

ACTOR and UC San Diego

Shahrokh Yadegari
UC San Diego
Qualcomm Institute

McGill University, Montreal
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Participants

- Roger Reynolds, composition
- Rand Steiger, composition
- Miller Puckette, computer music
- Shahrokh Yadegari, computer music

Participating Units

- Department of Music
- La Jolla Symphony
- Sonic Arts Research and Development
- Initiative for Digital Exploration of Arts and Sciences (IDEAS)
- Qualcomm Institute

History and Culture

- Center for Music Experiment (1972-1992)
- Center for Research in Computing and the Arts (1992-2012)
- Computer Music Ph.D. at Music Dept.(1999)
- California Institute for Telecommunication and Information Technology (Calit2)
Qualcomm Institute (2007)

Facilities

- Mandville Auditorium
- Conrad Prebys Concert Hall
- Experimental Theatre Black Box, (constellation)
- Calit2 Auditorium, Calit2
- Multipurpose Blackbox Theatre, Calit2
- Spatialization Lab, Calit2/Sonic Arts
- Immersive Visualization Lab, Calit2



Mandville Auditorium



Conrad Prebys Concert Hall



Experimental Theatre
(Equipped with Meyer's Constellation)



Calit2's Auditorium



Multipurpose Blackbox Theatre, Calit2



Immersive Visualization Lab



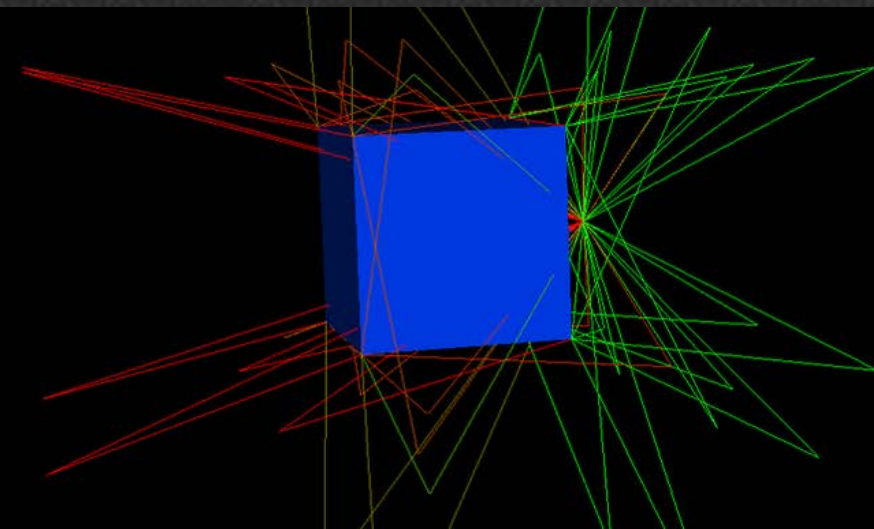
30.2 Spatialization Lab

Spatialization technology

30.2 Spatialization Lab



Beam-Forming Technology

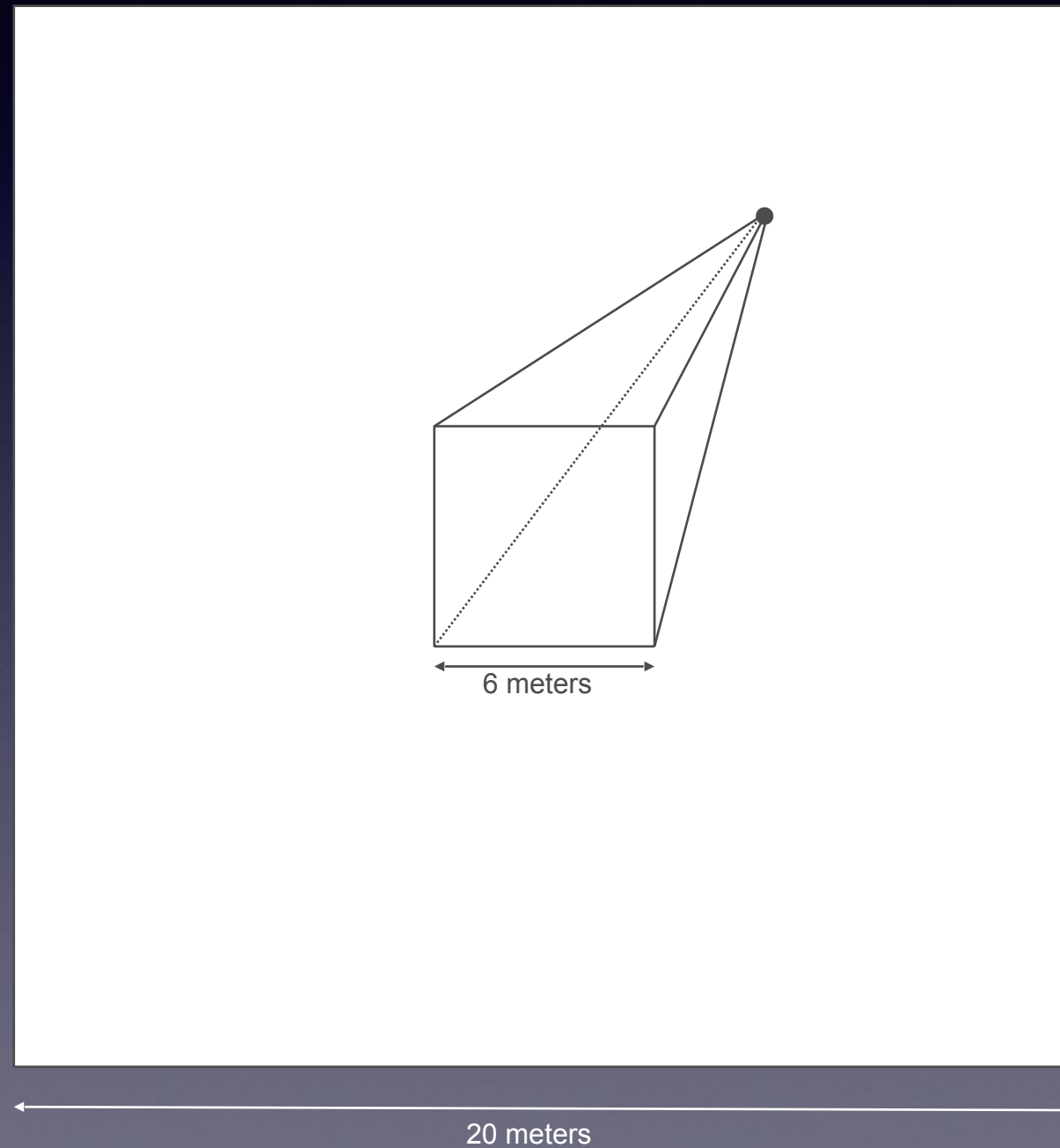


3D Spatialization (Space3D)

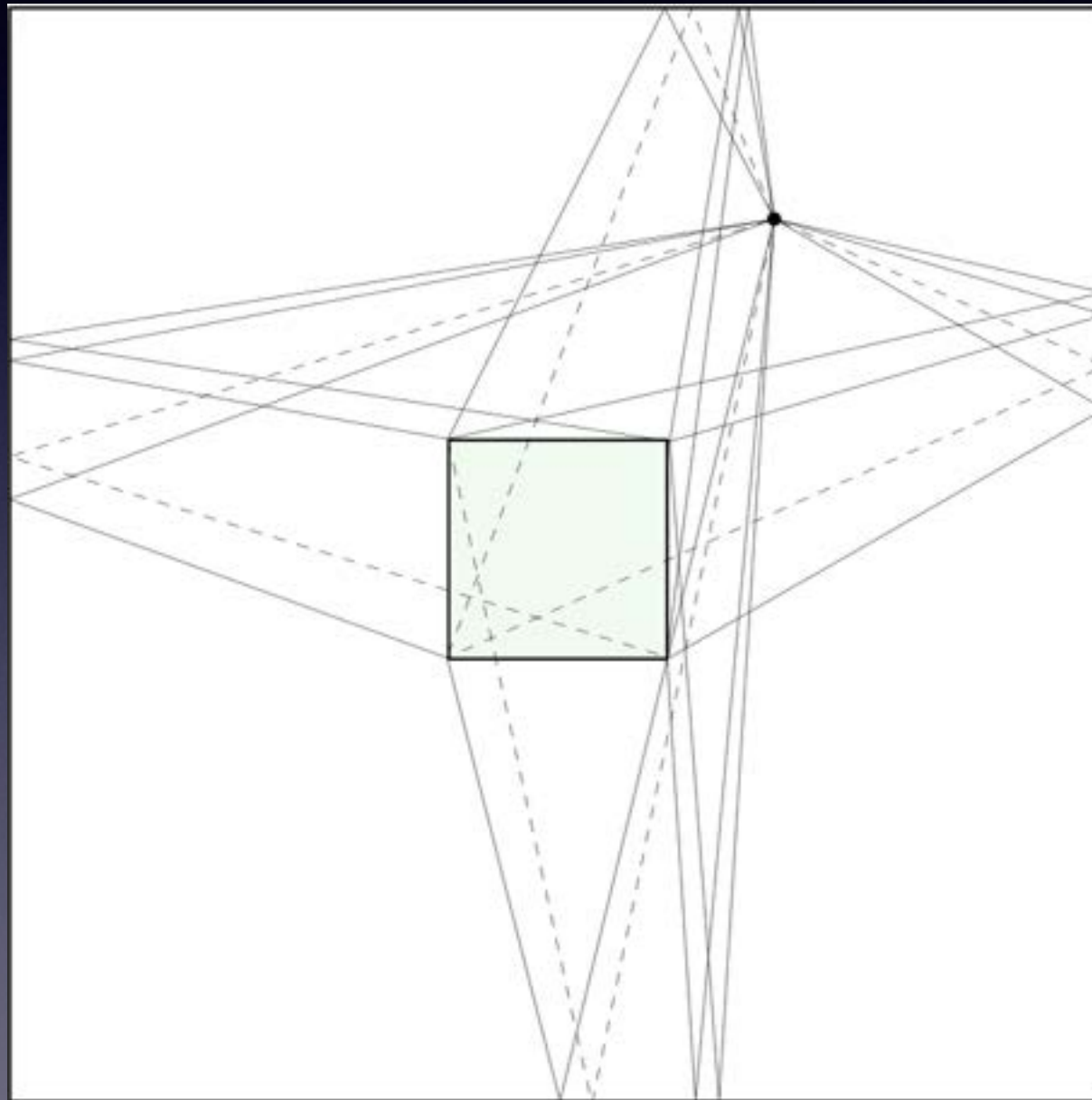
Realtime Synthesis Over Speaker and Binaural rendering

Inner and Outer Room

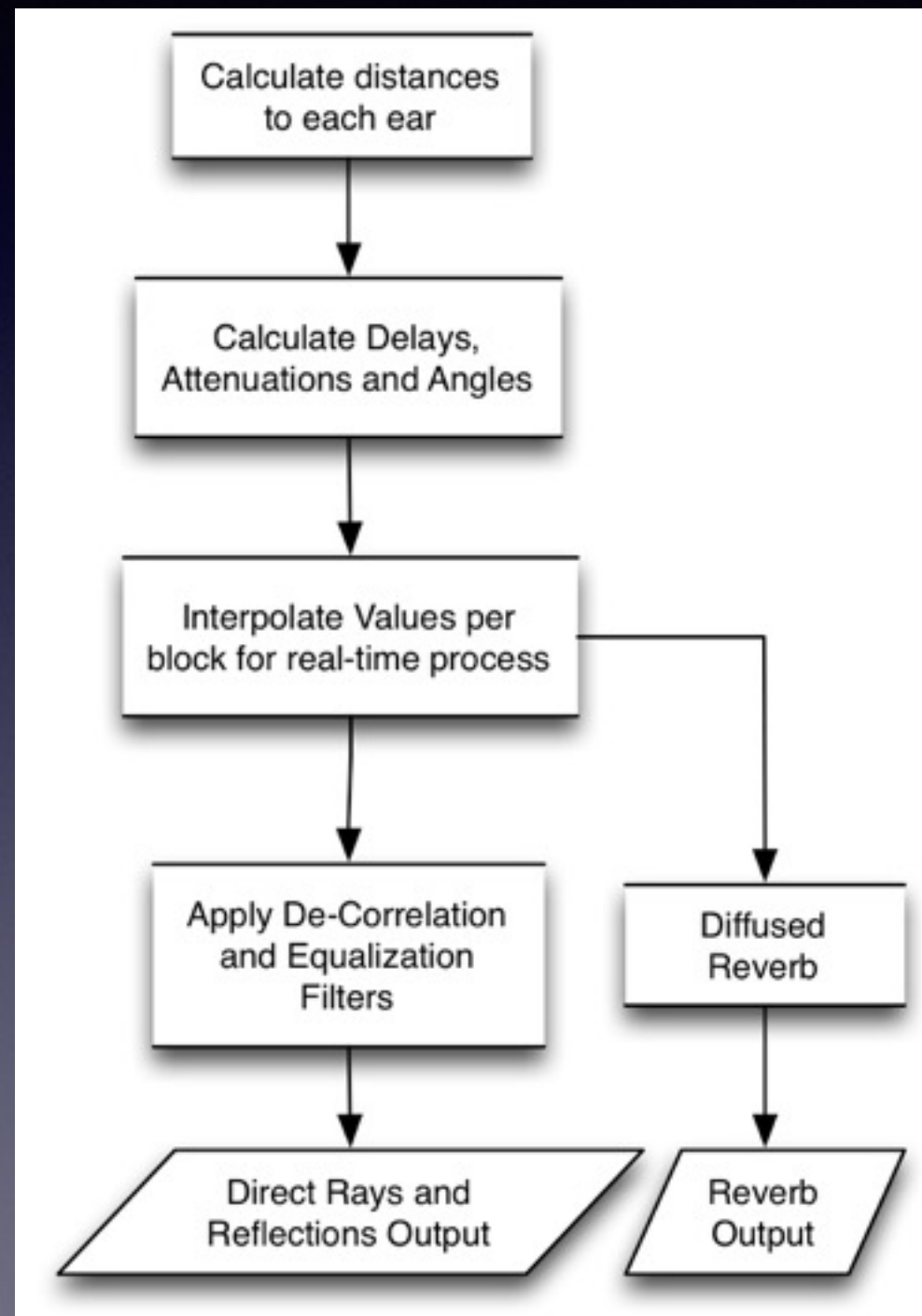
direct ray simulation



First order reflection simulation



Processing Flow



Relevant Research Areas

- Orchestration Analysis and its interaction with technology
- Orchestration for chamber music (more intimate settings)
- Formalization of role of DSP in orchestration
- Effect of Spatialization physically and synthetically on orchestration (over speakers and binaural)
- Effect of Spatialization technique on Timbre
- Definition of musical objects
- Layers of Perception of musical objects
- Theory of orchestration
- Form a research ensemble
- Build a database of orchestration resources
- Capturing of sounds (including close mic'ing of instruments) as resource

Thank you

Shahrokh Yadegari

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