

# ***SIGGRAPH 99 Course on 3D Photography***

<http://www.cs.cmu.edu/~seitz/course/3DPhoto.html>

## **Introduction**

***Steve Seitz***

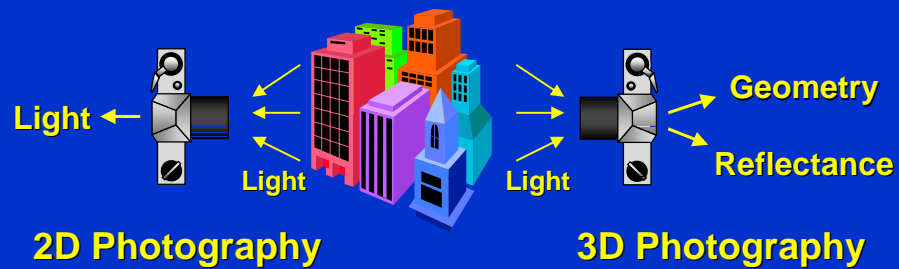
*Carnegie Mellon University*

***Brian Curless***

*University of Washington*

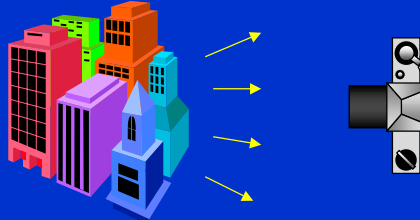
## **3D Photography**

---



## 3D Photography from 2D Photography

### *Objects Radiate Visible Light*



### *This Pattern of Light Depends On*

- Scene illumination
- Surface geometry
- Surface reflectance

### *Cameras Capture This Light*

- Enables analysis of scene structure

## Passive vs. Active 3D Photography

### *Objective*

- Infer structure from radiated light

### *Two Styles*

- **Passive** sensing of light already in environment

- > widely applicable
- > cheap
- > brittle, less accurate

← Morning Session

- **Active** control of illumination

- > not always viable
- > expensive but getting cheaper
- > extremely accurate

← Afternoon Session

## Speakers

---

*Jean-Yves Bouguet*, Intel Corporation

*Brian Curless*, University of Washington

*Paul Debevec*, University of California, Berkeley

*Marc Levoy*, Stanford University

*Steven Seitz*, Carnegie Mellon University

## Speakers

---

*Brian Curless* University of Washington



8:50pm *Acquiring Images*

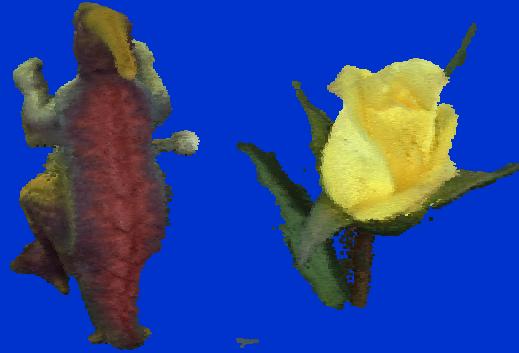
1:30pm *Overview of Active Vision*

2:55pm *Shape and Appearance from Range Data*

## Speakers

---

**Steven Seitz** Carnegie Mellon University



8:30pm *Introduction*

9:35pm *Overview of Passive Vision*

11:20pm *From Images to Voxels*

## Speakers

---

**Paul Debevec** University of California, Berkeley



10:30pm *Facade: Modeling Architectural Scenes*

## Speakers

---

*Jean-Yves Bouguet* Intel Corporation



2:15pm *Desktop 3D Photography*

## Speakers

---

*Marc Levoy* Stanford University



3:50pm *The Digital Michelangelo Project*

## Course Objectives

---

### *What NOT to expect*

- “Build-your-own” 3D camera instructions

### *What to Expect*

- Practical understanding of issues
- Overview of major approaches
- Latest research results
- Current capabilities, limitations

## Course Notes

---

<http://www.cs.cmu.edu/~seitz/course/3DPhoto.html>

### *Slides*

- Acrobat versions of speakers' slides

### *Abstracts*

- Digital Michelangelo Project
- Passive vision intro
- Modeling architecture from photographs

### *Models, Movies, Online Presentations*

- VRML models, HTML
- Quicktime movies

### *Papers*

- Electronic versions of relevant publications