The problems of modeling functional MRI data - examples from navigation research

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Statistics and statistical signal processing have always played an important role in fMRI analysis and inference testing. The research is and will continue to be dominated by scientists with little or no statistical background. In this talk I will introduce the traditional methods used for making inference in fMRI research with emphasis on the potential problems and pitfalls that arise. Then, I will introduce newer trends in fMRI analysis and, using an example from my own research, pose a few questions about how to ask a new type of question with fMRI data. In this way I hope to facillitate communication and collaboration between the neuroscience and statistical community.