

Burke's work in the arts and engineering explores how emerging technologies can be employed to serve expressive and social goals, and focuses on the rich opportunities for synthesis across disciplines within theater, media installation, architecture, and systems engineering. He has designed, managed or produced performances, new genre art installations and new facility construction in nine countries from 1999-2008, initiated and contributes to many university research projects, and publishes regularly in a variety of disciplines. In his creative work and research, Burke has incorporated modern technologies such as game engines, embedded sensing, and mobile handsets into multidisciplinary projects informed by historical and contemporary artistic practice.

He is the Director of Technology Research Initiatives for the UCLA School of Theater, Film and Television, and Executive Director of REMAP, the Center for Research in Engineering, Media and Performance at the University of California, Los Angeles (UCLA), a joint program of UCLA's School of Theater, Film and Television and Henry Samueli School of Engineering and Applied Science. REMAP's core projects investigate the interrelationships among community, culture and technology and how embedded and mobile computing can support community development and cultural expression. He is also co-founder of w a kenningar associates, llc, a consulting firm providing design and technical owner's representation services for construction of media and performing arts facilities.

RECENT HIGHLIGHTS

Interview

Jason Farman. "**Digital Performance and the HyperMedia Studio: An Interview with Jeff Burke,**" *Extensions: The Online Journal of Embodiment & Technology*, Volume 3, 2007.

Workshop

Participatory Urban Sensing & Community-Based Participatory Research. Workshop chair with D. Estrin and graduate students S. Reddy, N. Ramanathan. ACM Sensys 2007. University of New South Wales, November 2007.

Artworks (of 16 recent)

Producer, technical director and lead software designer for **Junction / Juncture**, prototype outdoor installation at the Los Angeles State Historic Park. UCLA REMAP, Walt Disney Imagineering Research & Development, California State Parks, 2007.

Media concept and design for **Homer in Cyberspace**, multimedia theatrical performance using the *Ogre3D* rendering engine to create large-scale projection. UCLA Dept. of Theater, 2008.

Sponsored Research (of 28)

Co-Principal Investigator, **NeTS-FIND: Collaborative Research: Network Fabric for Personal, Social, and Urban Sensing Applications**, National Science Foundation, \$1.1M/4 yrs, UCLA and UCB ICIR. (PI: M. Srivastava, UCLA), 2006-2010.

Journal Edited (of 35+ publications)

J. Burke (guest editor), **Performance and the City** special issue, *International Journal of Art and Technology*, 2009.

Consulting

National Center for the Preservation of Democracy, Los Angeles, California (2003-06)
Client: **Japanese American National Museum**
Scope: **Owner's representation for specialized building systems**

BIOGRAPHICAL INFORMATION

Born March 12, 1977 in Fullerton, California USA.

EDUCATION

- 2009 (expected) **MFA, Film Television & Digital Media – Producing, University of California, Los Angeles**
Focus: Producing media for multiple platforms integrating location-based technology.
- 2001 **MS, Electrical Engineering, University of California, Los Angeles.**
Specialization: Signal Processing. Advisor: John Villasenor. Cumulative GPA: 3.9/4.0.
University Fellowship, 2000. Dean's funding, 2001.
Thesis: *Dynamic control of performance environments by online analysis of performer movement.*
- 1999 **BS, Electrical Engineering, Cum Laude, University of California, Los Angeles.**
Regents' Fellowship for four years. Dean's list Fall/Spring 1999. Cumulative GPA: 3.7/4.0.

ACADEMIC APPOINTMENTS

- 2009- **Director, Technology Research Initiatives – School of Theater, Film & Television, UCLA**
- 2005- **Executive Director – UCLA Center for Research in Engineering, Media and Performance**
Research direction, development and administration of this joint Center created by the Henry Samueli School of Engineering and Applied Science and the School of Theater, Film and Television. Management of \$404k in research and operational funding in REMAP's first year. Also worked to create external advisory council, initiate and follow up development meetings with all sections of industry. Directly involved in the initiative to create the Center. <http://remap.ucla.edu/>
- 2001-09 **Assistant Researcher – School of Theater, Film and Television, UCLA**
Professional research appointment with the HyperMedia Studio (now the Center for Research in Engineering, Media and Performance) exploring, through production and scholarship, the use of technology in the performance and media arts. Responsible for technical direction and coordination of research at the Studio, proposal development, and production. Two-step merit increase to Asst. Researcher III effective July, 2006. <http://www.tft.ucla.edu/>
- 2003-06 **Lecturer – Department of Film, Television and Digital Media, UCLA**
- 2001-03 **Visiting Assistant Professor – Department of Film, Television and Digital Media, UCLA**
Instructor of FTV 144/244: *Interactive Authoring*, a course exploring interactivity on the computer screen and in installation spaces through lecture, discussion, and production, and FTV 411: *Multi-media Production*. Course development for classes parallel the electrical engineering systems design classes (EE190D). <http://www.tft.ucla.edu/>
- 2000-2002 **Graduate Faculty, Industrial Design – Art Center College of Design, Pasadena**
Co-instructor of an interface design class exposing students to object-oriented programming and signal processing with Max/MSP, serial device control, sensor / computer interfaces, and the design and implementation of interactive physical environments. <http://artcenter.edu/>
- 1998-2001 **Workshop Instructor – California State Polytechnic University, Pomona**
At the Center for Education and Equity in Mathematics, Science and Technology, instructor of week-long workshops on beginning, intermediate, and advanced graphing calculator use for middle school, junior high, and high school mathematics teachers as part of the NSF-funded initiative *Teachers as Agents of Systemic Change*.

INTERNATIONAL APPOINTMENTS

- 2005- **Faculty – Rhodopi International Theater Collective, Smolyan, Bulgaria**
Seminar and workshop instructor for college students in this month-long residency hosted by the Rhodopi Dramatichen Theater in Smolyan, Bulgaria in the center of the breathtaking Rhodopi Mountains- the mythological birthplace of Dionysus, Orpheus, and Eurydice, i.e., the origin of western theater, music, and performance. Created and operated by The Fourth World Laboratory for International Theater Research, New York. <http://www.theatercollective.org/>

2002- **Director, Technical Development – Centro Hipermediatico Experimental Latinoamericano**
Strategic planning of long-term technical development for this non-profit project in Buenos Aires, Argentina. cheLA is a regional project dedicated to the evolution of a vigorous and enduring technological art environment in Latin America; housed in a unique 5,000 sq. m. facility.
<http://digitalcultures.ucla.edu/chela/>

TEACHING

2009 **Advanced Gaming / Transformative Media Certificate Program**
Member of UCLA campus planning committee.

2009 **The Digital Portfolio** (final title tbd; planned, Fall 2009)
Moving Image Archive Studies program, UCLA. New course development.

2009 **Engaged Media Production Workshop** (FTVDM 298A)
UCLA Dept. of Film, Television and Digital Media. Co-taught with Fabian Wagmister.

2008 **Outside advisor to Architecture Design Studio, *Superficial Superglow Version 2.0***
David Erdman, Casey Reas, Jeff Burke, Dana Cuff, Mark Hansen
UCLA Architecture and Urban Design; UCLA Dept. of Design | Media Arts

2008 **Production Practice in Theater, Film, Television and Digital Media** (Theater 172/472)
UCLA Dept. of Theater, studio course for *Homer in Cyberspace II*.

2008 **Graduate Technical Writing Seminar** (informal)
UCLA Center for Embedded Networked Sensing (graduate students and staff)

2002-05 **Multimedia Production** (FTVDM 411), required for graduate directing students.
(3 times) UCLA Dept. of Film, Television and Digital Media.

2001-05 **Interactive Multimedia Authoring** (FTVDM 144/244)
(7 times) UCLA Dept. of Film, Television and Digital Media.

2000-02 **Interface Design** (with David Beaudry)
(4 times) Art Center College of Design, Graduate Industrial Design Program

PROFESSIONAL PRACTICE

2002- **Principal and Co-founder, *w a kenningar associates, llc.***
Design and owner's representation for construction of multimedia and performing arts facilities.
Representative projects (as principal-in-charge):

Pitzer College – Avery Auditorium, Claremont, California (2007-)
Client: Levin & Associates Architects, Los Angeles
Scope: Theatrical and audio/visual systems design; program development
All phases of design through construction for 250+ seat multipurpose auditorium and lecture hall.

National Center for the Preservation of Democracy, Los Angeles, California (2003-06)
Client: Japanese American National Museum
Scope: Owner's representation for specialized systems (theatrical, audio/visual, IT and electrical)
Representation of the National Museum in the design and construction of a new multimedia performance and lecture space, as well as tenant improvements, in the federally-funded \$7.5M renovation and expansion of the museum's historic original building on East First Street, a national registered monument. Translated owner program goals to design guidelines for specialized systems, reviewed design documents, coordinated with the architect and construction manager to ensure project quality and cost controls across all trades, performed regular on-site field reviews, vetted change orders, coordinated with consultants and subcontractors, provided training and startup assistance through the project's opening events. Architect: Levin & Associates Architects. Construction Management: Orgel Construction Management. Contractor: Turner Construction.

Scripps College Dance Facility, Claremont, California (2003-06)
Client: Levin & Associates Architects, Los Angeles
Scope: Theatrical and audio/visual systems design; program development

Design of theatrical lighting and audio/visual systems, as well as development of functional requirements for all dance-related elements for the schematic design and design development phases of this 16,000 square foot project.

Scripps College Balch Auditorium Renovation, Claremont, California (2003-04)

Client: **Drisko Studio Architects, Santa Monica**

Scope: **Theatrical and audio/visual systems design**

Theatrical and audio-visual systems consulting for renovation of this historic auditorium on the Scripps College Campus. Schematic design through construction.

Alexandra Nechita Center for the Arts, Orange, California (2002-03)

Client: **Lutheran High School Association of Orange County**

Scope: **Owner's representation and audio/visual systems design**

Audio-visual systems design for \$4.5M 720-seat theater, including over \$1M of theatrical and audio/visual equipment. Owner's representation in design and construction of theatrical rigging, lighting, as well as stage configuration and cabling project. Architect: Architects Orange. Contractor: Thorpe Construction.

Invited presentations on this work

"How the heck did they do that?" (Panel) – Illuminating Engineers Society of Los Angeles, Marriot LAX, March 13, 2006.

2006- **Theatrical lighting design**

Triptych, Nomad Theatre Company, Los Angeles. (January-March 2006)

Location: Matrix Theater, West Hollywood.

"...first-rate lighting" – Los Angeles Times, 1/20/06

"...elegant, uncluttered ambiance" – Los Angeles Weekly, 1/18/06

AFFILIATIONS

2007- **Siqueiros Mural Subcommittee, El Pueblo de Los Angeles Historical Monument Authority**, City of Los Angeles, Member.
<http://www.latimes.com/entertainment/news/arts/la-et-culture18-2008oct18,0,2184718.story>

2007- **Science and Technology Advisory Board, San Jose Climate Clock project.**
<http://sj-climateclock.org/about>

2007- **Research Executive Committee**
2006- Area Lead, Urban Sensing
2005- Affiliated Faculty
National Science Foundation Center for Embedded Networked Sensing at UCLA.
<http://cens.ucla.edu/>

2006- **ACM Computers in Entertainment (Journal), Editorial Board.**

1999- **Eta Kappa Nu Electrical Engineering Honor Society, Lifetime Member.**

NEW MEDIA ARTWORKS AND PERFORMANCES AS AUTHOR, DESIGNER OR CO-CREATOR

2010 **Primer/Lem (under development)**
Original collaborative theater project with Tom Lee (La Mama Experimental Theatre Club, New York), Jared Stein (The Fourth World Laboratory). A new work that will explore Lem's ideas of isolation and fragility, found in novels such as *Solaris* and *Return from the Stars*. Using Bunraku and Kuruma Ningyo-style puppetry, an original electronic score, and a landscape of projections (including live projected miniatures), the collaboration seeks to capture the essential humanity of Lem's text, not merely to adapt his stories to the stage. Supported by the Trust for Mutual Understanding.

2009 **Community wellness data-driven light sculpture (under development)**

Prototype public light sculpture for The UCLA Family Commons, a community-focused facility in Santa Monica, California of the UCLA Semel Institute Global Center for Children and Families. Day-to-day expressions of feelings about wellness in the community will drive the lighting of the sculpture.

2009 ***The Reader (in pre-production)***

Theater production based on Chris Dolan's adaptation of Bernhard Schlink's bestselling novel on the difficult lifelong relationship of a Jewish man and his much older lover, a woman who he discovers was an SS officer, an allegory for Germany's struggle in the mid-20th century to come to terms with the second world war. Production and media designer, with Vanessa Holtgrewe, of the American premiere directed by Jean-Louis Rodrigue with support from the Montalvo Arts Center. The production design concept for the show, developed with Rodrigue and scenic designer Kaitlin Drisko, includes a gentle use of projection to mix the fantastic worlds of the books read by the two lovers with their stark and lonely real surroundings. Performance date to be determined; Montalvo workshop in Spring 2008.

Media concept video: <http://remap.ucla.edu/reader/concept/>

2009 ***IudiCity***

Co-creator, with Fabian Wagmister, of this situationist inspired system using SMS and mapping technologies to generate playful, coordinated urban actions for gallery727's *Photocartographies* exhibit in Downtown Los Angeles.

Site: <http://la.remap.ucla.edu/ludicity>

2009 ***Three Modern Noh Plays***

Projection design with Vanessa Holtgrewe for three plays by Yukio Mishima—*Yuya*, *Dojoji*, and *Yorobashi*— directed and translated to English for the first time by Conor Hanratty. Performed at UCLA, May, 2009.

2008 ***Remapping LA: Hollywould***

Community-authored media tours of Hollywood Boulevard on gps-enabled handheld devices, and a 3D visualization of the media database. Co-Director with Fabian Wagmister. Created for the LA Freewaves 11th Festival of Experimental Media Arts, this project incorporated geotagged, keyworded images, audio, and video from community groups around the Boulevard into a prototype system that enabled experience of the media on handheld devices while walking on the Boulevard and in a 3D game engine at several locations. Co-developed media concept, coordinated software development team, and programmed several key software components.

Website: <http://la.remap.ucla.edu/hollywould/>

2008 ***The Virgin & The Unicorn***

Theater workshop production based on Leonardo Da Vinci's version of the classic myth. Media designer, with Vanessa Holtgrewe, for this original piece being created and produced in collaboration with dramaturge Sergio Costola of Southwestern University, director Alexandar Iliev of the Bulgarian National Academy of Theater and Film Arts, and Jared Stein of The Fourth World Laboratory for International Theater Research. The piece will incorporate research and a performance text by Costola, movement styles from carnival performance through commedia by Iliev, and be rehearsed and performed at Fourth World's 2008 Rhodopi International Theater Collective. Performed in August 2008.

2008 ***Homer in Cyberspace II***

Theater production, UCLA's musical sequel to *The Blogger Project* (below) that explores the story of Homer's Odyssey amidst a modern tension between technology and the emotional soul. Media designer for this piece directed by Mel Shapiro, which received a UCLA Arts Initiative Grant to support the media production components. Building on techniques developed in past works, the piece will employ a 3D graphics engine to fuse video, still photography, hand drawings, and virtual architecture into projections integrated with physical scenery. Currently developing the visual and systems approach to the piece and forming the team of professional and student animators, cinematographers, programmers, and theater designers. Nine performances in May-June 2008.

Gallery: <http://remap.ucla.edu/hic2/>

Press

Suzu Evans. "**Play takes musical 'Odyssey' into cyberspace**", *Daily Bruin*, May 29, 2008.

David Chute. "Futuristic technology breathes new life into ancient heroes", *UCLA Today*, May 20, 2008.

2007

Junction / Juncture

Outdoor interactive media installation exploring overlapping threads of Southern California's history at the Los Angeles State Historic Park in Downtown. The piece was directed by Fabian Wagmister as a module of *Remapping LA*. Acted as producer, technical director, and lead software developer for this first collaboration among California State Parks, UCLA REMAP, and Walt Disney Imagineering R&D. Conceived and programmed C++ software that dynamically assembled a navigable three-dimensional timeline of historical images, audio, video, and text, drawing from a keyworded database of media created by Wagmister and REMAP. The software-generated imagery was projected into the Park on a 60-foot, 4-projector system constructed by WDI and dynamically controlled its operation to respond visually to live sensor information on train, traffic, and river movement near the park. It also accepted SMS text messages of thematic keywords from visitors to enable them to contribute to the selection of media presented. Coordinated and integrated the work of four other software developers on sensing, graphics, SMS, and audio. Acted as the primary cross-institutional contact for physical production, including coordination with LA Metro.

Website: <http://la.remap.ucla.edu/juncture>

Gallery: <http://la.remap.ucla.edu/juncture/visual/>

Video: http://remap.ucla.edu/remappingla/juncture/juncture_480.mov

2006

The Blogger Project

Theater production interweaving elements from Homer's Iliad, the Iraq War, and internet-based communication within a game-like world onstage. Media designer, software developer, and systems designer for this experimental project with Tony-award winning director and Professor Mel Shapiro in UCLA's Department of Theater. Developed a projection technique using the *Unreal* game engine to create projected visuals that mixed video, classical imagery, and modern web content. Coordinated the six-person team at REMAP, including computer science, architecture, film & television, and theater students to develop the software, systems, and visual design. Programmed specialized C++/DirectX code for full resolution video playback in the game engine. Co-designed and co-directed the video segments.

Gallery: <http://remap.ucla.edu/bp>

Articles

Lindsay Brandon Hunter, "Virtual space, theatrical space: video games and the postdramatic performer", *Performance Studies International* 13, November 8-11, 2007, New York.

Press

Hugh Hart. "Live action blogs", *Los Angeles Times*, April 18, 2006.

2003-05

in silico v1.0: Ecce Homology

Immersive interactive visualization of genomics data based on Chinese calligraphy. Co-Author and primary collaborator with Ruth West, Cheryl Kerfeld, Eitan Mendelowitz and others to develop an this piece, with its integral animation of the important BLAST (Basic Local Alignment Search Tool) algorithm used in gene sequence matching. Conceptual design, coordination of physical installation and software coding in Perl, C, and Java to map genetic data (GenBank) to visualization parameters. Designed the piece's five projector, four computer system to create a high resolution projection over 40 feet wide. Also wrote funded proposal to Intel to fund this research (see below). The project also received hardware support from NEC Visual Systems and is documented in the *Leonardo* journal.

Website: <http://insilicov1.org/>

Exhibitions

SIGGRAPH 2005 – Emerging Technologies and Art Gallery, Los Angeles, July 2005.

Hacking the timeline, EZTV & Crazy Space. Video only, Santa Monica, December 2004.

Fowler Museum of Cultural History and the Hammer Museum, Los Angeles, October-January, 2003.

Residencies for development

Sixth College of Art and Technology, University of California San Diego. Spring 2005.

Co-Production, Banff Centre for the Arts, Canada. March, 2005. (Awarded, but declined.)

Press

"**Blending the human genome with art**", *C|Net News*, July 27, 2005.

"**A Scientific Masterpiece.**" *UCLA Undergraduate Science Journal*, 17:26-28

"**Tracing out a scientific discovery,**" *Daily Bruin*, November, 2003.

"**Genomic Pictograms,**" *Genomic News Network*, November 26, 2003.

2000-02

hamletmachine

Interactive sound installation based on Heiner Müller's well-known play, a deconstruction of Shakespeare and German history. Conceived and created this interactive audio installation that shattered a recording of Müller's dialogue into sixteen pieces. In a harshly lit room, the audio fragments play back simultaneously and continuously, but in silence until shadows cast by visitor-performers fall on small sensors that raise or lower each dialogue fragment's volume based on the depth of the shadow. Through manipulation of their shadows, the visitor-performers reveal the whole play all at once, a fragment at a time, or any variation in between. Featured original dialogue recording by Adam Shive and Meg Ferrell. Programmed in Max/MSP. Invited to document in the journal *Müller in America* (see below). The version in Boston was updated with projected text fragments that created shadows when no one was in the room, allowing the space (and play) to talk to itself.

Exhibitions

Museums & the Web, Boston, Massachusetts (2002)

Fusion 2000, Los Angeles, California (2000)

2000-02

Beloved Mnemosyne

Interactive sound and sculpture environment on memory and loss in a family whose father has Alzheimer's. Co-Author with Anne Deane Berman (Iowa State based composer) and Bill McVicar (Santa Barbara based sculptor). Co-developed the concept and designed the software and use of ultrasonic person tracking and capacitive sensing to subtly activate a room-sized installation space. Visitors encountered smoothly overlaid sounds and stories of the family designed by Deane Berman as they moved through it and neared or touched sculptural objects and water features by McVicar.

Exhibitions

Konstmuseum, Göteborg, Sweden – International Computer Music Festival (2002)

Tech Museum of Innovation, San Jose – GroundZero Launch (2001)

MB5 2000, Oakland (2001)

Mentions

Hinkle-Turner, Elizabeth. "**Continued Promise for the Future**", *Women Composers And Music Technology in the United States: Crossing the Line*, Ashgate Publishing, 2006.

2000

Riddles of the Sphinx

Video installation exploring the materiality of digital compression and analog film, based on Peter Wollen's 1977 film of the same name. Co-Author with Peter Wollen and Kevin Fisher. Developed the visual approach and programmed a JPEG-inspired compression / quantization scheme for full-frame moving images for this video piece.

Exhibitions

n01se: A series of exhibitions about information and transformation, Kettle's Yard, Whipple Museum of the History of Science, Cambridge University, 2000.

NEW MEDIA ARTWORKS AND PERFORMANCES

AS SYSTEMS DESIGNER

2006

Imageability

Interactive installation and participatory mapping tool. Creator: Fabian Wagmister. Part artwork and part tool for community investigation of the city, collective remembering, self representation, imagining alternative futures, and engaged dialogue, *Imageability* uses a pen sketch-based interface to explore a large database of media about Los Angeles created by Wagmister. Designed the system, programmed the multiuser database code in Java, and coordinated development by others, including lead interaction developer, Eitan Mendelowitz.

Exhibitions

Monumento:872 Event, Chiparaki Cultural Civic Computing Center (June 15, 2007)
Chiparaki Cultural Center, Downtown Los Angeles as part of the LA State Historic Park opening.
(2006)

2001

Invocation and Interference

Interactive media environment exploring two modes of very intimate communication colliding as one travels the immense distances of the Pampas region in Argentina. Creator: Fabian Wagmister. Designed and programmed a user-configurable multi-sensor multi-screen control system for this installation, that integrated video playback to six monitors, real-time video zoom equipment, and ultrasonic proximity sensors. This enabled each video kiosk to respond to individuals walking near them, zooming into the video or switching from video stream to video stream based on their movement relative to the kiosk.

Exhibitions

Festival d'Arts Multimedia Urbains, Belfort, France (2001)

2001

Macbett

Theater production of Ionesco's satirical take on Shakespeare, at UCLA. Director: Adam Shive. Conceived and developed systems allowing performers playing supernatural characters to control by their own movement and position, stage lighting and sound for this mainstage theater production at UCLA. Participated in the production design and rehearsal process to assist with the integration of these systems into the performance. Programmed critical multithreaded system software in C++ and coordinated five undergraduate programmers working in C++, Java, and Visual Basic. Co-wrote UC Digital Media Innovations grant to fund this work and wrote several publications. (See below.)

Press

"Merging technology and theater," *UCLA Today*, May 8, 2001. (Macbett)

2000

Fahrenheit 451

Theater production of Ray Bradbury's science fiction classic, at UCLA. Directors: Marc Fellner & Kathy Castoro. Produced by DJ Gugenheim. Designed video systems and directed a team of three programmers for the UCLA student theatrical production. Live and prerecorded video on three rear-projection screens could be selected and played from single computer at full resolution and speed. In effect, three screens of full-resolution video could be "edited" on the fly to match by an operator to match the actors' performances.

Press

"Courage under fire," *Daily Bruin*, May 3, 2000.

1999-2000

Behind the Bars

Confrontational interactive installation treating Latin America's history of physical and intellectual oppression created by Fabian Wagmister. Integrated sensor and video systems to create a space responsive to and remembering the trajectory of individuals through it. Coded in Visual Basic and Java, and created a system of touch-sensitive prison bars, light sensors, live cameras, and recorded video.

Exhibitions

Central American Film and Video Festival, Granada, Nicaragua, 1999.

Semana de Identidad (Art Festival), Panama, 2000.

Press

"Viaje al Corazon de la Maquina, La Voz Del Interior, Cultura", Cordoba, Argentina, Sep. 21, 2000.

"Con Identidad Propia," La Prensa, Panama, June 24, 2000.

1999

Throughput

Interactive installation challenging the relationship between onscreen subject and viewer, created by film critical studies PhD student Kevin Fisher. To achieve the effect of an onscreen real archer following and firing at viewers in the space, integrated performer tracking sensor systems with video and still image control in Macromedia Director for this experimental interactive media space.

Exhibitions

UCLA Department of Film and Television, Los Angeles, 1999.

1999

Time & Time Again...

Interactive installation exploring the intersections of technological dependency and cultural identity in the Ruhr region of Germany. Creators: Fabian Wagmister and Lynn Hershman. Developed the sensing system, programmed Macromedia Director, and performed other technical production work for this distributed interactive media environment.

Commission & exhibition

Wilhelm Lehbruck Museum, Duisburg, Germany, 1999.

Press

“**Connected Cities: Kunstprozesse im urbanen Netz**”, Ruhr Online, Germany, July 16, 1999.

“**Rezension**”, Verena Kuni, Hagen, Germany, 1999

“**Connected Cities: Ein Kunstnetzwerk**”, 1000 Feuer, Essen, Germany, March, 1999.

“**Städte im Zeitalter ihrer virtuellen Konstruktion**”, Foyer Spezial, Germany, January, 1999.

ACADEMIC RESEARCH PROJECTS

2007-

Personal Environmental Impact Report (Center for Embedded Networked Sensing)

PI group: Jeff Burke, Deborah Estrin, Mark Hansen, Ruth West (equal responsibility)

Mobile phone and internet server based system to provide personalized environmental impact and exposure reports based on people’s travel patterns as sensed by location-enabled mobile phones. (Produced and contracted interactive exhibit.) A nationwide pilot is now under development by Nokia Research Center Palo Alto, in collaboration with UCLA CENS, as well as a pilot with the GoGreen Foundation of San Francisco, supported by Nokia and ATT Mobile.

Nokia profile: <http://theprogressproject.org/>

Project website: <http://peir.cens.ucla.edu>

Exhibition video: http://remap.ucla.edu/jburke/misc/nextfest/nextfest_half.mov

Video interview: http://www.wirednextfest.com/inform/2008/video_gallery_p2.php

Exhibition

IIT TechFest 2009, Bombay.

Wired Magazine NextFest, Millenium Park, Chicago, September, 2008.

Press (selected)

Kim, Ryan. “**Phones help youths see impact of carbon.**” San Francisco Chronicle, April 6, 2009.

Edwards, Colleen. “SF Students Carbon Footprint.” The Real Story, KCBS (radio). April 6, 2009.

Dangelis, Alyssa. “**Wide Angle: All the Cool Kids Have Them.**” Discovery Channel Tech Blog, March 27, 2009.

“**Students ‘Go Green’ in San Francisco.**” All Things Considered, National Public Radio, March 16, 2009.

Singel, Ryan. “**App Turns GPS Phone Data Into Green Report Card,**” Wired Science, September 29, 2008. <http://blog.wired.com/wiredscience/2008/09/app-turns-gps-p.html>

Richard, Michael Graham. “**Green at WIRED NextFest: GPS-Based Personal Environmental Impact Report (PEIR),**” Treehugger.com, October 1, 2008. <http://www.treehugger.com/files/2008/10/wired-nextfest-2008-chicago-peir.php>

See below for support.

2006-

Remapping LA (Center for Research in Engineering, Media and Performance)

Co-created and supervise this innovative civic cultural computing project that explores how emerging technologies can be designed and used in collaboration with communities to explore their history and identity. With Fabian Wagmister, UCLA Dept. of Film & Television and in collaboration with the California Department of Parks, and Recreation and several community organizations. Supported by the UCLA Center for Community Partnerships.

Website: <http://remap.ucla.edu/losangeles/>

Press

"UCLA's Virtual Pioneers: Remapping Los Angeles", Directions Magazine, May 10, 2007.
"UCLA's Virtual Pioneers: Remapping Los Angeles", UCLA in LA website
"UCLA In Downtown LA: UCLA Joins Downtown Los Angeles Park Project", UCLA Govt Relations
"Remapping: from cell phones to collective consciousness", UCLA Today, February 6, 2007.

- 2006- **Participatory Urban Sensing** (NSF Center for Embedded Networked Sensing)
Area lead. Co-created and supervise this newest of five systems research areas at CENS, an NSF Science & Technology Center. Researchers focus on how ubiquitous, off-the-shelf mobile technology can be harness to investigate and address significant challenges in public health, urban planning, and sustainability. The area involves over six graduate students, four staff, six undergraduates, and four regularly collaborating faculty. With Deborah Estrin (Computer Science). Funded by a variety of sources listed below.
Website: <http://urban.cens.ucla.edu/>
Press
"Researchers' Enviro Sensors Hitch Rides on Street Sweepers", Wired Science Blog, June 11, 2008.
- 2002-04 **The Iliad Project**
Co-architect. Performance research project exploring the broad implications of digital technology to theater performance with simultaneous development of text, technology, and design. Collaboration with playwright Jared Stein and UCLA Theater, Film and Television faculty Fabian Wagmister, Edit Villareal, and Jose Luis Valenzuela. Initial development with MFA directing student Adam Shive. Co-wrote internal / external proposals to fund this research (see below). Java coding.
Press
"The Play's the (New) Thing," *UCLA Alumni Magazine*, May, 2002.
"An Iliad for the 21st century," *Wired News*, January 2, 2002.
- 2001-6 **kolo and nebesko**
Concept, architecture, programming coordination, coding. Direction of ongoing development of an Open Source, Java-based middleware and scripting language to support device interconnection and networking for technological-based artworks. Supervision of four graduate and undergraduate software developers. Lead architect and current maintainer is Computer Science doctoral student Eitan Mendelowitz.
- 1998-03 **Advanced Technology for Cinematography / MediaWINS**
Co-Principal Investigator. Multidisciplinary research effort including Professors Mani Srivastava, William Kaiser, Greg Pottie (Electrical Engineering), William McDonald and Fabian Wagmister (Film, Television and Digital Media). The project investigated and build the technologies for an on-set network that senses, reports, and records the conditions of film production.

RESEARCH SUPPORT AND SPONSORED RESEARCH PROJECTS

- 2009 **Data-driven light sculpture**
(UCLA Semel Institute, \$27k)
Principal Investigator. (See new media projects above.)
- 2009 **Visual Campaign: Mobile Software for Participatory Sensing & Cultural Civic Computing**
(Nokia Research Hollywood, \$120k)
Principal Investigator.
- 2009 **OurPixel**
(Microsoft Jim Gray Seed Grant, \$30k)
Co-Principal Investigator with Eric Graham, Nithya Ramanathan, Deborah Estrin.
- 2009 **Integrating Augmented Reality with Location-Based Experience on the Maemo Platform**
(Nokia Research Hollywood, \$25k)
Principal Investigator. Followup grant.
- 2008-9 **Seeding an open-source ecosystem for location-based mobile experience**

- (Nokia Research Hollywood, \$25k)
Principal Investigator. One of the first cycle of seed grants issued by Nokia's new Hollywood-based, entertainment-focused research center.
- 2008-11 ***Ethics Education for Participatory Urban Sensing***
(National Science Foundation, \$300k)
Co-Principal Investigator, with Deborah Estrin (PI, Computer Science), Mark Hansen (Stat), Jim Waldo (Sun), graduate student researcher Katie Shilton (Information Studies).
- 2008-9 ***Personal Environmental Impact Report*** (renewal and NextFest production funding)
(Nokia, \$320k)
Co-Principal Investigator, with Deborah Estrin (PI, Computer Science), Mark Hansen (Stat). See above for project description.
- 2008 ***Production of Egghér at the 2008 Rhodopi International Theater Collective***.
(Trust for Mutual Understanding, \$35k)
Principal Investigator. Third year of funding for collaborative residency for digital media artists at this alternative summer training program in Eastern Europe.
- 2008 ***Participatory Privacy Regulation for Urban Sensing***
(Intel, approx. \$30k in cash and equipment)
Principal Investigator.
- 2008 ***Research support***
(Draper Foundation, approx. \$210k)
To the School of Theater, Film and Television. Unrestricted Gift.
- 2008 ***Participatory Sensing on Everyday Mobile Phones to Support Active Living***
(Samsung, approx. \$143k)
Principal Investigator. Co-PIs: Deborah Estrin (Computer Science), Mani Srivastava (Electrical Engineering).
- 2008 ***A Web Framework for Participatory Urban Sensing***
(Google, \$45k)
Co-Principal Investigator, with Deborah Estrin (PI, Computer Science), Mark Hansen (Statistics).
- 2007 ***Architecture for a data-centric network fabric (matching funds)***
(UC Microelectronics Innovation & Computer Research Opportunities, \$77k)
Co-Principal Investigator, with Deborah Estrin (PI, Computer Science). Matching funds for the 2007 Cisco and Nokia awards listed below.
- 2007-8 ***Production grant for Homer In CyberSpace II***
(UCLA Arts Initiative, \$60k)
Subgrant Principal Investigator. PI: Bill Ward, Chair, Dept. of Theater. \$42k subgrant to fund REMAP media design components of this production, described above.
- 2007-9 ***Semiotic Pivots and Activity Spaces for Elementary Science (SPASES)***
(National Science Foundation, \$300k)
Senior Personnel, with Noel Enyedy (PI, Education), Fabian Wagmister (Co-PI, Film & Television).
- 2007 ***Personal Environmental Impact Report***
(Nokia, \$220k)
Co-Principal Investigator, with Deborah Estrin (PI, Computer Science), Mark Hansen (Stat), Andrew Mondchein (Institute for Transportation Studies).
- 2007 ***HyperMedia Los Angeles***
(UCLA Arts Forum, \$18k)
Co-Principal Investigator, with Todd Presner (PI, Germanic Languages), Diane Favro (Architecture). Extension of Hypermedia Berlin (<http://berlin.ucla.edu>) to Los Angeles and other cities.
- 2007 ***Superficial Superglow***
(UCLA Arts Forum, approx. \$10k)

- Co-Principal Investigator, with David Erdman (PI, Architecture), Dana Cuff (Architecture), Casey Reas (Design | Media Arts), Mark Hansen (Statistics). Multidisciplinary design studio incorporating architecture, media, and sensing.
- 2006 **Participatory Sensing: SensorPlanet as a Platform for Community Data Gathering.** (Nokia, approx. \$375k in-kind, \$30k cash)
Co-Principal Investigator, with Deborah Estrin (PI, Computer Science), Mark Hansen (Statistics), Mani Srivastava (Electrical Engineering). Joint equipment support to Center for Embedded Network Sensing (CENS) and REMAP.
- 2006 **Architecture for a data-centric network fabric to support urban participatory sensing.** (Cisco, approx. \$430k)
Principal investigator. Graduate student and equipment support for collaborative research at REMAP and the Center for Networked Embedded Sensing, with Prof. Deborah Estrin in the Department of Computer Science.
- 2006 **SensorPlanet equipment support.** (Nokia, approx. \$20k)
Co-Principal Investigator. Negotiated equipment support for collaborative research via the Center for Networked Embedded Sensing, with Prof. Deborah Estrin in the Department of Computer Science.
- 2006 **NeTS-FIND: Collaborative Research: Network Fabric for Personal, Social, and Urban Sensing Applications.** (National Science Foundation, \$1.1M/4 yrs).
Co-Principal Investigator. PI: Mani Srivastava, Electrical Engineering, UCLA. Collaborating institution: UC Berkeley International Computer Science Institute.
- 2006 **Cultural Experiences for Urban Public Space Using Cooperative Embedded and Mobile Sensing.** (National University of Singapore, approx. \$55k)
Principal Investigator. Seed funding to develop major proposal to the National Research Foundation of Singapore with the collaborative partnership of UCLA, National University of Singapore and Walt Disney Imagineering.
- 2006 **Advanced digital editing equipment.** (Draper Foundation, \$45k)
Principal investigator.
- 2006 **Workshop in media, performance and technology at the 2006 Rhodopi International Theater Collective.** (Trust for Mutual Understanding, \$25k)
Principal Investigator. Renewal for a four-week residency for digital media artists at this alternative summer training program in Eastern Europe, to create an original theatrical work in collaboration with the local theater, the Rhodopi Dramatichen, one of the most productive regional theaters in the Balkans.
- 2005 **Equipping the Center for Research in Engineering, Media and Performance** (Intel, \$24k)
Principal Investigator. Proposal for computer equipment in support of REMAP.
- 2005-2006 **Sensor network data visualization.** (Center for Embedded Networked Sensing, \$35k)
Co-Principal Investigator. Collaboration with Professor Mark Hansen (Statistics, Design|Media Arts) to explore new visualization techniques for sensor data.
- 2005 **Workshop in media, performance and technology at the 2005 Rhodopi International Theater Collective.** (Trust for Mutual Understanding, \$40k)
Principal Investigator. Creation of a three-week residency for digital media artists at this new alternative summer training program in Eastern Europe.
- 2003-2006 **Sensor networks for feature film production.** (Intel Research Council, \$240k)
Principal Investigator. As part of the Advanced Technology for Cinematography initiative at UCLA, this project investigates the application of emerging embedded sensing platforms to feature film cinematography.
- Plautz, Dana. "A look at Intel's Research Council Funding in Sensor Networks for Feature Film Production and Interactive Drama." *ACM Computers in Entertainment* 2(4), 2004.
- 2003-2006 **Authoring software for instrumented media-rich spaces.** (NEA, \$100k)

- Co-Principal Investigator. (PI: Fabian Wagmister.) Conceptual development, proposal writing, programming, and coordination for this project, partially supported by the National Endowment for the Arts, to develop prototype software to support instrumented media-rich spaces, including a test environment being developed in collaboration with the Smithsonian National Museum of American History. Wrote funded NEA grant proposal to support this research (see below).
- 2003 **Visualization of the BLAST bioinformatics algorithm and human genome.** (Intel, \$28k)
Principal Investigator. Equipment grant for the *in silico* art and research project (see above).
- 2002 **The Iliad – Exploring HCI in the Performing Arts.** (NSF, \$100k)
Proposal author and primary researcher. (Co-PIs: Fabian Wagmister and Michael Dyer.) NSF Small Grant for Exploratory Research supporting *Kolo* software development for The Iliad Project. (see above).
- 2002-3 **Design visualization for theater, film and television.** (UCLA Academic Tech. Svcs., \$29k)
Principal Investigator. Supervised graduate and undergraduate students to develop prototype 3D modeling tools to support theater, film and television pre-production visualization.
- 2002 **The Iliad Project.** (University of California Institute for Research in the Arts, \$5k)
Co-Principal Investigator. Demonstration project grant, support for The Iliad Project (see above.)
- 2002-03 **Computer vision for media and performing arts.** (UCLA Academic Tech. Svcs, \$5k)
Principal Investigator. Three-quarter exploratory project in applications of computer vision to the arts.
- 2000 **Advanced technologies for live performance.** (University of California, \$13k)
Co-Principal investigator. (PI: Fabian Wagmister.) Digital Media Innovations Program Opportunity Grant in support of *Macbett*.
- 2000 **Pinpoint Local Positioning System** (\$60k)
Negotiated donation of specialized technology to the HyperMedia Studio for research.
- 2000 **MediaWINS** (GTE/Verizon Grant)
Lead researcher. (PIs: William Kaiser, Fabian Wagmister.) Negotiated donation of specialized technology to the HyperMedia Studio for research. Coordinated technical prototype development using wireless ethernet on Windows CE handheld devices for a proposed application of wireless sensor network technology to film, television, and new media production.

RESEARCH ADMINISTRATION

- 2005-06 **Quartieri della Memoria / Responsive Public Spaces** (Provincia di Rieti, \$45k)
Public space installation project designed and executed by UCLA REMAP researcher Alessandro Marianantoni.

Website: <http://www.alexrieti.com/works/qdm/qdm.htm>

CONFERENCE AND EVENT ORGANIZATION

- 2008 **UCLA / Nokia Summit on Sustainability and Mobile Technology.**
Co-organizer, with D. Estrin, P. Boda, M. Hansen, H. Tirri. Finland, August 2008.
- 2008 **UCLA / Nokia Brainstorming Session on the Future of Mobile Entertainment.**
Organizer. Full day session with 35 professionals and academics to develop themes and connections for a new Nokia R&D Laboratory in Hollywood. The Hollywood Roosevelt Hotel, May 15, 2008.
- 2007 **Participatory Urban Sensing & Community-Based Participatory Research**
Workshop chair with D. Estrin and graduate students S. Reddy, N. Ramanathan. *ACM Sensys 2007*. University of New South Wales, November 2007. Over 30 participants from engineering and the social sciences.
- 2007 **Joint workshop with Nokia Research Center Palo Alto on the Personal Environmental Impact Report.**
Co-organizer, with D. Estrin, P. Boda, H. Tirri, M. Hansen, and others. Nokia Palo Alto Research Center. July 31, 2007.

- 2007 **Monumento:872**
Co-organizer (technology). Event to unearth and engage Los Angeles in the night using mobile devices, GPS tracking, and media databases. Los Angeles, California. REMAP, in collaboration with UCLA Design|Media Arts, Center for Embedded Networked Sensing. June 2007.
- 2007 **BC/Vancouver-Canada-California Participatory Sensing Roundtable**
Organizing board of this industry, government, and academic meeting. Co-sponsored by REMAP and the Center for Embedded Networked Sensing and other partners. Wosk Center, SFU, Vancouver, British Columbia. March 22-23, 2007.
- 2006 **UCLA Urban Sensing Summit**
Organizer. Co-sponsored by REMAP and the Center for Embedded Networked Sensing. Bradley International Center, UCLA, May 4, 2006. Initiated a now vibrant area of research at UCLA. Over 40 participants from across campus, industry, and other institutions.
- 2005- **EXP Lecture Series**
Joint organization of this lecture series co-sponsored by REMAP and the Experiential Technology Center. Speakers from MIT, IBM, Disney, Intel, University of Illinois, LA County Natural History Museum, UCLA, UCI.

SYNERGISTIC ACTIVITIES

- 2007- **REMAP research internship programs with the National University of Singapore and the Beijing Multimedia Industry Association**
Initiated and coordinated new 4-6 month internships of three graduate and undergraduate students from Singapore and China .
- 2007-10 **UCLA Frontier Opportunities in Computing for Underrepresented Students**
Participant in UCLA's \$598k, 3-year effort funded by the NSF Broadening Participation in Computing program, with plans to provide lab engagements, seminars, workshops, etc.
- 2006 **Consulting – Costa Rican Ministry of Culture**
Consultant with Fabian Wagmister on a \$4M+ historic site renovation and community, culture and technology project.
- 2004- **Mentorship – Center for Excellence in Engineering and Diversity**
A mentor for project teams in the Introduction to Engineering (Engineering 87) course in the UCLA Henry Samueli School of Engineering and Applied Science.
- 2002- **Co-PI for several multidisciplinary NSF grant proposals (not yet funded)**
A participant as well as lead writer and organizer for interdisciplinary proposals including co-PIs from the UCLA Graduate School of Education & Integrative Studies, Computer Science, and Electrical Engineering. Additional collaborators included the NASA-funded Institute for Cell-Mimetic Space Exploration, as well as local schools including the Culver City Academy for the Visual and Performing Arts and the New Roads High School in Santa Monica, California.
- Representative example*
NSF IGERT Pre-Proposal - *Collaborative Program in Embedded Networked Systems and Expressive Communication*. F. Wagmister (Film), W. Kaiser (EE), M. B. Srivastava (EE), J. Burke (TFT), A. Alwan (EE), M. Hansen (Stats), W. McDonald (Film), S. Soatto (CS), V. Sobchack (Film), B. Vaughn (Disney), W. Ward (Theater); \$3M/5 yrs
- 2002 **Integrated course projects at Art Center and UCLA**
While also an instructor at Art Center College of Design, helped to structure and evaluate joint final 'interactive' projects created by graduate students in Industrial Design at Art Center with undergraduate sound designers in the UCLA Department of Theater.
- 2001- **Production consultation – Department of Theater**
Have provided regular assistance to motivated students in developing and implementing multimedia production systems for a variety of experimental theater performances, including an original production of Ray Bradbury's *Fahrenheit 451*, undergraduate and graduate thesis productions and installations.

RESIDENCIES

- 2009 **Rhodopi International Theater Laboratory.** Smolyan, Bulgaria.
Artistic residency for the development of PRIMER/LEM, two weeks. Funded by the Trust for Mutual Understanding; in collaboration with FourthWorld Theatre Projects.
- 2009 **Sarofim School of Fine Arts, Southwestern University.** Austin, Texas.
Residency at Southwestern to lead a workshop on the use of media in performance and assist the Theater Department develop a media-rich production concept for an original opera on the relationship between W. Kandinsky, A. Schoenberg, and G. Münter, *Color of Dissonance*. In collaboration with FourthWorld Theatre Projects. January, 2009; March, 2009. Funded by the Mellon Foundation. Student video designer won 2009 Austin Critics Table award.
- 2008 **Center for HyperMedia Experimentation (cheLA),** Buenos Aires, Argentina
Two-week funded residency continuing collaboration started in 2003 with local and international artists, educators, and students. December, 2008.
- 2008 **Rhodopi International Theater Collective / Rhodopi Dramatischen Theater.** Smolyan, Bulgaria.
Led four-week summer residency of four artists and technologies at the Rhodopi International Theater Collective (www.worldtheater.org) to create an original multimedia theatrical work with the student ensemble of the Collective. Funded by The Trust for Mutual Understanding. (See above for production details)
- 2007 **Academy of Theater and Film Arts.** Zagreb, Croatia.
One-week invited residency at the University of Zagreb's Academy of Theater and Film Arts, including classes and demonstration presentations with undergraduates.
- 2006 **Rhodopi International Theater Collective / Rhodopi Dramatischen Theater.** Smolyan, Bulgaria.
Led four-week summer residency of four artists at the Rhodopi International Theater Collective (www.worldtheater.org) to create an original multimedia theatrical work with the local professional company, the Rhodopi Dramatischen Theater. Funded by The Trust for Mutual Understanding.
- 2005 **Co-Production, Banff Centre for the Arts, Canada.** (awarded but declined)
Residency to develop *in silico* (see above).
- 2005 **Sixth College of Art and Technology,** University of California, San Diego
One-quarter residency to develop *in silico* (see above).
- 2003 **Center for HyperMedia Experimentation (cheLA),** Buenos Aires, Argentina
Two-week funded residency at this facility before it opened to the public in April, 2003 to introduce participating artists to interactive technology and production techniques, as well as construct with them a public demonstration of systems developed at UCLA and installed for use at the project.

BOOK CHAPTERS

J. Burke and J. Stein. "Theatre of Context: Digital technology's impact on dramatic literature." In *New Visions of Performance: The Impact of Digital Technology*, Colin Beardon and Gavin Carver, eds. Swets & Zeitlinger: 2004.

VIDEO

J. Burke (Executive Producer/Writer), E. Meyers (Producer/Writer), Kern Konwiser (Director/Writer), D. Estrin, J. Goldman, M. Hansen, K. Shilton. "Participatory Urban Sensing", 5 minute HD documentary style video produced by Eyes of the World Productions for the Center for Embedded Networked Sensing. May 2008.

<http://youtube.com/watch?v=t-lfpA3XiY>

J. Burke (Producer/Editor), V. Holtgrewe (Director of Photography). "**Rhodopi International Theater Collective**", 2007, digital video, 7:17. Documentary-style short on the RITC based on 60 hours of footage shot in 2005, created to promote the Collective and the creation of a full-length documentary on it.

<http://remap.ucla.edu/jburke/ragnarok/trailer/trailer.mov>

JOURNAL PUBLICATIONS

N. Yau, K. Chandler, E. Howard, D. Lam, M. Mun, V. Naik, N. Petersen, J. Ryder, K. Shilton, A. Steiner, C. Wang, J. Burke, D. Estrin, M. Hansen, R. West. "**Designing a User Interface to Explore Environmental Impact and Exposure.**" *IEEE Pervasive*, 2008. (Submitted.)

J. Burke (guest editor), **Performance and the City** special issue, *International Journal of Art and Technology*, June 2008.

V. Samanta, C. Knowles, J. Burke, F. Wagnmister, D. Estrin, "**Metropolitan Wi-Fi Research Network in the Communities of the Los Angeles State Historic Park,**" *Journal of Community Informatics*, Field Note, Vol. 4 No. 1 (2008) Special Issue: Wireless Networking for Communities, Citizens and the Public Interest.

T. Abdelzaher, Y. Anokawa, P. Boda, J. Burke, D. Estrin, L. Guibas, A. Kansal, S. Madden, J. Reich. "**Mobiscopes for Human Spaces,**" *IEEE Pervasive Computing* 6(2):20-29, 2007.

H. Park, J. Friedman, P. Gutierrez, V. Samanta, J. Burke, M. Srivastava. "**Illumimote: High Fidelity and Multi-Modal Light Sensor Module for Wireless Sensor Networks.**" *IEEE Sensors* 7(7):996-1003, 2007.

J. Burke, J. Friedman, E. Mendelowitz, H. Park, M. B. Srivastava. "**Embedding expression: Pervasive computing architecture for art and entertainment.**" *Journal of Pervasive and Mobile Computing* 2(1):1-36, 2006.

R. West, J. Burke, C. Kerfeld, E. Mendelowitz, T. Holton, JP Lewis, E. Drucker, W. Yan, "**Both and Neither: in silico v.1.0, Ecce Homology**" *Leonardo Journal of Art, Science and Technology* 38:4(286-293), MIT Press, 2005.

J. Burke. "**shadows of hamletmachine,**" *Muller in America*, Castillo Theatre, New York. Spring, 2003.

J. Burke. "**Interactive performance environments and the visualization of actor movement.**" *Digital Creativity, special issue on Visual Interaction and Design*. 13(2):122-128, 2002.

J. Burke. "**Dynamic performance spaces for theatre production,**" *Theatre Design & Technology*, Winter 2002.

CONFERENCE PAPERS, REPORTS

Heemin Park, Jeff Burke and Mani B. Srivastava. "**Intelligent Lighting Control using Wireless Sensor Networks for Media Production,**" *KSII Transactions on Internet and Information Systems* 3(5):423-443, 2009.

K. Shilton, J. Burke, D. Estrin, M. Hansen, J. Kang, R. Govindan. "**Designing the Personal Data Stream: Enabling Participatory Privacy in Mobile Personal Sensing.**" 37th Research Conference on Communication, Information, and Internet Policy (Telecommunications Policy Research Conference). September 25-27, 2009. Arlington, Virginia.

M. Mun, S. Reddy, K. Shilton, N. Yau, P. Boda, J. Burke, D. Estrin, M. Hansen, E. Howard, R. West. "**Leveraging everyday mobile devices for sustainability: PEIR, the Personal Environmental Impact Report.**" Seventh Annual Intl. Conf. on Mobile Systems, Applications and Services (Mobisys 2009), June 22-25, Krakow, Poland.

S. Reddy, K. Shilton, J. Burke, D. Estrin, M. Hansen, M. Srivastava. "**Using context annotated mobility profiles to recruit data collectors in participatory sensing.**" Fourth Intl. Symposium on Location- and Context Awareness, May 7-8, 2009, Tokyo, Japan. **Winner, Best Paper Award.**

- S. Reddy, K. Shilton, J. Burke, D. Estrin, M. Hansen, M. Srivastava. "**Evaluating participation and performance in participatory sensing.**" Intl. Workshop on Urban, Community and Social Applications of Networked Sensing Systems (UrbanSense 08), held in conjunction with ACM Sensys 2008, November 4, 2008, Raleigh, North Carolina.
- S. Reddy, J. Burke, D. Estrin, M. Hansen, M. Srivastava. "**Determining transportation mode on mobile phones,**" *ISWC 2008: Twelfth IEEE Intl. Symposium on Wearable Computers*, Pittsburgh, Pennsylvania, Sept. 28 - Oct. 1, 2008.
- J. Burke. "**Nevermind ubiquity,**" *Ubiquitous Sustainability: Citizen Science & Activism Workshop, Ubicomp 2008*, Seoul, Korea, September 21, 2008. (accepted; was unable to attend)
- M.Y. Mun, D. Estrin, J. Burke, M. Hansen, "**Parsimonious Mobility Classification using GSM and WiFi Traces,**" *HotEmNets 08*.
- K. Shilton, J. Burke, D. Estrin, M. Hansen, M. Srivastava. "**Achieving Participatory Privacy Regulation: Guidelines for CENS Urban Sensing.**" CENS Technical Report, June 2008. (Pending.)
- K. Shilton, N. Ramanathan, S. Reddy, V. Samanta, J. Burke, D. Estrin, M. Hansen, M. Srivastava. "**Participatory Design of Urban Sensing Networks: Strengths and Challenges,**" *Participatory Design Conference*, Bloomington, Indiana, Sept. 30 - Oct 4, 2008.
- D. Kim, N. Petersen, M. Rahimi, J. Burke, D. Estrin, L. Arab. "**Rewind: Leveraging Everyday Mobile Phones for Targeted Assisted Recall**", *UCLA Computer Science Technical Report 080016*, June, 2008. <http://fmdb.cs.ucla.edu/Treports/Rewind.pdf>
- K. Shilton, J. Burke, D. Estrin, M. Hansen, M. B. Srivastava. "**Participatory Privacy in Urban Sensing,**" *Intl. Workshop on Mobile Device and Urban Sensing (at IPSN)*, St. Louis, Missouri, April 21, 2008. (Invited paper.)
- K. Shilton, J. Burke, D. Estrin, M. Hansen, "**Privacy and Participation in Ubiquitous Information Systems: Information Ethics when Mobile Phones are Sensors,**" *Third Annual iConference*, Los Angeles, CA, February 28 – March 1, 2008.
- E. Agapie, G. Chen, D. Houston, E. Howard, J. Kim, M. Y. Mun, A. Mondschein, S. Reddy, R. Rosario, J. Ryder, A. Steiner, J. Burke, D. Estrin, M. Hansen, M. Rahimi, "**Seeing Our Signals: Combining location traces and web-based models for personal discovery,**" *Ninth Workshop on Mobile Computing Systems and Applications (HotMobile)*, February 25-26, 2008.
- S. Reddy, A. Parker, J. Hyman, J. Burke, D. Estrin, M. Hansen, "**Image Browsing, Processing, and Clustering for Participatory Sensing: Lessons from a DietSense Prototype,**" *Fourth Workshop on Embedded Networked Sensors (EmNets 2007)*, Cork, Ireland, June 25-26, 2007.
- E. Mendelowitz, J. Burke, J. Brush. "**Serendipity,**" (demonstration/poster), *O'Reilly's Where 2.0 Conference*, San Jose, CA, May 29-30, 2007.
- V. Samanta, J. Ryder, S. Chaudhuri, J. Burke, D. Estrin, F. Wagnmister. "**UCLA/Cisco Metropolitan Wi-Fi Research Network,**" Poster, *LANMAN 2007*, June 10-13, 2007, New Jersey.
- H. Park, M. Srivastava, J. Burke. "**Design and Implementation of Wireless Sensor Networks for Intelligent Light Control**", *IPSN SPOTS '07* Cambridge, MA.
- A. Parker, S. Reddy, T. Schmid, and K. Chang (UCLA), G. Saurabh (Google), M. Srivastava, M. Hansen, J. Burke, D. Estrin (UCLA), Mark Allman and Vern Paxson (ICSI). "**Network System Challenges in Selective Sharing and Verification for Personal, Social and Urban-Scale Sensing Applications.**" *Hotnets 2006*, November 29, 2006.
- J. Burke, D. Estrin, M. Hansen, A. Parker, N. Ramanathan, S. Reddy, M. B. Srivastava. "**Participatory sensing,**" *World Sensor Web Workshop, ACM Sensys 2006*, Boulder, Colorado, October 31, 2006. [49 citations to date recorded by Google Scholar.]

R. West, J. Burke, E. Mendelowitz, JP Lewis, C. Kerfeld. "**ACTG to Calligraphy: Genetic Visualization for Ecce Homology.**" *12th Annual IEEE Symposium on Information Visualization*, October 29 – November 23, 2006.

S. Reddy, T. Schmid, A. Parker, J. Porway, J. Mascia, A. Joki, J. Burke, M. Hansen, D. Estrin, and M. Srivastava. "**UrbanCENS: Sensing with the Urban Context,**" *UbiComp 2006 Demonstration*, September 7-11, 2006.

M. Srivastava, M. Hansen, J. Burke, A. Parker, S. Reddy, G. Saurabh, M. Allman, V. Paxson, D. Estrin. "**Wireless urban sensor systems.**" *CENS Technical Report #65*. Center for Embedded Networked Sensing, UCLA, April, 2006.

H. Park, J. Friedman, P. Gutierrez, V. Samanta, J. Burke, M. B. Srivastava, "**High Fidelity and Multi-Modal Light Sensing Module for Wireless Sensor Networks,**" The Fifth International Conference on Information Processing in Sensor Networks (IPSN 2006) , April 2006.

H. Park, J. Friedman, J. Burke, M. B. Srivastava. "**A New Light Sensing Module for Mica Notes**", *IEEE Sensors 2005*, Irvine, CA, October 31 – November 3, 2005.

H. Park, J. Friedman, P. Gutierrez, V. Samanta, J. Burke, M. B. Srivastava. "**Illumimote: A High Performance Light Sensor Module for Wireless Sensor Networks.**" *Design Automation Conference*, San Francisco, July 24-28, 2006. **Winner, Second Place, Systems, 2006 Design Contest.**

A. Marianantoni, H. Park, J. Friedman, V. Holtgrewe, J. Burke, M. Srivastava, F. Wagnister, W. Kaiser, W. McDonald, J. Brush. "**Demonstration: Sensor Networks for Media Production.**" *Second ACM Conference on Embedded Networked Sensor Systems (Sensys '04)*, November 3-5, 2004, Baltimore, Maryland.

E. Mendelowitz and J. Burke, "**Kolo and Nebesko: A Distributed Media Control Framework for the Arts.**" *First Intl. Conference on Distributed Frameworks for Multimedia Applications (DFMA '05)*, February 6-9, 2005, Besançon, France.

R. West, J. Burke, C. Kerfeld, E. Mendelowitz, T. Holton, JP Lewis, E. Drucker, W. Yan, "**Ecce Homology.**" *Design and Visual Communications Sketches, SIGGRAPH 2004*, Los Angeles, August 8-12, 2004.

N. M. Su, H. Park, E. Bostrom, J. Burke, M. B. Srivastava, D. Estrin, "**Augmenting Film and Video Footage with Sensor Data.**" *Second IEEE International Conference on Pervasive Computing and Communications*, Orlando, Florida, March 14-17, 2004.

J. Burke, E. Mendelowitz, J. Kim, and R. Lorenzo. "**Networking with knobs and knats: Towards ubiquitous computing for artists.**" *Ubiquitous Computing 2002*, Concepts and Models Workshop, Gothenburg, Sweden, September 29 - October 2, 2002.

E. Mendelowitz and J. Burke. "**A distributed control system and scripting language for 'interactivity' in live performance.**" *First International Workshop on Entertainment Computing*, Makuhari, Japan, May 17-19, 2002.

F. Wagnister and J. Burke. "**Networked multi-sensory experiences: Beyond browsers on the web and in the museum,**" *Museums and the Web 2002 Conference*, Boston, MA, April 17-20, 2002.

J. Burke, A. Shive, and F. Wagnister. "**Macbett: A Case Study of Performance & Technology for Dynamic Theater Spaces.**" *IEEE Multimedia Technology and Applications Conference*, Irvine, California: November 7-9, 2001.

POPULAR AND TRADE PUBLICATIONS

J. Burke, D. Estrin, W. Kaiser, G. Pottie. "**Community-based participatory sensing of Los Angeles traffic conditions,**" March 12, 2007, requested submission to April 2, 2007, UCLA Anderson Forecast Panel on *The Geography of the Los Angeles Economy*.

J. Burke. **"But will it sync to my Palm? Early adventures in 'smart stages' for live performance."** *Entertainment Design*, October 2001.

INTERVIEWS

J. Farman. **"Digital Performance and the HyperMedia Studio: An Interview with Jeff Burke,"** *Extensions: The Online Journal of Embodiment & Technology*, Volume 3, 2007.

D. Abel and J. Stevens. **"'Mash-Ups' Will Revolutionize How Planners and Citizens View City Planning.** (Jeff Burke, UCLA)" *The Planning Report*, August 2006.

REVIEWER

Editorial Advisory Board, *Information Assurance and Security Ethics in Complex Systems: Interdisciplinary Perspectives*, IGI Global (planned 2009).

Grant review including the *University of California Discovery Grant Communications, Computing and Energy Review Committee* (2009).

Reviewer for peer-reviewed publications including *Transactions on Information Technology in BioMedicine* (2008).

INVITED CONFERENCES AND PRESENTATIONS

High Performance Transaction Systems, 13th Annual, "Participatory Sensing: Planning Life-long Data Streams," Asilomar, California. Oct. 12-15, 2009.

National Science Foundation, "Future Internet Summit," Arlington, Virginia. Oct. 12-15, 2009.

CENS, "Urban Sensing as Experience Infrastructure." August 21, 2009.

Cisco Systems. July 7, 2009.

Sun Laboratories. July 8, 2009.

Nokia Forum PRO University, Budapest. Invited attendee of developer / university conference, Budapest, Hungary, November 19-21, 2008.

NSF FOCUS Program at UCLA. Presentation for community college students on opportunities in art and engineering as part of this NSF-funded initiative, August 27, 2008.

California Institute for the Arts. Class presentations on teaching and research to the MFA Teaching Practicum and seminars in Film, March 20, 2008.

Center for Embedded Networked Sensing, UCLA "Because the Stakes are Higher: Ethics in Participatory Sensing", invited talk with Katie Shilton (Information Studies), January 11, 2008.

UC Berkeley, Toyota, "Meeting of the Minds", invited conference on sustainable cities, September 12-13, 2007.

NSF FOCUS (Broadening Participation in Computing program), UCLA, Los Angeles, invited presentation on urban sensing and multimedia performance, August 23, 2007.

Rhodopi International Theater Collective, Smolyan, Bulgaria, "8 questions", invited lecture on multimedia theatrical performance with Vanessa Holtgrewe, August 8, 2007.

Institute for the Future, Palo Alto, "Experiences of Reality", invited participation in daylong workshop on technology opportunities for SK Telecom, Korea, July 26, 2007.

UCLA CENS and Google, Los Angeles, invited presentation on urban sensing and multimedia performance, July 12, 2007.

Fuji Xerox Palo Alto Research Lab (FXPAL), Palo Alto, "Urban sensing, theater, and the space-time aquarium," invited presentation, June 15, 2007.

UCLA Digital Innovations Day, Los Angeles, REMAP Booth on Remapping LA, “Cultural Civic Computing in Los Angeles: Cultural Identity, Participatory Technology and Community Development: Specificities and Globalities”, May 10, 2007.

Institute for the Future, Palo Alto, “Sensors and Sensemaking”, invited participation in daylong workshop on 5-6 year horizon opportunities in sensor/human interaction, April 10, 2007.

Nokia Research Center, Palo Alto, “Urban sensing”, invited presentation with Deborah Estrin and Mark Hansen, March 9, 2007.

UC Digital Arts Research Network epicenter 07, “Cultural Civic Computing and Urban Sensing”, invited presentation, Riverside, January 27, 2007.

University of California, Irvine, “Participatory Urban Sensing”, invited presentation to UCI RESCUE project, Irvine, November 21, 2006.

Digital Hollywood University Project, Panel on “Inventing Next Generation Communications – Interdisciplinary Collaboration – Computer Science, Engineering, Design and Personal and Social Communication.” Santa Monica, October 25, 2006.

Nanyang Technical University, Singapore. “Participatory sensing.” Invited guest lecture, October 17, 2006.

Dept. of Engineering, National University of Singapore. “Embedded expression – Mobile discovery.” Invited guest lecture, October 15, 2006.

Canada California Strategic Innovation Partnership Summit, invited participant. Organized by the Office of the President, University of British Columbia. Vancouver, BC, June 11-12, 2006.

Center for Embedded Networked Sensing. Seminar on “Partisan: Towards an architecture for participatory sensing” with Sasank Reddy. UCLA, August 25, 2006.

Digital Hollywood University Project, Panel on “Inventing Next Generation Communications – Interdisciplinary Collaboration – Computer Science, Engineering, Design and Personal and Social Communication.” Santa Monica, March 29, 2006.

European Commission Joint Research Center, Institute for Prospective Technological Studies. “Discovery, expression and responsibility: Design dimensions for ambient intelligence.” Invited participation and presentation at conference on *Safeguards in a World of Ambient Intelligence*. Brussels, March 21-22, 2006.

Google. “Urban sensing, social networking and the third thing,” Mountain View, California, March 17, 2006. Joint presentation of REMAP and the Center for Embedded, Networked Sensing faculty. (Arranged this meeting.)

Walt Disney Imagineering. “UCLA Center for Research in Engineering, Media and Performance,” Glendale, California, February 27, 2006. Presentation for a delegation of the Nanyang Technical University, South Korea.

Syllabus Conference 2005. “Media Experience Beyond the Keyboard, Mouse, and Screen: Pervasive Computing & Media-Rich Environment,” UCLA, Los Angeles, July 28, 2005.

University of California, Santa Barbara, Media Arts and Technology/ Digital Arts, October 4, 2004. Lecture with Ruth West and Eitan Mendelowitz. Invited presentation “Ecce Homology: Can Aesthetic Approaches Nurture Discovery in Genomic Biology?”

University of California, San Diego, Center for Research in Computing and the Arts/Visual Arts Department, May 4, 2004. Invited presentation “In silico v1.0: Ecce Homology”

Plasmatica 040404 Colloquium on New Media, University of California, Berkeley, April 4 2004. Invited presentation on “Ecce Homology.”

STEP-UP Engineering / Science Convocation, UCLA. Panel on opportunities after graduate school, March 4, 2005.

Cyberspace: A Workshop on Playing, Gaming and Learning, UCLA, January 23, 2004 Invited presentation on “Ecce Homology.”

Center for Embedded Networked Sensing (CENS), Research Retreat, January 24, 2004 and Research Review, October, 2004. Invited participation and presentation on entertainment applications of sensor networks.

Intel Research, Berkeley, California, June 16, 2003. Seminar: “Sensor networks, live performance, and media production.”

Wireless Internet – Data & Enterprise Applications, University of California, Los Angeles, May 18 2003. Talk with Fabian Wagmister and William McDonald (UCLA Film and Television) on the applications of emerging technologies to day-to-day film and television production.

Center for Embedded Networked Sensing (CENS), Los Angeles, April 18, 2003. “Wireless sensor networks for art and entertainment applications.”

Intel Research, Seattle, Washington, April 2, 2003. Seminar on wireless sensor networks for film and television production.

Computer Science & the Humanities, National Academy of Sciences, Washington, D.C. Jan. 17-18, 2003. One of approximately seventy computer and information scientists, technologists, and humanists invited to attend. Funded by the Carnegie Corporation.

National Museum of American History, Smithsonian Institution, Washington, D.C. January 16, 2003. Presentation on physically interactive multimedia environments for museum experiences.

RePerCuTe: Reflexions on Performance, Culture & Technology, Los Angeles, CA, May 10-11, 2002. Invited presentation on The Iliad Project, with Jared Stein and Eitan Mendelowitz. A multicultural dialogue among Latin American and North American artists about the technological transformations taking place in our cultures and the corresponding expressions in the performance arts.

UC Digital Media Innovation Program: Technology & Content Forum, San Diego, CA, April 27, 2002. Invited presentation on The Iliad Project, with Jared Stein and Adam Shive

Museums and the Web 2002 Plenary Panel, Boston, MA, April 20, 2002. Plenary panel: Exhibit Design as Experience Design: Merging the worlds of museums, technology, and performance. Demonstration presentation: hamletmachine

Disney Online Technology Forum, Glendale, CA, February 13, 2002. Invited presentation on research and activities at the HyperMedia Studio, with Fabian Wagmister

Building Blocks Workshop, National Institute for a Networked Cultural Heritage, Washington, D.C. September 20-24, 2000. (Member of the Performing Arts Field Committee.) Building Blocks was convened to define ways that the intellectual needs of humanists and artists can shape technical solutions and to articulate by field and across disciplines the most pressing needs in the humanities that networked computing can address. Conference funded by the Rockefeller Foundation, the National Science Foundation and the Delmas Foundation.

OTHER THEATRICAL PRODUCTION EXPERIENCE (SELECTED)

Stage Manager, *Les Cenci.* (1998)

UCLA Mainstage production directed by Rene Migliaccio. Performed at UCLA and University of Paris 6 & 7.

Stage Manager, *The Prodigious Snob.* (1997)

UCLA Mainstage production directed by Ellen Geer.

Asst. Stage Manager, *Campaign UCLA Gala Kickoff.,* (1997)

UCLA Fundraising event directed by Gary Gardner.

Asst. Stage Manager, *The Rake's Progress*. (1997)

UCLA Mainstage opera production directed by Neil Peter Jampolis. Conducted by Wm. Vendice.

Stage Manager, *Hurlyburly*. (1996)

UCLA Workshop production directed by James Shanta.

Stage Manager, *The Possessed*. (1996)

UCLA Mainstage production directed by Leon Katz.

University, community theater, and high school (as student and alumni)

Stage management, production management, technical direction, video systems, lighting design, and/or sound engineering for productions in 1992-2005 including *Annie*, *Annie Warbucks*, *Anything Goes*, *Bye Bye Birdie*, *The Boyfriend*, *Diary of Anne Frank*, *Father of the Bride*, *Fiddler on the Roof*, *Fields of Fire*, *Glitter Prince*, *Guys & Dolls*, *Importance of Being Earnest*, *Lil' Abner*, *Music Man*, *Oklahoma*, *The Ophelia Project*, *Our Town*, *Pirates of Penzance*, *Real Inspector Hound*, *Seven Brides for Seven Brothers*, *You Can't Take it With You*. Most of these productions involved the supervision and instruction of many high school students during setup, construction, and technical rehearsal. Venues include: UCLA, , St. Paul's Lutheran Church & School (Orange), Lutheran High School of Orange County, Culver City Academy of the Visual and Performing Arts.