides insights into the tectonic disturbances, meso-transgressive sequences, and various facies of Djebel Metlili. The study contributes to our understanding of the region's geological history and evolution. The next article investigates the impact of urban legislation on urban spaces, this study focuses on Batna's land-use plan. Through socio-spatial analysis, the research highlights the challenges arising from unplanned interventions and emphasizes the need for effective urban management strategies. The tenth paper explores the transformation of Nowa Huta from a planned city to a district in Krakow, Poland. It examines the historical, ecological, and cultural significance of Nowa Huta, and advocates for sustainable tourism and community engagement in the area. 'The development of lood zones' investigates the utilization of floodplain areas, particularly in towns such as Sandomierz, Poland, in order to improve flood management and sustainable urban development. The research proposes strategies for the utilization of floodplains that include recreational spaces, green infrastructure, and floodwater storage areas. The next paper assesses the impact of the COVID-19 pandemic on the residential real estate market in Nowy Targ. This study reveals the resilience of the market and the fluctuations in unit prices during the pandemic. The findings provide insights for investors navigating unusual market conditions. Paper no. 13 analyses commercial areas and challenges classical models of retail geography. The study sheds light on the changing commercial landscape of Annaba. The last article characterizes the mechanical parameters of the Tahar Louchene aggregate quarry unit and addresses slope stability issues in open-cast mines. The study highlights the importance of safety in mining operations.

On behalf of myself and the editorial board of GLL Journal, I extend my sincere gratitude to the authors of this issue for their invaluable contributions to the scientific community. Their commitment to delivering high-quality research and scientific resources of exceptional calibre is highly commendable. I trust that our esteemed readers will find inspiration and fulfil their scientific aspirations through the rich content presented in this issue.

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