

## Contents

### ARCHITECTURE AND URBAN PLANNING

Marcin Brzezicki

*Glass protected timber façades – new sustainable façade typology*..... 5

Małgorzata Hryniewicz

*Cartography and landscape painting of the 17<sup>th</sup> and 18<sup>th</sup> centuries as iconographic sources* ..... 23

Oleg Sleptsov, Margaryta Yakovenko

*Role of the Department of Architecture Fundamentals and Architectural Design of Kyiv National University of Construction and Architecture in shaping the Kyiv architectural school*..... 33

Ewa Węclawowicz-Gyurkovich

*Intense colours in the latest works of architecture* ..... 41

### CHEMISTRY

Anna Rybak, Dawid Jankowski

*The hydrodynamics of a fluidised bed reactor*..... 55

### CIVIL ENGINEERING

Adrian Chajec, Kamil Krzywiński, Łukasz Sadowski, Krzysztof Ostrowski

*The influence of polypropylene fibres on the properties of fresh and hardened concrete* ..... 71

### MECHANICS

Waldemar Małopolski

*A method for the automatic creation of bidirectional transportation paths for AGVs in Delmia QUEST*..... 83