USC

University of Southern California

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2014 Eberhardt Rechtin Keynote Lecture

"Decision Science at Intel Corporation: Looking Back While Moving Ahead "

Presented by

Karl Kempf

Senior Fellow and Director of Decision Engineering at Intel Corporation

Tuesday, January 14, 2014

USC Andrus Gerontology Center (GER)

3:00-4:00 PM Reception, GER Courtyard

4:00-5:30 PM Seminar, GER Auditorium

The myth of perfect rationality in human decision making persisted for years until Herbert Simon (Nobel Laureate 1978) and his colleagues pointed out a number of practical bounds. Only a few years later Daniel Kahneman (Nobel Laureate 2002) and his colleagues showed that humans exhibit a number of biases when making decisions. While the Laureates exposed bounded biased rationality, they left as an exercise for practitioners to clarify how bad humans are in making non-trivial business decisions and what to do about it. In this talk we will review 25+ years of applied decision science as Intel Corporation grew from annual revenues of ~$1.3B to ~$53.3B. The before and after quantitative comparisons gathered for each major decision science application provide at least an estimate of how bad unaided human decision makers are in units of hours expended and dollars missed in the decision room. In addition, we will discuss some promising results on mitigating the bounds and managing the biases.

KARL KEMPF is a Senior Fellow and Director of Decision Engineering at Intel Corporation and is a member of the National Academy of Engineering, a Fellow of INFORMS, and a Fellow of the IEEE. Karl has served as a research adjunct at Arizona State, Stanford, and North Carolina State universities co-authoring over 150 presentations and papers on topics in applied control and decision theory. His Intel team won the INFORMS Prize and the Wagner Prize and have been finalist for the Edelman Prize. Prior to joining Intel, Karl worked at Pinewood Movie Studios in England on the cinematic special effects for the Superman series of movies and at SEFAC Ferrari in Italy on the Gran Prix racing team. He holds a BA in Physics and a BS in Chemistry, a PhD in Applied Mathematics, and participated in postdoctoral research in Computer Science.

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