

Table of Contents

Preface

Chapter 1: Materials Processing Technologies

Advances in Welding Techniques for Inland Waterway Shipbuilding A.A. Midan and S.V. Savu	3
Preliminary Research on the Thermal Field in Concrete for Microwave Heating Application I. Ștefan, G.C. Benga, S.V. Savu and A.A. Midan	9
A Review of Recent Advances and Future Trends in Wire Arc Additive Manufacturing D. Klobcar, M. Reza Ghavi, J. Povh, D. Bračun, U. Trdan, M. Bušić, A. Đurić, M. Imširović and A. Ščetinec	21

Chapter 2: Engineering Technologies

Trends in Advanced Materials Engineering and Technology J. Dobránszky	41
X-Ray Radiography Method Used in the Detection of Modified Series of Vehicles G. Benga and M. Ursu	51
Integration of Robots in the Digital and Green Welding Processes M.C. Florescu, I.D. Savu, D. Klobcar, I. Pires and R. Florescu	57

Chapter 3: Clean Energy and Energy Efficiency

Efficiency Analysis of Photovoltaic Systems Installed across the South West and West Regions of Romania D. Coman	67
Contributions Regarding the Energy Efficiency of Public Buildings through Thermal Insulation E. Trasca and M. Bica	75

Chapter 4: Environmental Management

Considerations Regarding Pollution Sources and their Effects on the Romanian Sector of the Danube I. Baloin, C. Florescu, M. Criveanu and I. Ștefan	99
Climatic Parameter Influence on Environmental Pollution in Drobeta Turnu Severin I.G. Bucșe, M. Ciobanu and M. Criveanu	109

Chapter 5: Innovations in Transportation and Navigation

Optimizing a Route of Public Passenger Transportation in the Area Drobeta Turnu Severin Municipality A. Constantinescu, M. Trotea and I.D. Geonea	123
Considerations Regarding Navigation Events Occurring on the Romanian Section of the Danube I. Baloin, C. Florescu, M. Criveanu and I. Ștefan	133
Study on the Sustainable Development of Goods Transportation in Europa M. Ciobanu, I.G. Bucșe and O. Ghermec	141

Chapter 6: Advanced Trends in Engineering Education

Circular Economy Model - Tool for Sustainable Integration of Future Engineers in Industrial Activity

O. Ghermec, C. Ghermec, M. Ciobanu and I.G. Buçe

149

Analysis of the Efficiency of Navigation Simulators in the Educational Process

A.B. Olei, A.A. Midan and I. Baloin

155