Calit2:
Facilitating the Digital Humanities

Invited Digital Humanities Talk

Center for the Humanities

University of California, San Diego

La Jolla, CA

January 18, 2012

Dr. Larry Smarr

Director, California Institute for Telecommunications and Information Technology

Harry E. Gruber Professor,

Dept. of Computer Science and Engineering

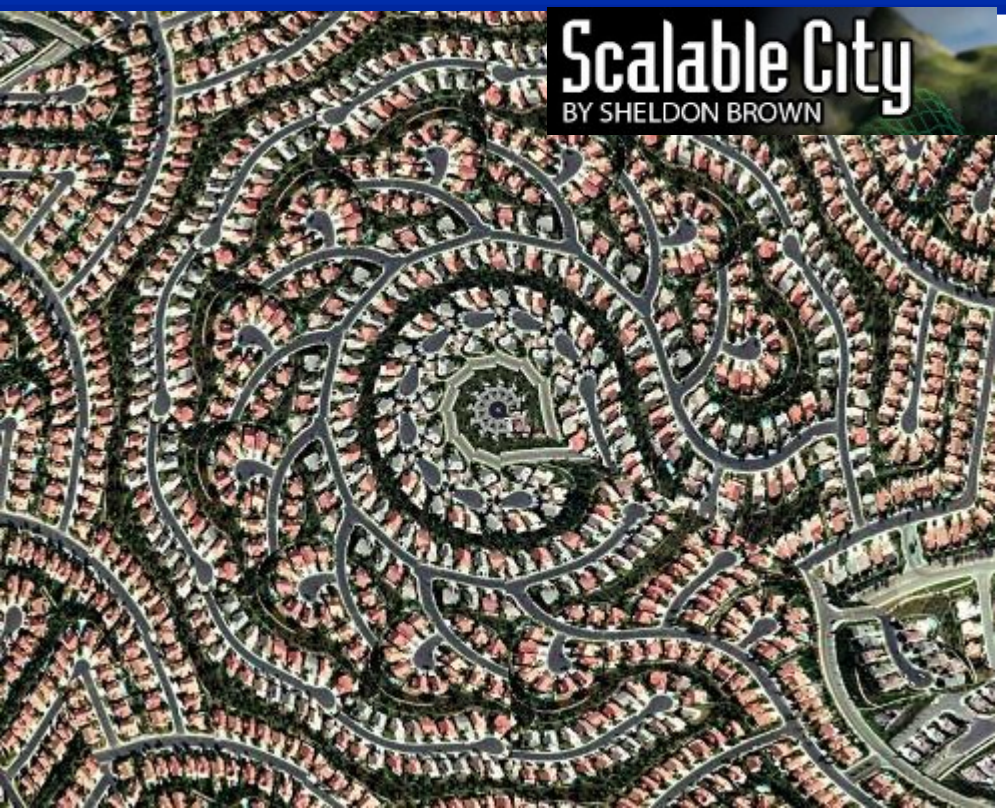
Jacobs School of Engineering, UCSD

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Calit2 Has Facilitated Deep Interactions With the Digital Arts and Humanities on Both Campuses



Bill Tomlinson, Lynn Carpenter UCI "EcoRaft"



"Researchers Look to Create a Synthesis of Art and Science for the 21st Century"

By John Markoff
NYTimes November 5, 2005

SPECFLIC 1.0 – A Speculative Distributed Social Cinema by Adrienne Jenik



Calit2 Hosts Conferences On the Future of Digital Humanities

New Media, Technology, & the Humanities

A Conference at UC Irvine

roundtables • conversations • demonstrations

February 17 & 18, 2006

135 Humanities Instructional Building

9 am to 5 pm Friday
9 am to 12 pm Saturday

Free & Open to the Public

Presented by the Department of Film & Media Studies and HumanitTech®

Co-sponsored by:
Arts Computation Engineering (ACE)
Beall Center for Art & Technology
California Institute for Telecommunications and Information Technology (Calit2)
Film & Media Studies
HumanitTech®
Humanities Center
Humanities Dean's Office
International Center for Writing & Translation
Office of Research & Graduate Studies
UC Humanities Research Institute

Organized by Barbara Cohen and Peter Krapp

Digging: Media / Archeology

Lev Manovich, Visual Arts, UC San Diego
Erkki Huhtamo, Design & Media Arts, UC Los Angeles
Tara McPherson, Critical Studies, USC Cinema-Television
Jennifer Urban, Intellectual Property Clinic, USC Law School
Mark Poster, History, UC Irvine

Texting: Digital / Humanities

Jeffrey Schnapp, French & Italian, Stanford University
Eyal Amiran, Comparative Literature, UC Irvine
Noah Wardrip-Fruin, Communications, UC San Diego
Mark Hansen, English, University of Chicago
Rita Raley, English, UC Santa Barbara

Gaming: Remix / Culture

Rosemary Coombe, Law & Cultural Studies, York University
Andrew Herman, Communication, Wilfred Laurier University
Robert Nideffer, Studio Art & Computer Science, UC Irvine
Henry Lowood, Stanford University Libraries
John Seely Brown, Former Director, Xerox PARC

Please visit our website for conference schedule and participant topics at: http://www.humanities.uci.edu/humanitechy/
Tel: (949) 824-3638

Taking Digital Scholarship 'Beyond the PDF'



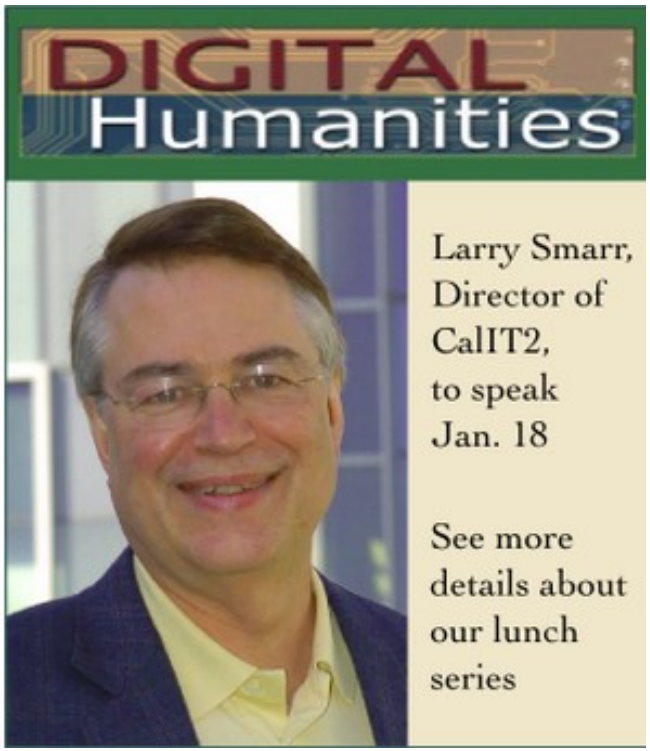
Attendees of the 'Beyond the PDF' workshop pose in UCSD's Engineering Courtyard. Instead of relying on static PDFs for digital scholarship, the participants want to 'unleash the full power of the Internet and crowd-source the digital printing press of the 21st century.'

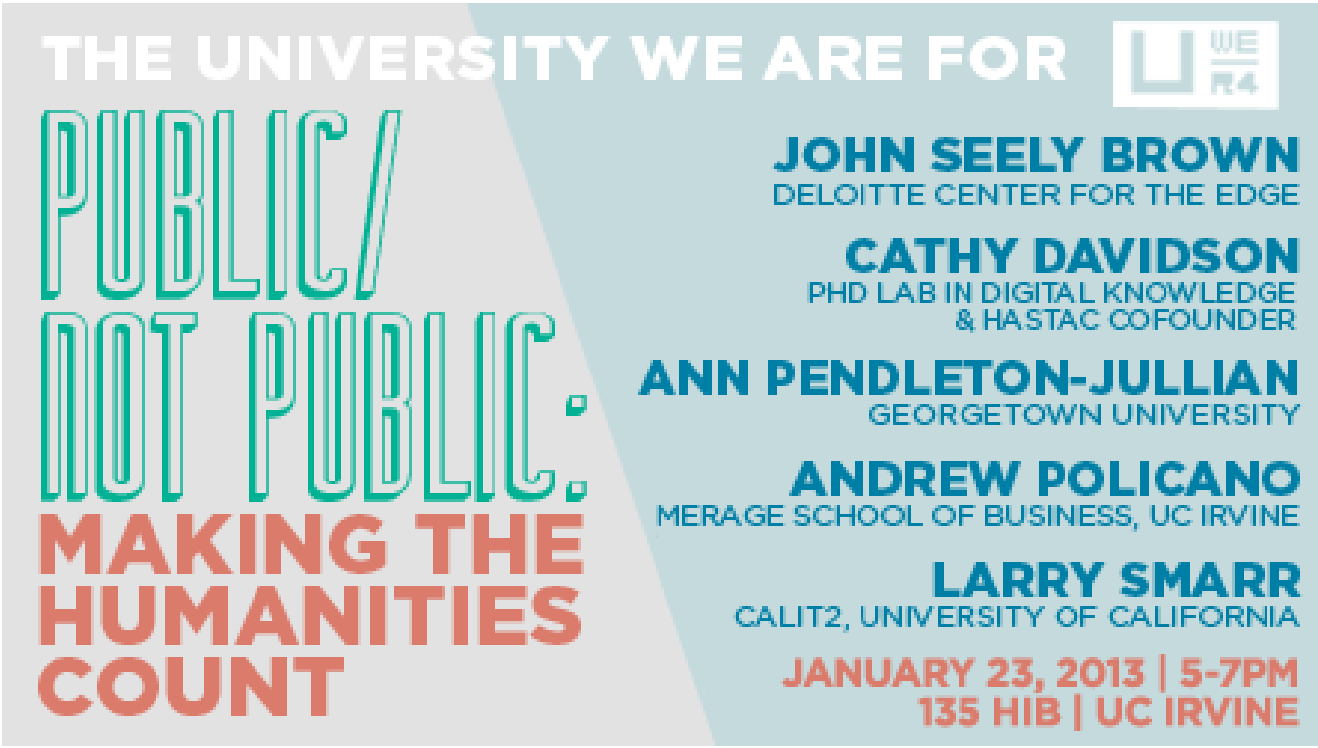
Feb 2011

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I Participate in Discussions About the Humanities on Both Calit2 Campuses





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25 YEARS UCHRI UNIVERSITY OF CALIFORNIA HUMANITIES RESEARCH INSTITUTE

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Calit2 Undergraduate Summer Research Program Includes the Digital Humanities

3D Imaging of South Indian Bronze Idols



James Darling

Anthropology Dept

Vowel Spaces in Bilingual Speakers of English and Mexican Spanish



Criccely Grijalva

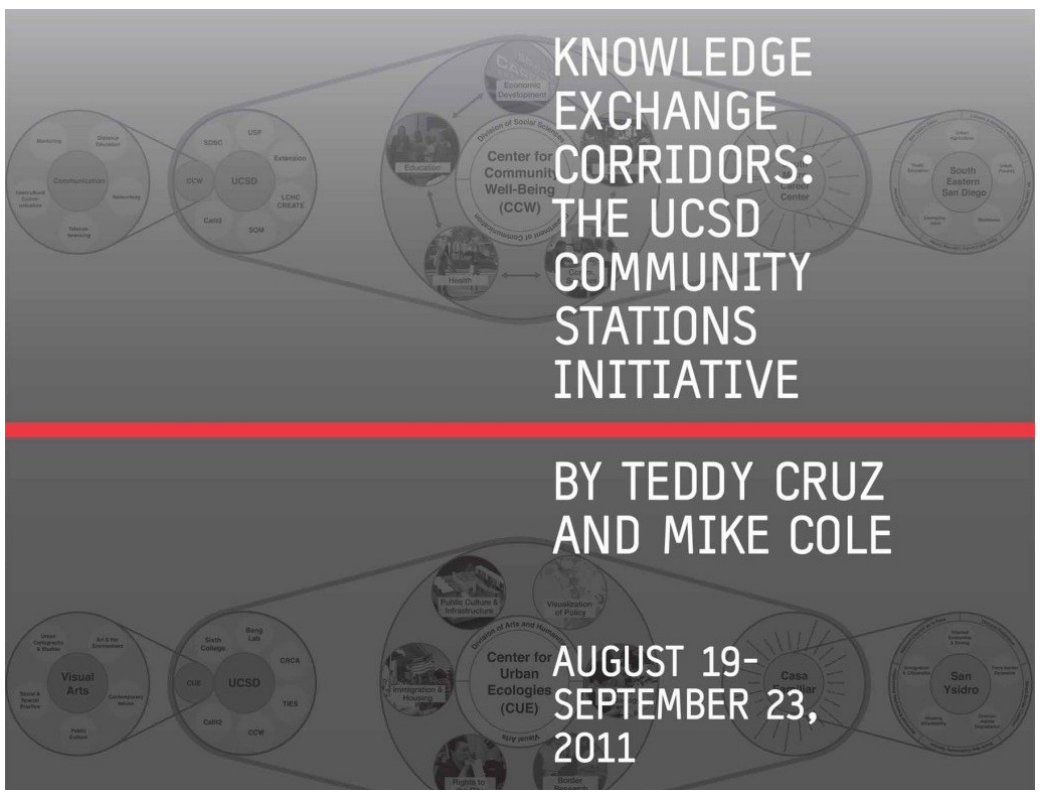
Linguistics Dept

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Calit2 New Media Arts Gallery:
A Space for Interactive Exhibits & Provocative Discussions







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http://gallery.calit2.net

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Calit2 Hosts Interdisciplinary Centers Bringing Together Engineering, Arts, and Humanities

CISA3

Center of Interdisciplinary Science for Art, Architecture, and Archaeology

UC San Diego Division, California Institute for Telecommunications and Information Technology

DAH UCSD Jacobs Calit2





"As Dan Brown wrote in his blockbuster novel, *The DaVinci Code*, Italian art dagnostician Maurizio Seracini had unveiled the unsettling truth."

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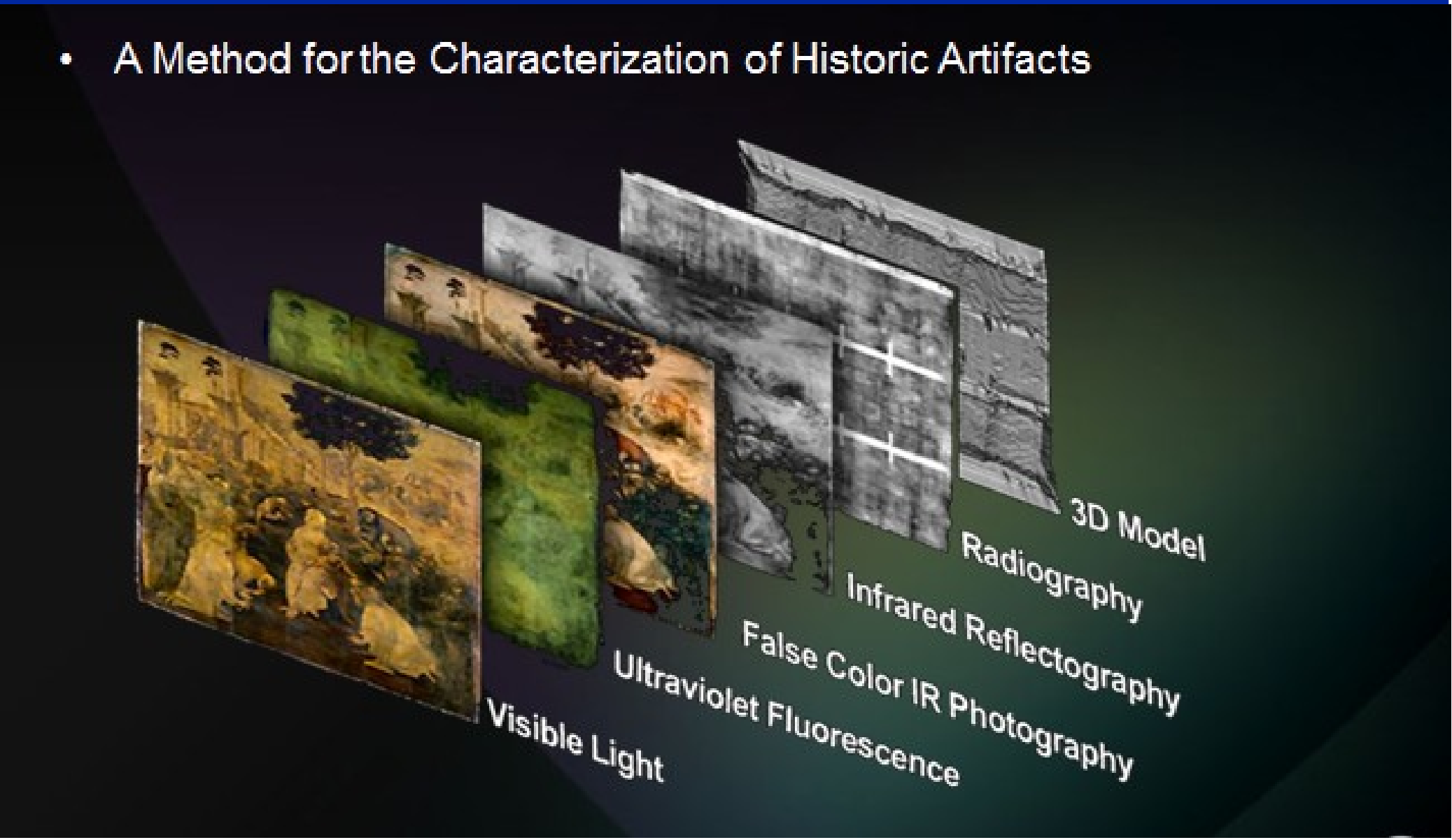
Arts and Humanities

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Multi-Spectral Imaging Diagnostics: Discovering the "Painting Behind the Painting"

- A Method for the Characterization of Historic Artifacts



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Source: Maurizio Seracini, Director CISA3

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Digital Clinical Charts – Collaboration with the San Diego Museum of Art

Source: Maurizio Seracini, Director CISA3

ART HISTORY RESEARCH


Archive documents


Critical fortune


Iconography

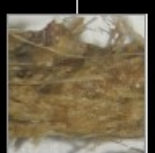

Iconology


Bibliography

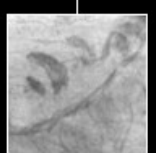
DIAGNOSTIC IMAGING

SCIENTIFIC RESEARCH


3D modelling with structured light


Photomicrography


UV fluorescence photography


Infrared reflectography


IR photography

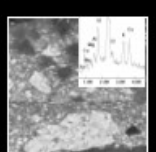

Pseudo-color IR photography


X-radiography

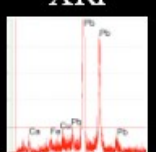
Cross section analysis



SEM-EDS



XRF



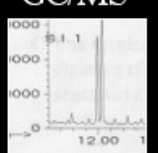
Micro FT-IR



Micro Raman



GC/MS



ANALYTICAL DIAGNOSTICS

Cultural Heritage Virtual Reality:
Photo Texture Mapping onto High Resolution Laser 3D Scanning



In This Image you are Looking at the Michelozzo Courtyard (the Doorway in the Very Back of the Image Leads into the Garden). This Image Is 6392 Pixels Wide X 4192 High

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Source: Calit2 Team Led by Maurizio Seracini and Falko Kuester, Directors CISA3

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UCSD Professor Tom Levy Works with Calit2 To Drive the Development of Digital Archaeology









Megiddo, early 1930s

Khirbat en-Nahas, Jordan November, 2009

See:
P.L.O. Guy 1932
Balloon Photography
and Archaeology.
Antiquity 6: 148-155





Adolfo Muniz, supervisor
Live-feed

Using Laser Radar (LiDAR) to Create a Virtual Replica of the Iron Age Excavation Site



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Vid Petrovic, Calit2 IGERT Grad Student,
UCSD Profs. Tom Levy, Falko Kuester

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Calit2 Designed KAUST's *NexCAVE* – Bringing Digital Archaeology to Saudi Arabia



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NexCAVE Designed and Built by Calit2's Tom DeFanti and Team

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Preserving Cultural Heritage: Egypt's Luxor in the StarCAVE



Source: Tom DeFanti, Calit2

‘Citizen scientists’ help search for tomb of Genghis Khan via photos of Mongolia

By Sindya N. Bhanoo, April 04, 2011

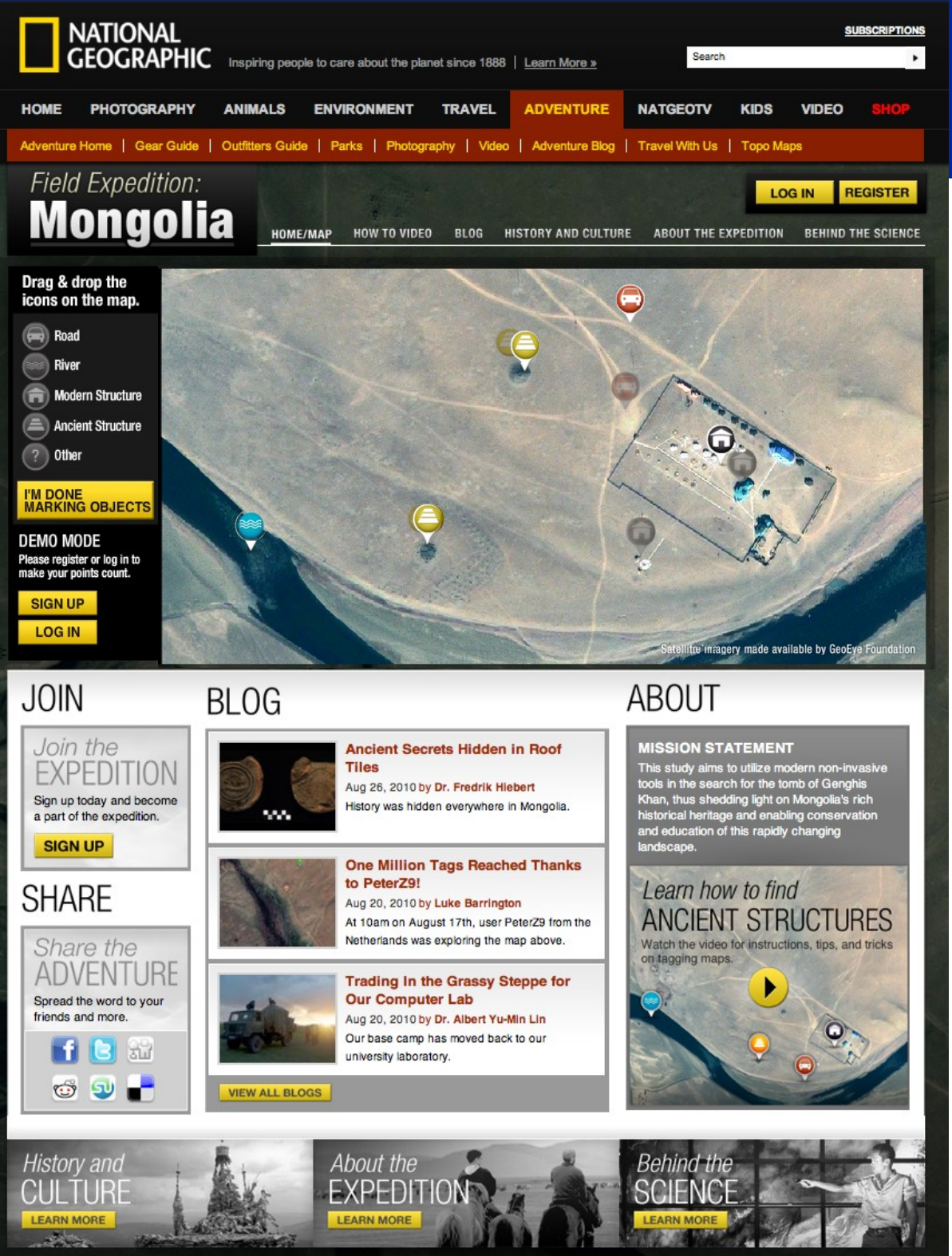
The Washington Post



Calit2’s Albert Lin
Photo credit Erik Jepsen

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Collaborating Researchers:

Albert YM Lin PI (UCSD, Calit2)

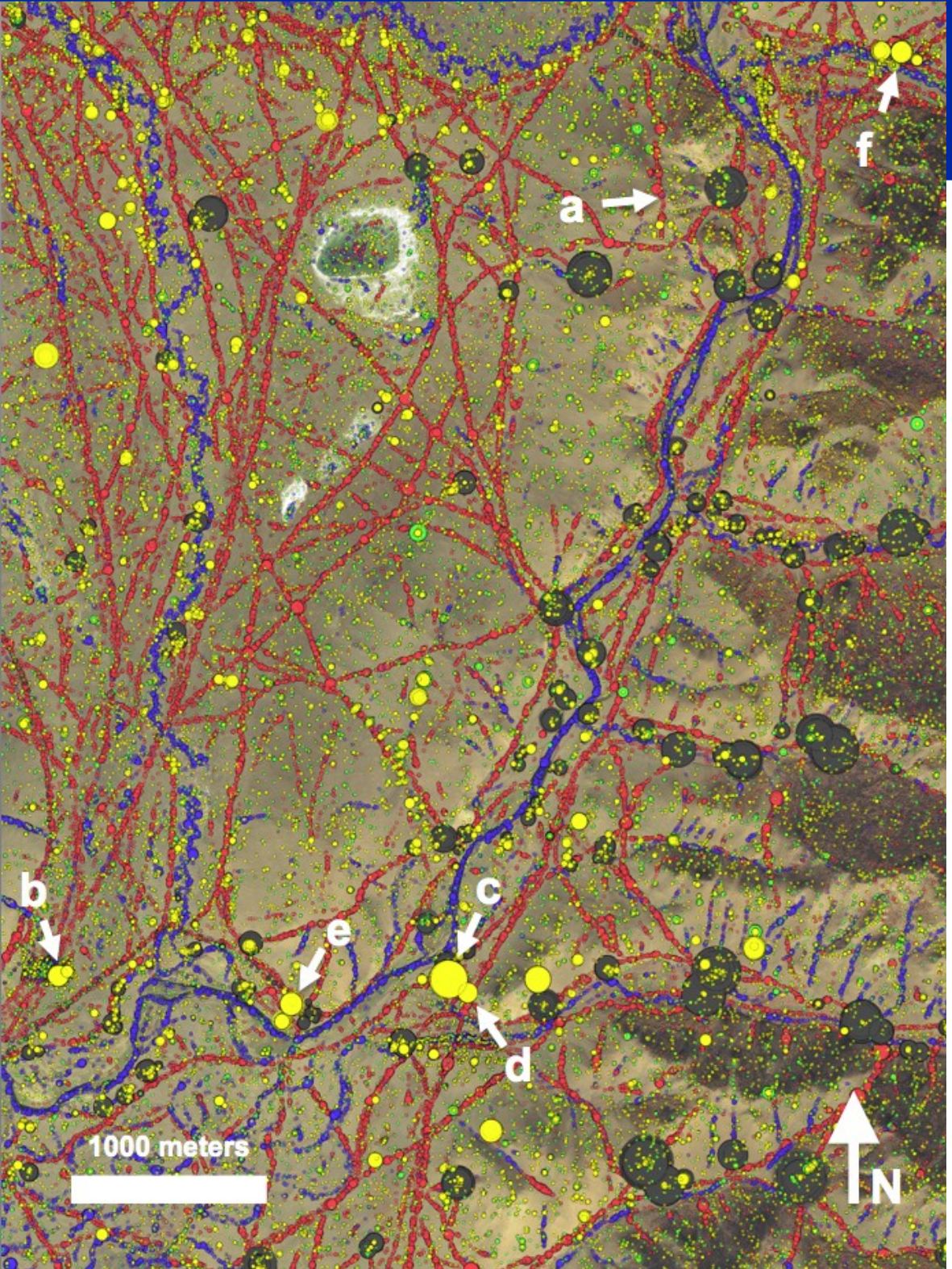
Luke Barrington (UCSD CSE)

Prof. Gert Lanckriet (UCSD CSE)
Kevin Ponto (UCSD, ECE)

Prof. Falko Kuester (UCSD, ECE)

Joshua Lewis (UCSD Cog Sci)

Derek Lomas (CMU Cog Sci)



Filtering the Noise:

From 2.3 million independent human annotations…

dusters of "agreement" emerge

National Geographic/Calit2
Expeditions to Mongolia to Seek Ground Truth

2008



2009



2010



2011



Possible Site for Tomb?



The Washington Post





CHINADAILY USA



NATIONAL GEOGRAPHIC ADVENTURE
DREAM IT. PLAN IT. DO IT.

The New York Times





ScienceDaily®
Your source for the latest research news



English.news.cn
新华网 NEWS
English.xinhuanet.com



WIRED



abcNEWS / Technology

THE WEBBY AWARDS

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Lev Manovich Drives High Performance Cultural Analytics at Calit2

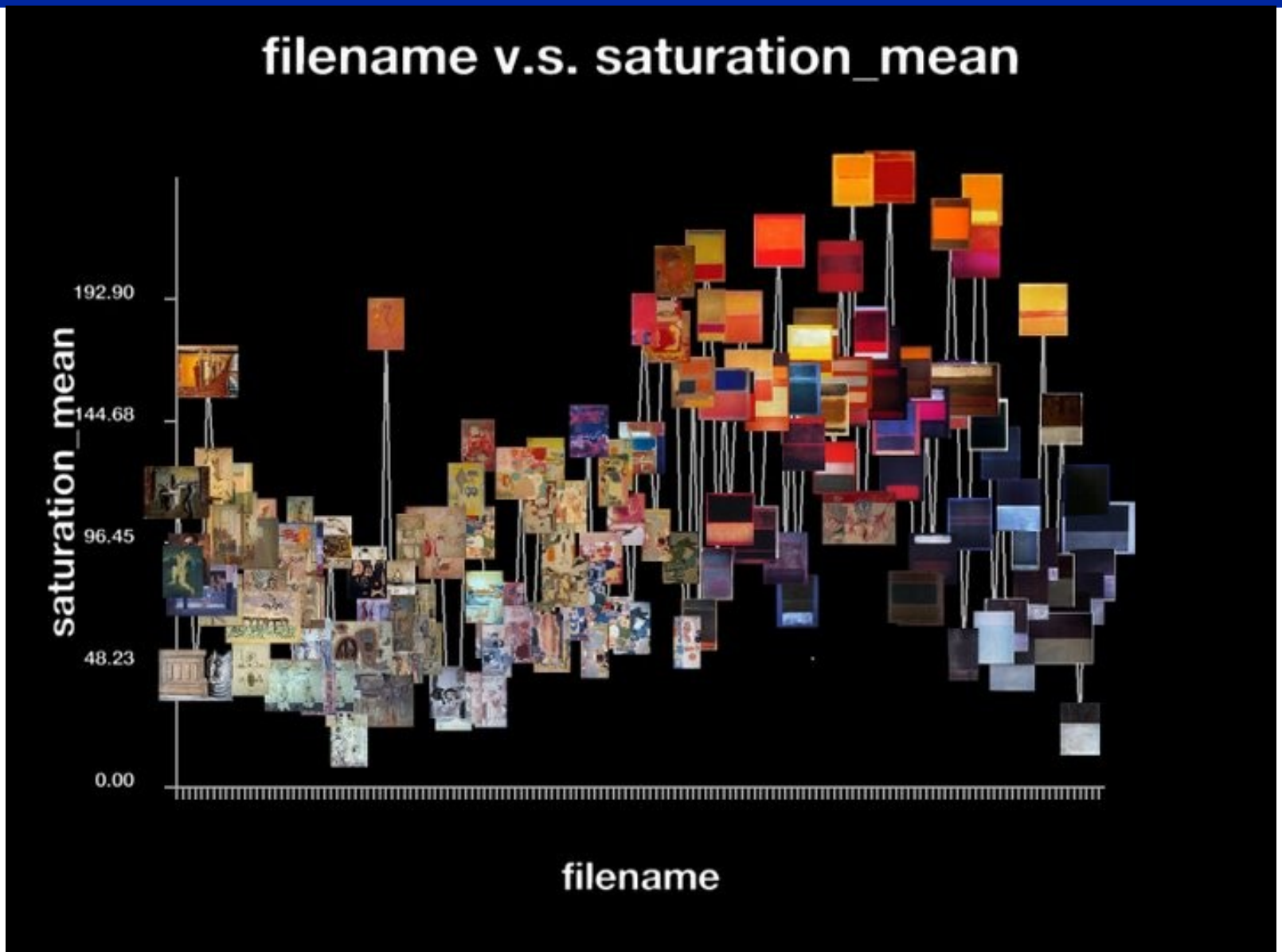


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www.youtube.com/watch?v=xtbzVuDqSas

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Digital Analysis of an Artist's Lifetime Production
151 Paintings by Rothko

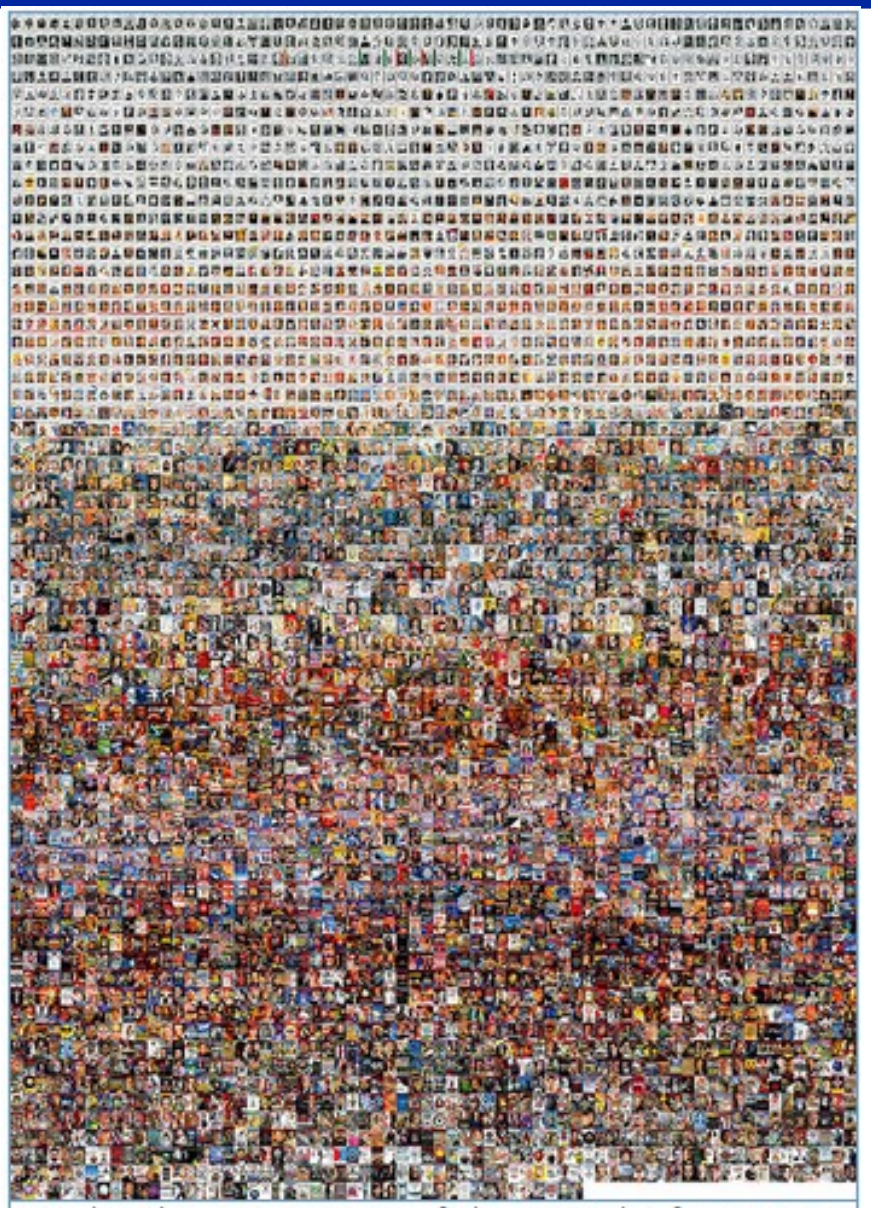


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Source: Software Studies Initiative

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Mellon Foundation Supports New Software Tools for Humanities Researchers



Mapping Time: 4,535 covers of Time Magazine from 1923 to summer 2009. Visualization by Jeremy Douglass and Lev Manovich, 2009.

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www.calit2.net/newsroom/release.php?id=1995

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Cultural Analytics of One Million Manga Pages

Source: Lev Manovich



5% of our data set (50K pages) organized by visual properties
X = stdev
Y=entropy
visualization full size: 40000x40000 pixels
Image size: 2%

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Pulitzer Prize-Winning Roger Reynolds: Calit2 Composer-in-Residence *Sanctuary* Project





Source: Peter Otto, Calit2, CRCA, UCSD Dept of Music

CineGrid 4K Digital Cinema Projects: "Learning by Doing"

CineGrid @ iGrid 2005



CineGrid @ AES 2006



CineGrid™





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CineGrid @ Holland Festival 2007

CineGrid @ GLIF 2007

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eMedia Studio: Interactive Telepresence Dance/Media Performances

http://embodied.uci.edu



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Virtual Jazz-Coupling UCI with UCSD

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Becoming Dragon-A Mixed Reality, Durational Performance Combining Virtual Reality, Motion Capture, Second Life



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365 hours, from December 1-17th, 2008

Source: Micha Cárdenas, CRCA, Calit2

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Crossing Boundaries 2012-
Co-Taught Interdisciplinary Graduate Class

Co-Taught by Alan Burrett, Robert Castro, Lisa Porter, Victoria Petrovich and Shahrokh Yadegari





Performances in Calit2 VROOM Dec 2012

27 graduate students, (playwrights, designers, directors, actors, musicians, filmmakers, performance artists, stage mangers, engineers, and theatre scholars)

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Source: Shahrokh Yadegari, Dept. of Theatre and Dance
2004 Calit2 Professor of Arts and Humanities

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“Know Thyself”
From the Temple of Apollo to the Quantified Self



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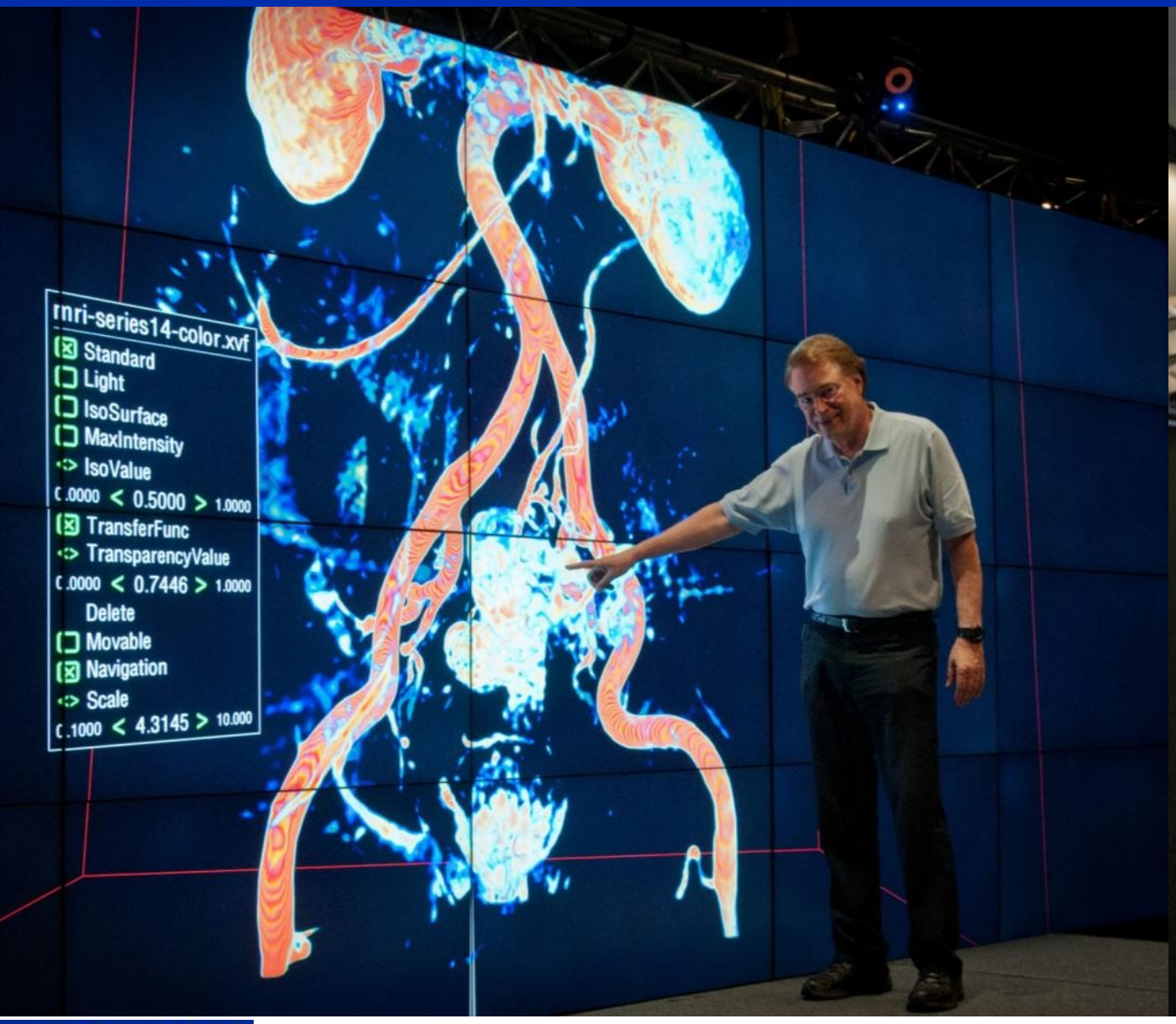
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From Measuring Macro-Variables to Measuring Your Internal Variables



www.technologyreview.com/biomedicine/39636

Interactive Visualization and 3D Hard Copy from LS MRI Data



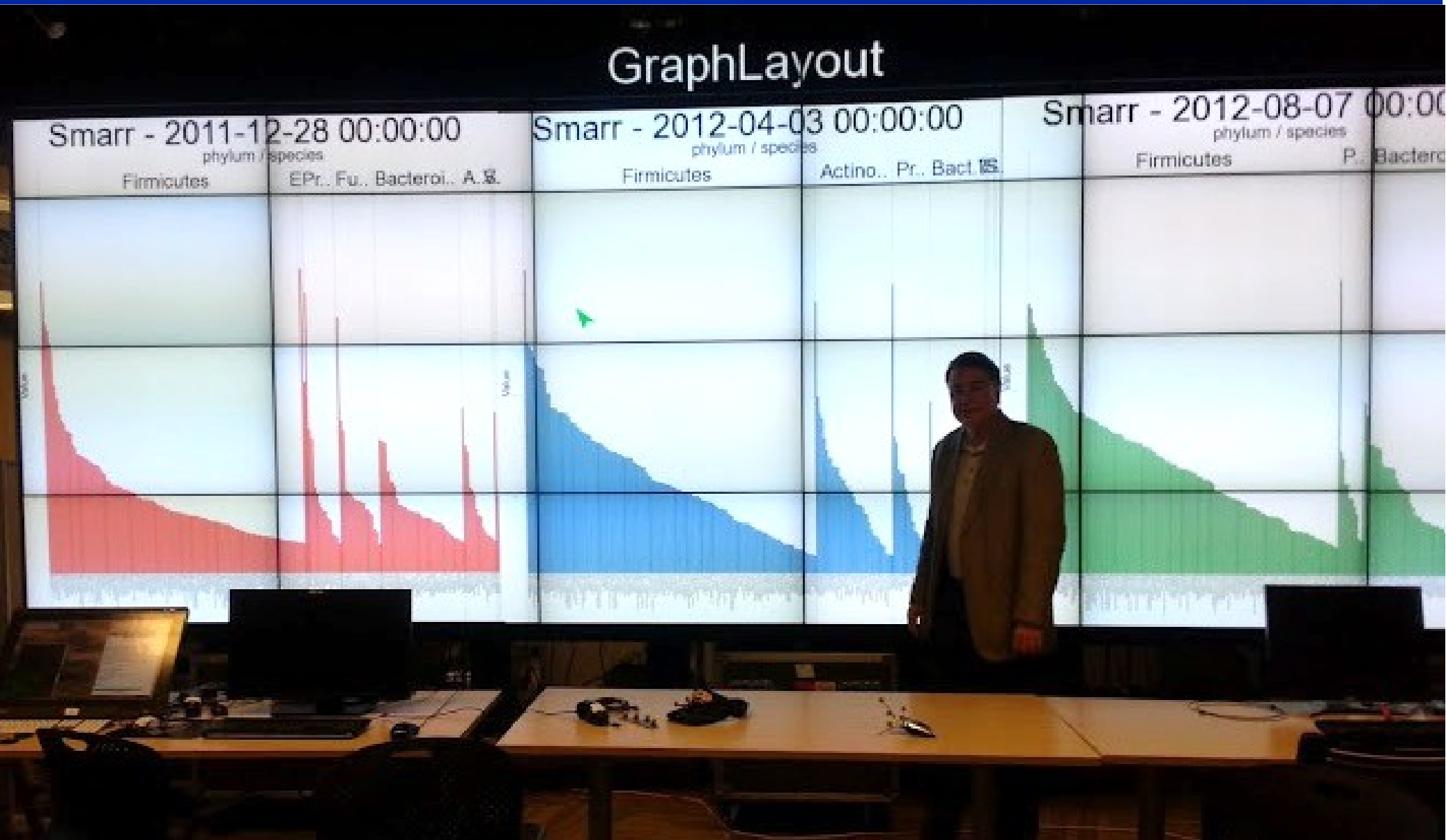


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Research: Calit2 FutureHealth Team

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The LS Gut Microbial Observatory



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Photo by Tom DeFanti

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Where I Believe We are Headed: Predictive, Personalized, Preventive, & Participatory Medicine

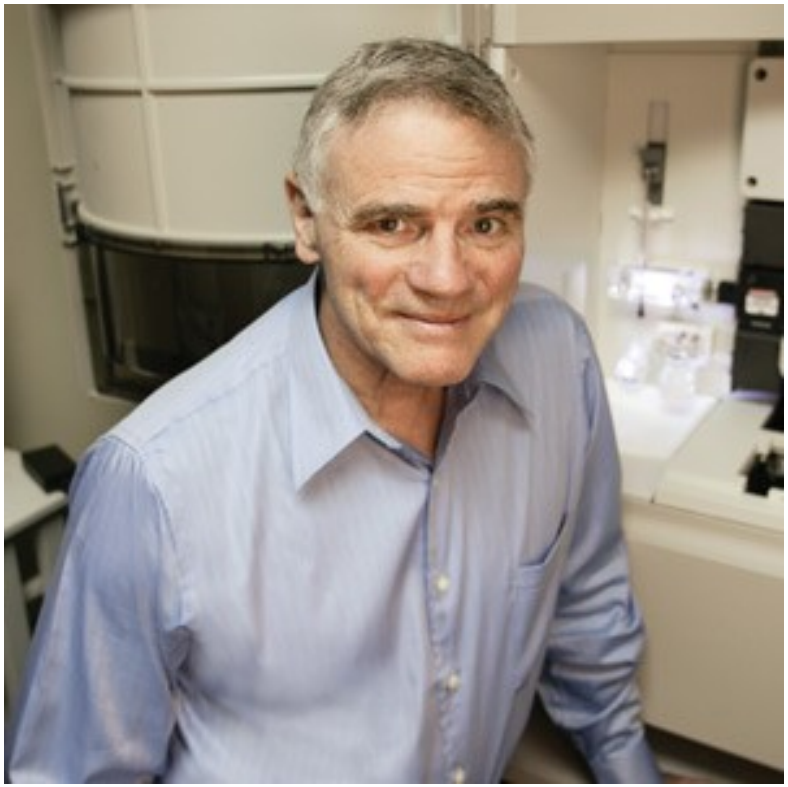
Newsweek

I am Leroy Hood's Lab Rat!

A Doctor's Vision of the Future of Medicine

Leroy Hood
NEWSWEEK

From the magazine issue dated Jul 13, 2009



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www.newsweek.com/2009/06/26/a-doctor-s-vision-of-the-future-of-medicine.html

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