1. Record Nr. UNINA9911002550503321 Autore Wallace Rodrick **Titolo** Mathematical Essays on Embodied Cognition: Insights from Information and Control Theories / / by Rodrick Wallace Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2025 Pubbl/distr/stampa **ISBN** 9783031837098 Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (XV, 296 p. 94 illus., 2 illus. in color.) Collana Studies in Applied Philosophy, Epistemology and Rational Ethics, 2192-6263;;72 Disciplina 629.8312 003 Soggetti Automatic control Cognitive science **Engineering mathematics** Engineering - Data processing Control and Systems Theory Cognitive Science Mathematical and Computational Engineering Applications Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Limit Theorems and related matters -- Stress and Immune Dysfunction -- Innate and Adaptive Regulation of Cognition -- The Regulation of Embodied Cognition and its Failure -- Compounding the Driverless Car Fiasco -- Sun Tzu Praxis and its Discontents -- Fog, Friction, and Failure in Organized Conflict -- Agribusiness vs Public Health Black Plague 2.0 -- Doctrine and Initiative in Organized Conflict -- On Speciation Fragmentation, extinction, and adaptation. This book provides a unique formal foundation for the development of Sommario/riassunto statistical tools useful in the exploration of observational and experimental data related to embodied cognition. The asymptotic limit theorems of information and control theories can be used to construct statistical tools analogous to -- but different from -- regression models for the study of the often highly punctuated cognitive phenomena embedded in and hence influenced by a surrounding

ecosystem of which the phenomena are themselves part. The book

builds probability models based on those theorems that incorporate embodiment at a number of scales and levels of organization, ranging from the effects of stress on the immune system within a higher organism, through institutional (and machine) cognition under challenge from adversaries, to the failure of public health institutions under pathogen challenge. In distinct contrast to the existing literature, many detailed, worked-out examples provide templates for sophisticated readers to build their own model/tool constructs.