JoAnn Kuchera-Morin
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Education:

1980-1984   Ph.D. Music Composition, (Computer Music emphasis), Eastman School of Music, University of Rochester

1978-1980   M.M. Music Composition, School of Music, Florida State University

1974-1978   B.M. Music Composition, School of Music, Florida State University

Appointments:

2005-pres   Director, AlloSphere Research Facility, California Nanosystems Institute, University of California, Santa Barbara

1999-pres.   Professor, Media Arts and Technology, Media Arts and Technology, University of California, Santa Barbara

1996-pres.   Professor, Music Composition & Computer Music, Department of Music University of California, Santa Barbara

1998-2003   Director, Digital Media Innovation Sponsored Research Program (DiMI) University of California, System wide, Office of the President

1995-2000   Associate Dean of Information Technologies, College of Letters and Science, University of California, Santa Barbara

1990-1996   Associate Professor, Music Composition & Computer Music, Dept. of Music, University of California, Santa Barbara

1984-pres.   Director, Center for Research in Electronic Art Technology (CREATE), University of California, Santa Barbara

1984-1990   Assistant Professor, Music Composition & Computer Music, Dept. of Music, University of California, Santa Barbara

Publications:

1. Putnam, L., Kuchera-Morin, J., Peliti, L., Studies in Composing Hydrogen Atom Wave Functions, Leonardo Journal, MIT Press, April 2015, Vol. 48, No. 2, (2015) 158-166.

2. Kuchera-Morin, J., Wright, M., Wakefield, G., Roberts, C., Adderton, D., Sajadi, B., Hollerer, T., Majumder, A., Immersive full-surround multi-user system design, Computers and Graphics 40 (2014) 10-21.

3. Wakefield, G., Hollerer, T., Kuchera-Morin, J., Roberts, C., Wright, M., Spatial Interaction in a Multiuser Immersive Instrument, IEEE Computer Graphics and Applications 33(6):14-20 (2013).

4. Fan, Y., Sciotto, F. M., Kuchera-Morin, J., "Time Giver: An Experiment of Collective Expression using Mobile PPG and EEG in AlloSphere," IEEE VIS 2013 Arts Program Conference Proceedings.

5. Liu, Q., Han, Y. C., Kuchera-Morin, J., Wright, M., Legrady G., Cloud Bridge: a Data-driven Immersive Audio-Visual Software Interface Proceedings of the 2013 International Conference on New Interfaces for Musical Expression (NIME) May 27-30, Daejon + Seoul,

Korea Republic.

6. Roberts, C., Alper, B., Kuchera-Morin, J., and Höllerer, T. Augmented Textual Data Viewing in 3D Visualizations Using Tablets. Proceedings of the 2012 Symposium on 3D User Interfaces (3DUI 2012), IEEE Virtual Reality Conference.

7. Roberts, C., Kuchera-Morin, J. Gibber: Live Coding Audio In The Browser. In Proceedings of the International Computer Music Conference (ICMC). Ljubljana, Slovenia. 2012.

8. Kuchera-Morin, J., 2011, Performing in Quantum Space: A Creative Approach to N-Dimensional Computing, Leonardo Journal Volume 44, Issue 5.

9. Alper, B., Hollerer, T., Kuchera-Morin, J., Forbes, A., 2011 Stereoscopic Highlighting: 2D Graph Visualization on Stereo Displays, 2011, IEEE Transactions on Visualization and Computer Graphics, Volume 17 Issue 12, December 2011.

10. McGee, R.,van der Veen, J., Wright, M., Kuchera-Morin, J., Alper, B., Lubin,P., 2011, Sonifying The Cosmic Microwave Background. Proceedings of the 17th International Conference on Auditory Display (ICAD-2011), Budapest, Hungary.

11. Kuchera-Morin, J., Putnam, L., Wakefield, G., Ji, H., Alper, B., Adderton, D., 2010 Immersed in Unfolding Complex Systems, BEAUTIFUL VISUALIZATION, Copyright © 2010, O'Reilly Media, Inc. All rights reserved. Printed in the United States of America.

12. Roberts, C., Kuchera-Morin, J. Putnam, L., Wakefield, G. 2010 Dynamic Interactivity Inside the AlloSphere, NIME 10, New Interfaces for Music Expression, Copyright © 2010.

13. Amatriain, X., Kuchera-Morin, J., Hollerer, T., Pope, S. 2009 The AlloSphere: An Immersive Multimedia Instrument for Scientific Data Discovery and Artistic Exploration, 2009 IEEE, Multimedia VR Magazine.

14. Wakefield, G., Kuchera-Morin, J., Novak, M., Overholt, D., Putnam, L., Thompson, J., Smith, W., 2009 The AlloBrain: an Interactive Stereographic, 3D Audio Immersive Environment. International Journal of Human Computer Interaction. Science Direct (2009), doi:10.1016/j.ijhcs.2009.05.005.

15. Kuchera-Morin, J., 2009, Using the Creative Process to Map N-Dimensions: Quantum Information at your Fingertips, KEYNOTE – 2009 ACM-CCC (ACM Creativity and Cognition Conference), Berkeley, CA.

16. Overholt,D., Thompson, J. Putnam, L., Bell, B., Kleban, J. Sturm, B., Kuchera-Morin, J. 2009 A Multimodal System For Gesture Recognition in Interactive Music Performance, Computer Music Journal, September 4, 2009 19:15.

17. Wakefield, G., Kuchera-Morin, J., Novak, M., Overholt, D., Putnam, L., Thompson, J., Smith, W., 2008 The AlloBrain: an Interactive Stereographic, 3D Audio Immersive Environment. 2008 CHI Conference Workshop on Sonic Interaction Design), Florence, Italy

18. Amatriain, X., Castellanos J., Hollerer,T., Kuchera-Morin, J., Pope, S., Wakefield, G., and Wolcott, W., 2008 Experiencing Audio and Music in a Fully Immersive Environment. Lecture Notes in Computer Science, Springer-Verlag.

19. Hollerer, T., Kuchera-Morin, J., and Amatriain, X., 2007 The AlloSphere: a large-scale immersive surround-view instrument. In EDT '07: Proceedings of the 2007 workshop on Emerging Displays Technologies, page 3, New York, NY, USA, 2007. ACM Press

20. Gibson, J., Kuchera-Morin, J., and Norman, A. Experiential Signal Processing (ESP) and Experiential Telecommunications (ET). 2007 Asilomar Conference on Signals, Systems, and Computers. IEEE.

21. Turk, M., Hollerer, T., Arisona, S. M., Kuchera-Morin, J., Putnam, L., Coffin, C., Hoetzlein, R., Overholt, D. 2007 Creative Collaborative Exploration in Multiple Environments

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22. Amatrian, X., Hollerer, T., Kuchera-Morin, J., Pope S., 2007, Immersive Audio and Music in the AlloSphere, ICMC 2007 (International Computer Music Conference), Copenhagen Denmark, 27 August 2007.

23. Kuchera-Morin, J., Music Publication, PALEO for contrabass and computer-generated tape, published by DISCORDIA Music Publishers, 2003.

24. Kuchera-Morin, J., The Center for Research in Electronic Art Technology (CREATE) 2002 STUDIO REPORT 2002 International Computer Music Conference Proceedings, 2002.

25. Kuchera-Morin, J., The Center for Research in Electronic Art Technology (CREATE) 1999 STUDIO REPORT 1999 International Computer Music Conference Proceedings, 1999.

26. Kuchera-Morin, J., Article and Video Tape - "An Historical Perspective of Computer Music and Present and Future Directions, Discussions with John Chowning, Jean-Claude Risset, Gottfried Michael Koenig and Iannis Xenakis, 1995.

27. Kuchera-Morin, J., Studio Report - "Center for Computer Music Research and Composition's NeXT, Sparc and Real-Time Network" published in the 1992 International Computer Music Conference Proceedings, 1992.

28. Kuchera-Morin, J., Reviews of the 1990 International Computer Music Conference published in the periodicals ARRAY and COMPUTER MUSIC JOURNAL, 1991.

29. Kuchera-Morin, J., Paper - "Recent Developments at the Center for Computer Music Composition"; hardware networking and new software design; published in the 1989 International Computer Music Conference Proceedings, 1989.

30. Kuchera-Morin, J., Studio Report - "Design and Implementation of a Center for Multi-media Art Production and Research in Acoustics"; published in the 1987 International Computer Music Proceedings, 1987.

31. Kuchera-Morin, J., Morris, R., Reviews of the 1987 International Computer Music Conference for the periodical, Perspectives of New Music; published in Perspectives of New Music, Fall 1987. (Commissioned article).

32. Kuchera-Morin, J., Studio Report - "Sculptured Sound Environment, at the University of California, Santa Barbara"; published in ARRAY, Computer Music Association Periodical, Fall, 1987.

33. Kuchera-Morin, J., Reviews of the 1985 International Computer Music Conference; published in Computer Music Journal, Volume 10, no. 2, July 1986.

Significant Projects:
Allosphere Research Instrument - California Nanosystems Institute
Building, implementation, and development of one of the largest instruments in the world, for scientific visualization, multi-dimensional data discovery and artistic expression
www.allosphere.ucsb.edu (Appendix A)

California Nanosystems Institute Digital Media Center
California Nanosystems Institute's (CNSI) Digital Media Center – Creation, design and implementation of the CNSI Digital Media Research Center, a research center focusing on multimedia engineering with media arts and bioinfomatics applications. Large-scale distributed processing systems will drive 3D immersive visual/audio environments that are intelligent, wireless, with inter-active, gestural control. Working drawings have been completed for the

63,000,000 square foot building that will house the Digital Media Center and the Nanosystems complex.

Multi Modal Music Stand
The Multimodal Music Stand. (a general purpose computational interface for control by gesture, through multi-modal sensing (vison recognition, audio information and e-field sensing)

Wireless Controllers and Virtual Performance Spaces – ATON Project
The ATON (Atonomous Agents for Incedent Management) project was a **$3,2000,000.00** sponsored research project partnering the University of California, Santa Barbara, University of California, San Diego, and Cal Trans. The project explored wireless control core technology development and virtual world building applied to wireless controllers for performance and virtual concert hall design at CREATE.

New Notation Editors – Ynez, The Geddy Notation Project
Most existing music editors were designed over a decade ago, before the spread of software technologies that permit evolution and integration with new media. These editors now have great difficulty evolving to meet today's needs. The key to software that can evolve over time is a robust software representation of musical information. This representation serves as a "skeleton," supporting the visual and sound interfaces built around it. A music editor should be seen as more than just a "music typewriter" for transcribing a hand-notated score. It should encourage creativity and be attractive enough to composers to serve as an environment for composing, by allowing interesting transformational processes on the score data. The multiplicity of approaches to composition prevalent today argue for an open and customizable design. Our plug-in architecture should enable individuals to customize their environment with functions from third-party developers. The Geddy Notation Project is a **$75,000.00** start up award to design plug-ins upon existing commercial software to functionalize score notation.

Synergistic Activities:
Director, Center for Research in Electronic Art Technology, UCSB, 1984 - present. Responsible for the research, professional production and teaching mission of CREATE including professional composer and media artists residencies, research residencies, sponsored research projects and graduate and undergraduate education. (Appendix B)

Media Arts and Technology Graduate Degree Program – Creation of a new Graduate Program that brings together the four departments of Computer Science, Electrical and Computer Engineering, Music and the Visual Arts. Research and educational emphases in multimedia engineering, digital audio/music 3D spatialization, visual/spatial arts. Chair, Media Arts and Technology, 1999-2005.

University of California Digital Media Innovation Sponsored Research Program (DiMI) – Created, designed, and developed the University of California Digital Media Innovation Program, a multi-million dollar sponsored research program that facilitated research partnerships among the nine UC campuses and three national labs, and the media and high tech industries throughout California. DiMI has defined and codified the digital multimedia and information technologies field using the University of California and the media and high

tech industries throughout the state as a test bed for multimedia research. (Appendix C)

Important Compositions and Commissions:
2007	timeandagain for flute and computer
2001	PALEO - bass and computer-generated tape
1994	APOCALIPSUS - flute percussion and piano
1992	SPEIRA - solo flute
1991	CONCERTO FOR CLARINET AND CLARINETS - solo-clarinet & tape
1990	MULTIPHONICS STUDY - computer generated tape
1989	DREAMPATHS, Cantata - soprano solo, choir and computer tape
1988	TACHYONS II – string chamber orchestra
1987	AQUAFORMES - computer-generated tape
1986	FORMES - solo violin
1986	REFRACTIONS - computer-generated study
1985	CENTARSIS - brass trio
1984	TACHYONS I - divided string orchestra
1983	AQUATONES - computer generated tape
1983	YUGEN - clarinet solo
1982	CYGNUS X1 - computer-generated tape
1981	TRIO - brass
1981	DOUBLE NOVA - cello solo
1980	TE DEUM LAUDAMUS - chorus and organ
1979	TRANSCENDENTAL METAMORPHOSIS - BALLET
1979	IN THE BEGINNING - organ
1978	WISDOM OF THE ANCIENTS - oboe, cello, percussion
1977	STRING QUARTET 1
1976	POLY-PYRAMIDAL TRIPLEXITY - piano and three percussionists

Performances and Recordings:

2009   Performance of *timeandagain* for flute and multi-modal music stand,   Santa Barbara,
       by flutist Jill Felber, Lotte Lehman Concert Hall,   California
       University of California

2009   Performance of AQUAFORMES, for tape, Lehman Concert Hall,   Santa Barbara,
       University of California   California

2007   Performance of CONCERTO FOR CLARINETS
       by clarinetist Gareth Davis, Lotte Lehman Concert Hall,   Santa Barbara,
       University of California, Santa Barbara   California

2007   Premiere of *timeandagain* for flute and multi-modal music stand,   Rocherster,
       by flutist Jill Felber, Eastman 25th Festival of Computer Music,   New York
       Rochester Gallery Auditorium

2004   Performance of PALEO for contrabass and computer-generated tape   Berkeley,

	by contrabassist Bertram Turetzky, Center for New Music and Audio Technologies, University of California	California
2004	Performance of PALEO for contrabass and computer-generated tape by contrabassist Bertram Turetzky, Lotte Lehman Concert Hall University of California	Santa Barbara, California
2004	Performance of CONCERTO FOR CLARINET AND CLARINETS by clarinetist F.G. Errante, Lotte Lehman Concert Hall, University of California	Santa Barbara, California
2003	International Society of Bassists 2003 International Conference PALEO – for contrabass and computer-generated tape, grand prize winner Competition ISB 2003 University of Virginia	Richmond Virginia
2002	Performance of YUGEN for solo clarinet by Clarinetist , Hakan Rosengren	San Francisco, California
2001	Performance of YUGEN for solo clarinet by Clarinetist, Hakan Rosengren,Lotte Lehman Concert Hall, University of California	Santa Barbara, California
2001	Performance and Masterclass of YUGEN for solo clarinet by Clarinetist , Hakan Rosengren, 2001 International Clarinet Conference in Jerusalem	Jerusalem
2002	Performance and Masterclass of YUGEN for solo clarinet by Clarinetist , Hakan Rosengren, Israel Institute	Israel
2001	2001 International Computer Music Conference Premiere of Paleo for double bass and computer	Havana, Cuba
1999	Festival of New Music Conference; performance of CONCERTO FOR CLARINET AND CLARINETS	Parma, Italy
1999	Performance of SPEIRA, for solo flute, Patricia Spencer, Da Capo Chamber players, 1999 Central California Flute Festival	Fresno, California
1999	Performance of SPEIRA, for solo flute, Patricia Spencer, Da Capo Chamber players, Seattle Flute Society Demeray Hall, Seattle Pacific University	Seattle, Washington
1999	Performance of AQUAFORMES, for tape, Concerts of the 21st Century Series, Central Washington University	Washington

1998	1998 European Concert Tour, Martin Frust, clarinetist (10 concerts)	Denmark Sweden
1998	Performance of AQUAFORMES, for tape, 1998 Creatophone Saptialization Concert, Lotte Lehman Concert Hall University of California	Santa Barbara, California
1997	YUGEN - for solo clarinet, Martin Frust, clarinetist, CD recording BIS - top classical record label in the Scandinavian countries	CD BIS
1997	Stockholm Public Radio - November 25, 1997, radio broadcast of YUGEN, for solo clarinet, Martin Frust, clarinetist	Stockholm, Sweden
1997	Festival of New Music Conference; performance of DREAMPATHS A Walk Through Ezra Pound's Canto 90, for soprano solo, four singers and tape	Parma, Italy
1997	DREAMPATHS- A Walk Through Ezra Pound's Canto 90, for soprano solo, four singers and computer-generated tape	CD CMJ
1997	Performance of SPEIRA, for solo flute New Music Festival	Tokyo Japan
1996	SPEIRA for solo flute; Jill Felber, flutist, CD recording	CD NEUMA
1996	Performance of AQUAFORMES, for tape, 1996 New Music Festival	Santa Barbara, California
1995	Bourges International Electro-Acoustic New Music Festival – performance of CONCERTO FOR CLARINET AND CLARINETS	Bourges France
1995	Performance of CONCERTO FOR CLARINET AND CLARINETS, Buenos Aires New Music Festival	Buenos Aires Argentina
1995	NORTH SOUTH CONSONANCE PERFORMANCE AND RECORDING AWARD Performance at Christ St. Stephen's CHURCH and CD recording	New York, New York
1994	Performance of SPEIRA, for solo flute, College of Fine Arts University of Ohio	Columbus, Ohio
1994	Performance of SPEIRA, for solo flute, North Eastern Flute Society	Akron, Ohio

1994	KPFA Los Angeles - radio broadcast of computer-generated music for the SCREAM Festival (Society for Electro-Acoustic Music) (DREAMPATHS, CONCERTO FOR CLARINET AND CLARINETS and AQUAFORMES for computer-generated tape)	Los Angeles, California
1994	Performance of SPEIRA, for solo flute, 1994 New Music Festival	Santa Barbara, California
1993	East Coast premiere of Speira for solo flute, Flutist Jill Felber Lincoln Center	Merkin Hall New York,
1993	Performance SPEIRA for solo flute, Flutist Jill Felber, Boston University	Boston, Massachusetts
1993	Performance of SPEIRA, flute solo; Flutist, Jill Felber; Baylor University	Waco, Texas
1993	Performance of SPEIRA, flute solo; Flutist, Jill Felber; Southwest Texas University	San Marcos, Texas
1993	Performance of SPEIRA, flute solo; Flutist, Jill Felber; Texas Flute Society Conference North Texas State University	Denton, Texas
1993	Premiere of Speira for solo flute; Flutist, Jill Felber; California Institute of the Arts	Valencia, California
1993	Composers Festival - UCSB Featured Composers - Charles Wuorinen, Mel Powell, JoAnn Kuchera-Morin and William Kraft; Performance of DREAMPATHS, A Walk Through Ezra Pound's Canto 90	Santa Barbara, California
1992	KPFA Los Angeles - Half hour radio broadcast of computer-generated music for the SCREAM Festival (Society for Electro-Acoustic Music) (CONCERTO, DREAMPATHS and AQUAFORMES)	Los Angeles, California
1992	Composer Residency, University of New Mexico Three concerts of compositions One week festival of music; Composers in residence included Joan Tower and JoAnn Kuchera-Morin	Albuquerque, New Mexico
1992	Composers Festival - UCSB, Performance of CONCERTO FOR CLARINET AND CLARINETS; Featured composers included Milton Babbit, Robert Morris, JoAnn Kuchera-Morin and William Kraft	Santa Barbara, California
1992	Clarinetist Kelly Burke, Lotte Lehmann Concert Hall; YUGEN and CONCERTO FOR CLARINET AND CLARINETS	Santa Barbara, California
1991	International Computer Music Conference; Premiere of CONCERTO FOR CLARINET AND CLARINETS; Clarinetist, Kelly Burke; McGill University	Montreal, Canada
1991	Eastman School of Music, Music Nova Series; Performance of YUGEN	Rochester,

	for solo clarinet	New York
1991	Florida State University, School of Music, performance of YUGEN, clarinet solo and AQUAFORMES for computer-generated tape	Tallahassee, Florida
1990	15-Concert Tour by clarinetist Hakan Rosengren featuring for solo clarinet; performances include the Ambassador Auditorium in Miami	Los Angeles Boston
1989	1989 International Computer Music Conference; performance of DREAMPATHS- A Walk Through Ezra Pound's Canto 90, for soprano solo, four singers and computer-generated tape; soprano Elizabeth Mannion; Ohio State University – conference host	Columbus, Ohio
1989	Danish Radio Channel 2 Tuesday May 30, 7:30pm Broadcast of YUGEN - clarinet solo One of three works chosen to air from a recorded weekend festival of new music in Denmark; other works chosen were Alban Berg's Vier Stucke and Ruder's Throne	Denmark
1989	Performance of YUGEN for solo clarinet; clarinetist Hakan Rosengren; Louisianna Museum of Modern Art	Hummelbaek, Denmark
1989	Premiere of DREAMPATHS, soprano Elizabeth Mannion; Harold J. Plous Memorial Award Lecture/Recital, University of California, Santa Barbara	Santa Barbara, California
1989	Performance of YUGEN for solo clarinet; clarinetist Hakan Rosengren; Stockholms Konserthus	Stockholm, Sweden
1989	Performance of YUGEN for solo clarinet; clarinetist Hakan Rosengren	Trolhattan, Sweden
1989	Performance of a YUGEN for solo clarinet computer-generated tape and clarinet clarinetist, Kelly BurkeMichigan	Ann Arbor,
1988	Radio Broadcast of YUGEN for solo clarinet Michigan	Ann Arbor,
1988	Reading of TACHYONS for string orchestra; Varujan Kojan conducting members of the Los Angeles Philharmonic and Santa Barbara Symphony	Santa Barbara, California
1988	Performance of AQUAFORMES for computer-generated tape on the Kilbourn Concert Series Musica Nova Concerts at Eastman School of Music	Rochester, New York
1988	Performance of AQUAFORMES for computer-generated tape, Prisms New Music Ensemble, University of California, San Diego	San Diego, California
1988	Performance of Double Nova, cello solo; Synchronia New Music Ensemble; Paul Diebolt, cellist	St. Louis, Missouri
1988	Performance of AQUAFORMES for computer-generated tape on the Computer Music Concert Series, Eastman	Rochester, New York
1988	Performance of YUGEN, clarinet solo clarinetist; Kelly Burke, University of Michigan Michigan	Ann Arbor,
1987	Performance of AQUAFORMES for computer-generated tape Mini-Conference on Computers and Music, University of California, Davis	Davis, California
1987	Performance of AQUAFORMES at the 1987 Contemporary Music and Arts Festival	Brazil

1987	Performance of a YUGEN for solo clarinet	Santa Barbara, California
1987	1987 International Computer Music Conference – performance of AQUAFORMES University of Illinois, Champain-Urbana	Urbana, Illinois
1987	Performance of Double Nova, cello solo PRISMS New Music Ensemble	Santa Cruz, California
1987	Performance of AQUAFORMES, University of Michigan	Ann Arbor, Michigan
1986	National Concert Tour - Clarinetist F. Gerard Errante performs YUGEN for solo clarinet	Las Vegas, NV Valencia, CA Redlands, CA Santa Barbara Seattle WA Portland, OR Vancouver, B.C.
1985	Edinburgh Festival, Scotland -- YUGEN, solo clarinet; clarinetist, Katherine Powers	Edinburgh, Scotland
1985	Performance of YUGEN for solo clarinet, Bowling Green New Music Festival; clarinetist, Burton Beerman	Bowling Green, Ohio
1985	Public Radio Broadcast of YUGEN, Bowling Green New Music Festival; Bowling Green New Music Festival, clarinetist, Burton Beerman	Bowling Green, Ohio
1985	NACUZA Competition; Performance of YUGEN; clarinetist Katherine Powers	Los Angeles, California
1985	Performance of YUGEN; clarinetist, Katherine Powers University of California	Santa Barbara, California
1985	Performance of YUGEN; clarinetist, Katherine Powers; Faulkner Art Gallery	Santa Barbara, California
1985	Performance of YUGEN; clarinetist, Katherine Powers; University of California	Santa Cruz, California
1985	Society for Electro-Acoustic Music International Conference California Institute of the Arts AQUATONES – for computer-generated tape	Valencia, California
1984	Performance of YUGEN; clarinetist, Kelly Burke; Kilbourn Concert Hall Eastman School of Music	Rochester, New York
1984	International Computer Music Conference; Institut de Recherche et Coordination Acoustique/Musique (IRCAM); performance of AQUATONES - for tape	Paris, France

Professional Activities:

2014   Review Article – Discover, "Fantastic Voyages, Immersive 3D environments give researchers a chance to travel through their data and Visualize a protein's structure, a hurricane's size, or depression's circuit in the brain", Linda Marsa, Discover, July/August 2014

2014   Immersion Symposium, Society for Arts and Technology [SAT] in Montréal

"Innovation and Formats", Invited Speaker, May 21-25, 2014

2014   NSF—Human Computer Interaction & Information Management Frontiers of Visualization Meeting, "Future of Visualization", May 2, 2014

2014   NVIDIA GPA Conference, "New Trends in Data Discovery Through Large-Scale Immersive/Interactive Visualization", Invited Speaker, San Jose, California, March 24-27, 2014

2013   Center for Advanced Study in the Behavioral Sciences (CASBS) Summit: Creativity & Innovation, "Uncovering Hidden Patterns in Complex Information: Using Intuition and Creativity to Drive Innovation", Invited Speaker, Stanford University, Palo Alto, California, July 11, 2013

2013   Spatial Conference: Visualization of Spatial Data," UCSB, Using the Creative Process and Multimodal Mapping for Spatializing Complex Information", Invited Speaker, June 6, 2013

2013   Review Article - The Intersection of Arts, Science and Engineering - An article in International Innovation North America, May 2013.

2012   Max Planck Institute for Biophysical Chemistry: Horizons in Molecular Biology, "Science Visualization", Invited Speaker, Gottingen, Germany, October 8-11, 2012

2012   XMedia Lab—Digital Entertainment: Media, Music, Mobility, "Elegant Equations: The Art of Science and the Science of Art", Invited Speaker, Peter Gabriel's Real World Studios", Bath, England, March 16, 2012

2011   The Dynamics of Disease: A Workshop on Medical Systems Biology, "Scientific Visualization in the AlloSphere", film shown in 3D and lecture, University of Manchester, Manchester, England November 28-December 2, 2011

2011   IT Value Studio, "Using Our Senses and the Creative Process in Information Technology Systems to Understand Complexity", Ponte Vedra Beach, Florida, November 1-3, 2011

2011   Review Article – National Science Foundation Discoveries, The AlloSphere Offers an Interactive Experience of Nano-sized Worlds - An article featured on the National Science Foundation's Research Discoveries website, September 6, 2011

2011   Review Article – Big Data's People-Changing Machine - An article by Quentin Hardy, Forbes magazine, July 2011.

2011   The Economist Ideas-- Information, Making Sense of the Deluge, "Simplifying Complexity", Invited Speaker, Santa Clara, California, June 7-8, 2011

2011	ISD—International Science Day, "Composing in N-Dimensions: Using the Creative Process as a Computational Framework for Unfolding Complex Systems", Invited Speaker, Turku, Finland, June 5, 2011
2011	NSF Network for Sciences, Engineering, Arts & Design (NSEAD), Winston-Salem, North Carolina
2011	Fraunhofer HHI, Detecon & Citris: From Data Collection to Display: How Visualization Transforms Industries, Invited Speaker, UC Berkeley, May 25-26, 2011
2011	Data Scientist Summit: Summit Spotlight: Immersive Data Visualization, Invited Speaker, Las Vegas, Nevada, May 11-12, 2011
2011	E-Metrics Summit "The AlloSphere Research Facility: Data Visualization as You've Never Imagined", Invited Speaker, San Francisco, California, March 13-18, 2011
2011	MMVR18 (Medicine Meets Virtual Reality) Next Med Conference, "Immersed in Unfolding Complex Systems: Multi-Sensory Computing in the AlloSphere,One of the Largest Immersive Instruments in the World for New Scientific Discovery, Invited Speaker, Newport Beach, California, February 8-12, 2011
2011	UCSB-BIMR Retreat Program, Sanford-Burnham Medical Institute La Jolla Campus Auditorium, La Jolla, California, Research in Immersive Scientific Visualization Lecture, January 20, 2011
2011	NSF/NEA Joint Workshop: Identifying Synergies and Fostering Collaborations, Arlington, Viirginia, September 15-16, 2010
2010	3D Stereo Media, 3D Immersive Film Conference, Lecture and 3D film presentation: Immersed in N-dimensions: Using the Creative Process as a Computational Framework for Unfolding Complex Systems, Liege Belgium, December 8-10, 2010
2010	Review Article - Living Data - An article by Tom Simonite, MIT Technology Review, September/October issue, 2010
2010	InformationWeek Conference 500: Navigating the Boardroom, The Growth Imperative, Invited Speaker, Dana Point, California, September 12-14, 2010
2010	Humanity+ Conference – Invited Speaker with Ray Kurtzweil and Stephen Wolfram, Harvard University, Cambridge, Massechuetts, June 12-13, 2010
2010	Review - Sensory Overloader: 3-D Tower Lets Researchers Climb Inside Their

Data - An article by Vince Beiser, Wired magazine, May 24, 2010

2010   CA-Canadian Innovation Partnership in Digitally Merged Environments Conference Distributed Digitally Merged Environments for Immersive Exploration, Investigation and Creation, La Jolla, California, March 29, 2010

2009   XMedia Labs - Invited Speaker, "Immersed in Complex Systems—Quantum Information at your Fingertips", Sydney Opera House, Sydney, Australia November 27, 2009

2009   Interactive Futures 2009 Conference - Invited Speaker, Vancouver, British Columbia, November 21-23 2009

2009   2009 ACM Creativity and Cognition Conference - Key Note Speaker Berkeley, California, October 21-23 2009

2009   Review Article - A 360-Degree Virtual Reality Chamber Brings Researchers Face to Face with Their Data - An article by Julian Smith, Scientific American, September 15, 2009

2009   Creativity and Technology Conference - Invited Speaker, New York, NY June 1-3 2009

2009   NASA Ames Innovation Summit - Key Note Speaker, Silicon Valley, California, May 2-5 2009

2009   TEDXConejo - NanoSystems/AlloSphere UCSB, Thousand Oaks, California, March 27, 2009

2009   TED - Technology Entertainment Design Conference, Invited Speaker (other speakers included Bill Gates, Al Gore, Oliver Sachs) Long Beach, California, February 2-7 2009

2009   NSF: The Future of Interactive Media: Workshop on Media Arts, Science and Technology (MAST), Santa Barbara, California, January 29-30, 2009

2007   Composer Residency – Lecture, Eastman School of Music, Rochester, New York

2005-2014   From 2005 to 2014 hundreds of research/industry meetings, conferences and lecture/demonstrations, have taken place at the AlloSphere Research Facility. Some include: the 2006 ACM SIGMM Conference, where 600 researchers attended, the 2006 Center for Nanotechnology in Society Conference, 300 researchers, the Center for InformationTechnology and Society Conference, where 300 researchers attended, the 2008 Emerging Technologies Energy Summit,- California, China and Canada, and the 2011 on site TED event at the AlloSphere. Some important researchers who have been at the AlloSphere

Research Facility include: Alvy Ray Smith founder of PIXAR, Lance Williams former Chief Scientist of Walt Disney Feature Animation Studios, and entrepreneur and philanthropist Frederick Kavli of the Kavli Institutes for Theoretical Physics.

2001	International Computer Music Conference, Presentation of PALEO for double bass and computer-generated tape - lecture, ICMC 2001, Havana, Cuba
1999	Future of Graduate Education in the Sciences and Engineering, a lecture regarding the Media Arts and Technology Program Beckman Center for the National Academies of Science and Engineering University of California, Irvine
1999	Institute for Theoretical Physics Colloquium, Lecture -THE SYNTHESIS OF SOUND University of California, Santa Barbara
1999	Lecture - NEW MECHANICAL INTERFACES FOR MULTIMEDIA COMPOSITION AND PERFORMANCE: CONTROLLERS FOR THE NEXT MILLENNIUM Mechanical Engineering Symposium University of California, Santa Barbara
1998	Re-Thinking Graduate Education in the Sciences, a lecture regarding the Media Arts and Technology Program at UCSB; University of California, Berkeley
1998	Interdisciplinary Humanities Center Conference on Authorship, "Future Models of Authorship: The Digital Age" University of California, Santa Barbara
1997	Multimedia Conference, the Norway Multimedia Education Group, a lecture on the composition of PALEO for double bass and computer-generated tape University of California, Santa Barbara
1993	Research Conference -------- An Historical Perspective Of Computer Music, Discussions With John Chowning, Gottfried Michael Koenig, Jean-Claude Risset and Iannis Xenakis; Brittany, France
1992	Studio Report - Center for Computer Music Research and Composition; 1992 International Computer Music Conference; San Jose, California
1992	Composer Residency University of New Mexico, Albuquerque, NM. Master Classes, Panels, & Performances
1991	1991 International Computer Music Conference; Premiere of CONCERTO FOR CLARINET AND CLARINETS; McGill University, Montreal, Canada
1990	1990 International Computer Music Conference; performance of DREAMPATHS (tape version); invited to chair a paper session on Studio Reports
1990	Interdisciplinary Humanities Fellow Paper presentation - the making of CONCERTO FOR CLARINET, University of California, Santa Barbara, California
1989	1989 International Computer Music Conference; performance of DREAMPATHS for soprano solo, choir and computer-generated tape, and paper presentation, "Recent Developments at the Center for Computer Music Composition, University of California, Santa Barbara", Ohio State University, Columbus, Ohio

1989	Harold J. Plous Award Lecture/Recital; lecture concerning the composition of DREAMPATHS and premiere of the composition University of California, Santa Barbara
1989	First Annual Lilly Conference on Excellence in College Teaching; Chosen by the Vice-Chancellor of the University of California, Santa Barbara, to represent the University; (an award for outstanding leadership in research and teaching;) Lake Arrowhead, California
1988	Vocal Institute, University of California Santa Barbara; Lecture - "New Horizons in Vocal Composition"
1987	Humanities Institute, University of California, Santa Barbara; Lecture - "The Poet and Composer in Search of New Sounds", presentation with Professors Richard Exner, German, and Professor Dolores Hsu, Music
1987	1987 International Computer Music Conference performance of AQUAFORMES, for computer-generated tape and paper presentation, "On Design of a Facility for Computer Composition and Research in Acoustics"
1987	Lecture- The Building and Implementation of the Center for Computer Music Composition, presented to the University of California Administration and Faculty
1986	Official Representative of Sculptured Sound Environment (UCSB) to The Royal Conservatory The Hague, Netherlands(ICMC-1986)
1985	Technical and Critical Reviewer for Computer Music Journal 1985 International Computer Music Conference, Vancouver, British Columbia
1985	Guest Composer, Sixth Annual New Music Festival, Bowling Green, Ohio
1985	Paper Presentation to Composers Forum at Eastman School of Music, New York
1984	Guest Composer, International Computer Music Conference, Centre Georges Pompidou, Paris, France

Grants Awards and Competitions:

2013-17	Deutsch Foundation Fellowships - AlloSphere Research Group, 5 Graduate Student Research Fellowships and 1 Post-Doctoral Fellowship **$1,000,000.00**
2011-12	Deutsch Foundation Fellowships - 5 Graduate Student Research Fellowships year, and 5 Graduate Student Research Fellowships and 1 Post-Doctoral Fellowship year 2, co-pi with George Legrady **$450,000.00**
2011-2012	Center for Nanomedicine Research Collaboration **$110,000.00**
2010-2012	NSF EAGER Grant co-pi with Matthew Wright **$300,000.00**
2010-2011	Center for Nanomedicine Research Collaboration **$80,000.00**
2011	BIOPAC Equipment Donation **$15,000.00**

2011	Meyer Sound Equipment Donation **$40,000.00**
2010	Google Research--Scalable Navigation **$25,000.00**
2009-14	National Science Foundation Computer Research Instrumentation Proposa NSF CRI **$750,000.00**, equipping the Allosphere, co-pi with Tobias Hollerer, Matthew Turk
2008-13	National Science Foundation Major Research Instrumentation Proposal NSF MRI **$500,000.00**, equipping the Allosphere co-pi with Tobias Hollerer, Matthew Turk, Matthew Wright
2007	National Science Foundation NSF CreativeIT grant **$194,000.00** Artistic Group Performance as a Model for Novel Collaborative Multimodal Human Computer Interfaces, co-pi with Tobias Hollerer
2007	NVIDIA **$10,000.00** in-kind gift
2007	HP - approximately **$6,000.00** in-kind
2006/07	Christie Digital - **$317,600.00** in-kind engineering support from Christie Digital, and $200,000.00 worth of their equipment on loan at UCSB for 1 year and 3 months
2006	UC Discovery Opportunity Award co-pi with Matthew Turk ACM Multimedia California Industry WorkShop **$15,000.00**
2006	BARCO - approximately **$200,000.00** in-kind engineering and equipment use to engineer sphere material reflectancy
2007	UC Research Travel Grant **$675.00**
2007	UC General Research Grant **$2000.00**
2003	General Research Grant to compose QUARTET FOR TWO FLUTES, gestural interactivity research **$8000.00**
2003	Research Travel Grant to attend the performance of PALEO for double bas and computer-generated tape International Society of Bassists Conference **$600.00**
2001	Research Travel Grant to attend premiere of PALEO for double bas and computer-generated tape; 2001 International Computer Music Conference, Havana, Cuba **$1000.00**

1999-00   DiMI Grant, ATON Project - wireless performance controllers and virtual concert halls **$3,200,000.00**

1998-99   Notation Software project funded by Gordon Getty **$75,000.00**

1997-98   Center for Research in Electronic Art Technology CAL TRANS, UC GENERAL RESEARCH, CREATOPHONE- **$500,000.00**

1995   Bourges International Grand Prix of Electro-Acoustic Music Competition – Honorable Mention, CONCERTO FOR CLARINET AND CLARINETS; performance at the Bourges International Festival and **2000FF**

1994   GENERAL TELEPHONE GRANT - research project in multi-media digital audio education program for computer-generated music applications **$15,000.00**

1994   NORTH SOUTH CONSONANCE recording and performance award, CD and New York performance of SPEIRA, for solo flute

1993   Grant from the Borchard Foundation to interview Iannis Xenakis, Gottfried Michael Koenig, John Chowning and Jean-Claude Risset for an Historical Perspective on Computer Music Composition an Interview conducted at the Chateau de la Bretesche, Brittany, France, August 14-21   **$18,000.00**

1993   Nominated as one of 29 composers internationally who were chosen to compete for the 1994 ICMC Commission Awards to compose a work for the 1994 International Computer Music Conference in Aarhus, Denmark

1993   Interdisciplinary Humanities Grant - travel grant to interview Iannis Xenakis in Paris in conjunction with the Borchard Foundation Project   **$1,000.00**

1993   General Research Grant - copying of the score and parts of PALEO, for double bass and computer-generated tape **$2,000.00**

1992   Guest Composer Residency, University of New Mexico **$1,000.00**

1992   Composition Judge - 1992 International Computer Music Conference

1991   One of 15 International Composers chosen to comprise a selections committee for a digital archive of music housed at Stanford University

1991   Research Award to attend the 1991 International Computer Music Conference in Montreal, Canada **$400.00**

1991   Private Donation of Studio Equipment **$10,000.00**

1990	National Endowment for the Arts Centers for New Music Resources Award **$17,500.00**
1990	Research Travel Award to attend the 1990 International Computer Music Conference in Glasgow, Scotland **$1,500.00**
1989	National Endowment of the Arts Center for New Music Resources Award **$12,000.00**
1989	Research and Development Grant for a 386i-based computer to run front-end to the Audioframe digital audio workstation **$12,000.00**
1989	Cited in President Gardner's " A Report to the Regents of the University of California" for winning the 1988/89 Harold J. Plous Award, excellence in research, teaching and contributing to the intellectual life of the campus community
1989	Contract with Waveframe Corporation for the Audioframe digital audio workstation, a state-of-the art real-time digital signal processor that is currently placed at only two Universities in the world, UCSB and MIT. The audioframe was given to the University in return for a collection of digital sound samples recorded from the Music department's Eichheim Collection of instruments from Japan, China, Java and India. TheAudioframewas a donation valued at **$65,000.00**
1989	General Research Grant - CONCERTO for CLARINET and CLARINETS **$1500.00**
1989	Research Travel Grant - 1989 International Computer Music Conference; paper presentation and performance of DREAMPATHS **$600.00**
1988/89	Harold J. Plous Memorial Award; in recognition of outstanding creativity, teaching and for contribution to the intellectual life of the campus community
1988/89	Donation from Apple Corporation, MacintoshII and peripherals **$3500.00**
1988/89	1988 Bourges New Music Festival Competition; AQUAFORMES for computer-generated tape; one of 33 works chosen out of 350 entries to compete in the 1988 Bourges competition
1988/89	National Endowment for the Arts Center for New Music Resources award **$20,000.00**
1987/88	National Endowment for the Arts Center for New Music Resources award **$6,000.00**

1987/88   Eastman/Leonard Competition - invited to compete for the first Eastman/Leonard commission for a timpani concerto to be premiered by a major symphony orchestra

1987/88   General Research Grant - Digital archive of Indian instruments **$2,000.00**

1987/88   Research Travel Grant to attend a performance of AQUAFORMES for computer-generated tape and to present a paper discussing the building of the Center for Computer Music Composition **$706.00**

1987/88   Cited in President Gardner's " A Report to the Regents of the University of California" for the building and development of the Center for Computer Music Composition

1986/87   Minor Capitol Improvements Grant for studio Construction **$105,000.00**

1986/87   Pacific Rim Research Grant for research regarding digital sampling and processing of oriental instruments for DREAMPATHS; for singers, computer-generated tape and a collection of oriental instruments from Japan, Java and China. **$4000.00**

1986/87   Research and Development Grant - equipment purchase for the Center for Computer Music Composition **$7,000.00**

1986/87   Faculty Career Development Award - 1/9 Summer Salary - to continue composition and realization of DREAMPATHS, a cantata for computer-generated tape and five singers

1986/87   General Research Grant - research in digital signal processing to compose AQUAFORMES for computer-generated tape **$1,990.00**

1986/87   Travel Award - Official representative of UCSB to the Royal Conservatory, The Hague, Netherlands 1986 International Computer Music Conference **$1000.00**

1985/86   Faculty Career Development Award - Composition of DREAMPATHS, for computer generated tape and five singers **$18,000.00**

1985/68   Opportunity Funds Award - equipment purchase for the Center for Computer Music Composition **$7,300.00**

1985/86   Instructional Development Mini-Grant - Curriculum development **$1,000.00**

1985/86   General Research Grant - research in digital signal processing **$2,812.00**

1985/86   Research Travel Grant to attend a performance of YUGEN for solo clarinet at the 1985 Bowling Green NewMusic Festival **$750.00**

1984/86	Seed Award- Studio Construction **$120,000.00**
1984/85	Instructional Development Grant - Curriculum development for the Center for Computer Music Composition **$5,162.00**
1984/85	General Research Grant - digital signal processing research **$2,265.00**
1984/85	Instructional Development Mini-Grant – Curriculum development **$2,068.00**
1984/85	Overseas Travel/Research Grant to attend performance of AQUATONES at the Pompidou Center, Paris, France **$1,099.00**
1983/84	ASCAP/HANSON Award for innovative chamber music.

Collaborators and Other Affiliations:
Recent Collaborators
Luca Peliti, Professor, Statistical Mechanics, Università "Federico II", Napoli, Italy
Jamey Marth, Professor, Center for Nanomedicine, Sanford Burnham Medical Clinic UCSB
Tobias Hollerer, Professor, Department of Computer Science, University of California, Santa Barbara

Current Ph.D. and Masters students advised: Ori Barel, Owen Campbell, Alexis Crawshaw, Sterling Crispin, Robert Duran, Fernando Rincon Estrada, Yi Yuan Fann, Mohit Hingorani, Paul Jacobs, Aaron Jones, Kon Hyong Kim, Ryan McGee, Robert Miller, Gustavo Rincon, Timothy Wood, Jiayue (Cecilia) Wu, Karl Yerkes

Former Ph.D. students advised: Marc Ainger, Ivana Andjelkovich, Basak Alper, Charles Baker, Salman Bakht, Josh Bell, Carolyn Bremer, Geoffrey Chen, Anne Deane, Kevin Doyle, Xarene Eskandar, Jeffrey Faustman, Haru Ji, Kenneth Fields, Jeremy Haladyna, Frode Holme, Carol Juelson, William Koseluk, Dan Overholt, Ting Kwan Lau, Samuel McKinney, Paris Psaros, Lance Putnam, Mary Roberts, Charles Roberts, Wesley Smith, John Thompson, Graham Wakefield, Diane White, Michael Winter;
(over 100 Masters Theses committees)

Postdoctoral Researchers supervised: Basak Alper, Stefan Mueller Arizona, Alberto DeCampo, Andreas Engberg, Florian Holleweger, Fabrice Guedy, Paul Mannerheim, Nicola Orio Charles Roberts, Graham Wakefield

Composer and Research Scholar residencies at CREATE (over 100) including: BeBe Baron, Marc Battier, Henry Brant, John Chowning, Brad Garton, , Paul Lansky, Max Matthews, F. Richard Moore, James Andrew Moorer, Dexter Morrill, Robert Morris, Thea Musgrave, Jean Claude Risset, Allan Schindler, Barry Schrader, Barry Vercoe, Iannis Xenakis.