



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Computer simulation - how can we use it to support decision-making in solving of transport problems? Examples from railway transport.

Visiting Professor: Dr. Peter Márton (Faculty of Management Science and Informatics, University of Žilina, Slovakia)

Short description of the lecture:

Lecture is proposed for PhD. students of civil engineering - transportation infrastructure planning, management and economics.

Simulation methods currently represent widespread technique supporting optimization and planning related to transportation. Lectures will be concerned to the supporting of tactical and strategic planning related to transport infrastructure and operation. Microscopic scope of view will be described. Event-based simulation and agent based architecture will be presented as successful way of describing transport based processes by computer. Some simulation tools will be presented - general purpose simulation tools (Arena, AnyLogic) and railway specialized simulation tool Villon. Some examples of simulation studies in field of railway operation optimization will be presented too.



Syllabus of the lecture subjects (enlisted)::

1. Modelling and simulation basic overview - theory and principles.
2. Monte-Carlo method, event-based simulation - principle.
3. Transport problems - where computer simulation can be used.
4. Simulation tools - general purpose and specialized.
5. Simulation study - basic steps.
6. Particular requirements of railway oriented simulation studies.
7. Simulation studies examples.
8. Summary, conclusion.

TERMINY WYKLADÓW			
Data	Dzień tygodnia	Godzina	Sala
2014-11-17	Pn	8.15-13.30	EiA E28
2014-11-18	Wt	8.15-12.30	EiA E27
2014-11-19	Śr	8.15-11.30	EiA E28