Computation & Cultural Heritage: Fundamentals and Applications
Section I: cultural heritage landscape and techniques

1:45 introduction
1:55 efficient traversal of large sets of images in C.H.
2:15 simple, efficient visualization of heritage objects
2:40 applications of image-based synthesis and HDR imaging for heritage sites and objects
3:15 (fifteen minutes)
Section II: graphics resources for heritage, heritage lessons for graphics

3:30  low cost resources for image synthesis and image-based modeling

4:00  a pipeline for efficiently reconstructing heritage objects from range data

4:30  frequent pitfalls and deficiencies in the use of 3D acquisition techniques for CH

4:50  planning a collaboration in the CH field

5:00  an honest review and look to the future

5:15  questions
• Benedict Brown, *Katholieke Universiteit Leuven*
• Kevin Cain, *INSIGHT*
• Paolo Cignoni, *CNR, Pisa*
• Paul Debevec, *ICT, USC*
• Greg Downing, *xRes*
• Mashhuda Glencross, *University of Manchester*
  (for Greg Ward, *Anywhere*)
each person completing an evaluation form for this course will be entered into a prize draw to win a SIGGRAPH 2009 mug

http://www.siggraph.org/courses_evaluation

there will be one winner per course, e-mail notification will go out after SIGGRAPH
introduction

Kevin Cain
taxonomy of recent projects
lots of graphics researchers have chosen to work with data from heritage objects

- Alan Chalmers, *University of Warwick*
- George Drattakis, *REVES/Inria Sophia-Antipolis*
- Carlos Esteban, *Toshiba Research Europe*
- Deiter Fellner, *Fraunhofer Institute for Computer Graphics Research*
- Luc Van Gool, *University of Leuven*
- Marc Levoy, *Stanford University*
- Pascal Mueller, *Procedural Inc.*
- Holly Rushmeier, *Yale University*
- Roberto Scopigno, *CNR Pisa*
heritage and SIGGRAPH, itself, has history

ACM SIGGRAPH Campfire: Graphics & Archaeology

Snowbird, Utah, May 2000
'cultural heritage' researchers are finding their own applications within graphics remixing Çatalhöyük

Ruth Tringham, Anthropology, UC Berkeley
EPOCH EU framework project

- EPOCH, EU: 2004-2008
- MeshLab
  Visual Computing Lab
  ISTI-CNR
- CityEngine
  Pascal Mueller, ETH
- Archive Mapper for Archaeology
- Digital Minerva 2000-2007
- Digital Cathedral of Pisa
- Software for heritage:
  - MeshLab
  - HPTM Browser
  - Metro
non-profit groups

groups receiving public and private support

public: NSF, EU, public grants

private: foundations, private donors, museums
subdomains in cultural heritage

- archaeology
- anthropology
- art history
- area studies
- history
- visual studies

Cultural heritage ("national heritage" or just "heritage") is the legacy of physical artifacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.
Levoy, Pulli, Curless et al, *Digital Michelangelo Project*, 2000
Marc Levoy

Graphics in the service of the humanities

University of Virginia, UCLA, Politecnico di Milano, Rome Reborn, 2008