



rationality, uncertainty, and biases in legal and forensic reasoning

Conférence publique de l'École des sciences criminelles

19 octobre 2023, 16h15–17h15, Batochime Auditoire 2201

UNIL | Université de Lausanne

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Abstract

Over the last decades, interdisciplinary research in cognitive sciences (including contributions from psychology, economics, neuroscience, and philosophy) has illuminated the key mechanisms underlying human reasoning and decision-making. Scholars have identified heuristics that facilitate rapid automatic judgments, as well as cognitive biases that may lead to irrational decisions. These “cognitive pitfalls” inevitably influence both ordinary and expert decision-makers across domains. Through brief thought experiments and case studies from the literature, this overview discusses major findings on reasoning, choice, and cognitive errors – specifically regarding legal and forensic contexts. The goal is making forensic scientists more aware of their own cognitive biases and help them better communicate the limitations and nuances of scientific reasoning to judges, lawyers, and the public.

About the Speaker

Gustavo Cevolani is Associate Professor of Logic and Philosophy of Science at IMT School for Advanced Studies Lucca in Italy, where he directs the MInD (Models, Inferences, and Decisions) research group. His primary research interests lie at the intersection of general philosophy of science, formal epistemology, and cognitive science, with a focus on analyzing rational decision-making in scientific and everyday contexts. Over the past fifteen years, he has extensively published books and papers on topics such as truth approximation, cognitive progress, scientific realism, Bayesian confirmation theory, and methodological issues in the social, behavioral, and cognitive sciences. His work also examines expert reasoning and biases, particularly within legal and forensic domains. Currently, Professor Cevolani serves as President of the Italian Association of Cognitive Sciences (AISC) for the period of 2023-2025.