

Susan Holmes : Finding time

Multidimensional Scaling and Kernel methods can be used to find hidden gradients in multidimensional data, this is the special case of manifold learning when the manifold is a curve. An often encountered pattern that ecologists know to look for is the "horseshoe" or "arch". I will show some examples of this phenomena in biology and political science. We can prove analytically in a simple case how this pattern occurs. This is joint work with Persi Diaconis and Sharad Goel.

Persi Diaconis : A statistician flips a coin

If a coin is flipped "as usual", we use physics, high speed slow motion photography and image analysis to show that there is a bias of about 0.51 to come as it started. This is joint work with Susan Holmes and Richard Montgomery.