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(54) Title: FUNCTIONAL BRAIN IMAGING FOR DETECTING AND ASSESSING DECEPTION AND CONCEALED RECOGNITION, AND COGNITIVE/EMOTIONAL RESPONSE TO INFORMATION

(57) Abstract: This invention provides method and system for measuring changes in the brain activity of an individual by functional brain imaging methods for investigative purposes, e.g., detecting and assessing whether an individual is being truthful or deceptive, and/or whether an individual has a prior knowledge of a certain face or object. The invention combines recent progress in medical brain imaging, computing and neuroscience to produce an accurate and objective method of detection of deception and concealed prior knowledge based on an automated analysis of the direct measurements of brain activity. Applying the paradigm developed from the deception model, and applying it to an individual viewing media information (e.g., audiovisual messages or movies, or announcements), the data is used to interpret the effect of the information on that individual. This permits the effective manipulation of the content of the media segments to achieve maximal desired impact in target populations or on specific individuals.