1137-65-268 **Tanya V Kostova-Vassilevska*** (tan.v.kos@gmail.com). *Computational model reduction by proper orthogonal decomposition.*

Complex mathematical models are usually hard to analyze analytically and are usually studied by numerical approximations and multiple simulations. Models based on partial differential equations can present time and resource consuming computational problems. One way to deal with computational complexity is to substitute the problem with a simpler one, exploiting the dynamical properties of the model. Model order reduction using Proper Orthogonal decomposition is a popular method in engineering but is not well known to biomathematicians. I will discuss the method - the approach, its advantages, shortcomings and mathematical challenges and will present numerical simulations with the FitzHugh-Nagumo model. (Received February 05, 2018)