

## The International Scientific Committee

### Prof. Tomasz Nowakowski

Wroclaw University of Technology, Poland  
Head of the International Scientific Committee, Chief Editor

### Prof. Stanisław Krawczyk

The International University of Logistics and Transport in Wroclaw (MWSLiT), Poland; Wroclaw University of Economics, Poland  
Subject Editor: Logistics

### Prof. Leszek Mindur

The International University of Logistics and Transport in Wroclaw (MWSLiT), Poland  
Subject Editor: Transport

### Prof. Kazimierz Towpik

The International University of Logistics and Transport in Wroclaw (MWSLiT), Poland  
Subject Editor: Logistics Infrastructure

### Dr Anna Dzikowska

The International University of Logistics and Transport in Wroclaw (MWSLiT), Poland  
Subject Editor: Logistics Education

**Prof. Didier Anciaux**, *The Paul-Verlaine University, France*

**Dr. Mirosław Antonowicz**, *Kozminski University, Poland*

**Prof. Halina Brdulak**, *Warsaw University of Economics, Poland*

**Prof. Czesława Christowa**, *Maritime University of Szczecin, Poland*

**Dr. Andreas Gosch**, *MPX Entwicklung GMBH Unternehmen der Pininfarina Gruppe, Germany*

**Prof. Vladimír Gozora**, *School of Economics and Management in Public Administration in Bratislava, Slovakia*

**Dr Debbie Holley**, *London Metropolitan University Business School, England*

**Prof. Thierry Houe**, *ICN Business School Nancy-Metz, France*

**Prof. Michael Huth**, *Fulda University of Applied Sciences, Germany*

**Prof. Marianna Jacyna**, *Warsaw University of Technology, Poland*

**Prof. Mariusz Jedliński**, *University of Szczecin, Poland*

**Prof. Danuta Kisperska-Moroń**, *Karol Adamiecki University of Economics in Katowice, Poland*

**Prof. Volodymyr Petrovich Kharchenko**, *National Aviation University, Ukraine*

**Dr. Evgeniy K. Korovyakovsky**, *Petersburg State Transport University, Russia*

**Prof. Nikolaj Andrejewicz Korz**, *National Technical University of Ukraine Kyiv Polytechnic Institute, Ukraine*

**Dr. Andrey Kosovski**, *Belarusian Research Institute of Transport TRANSTECHNIKA, Republic of Belarus*

**Prof. M.B.M. de Koster**, *Rotterdam School of Management, Erasmus University, the Netherlands*

**Prof. Barbara Kos**, *Karol Adamiecki University of Economics in Katowice, Poland*

**Dr. Krasimir Krastanov**, *Todor Kableshkov University of Transport, Bulgaria*

**Prof. Jan Kulczyk**, *Wroclaw University of Technology, Poland*

### Piotr Czaja, Ph.D.

The International University of Logistics and Transport in Wroclaw (MWSLiT), Poland  
Secretary of the International Scientific Committee

This Journal is indexed by: BazTech, IndexCopernicus, the Polish Ministry of Science and Higher Education (7 points).

All articles are peer-reviewed by two independent reviewers and published only after obtaining positive recommendations.

### Instructions for Authors:

Visit the journal's home page at [www.logistics-and-transport.eu](http://www.logistics-and-transport.eu) for detailed instructions for authors and how to contact the Editors and Publishing staff.

List of reviewers and reviewing procedure described in detail are available under: [www.logistics-and-transport.eu/rev/](http://www.logistics-and-transport.eu/rev/)

Statistical Editor: Artur Kierzkowski (*Wroclaw University of Technology, Poland*)

Linguistic Editor: Katarzyna Pawęska (*The International University of Logistics and Transport in Wroclaw, Poland*)

Printed version is the original version of this journal

**Prof. Jerzy Kwaśnikowski**, *Poznan University of Technology, Poland*

**Dr. Róbert Magda**, *Károly Róbert College, Hungary*

**Prof. Sylwester Markusik**, *Silesian University of Technology, Poland*

**Prof. Jean-Pierre Mourot**, *Chambre de Commerce, D'Industrie et de Services de la Moselle, France*

**Prof. José Carlos Lourenço Quadrado**, *Instituto Superior de Engenharia de Lisboa, Portugal*

**Prof. Yang Renfa**, *Prof. Ningbo University of Technology, Ningbo, Zhejiang, China*

**Prof. Nidhal Rezg**, *Université de Lorraine, France*

**Dr. István Réthy**, *Károly Róbert College, Hungary*

**Prof. Alexis Rusinek**, *National Engineering School of Metz ENIM, France*

**Prof. Pavel K. Rybin**, *Petersburg State Transport University, Russia*

**Prof. Włodzimierz Rydzkowski**, *University of Gdansk, Poland*

**Prof. Miloslav Seidl**, *University of Zilina, the Slovak Republic*

**Prof. Ladislav Šimák**, *University of Zilina, the Slovak Republic*

**Prof. Liubov Smoliar**, *International University of Finances in Kyiv, Ukraine*

**Prof. Vikenti Spassov**, *University of Transport "T. Kableshkov", Bulgaria*

**Prof. Andrzej Surowiecki**, *The International University of Logistics and Transport in Wroclaw, Poland*

**Prof. Omer Baybars Tek**, *Yasar University, Turkey*

**Prof. Jarosław Witkowski**, *The Wroclaw University of Economics, Poland*

**Prof. Hartmut Zadek**, *Otto von Guericke University of Magdeburg, Germany*

**Prof. Dr Ing. Gennadi Zikoridse**, *Hochschule fur Technik und Wirtschaft Dresden*

# Enrolment for 2014/2015 in process!

## QUALIFIED EXPERIENCED RENOWNED

### That's who we are, that's who we educate!



For 14 years unchanged tuition fee.

According to 2013 „Perspektywy” rating  
MWSLiT in Wroclaw is the best logistics  
university in Poland.

The CILT (UK) certified.



THE INTERNATIONAL UNIVERSITY  
OF LOGISTICS AND TRANSPORT  
IN WROCLAW

# Choose the major and the university that guarantee the best employment

## Logistics

NEW!  
DUAL STUDIES

Bachelor's, Engineer's,  
Master's studies (3 semesters)

## Logistics

NEW!

Postgraduate Master's Studies (4 semesters)

## Transport

NEW!  
DUAL STUDIES

Bachelor's studies

## Civil Engineering

Engineer's studies

## Spatial Development

Engineer's studies

phone: +48 71 325 15 14

# www.mwsl.eu