



Plenary Talk 2



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Anatole Lécuyer is senior researcher at Inria, the French National Institute for Research in Computer Science and Control, in Rennes, France. His research interests include haptics, virtual reality, 3D user interfaces, and brain-computer interfaces. He served notably as secretary of the IEEE Technical Committee on Haptics (2006-2011), program chair of the IEEE Virtual Reality conference (2015 and 2016), and general chair of the IEEE Virtual Reality Conference (2025). He was associate editor of several journals including IEEE Transactions on Visualization and Computer Graphics, ACM Transactions on Applied Perception, and Presence. He is the author or co-author of more than 250 scientific publications and 15 patents. Anatole Lécuyer obtained the Inria-French Academy of Sciences Young Researcher Prize in 2013, the IEEE VGTC Technical Achievement Award in Virtual/Augmented Reality in 2019 and was inducted in the inaugural class of the IEEE Virtual Reality Academy in 2022.

Welcome to My Haptic Illusion Factory: Pseudo-haptics, Persuasive Haptics, Haptic Motion, and More!

In this talk I will reflect on more than 25 years of haptics research, much of it devoted to the design of interactive systems that push the boundaries of haptic perception. I will start with my personal motivations, which can be traced back to a childhood fascination with interactive technologies, in particular the first virtual reality systems and haptic interfaces of the 1990s. Another source of inspiration was human perception and its flaws, such as haptic illusions, which pave the way for perceptual magic tricks to fool the human brain. I will then present my main results in this area, starting with pseudo-haptic feedback, a technique introduced in the early 2000s that allows haptic sensations to be modified or generated using visual feedback. I will also present more recent results such as “persuasive haptics”, which can artificially enhance social interactions and verbal communication, or “haptic motion”, an alternative haptic paradigm capable of inducing powerful self-motion illusions using haptic feedback. In short, this talk is an exotic journey into the simulation of alternative haptic perceptions and the design of disruptive technological devices: welcome to my haptic illusion factory!