



# France Kosovo Undergraduate Research School of Mathematics

Fourth session December 02-05, 2016

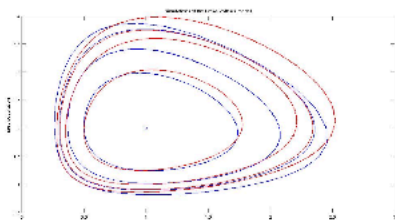
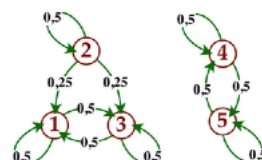
## Theory of Markov chains

Google's PageRank  
algorithm

Ivan Bardet

ICJ Lyon

$$P = \begin{pmatrix} 1/2 & 0 & 1/2 & 0 & 0 \\ 1/4 & 1/2 & 1/4 & 0 & 0 \\ 1/2 & 0 & 1/2 & 0 & 0 \\ 0 & 0 & 0 & 1/2 & 1/2 \\ 0 & 0 & 0 & 1/2 & 1/2 \end{pmatrix}$$



## Some numerical methods for ODE

Or how to simulate physical  
and biological systems

Charles-Edouard Bréhier

ICJ Lyon

## Fourier analysis and Applications

How to cultivate  
any branch of mathematical physics

Saïd Jabrane

Lyon



Hearing the shape  
of a drum

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