

**СЪЮЗ НА МАТЕМАТИЦИТЕ В БЪЛГАРИЯ**  
**ИНСТИТУТ ПО МАТЕМАТИКА И ИНФОРМАТИКА – БАН**

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## **НАЦИОНАЛЕН КОЛОКВИУМ ПО МАТЕМАТИКА**

*Поредна сбирка на Колоквиума ще се състои на 14 февруари 2018 г. (сряда)  
от 16:15 часа в Заседателната зала на ИМИ – БАН,  
София, ул. „Акад. Г. Бончев”, блок 8*

**Доклад на тема:**

*„Some Paradoxical Phenomena in Theory of Probability and their Applications “*

ще изнесе acad. Asaf Hajiyev, Azerbaijan.

*Поканени са всички интересуващи се.*

*Ръководител на Колоквиума: акад. П. Попиванов*

The mathematical models of moving particles, describing a behavior of traffic, communication, queuing and other systems are considered. Motion of particles depends on a distance between them. It is provided that in stationary regime each separately considered particle makes the binomial random walk. This fact allows to calculate some characteristics of traffic systems and predict a traffic jam. In the capacity of an efficiency index in these systems, an average waiting time of particle in the fixed point is taken.

A control function is introduced, which means delay of some particles during motion. The class of systems for which introducing of delays can reduce an efficiency index is described.

The optimal function minimizing an efficiency index is found. Numerical examples demonstrating results are given.