



Wrocław
University
of Technology

Social Network Group @ Wrocław University of Technology



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Zaproszenie na spotkanie

Data i godzina: 2012-06-12, godz. 15:00

Miejsce: Politechnika Wrocławska, bud. A-1, I p., s. 202 (wejście przez s. 203)

Agenda:

15:00-16:00 – Andrzej Jarynowski (Instytut Fizyki, Uniwersytet Jagielloński):
“Wykorzystanie sieci społecznych kontaktów w problemie rozprzestrzenienia się gronkowca złocistego (MRSA) w szpitalach”

Po prezentacjach planujemy wspólne wyjście na transmisję meczów w ramach mistrzostw EURO 2012.

Nasza strona:

<http://www.ii.pwr.wroc.pl/~sna/>

Następna strona zawiera krótkie wprowadzenie do tematu prezentowanych na najbliższym spotkaniu (tzw. *one-pagers*).

Andrzej Jarynowski (Instytut Fizyki, Uniwersytet Jagielloński):

Social networks and MRSA spreading in hospitals

The bacterium methicillin resistant *Staphylococcus aureus* (MRSA) is known to be the largest care related infection problem. We investigated the Common Care Registry containing information about all patient visits within Stockholm County during the outbreak period with registry over diagnosed MRSA cases. Methods to analyze the contact network of persons visiting the same care unit is developed within the project as well as methods to analyze in what way network structure affects the transmission of MRSA. We study matrixes of disease transition in hospitals population (infected versus people, who could sent infection). In stationary case: (a) We have matrixes of estimators of that probabilities and other statistical properties of contact networks. In time evolution case: (b) We divided outbreak in smaller, periodical intervals and looked at how MRSA was spreading in time. Quasi-MCMC (Markov chain Monte Carlo) method and artificial networks (main parameter is number of contacts during specific time interval) help us to understand real- and simulated-paths of disease transition. Matrices of probabilities (b) were used to find mechanism of change states (vectors of all population 0-health or 1-ill) and we can run quasi-MCMC to get most likely paths.