

# Algorithms and Techniques for Virtual Camera Control

Roberto Ranon, Marc Christie, and Christophe Lino

---

## Abstract

*Camera control is required in nearly all interactive 3D applications and presents a particular combination of different technical challenges. This tutorial will present recent and novel research ideas to handling a user's viewpoint on a scene in interactive, semi-automatic, and fully declarative camera control situations, covering a range of techniques from path-planning, visibility computation, optimal viewpoint computation and continuity editing.*

*A specific part of the tutorial will be dedicated to virtual cinematography, and how it can draw inspiration from data and knowledge in real cinematography. Our presentation will include numerous live examples from both commercial systems and research prototypes, running in Unity and Motion Builder systems. Some of the tools, algorithms and datasets that will be presented will be also made, for the first time, available to the community.*

---