



Leonardo Electronic Almanac

Volume 8, No. 11  
November, 2000

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INTRODUCTION
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< This Issue >

Craig Harris, Executive Editor

Leonardo Electronic Almanac  
Volume 8, Number 11  
Introduction

As some of the LEA readership has heard through various messages on the Internet grapevine, I am ending my 8-year tenure as Executive Editor of Leonardo Electronic Almanac with Volume 8. When Leonardo/ISAST Chairman Roger Malina and I started this project in 1993 there was a clear need for a Web-based mechanism for communication among those interested in the realm where art, science and technology converge. LEA was created to serve this need, and to stimulate activity on the Internet that would complement the hard copy publication activities of the International Society for the Arts, Sciences and Technology. It was also determined that there was a need to establish a long-term, accessible archive that would be available to artists and researchers. We are naturally thrilled that LEA has evolved to include such a vast archive, and continues to provide current information about activities around the world. It is also astounding to note how many arts-related journals and magazines have arrived on the Web scene, and we are gratified to have contributed to this growth, and to have provided a model for how the Internet can be used to facilitate communication and to disseminate work to wider communities.

So after eight years it is time for me to pass the torch to a new people, and it will become the mandate of the new leadership to determine how LEA best fits into the overall Leonardo/ISAST publication resources, and how LEA can best serve the international community, given the current environment. It has been thrilling for me to have been involved in this valuable project, and I will continue to participate, though in the role of Guest Editor from time to time. I would like to take this opportunity to thank the LEA community for working with me through the years to develop the rich content that now resides in the LEA archive. This could never have been accomplished without the ongoing content contributions from our vast community. I would also like to thank Janet Fisher and MIT Press for making it possible to launch and operate this experiment. There can be no doubt that the activity is valued in the community, and I hope that the LEA readership will continue to support its development as things transform in the coming months.

I will be closing out Volume 8 with two fascinating issues. LEA Volume 8, Number 11 includes a fascinating seminal article by James Tenney, "Computer Music Experiences," with an Introduction by Douglas Kahn, and an Interview that Douglas Kahn conducted with James Tenney. This is a remarkable opportunity for the community to connect with this renowned pioneer of computer music, and we are happy to have this in our archive. Also in this issue is an article written by Karen Tsao about her father, Makepeace Tsao, providing insights into his life and work. Finally, Michael Punt provides information about the latest activities in Leonardo Digital Reviews.

LEA Volume 8, Number 12 will appear shortly after this issue is launched, and will be dedicated to content presented at a remarkable symposium, Living Architectures, hosted at the Banff Centre for the Arts. Sara Diamond will be presenting an introduction, and Molly Cox will be serving as Guest Editor for this issue. Two more issues will appear during the first six months in Volume 9. This represents a fabulous wealth of information, and we are fortunate to have this in-depth view into the work of so many artists working in new media.

Once again, thank you all for your support of our endeavor through the years. Please continue to participate. Ultimately the value is determined by the participation of the community, as indicated by the tremendous, valuable archive that is found in Leonardo Electronic Almanac. It has been my pleasure to have contributed to the field in this way, and I look forward to staying in touch with the community in the future.

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FEATURE ARTICLES
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< Computer Music Experiences, 1961-1964 >  
by James Tenney

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Introduction  
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I arrived at the Bell Telephone Laboratories in September, 1961, with the following musical and intellectual baggage:

1. numerous instrumental compositions reflecting the influence of Webern and Varese;
2. two tape-pieces, produced in the Electronic Music Laboratory at the University of Illinois - both employing familiar, "concrete" sounds, modified in various ways;
3. a long paper ("Meta Hodos, A Phenomenology of 20th Century Music and an Approach to the Study of Form," June, 1961), in which a descriptive terminology and certain structural principles were developed, borrowing heavily from Gestalt psychology. The central point of the paper involves the clang, or primary aural Gestalt, and basic laws of perceptual organization of clangs, clang-elements, and sequences (a higher order Gestalt unit consisting of several clangs).
4. a dissatisfaction with all purely synthetic electronic music that I had heard up to that time, particularly with respect to timbre;
5. ideas stemming from my studies of acoustics, electronics and - especially - information theory, begun in Hiller's classes at the University of Illinois; and finally
6. a growing interest in the work and ideas of John Cage.

I leave in March, 1964, with:

1. six tape compositions of computer-generated sounds - of which all

but the first were also composed by means of the computer, and several instrumental pieces whose composition involved the computer in one way or another;

2. a far better understanding of the physical basis of timbre, and a sense of having achieved a significant extension of the range of timbres possible by synthetic means;

3. a curious history of renunciations of one after another of the traditional attitudes about music, due primarily to a gradually more thorough assimilation of the insights of John Cage.

In my two-and-a-half years here I have begun many more compositions than I have completed, asked more questions than I could find answers for, and perhaps failed more often than I have succeeded. But I think it could not have been much different.

The medium is new and requires new ways of thinking and feeling. Two years are hardly enough to have become thoroughly acclimated to it, but the process has at least been begun.

I want to express my gratitude to Max Mathews, John Pierce, Joan Miller, and to all my friends and co-workers who have done so much to make my stay here not only instructive but pleasant. My questions and requests for assistance have always been responded to with great generosity, and I shall not soon forget this.

... [Content omitted: Ed.] ...

[Ed. note: the complete content of this article is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

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< James Tenney: an Interview >  
interviewed by Douglas Kahn

Douglas Kahn  
Email: <[Douglas.Kahn@uts.edu.au](mailto:Douglas.Kahn@uts.edu.au)>

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Introduction  
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The interview with the composer James Tenney concentrates on his work during the 1960s, when he was working at Bell Telephone Laboratories in Murray Hill, New Jersey (September 1961 to March 1964), and participating in the flourishing experimental arts scene in New York City. While at Bell Labs Tenney worked closely with Max Mathews, John Pierce and others, as one of the first composers to use computer synthesized sound (most of his computer compositions from the time are included on the compact disc, James Tenney: Selected Works, 1961-1969, available from Frog Peak Music, or CDeMUSIC). David Lewin preceded him briefly at Bell Labs, but Tenney was the first composer there on a protracted basis, let alone one who could bring such formidable knowledge of the underpinnings of twentieth century composition to bear. Indeed, Meta / Hodos, his Masters Thesis at the University of Illinois, finished just before he arrived at Bell Labs, proposed nothing less than a fundamentally new approach to understanding twentieth century composition (after having a long cult status among composers, Meta / Hodos is increasingly being recognized as one of the most important musical documents of the 20th century). Tenney's work from this period can be understood from a larger perspective. Given that music was the first art to use computers in a sophisticated way,

Tenney could also be understood as one of the first digital artists. With many digital artists today moving so easily among the arts, there is good reason to do the same historically.

During this time, Tenney was married to the artist Carolee Schneemann, was close friends with the experimental filmmaker Stan Brakhage, was heavily influenced by the music and thought of John Cage, and could be found among Fluxus and other experimental artists. I was interested in finding out how he reconciled these two, apparently disparate worlds, one highly technical, the other sensuous, poetic, and political. Many artists now are both artistically and technologically sophisticated, and the practice of retaining artists within research settings has become more common. But in the early 1960s, Tenney was one of a very few artists in the world in this position. His experience of this "schism" or, rather, the fact that he did not experience it as a schism, is increasingly relevant today.

As you will read, the way he reconciled these two areas of his life had to do with his entire approach to music. By mid-20th century, several trends within Western art music had accepted that all sounds (ostensibly) were available for musical use, and this became codified in the work of John Cage, the musique concrete composers, and others during the 1950s. For some people, the potential of computer-generated, digitally-synthesized sound was imagined within a similar framework: the computer could construct, from the microsecond elements of a wave form, all possible sounds. Tenney went beyond that and said that the computer was differentiated by its capacity to not only generate all sounds but to constitute a continuum between and among any and all musical and sonic entities, and to do so from the inside out, from the most minute elemental level to the largest organizational form. Whereas other musical technologies like the tape recorder were, in effect, restricted to invoking an emblematic ideal of all sounds, the computer was able to actually create and establish gradients among them. As he says toward the end of the interview, "It is a temperamental thing of mine. I like to make those bridges, those connections." It is this impulse that underscores his talent to reconcile seemingly disparate realms wherever they might occur: a sine tone and white noise, a research lab and the avant-garde, Murray Hill and Soho and so on. For Tenney, computer sound synthesis became the instrument of a personal and cultural stimulus toward synthesis.

The interview is accompanied by Tenney's own account of his work at Bell Labs, "Computer Music Experiences, 1961-1964", written soon after his departure. It is a very important document but has not been widely available, having been previously published in *Electronic Music Reports* #1 (Utrecht: Institute of Sonology, 1969). Leonardo is pleased to have the opportunity to present it here.

The period covered in the interview is but one part of a long, productive and ongoing career, as a composer, theorist, and teacher. Tenney left New York for California, where he took up a position at Cal Arts starting in July 1970 and, after teaching many years in the Music Department at York University, he has returned to Cal Arts to take up the Roy E. Disney Family Chair in Musical Composition.

The interview was conducted at York University and at Tenney's home in Toronto during February 1999, concurrently with an investigation of Tenney's papers held in the Special Collections of the Scott Library at York University. The research was sponsored in part by a grant from the Australian Research Council and the Faculty of Humanities and Social Sciences at University of Technology, Sydney, where I teach. I would like to thank Dan Lander, Lauren Pratt, and Larry Polansky for their kind assistance with different parts of this project, to the staff of Special Collections of the Scott Library for their kind and

professional assistance, and to Maria Iacono for help with transcription. Anyone interested in Tenney's early works should refer to the compact disc mentioned above and to Larry Polanksy's indispensable essay, "The Early Works of James Tenney," Soundings 13: The Music of James Tenney (1984). Most of all, many thanks to James Tenney who fielded any question I threw his way with much tolerance and a healthy dose of good humor. In fact, one final note, I had to remove the traditional [laughs] from the transcription because it would have increased the length of the interview by half.

... [Content omitted: Ed.] ...

[Ed. note: the complete content of this article is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

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< Editorial: A Life Connecting Art and Science: The Connectivity of Lives Makepeace Tsao (1918--2000) >  
by Karen Tsao

Karen Tsao  
9346 Fauntleroy Way, SW  
Seattle, WA 98136, U.S.A.

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Makepeace Tsao (1918 - 2000)  
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My father, Makepeace Uho Tsao, who helped Leonardo through the transition after Frank Malina's death, died 6 August 2000 of heart failure. His life contained both the sciences and the arts, driven by his interests, his energy and his values. What I learned from him about these qualities led to both of us becoming involved with Leonardo.

On the science side, the facts feed easily into the standard obituary, the recitation of someone's life.

Makepeace was born at the end of August 1918 in Shanghai, China, into a science-oriented family. The way the date in the lunar calendar was recorded left some uncertainty about which of three days to convert to in the Julian calendar. My father used the middle one, 28 August, as closest to the right date; it also coincided with Confucius's birthday. His English name is a translation of his Chinese one, given to him because he was born at the end of a war. His father was president of a technical university, a modern development in China in the first decades of the twentieth century. Of five siblings who came to the United States, four pursued careers in chemistry, physics or engineering.

He graduated from college at seventeen and taught high school physics before coming to the United States in 1938. Like many Chinese students of the time, he came in through Vancouver, British Columbia, to Seattle (avoiding Angel Island), going immediately on to Ann Arbor, Michigan, where he pursued graduate studies in organic chemistry at the University of Michigan. His interest turned to the chemistry of biological systems. However, the field of biochemistry had not yet been established, so he earned his Ph.D. in Pharmacological Chemistry in 1944. His parents urged him and his siblings to remain in the United States as the Chinese Communist Revolution offered bleak prospects in Shanghai. He married Annette Robertson Lambie in 1947, and they had four children.

His work at the University of Michigan Pediatric Research Lab included developing the first tests for phenyl ketone urea (PKU), which allowed diagnosis of this deadly childhood disorder early enough for effective treatment. He also remade other diagnostic tests to use smaller samples, so that the testing would be less taxing on the small bodies of infants. As assistant and associate professor of biochemistry in the School of Medicine, he taught clinically at the university hospital and conducted research as well.

From 1967 to 1983, he served as professor on the medical school faculty of the University of California at Davis, doing research and clinical teaching. He was made Professor Emeritus when he retired from academia.

Makepeace was then able to be more fully active in the arts, which had always figured in his life. Here the obituary becomes less of a chronicle and not solely about Makepeace.

In China, he had learned to paint with ink and brush and to play the organ; in the U.S. he continued to play the piano, though he often remarked on the difference in technique. He dug out an additional basement room to create a painting studio in our first house. He worked first in oils, then in acrylics and painted until his last few years (see Color Plate 0 No. 0). His avid interest in photography centered on recording events and sights around him. His photography was a visual journal, although it sometimes ranged to exploring how vision and the camera express concepts. In both of these media, he took classes and experimented on his own. He also ventured into sculpture using glass panels. He applied his sense of visual surprise and fascination with structure in his work, exploring how vision functions and how to expand the representation of what we cannot see directly. For example, his paintings from microphotographs of crystals reflect his interpretation of the enlarged structural order.

In addition to his own creative pursuits, he fostered and promoted the arts and artists. He and my mother took us four children to many performances and museums and provided us with lessons in music, visual art and dance. For Makepeace this was more than just exposure to culture. Rather it was part of fostering in us the Chinese model of the scholar-poet, rendered in contemporary terms. Today we children, among us, engage in writing in various forms, dancing, acting, photography and music, though we now earn our livings mostly by other means.

At the University of Michigan in the early 1960s, our family became associated with the avant-garde arts group ONCE, appropriately through a chance meeting with composer Robert Ashley and his wife, painter Mary Ashley, when they came to see about renting the house where my father had dug out the basement studio. The ONCE group was one of the earliest in performance art and electronic music, at a time when the electronic processors often were built by the musicians. Here, Makepeace's photographic record documented their performances. As a family we went to many of the ONCE events and occasionally participated in minor ways.

Retirement from one career was the opportunity for another. He owned and operated two art galleries, The Art Works in Fair Oaks California, and The Slant Gallery in Sacramento, which he later moved to Davis. Through the galleries, he encouraged many visual artists, especially women artists to whom he gave the chance for solo shows. Through the galleries, he asserted his belief in the importance of the arts to our social and inner well-being.

In addition to science and art, there was another important thread in my father's life. In Ann Arbor, my father had not been obviously political. However, political considerations shaped some of his choices. He never returned to China, in protest to the totalitarian government there, which had also bulldozed his parents' graves. We never traveled to the Southern states. Makepeace did not want to contribute to an economy that at the time included overt racism, nor expose his family to the harm of traveling where my parents' interracial marriage and miscegenation of children were illegal. He did not become a U.S. citizen before 1966, when the immigration quotas were substantially increased, as he had a green card and did not want to take a scarce slot needed more by someone else.

When we moved to Davis, Makepeace became more engaged in the community. He managed numerous local political campaigns. He was a founding member of a community service organization in Davis and served on quite a few non-profit boards. He tied in his interest in art to community affairs by putting the Davis Art Center on a sound footing and leading the campaign to construct a facility to house it. He served by supporting and doing, by carrying out all the little steps that comprise an achievement. He lived by a value he wanted to convey to his children, that our gifts and talents are meant to help others.

An obituary can also be a history of how the effect one has on another person comes back in one's life. My father found architecture fascinating. He thought it a lovely blend of the technical and the creative, though he mostly was aware of it as form of a sculptural nature. I picked up this interest, as it was sympathetic with my spatially based thinking and attraction to essential human endeavors for shelter, clothing, food and water. This led to my going to MIT to study architecture, where high school friend Rick Wilson (to become another Leonardo stalwart) was doing the same. We both became friends with Roger, Frank Malina's son. My father had also instilled in me as part of his service ethic an enjoyment of being productive. So I took a job in college at the MIT Press as a book designer. In 1981, when Roger needed help to keep Leonardo going, it was an important opportunity for me to help with my visual and organizational skills by taking on the role of managing editor during the critical time of transition. And of course my father also volunteered to be involved, along with Rick and my sister Aimee.

An obituary is also a record of a person's legacy. Here is what Makepeace brought to Leonardo: He encouraged it to cover all the arts, not just the visual ones. This led to the establishment of Leonardo Music Journal. He pushed for articles that surveyed a broader span of time and perspective to improve our understanding of the art-science connection. Yet he staunchly supported continuing articles written by the artists themselves, which give Leonardo its special meaning to artists. The Makepeace Tsao Leonardo Prize became possible because of his endowment for it. He helped run editorial functions and, as always, recruited others whenever he could to help the organization renew itself.

But I think his work at Leonardo is not quite done. Since its start, Leonardo has delved into the ways that creativity crosses between the arts, science and technology and manifests in new forms. There is another vital quality that these disciplines share. We can use them to improve how we treat one another and how we live our lives together. My hope is that Leonardo will honor the memory of my father by exploring, as thoroughly and explicitly as it has for creativity, how allying these endeavors can enhance human connectivity. Imagine the wealth of possibilities in linking art, science and technology through social conscience.

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Author note:  
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Karen Tsao works as a senior urban design planner for the city of Seattle and is a poet on the way to becoming a librettist.

[Ed. note: the complete content of this article is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

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| LEONARDO DIGITAL REVIEWS |  
| 2000.11 |  
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Editor-in Chief: Michael Punt  
Executive Editor: Roger Malina  
Managing Editor: Bryony Dalefield  
Web Editor: Sudhira Hay

By curious coincidence (or not) this months Leonardo Digital Reviews is dominated by discussions about sound, music and the neglect of the audio in generalised accounts of audio-visual history and theory. Most notable is a review article by Yvonne Speilmann on this issue prompted by Douglas Kahn's book *Noise, water, meat: a history of sound in the arts*. Speilmann's review, long by LDR standards, sets the agenda for a neglected area of critical study, and points to Kahn's timely intervention. Rahma Khazamr has reviewed the CD-ROM *La musique Electroacoustique* by the Groupe de Recherches Musicales, whilst Curtis Bahn reflects on *EREIA* by "Doctor Nerve" and the Sirius String Quartet. Finally we are grateful to Paul Hertz for his review of Perry R. Cook's book *Music, Cognition, and Computerized Sound: An Introduction to Psychoacoustics*.

In the pipeline are further discussions of the Cinderella of audio-visual criticism, which should make some inroads into a serious deficit in the predominantly visual interpretation of the twentieth century that dominates the literature. The agenda that Kahn sets together with the other featured material in this month's LDR may even point to a topic and methodology that can drive a revisionism that can bring research in the arts and sciences even closer.

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Visit Leonardo Digital Reviews online to read these reviews in full together with the latest postings in LDR Raw as they come in.  
<<http://mitpress.mit.edu/e-journals/Leonardo/ldr.html>> Your comments are welcome at <[ldr@Leonardo.org](mailto:ldr@Leonardo.org)>

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| OPPORTUNITIES |  
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< Northwestern University - music technology faculty >

Senior Associate Dean Frederick L. Hemke

Northwestern University School of Music  
1965 South Campus Drive  
Evanston, IL 60208  
URL: <<http://www.northwestern.edu/musicschool/musictech>>

POSITION: Music Technology

RANK: Assistant Professor, Tenure-track; Senior Lecturer

RESPONSIBILITIES: Teaching, research and creativity in music and audio for new media. The composition, production, recording, and performance of music for emerging audio media, combined media and the internet. Classes may include: Recording and Sound Design, Composing for Visual Media and Games, Performing with Synthesizers, Audio Production with ProTools, Multimedia Software Development, Introduction to Music Technology, and courses in popular music. An active professional career in research and/or creativity is essential in maintaining a position of leadership and being a role model for students. A degree in music is desired. Responsibilities also include supervising master's theses and doctoral dissertations.

CONTEXT: The School of Music at Northwestern University offers a major in music technology at the undergraduate, master's and Ph.D levels. The music technology program is located within the Department of Academic Studies and composition (which also includes programs in musicology, music cognition, theory, education, and composition). Visit our web site:  
<<http://www.northwestern.edu/musicschool/musictech>>.

The music technology faculty is highly interdisciplinary and the program emphasizes a broad range of musical activities. The faculty strive to build interdisciplinary bridges within the School of Music and to collaborate with the broader academic/artistic/research community of the University.

Northwestern is a private university, located north of Chicago on the shores of Lake Michigan in Evanston, Illinois. The University's 240-acre campus provides faculty and students with a vibrant educational setting that blends the best of urban and suburban. The Northwestern University School of Music offers a unique musical education based on tradition, innovation, and excellence. Established in 1895 as an integral and inseparable part of the University, the School of Music combines the privileges and resources of a world-class private research university with a nationally ranked music program of conservatory intensity and many faculty are also members of the Chicago Symphony, Lyric Opera and Civic Orchestras.

QUALIFICATIONS: Doctorate and collegiate teaching experience highly preferred.

SALARY: Negotiable depending on qualifications and experience.

STARTING DATE: September 1, 2001

Those interested in applying should send a letter of application including phone and email, curriculum vitae, a list of 3 references with phone and email, and one example of professional work. Additional references and works may be requested at a later date. Applicants wishing to have their submissions returned, must include a self-addressed mailer with the correct postage attached. For full consideration, all application materials must be received by March 15, 2001 and addressed to the above contact.

Northwestern University is an Affirmative Action/Equal Opportunity

Employer. Hiring is contingent upon eligibility to work in the United States. Women and minorities are encouraged to apply.

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< Graduate Teaching Fellow - Electroacoustic Music at the University of Oregon >

For Additional Information:

Contact Jeffrey Stolet  
University of Oregon, School of Music  
Tel: (541) 346-4542  
Email: <stolet@darkwing.uoregon.edu>

Apply To:

Graduate Office, School of Music  
University of Oregon  
1225 University of Oregon  
Eugene, OR 97403-1225  
Tel: (541) 346-5664  
Email: <gradmus@oregon.uoregon.edu>

University of Oregon Graduate Teaching Fellowships in Electroacoustic Music

Position: Graduate Teaching Fellowships in Electroacoustic Music. Duties may include assisting in the operation of the studios of Future Music Oregon and teaching beginning classes in electroacoustic music.

Qualifications: Candidates must be accepted in to a degree granting program in music at the graduate level with preference going to those pursuing master's in Intermedia Music Technology or master's or doctoral degrees in music composition. Applicants with strong backgrounds in sound synthesis and interactive environments (MAX) will be given preference.

Stipend: Varies for (1) master's degree, (2) doctoral degree, and (3) doctoral candidate. Total range of salary and tuition is approximately \$9,523 - \$20,307. This includes in-state or out-of-state tuition (\$6,150 or \$10,449), a cash stipend ranging from \$3,373 (GTF I @ .2 FTE) to \$9,858 (GTF III @ .49 FTE) and some incidental fees (Figures are for 2000-2001.)

Information: The University of Oregon School of Music is one of the oldest and most comprehensive music schools on the West Coast. As a synthesis of a conservatory (performance and jazz studies) and a department of music (composition, computer music, music theory, music history, ethnomusicology, and music education), the school offers a wide range of degrees from the baccalaureate through the doctorate. The University enrollment is 18,000 and the Eugene-Springfield area has a population of 220,000, with an unusually active musical and cultural life, including resident symphony orchestra, opera, and ballet companies. The renowned Oregon Bach Festival is affiliated with the School of Music.

Deadline: Completed applications will be reviewed beginning March 1, 2001 to fill positions that begins in Fall of 2001. All applicants, in addition to completing the standard UO and School of Music graduate application process, should submit 1) a summary of all music software and hardware with which they have experience, including the extent of work with each item, and 2) a tape (cassette or DAT) or CD containing several recent examples of original work in the electroacoustic domain.

The University of Oregon is an affirmative action, equal opportunity institution, committed to cultural diversity and compliance with the Americans with Disabilities Act.

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< Music Department at Mills College >

For further information, please call:  
The Office of Graduate Studies  
Tel: 510-430-3309  
Fax: 510-430-2159  
Email <grad-studies@mills.edu>  
URL: <http://www.mills.edu>

We're looking for adventurous women . . .

Whether you're classically trained, improviser, DJ, or experimentalist whether you're interested in acoustic or electronic music whether you have a strong vision or are unsure of which road to take the world-renowned Music Department at Mills could be the place for you!

- \*small classes
- \*a supportive and friendly atmosphere
- \*space to imagine and create
- \*the skills you need to realize your ideas
- \*your questions about music technology treated with respect - and answered
- \*a wide range of interdisciplinary activities (dance, art, digital arts, theater, video)

Mills College is situated in one of the most vibrant and creative areas in the United States, within easy reach of Oakland, Berkeley, and San Francisco.

Mills Music Faculty includes composer/audio engineer Maggi Payne, and pioneering composer and visionary Pauline Oliveros, as well as distinguished composer/improvisers Chris Brown, Alvin Curran, and Fred Frith, and noted scholars Michelle Fillion and David Bernstein.

The instrumental teaching faculty includes some of the finest musicians in the Bay Area (such as the Abel-Steinberg-Winant Trio), and our concert series presents cutting-edge performers from all over the world (recent visitors include AMM, Anne Bourne, Abbie Conant, Lesli Dalaba, Douglas Ewart, Amy Denio, Jose Maceda, Ikue Mori, Ursula Oppens, Jim O'Rourke, Zeena Parkins, Aki Takahashi, & Richard Teitelbaum)

WE SAY YES - the freedom to explore and experiment, the freedom to find your own voice, the freedom to be yourself.....

Financial assistance is available.

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ANNOUNCEMENTS
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< 2000 Leonardo New Horizons Award >

For more information about the Leonardo Awards Program, contact

Leonardo/ISAST  
425 Market Street, 2nd Floor  
San Francisco, CA 94105, U.S.A.  
Email: <isast@sfsu.edu>  
URL: <<http://mitpress.mit.edu/Leonardo/>>

Leonardo/ISAST is proud to announce the recipients of the 2000 Leonardo New Horizons Award for Innovation in New Media: Gregory Barsamian and Graham Harwood.

Gregory Barsamian creates dream-based animated sculptures -- zoetrope-like machines that produce three-dimensional animations. In these works, he fashions narratives composed of images from the unconscious and presents them on spinning armatures in a darkened space. His most recent traveling exhibition, *Innuendo Non Troppo*, was shown in Tokyo and throughout the United States. He lives and works in New York.

Graham Harwood is a member of the technological media group *Mongrel*, which focuses on collaborative, socially engaged products -- art, software and workshops. Harwood started out in the 1980s working with publications on such topics as working-class culture and new media in culture and society, moving on to studies and work in programming and education. Most recently he was commissioned by the Tate Gallery, London, to produce an exploration of the Tate collection, the history of Millbank and its prison and a "reversioning" of the Tate's website. Harwood lives and works in London.

The New Horizons Award was established in 1986 to acknowledge the numerous challenges faced by artists as they strive for exposure and recognition. These challenges are amplified for artists working with new media and techniques -- especially artists pushing the boundaries of the integration of art and technology. With the New Horizons Award, Leonardo/ISAST seeks to recognize emerging artists for innovation in new media.

The 10 finalists for the New Horizons Award for 2000 were selected from a larger group nominated by members of the Leonardo/ISAST community around the world. These artists share a commitment to the incorporation of technology and to the achievement of significant imaginative content, yet employ many diverse types of media within dramatically different aesthetic results.

The finalists were (in alphabetical order): Gregory Barsamian (U.S.A.), a sculptor whose kinetic and animated works probe fundamental dilemmas of human existence; Bruno Buesch and Tina Cassani (France/Switzerland), two multimedia artists who produce global radio network events; Jose Wagner Garcia (Brazil), who has employed a range of technology to create a multi-level installation probing environmental concerns in the Amazon basin; Graham Harwood (U.K.), whose interactive video fictions (e.g. *Rehearsal of Memory*) combine stunning aesthetics with a profound social conscience; Toshio Iwai (Japan), who creates vivid yet playful interactive audio-visual and sound pieces; Tran T. Kim-Trang and Karl Mihail (U.S.A.), two video artists who also create complex installation works that probe the ethical implications of science; Melinda Rackham (Australia), whose screen-based digital art, sculpture and online (Web) art (e.g. *Carrier*) examine a provocative range of subjects from identity in the digital world to online sex; Marie Sester (France), who blends architecture with sound and video art to force re-examination of modern environments; Igor Stromajer (Slovenia), a Web and performance artist whose work ranges from street performances to "megapathetic symphonies" and radiophonic sound/digital art; Fabian Wagnmister

(Argentina/U.S.A.), the creator of an enormous international Intranet project, Worship, which has resonant historical and social content.

This year's New Horizons jury included: Donna J. Cox, professor, School of Art and Design/National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign; Herve Fischer, Daniel Langlois Chair in Digital Technologies and Fine Arts, Universite Concordia FIAM, and co-chair of La Cite des arts et des nouvelles technologies de Montreal; Ginette Major, chair of Le Cafe Electronique de Montreal and co-chair of La Cite des arts et des nouvelles technologies de Montreal; Roger Malina, astronomer and executive editor of Leonardo; Rejane Spitz, artist and professor of art at PUC-Rio University, Rio de Janeiro, Brazil; Annette Weintraub, media artist and professor of art at The City College of New York; Benjamin Weil, Curator of Media Arts, San Francisco Museum of Modern Art; and San Francisco Bay Area art critic Barbara Lee Williams.

Past recipients of the New Horizons Award for Innovation have included Evelyn Edelson-Rosenberg (U.S.A.), Jean-Marc Philippe (France), Jaroslav Belik (Canada), Peter Callas (Australia), Patrick Boyd (U.K.), Christian Schiess (U.S.A.), I Wayan Sadra (Indonesia), and Kitsou Dubois (France).

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History of the Leonardo Awards Program  
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The first Leonardo award, the Frank J. Malina Leonardo Award for Lifetime Achievement, was established in 1985 to honor artists who have melded technology and the visual arts over a lifetime. The initial recipient, Hungarian artist Gyorgy Kepes, was a founder of both the New Bauhaus (Chicago) and MIT's Center for Advanced Visual Studies. His art and life were dedicated to the advancement of new technologies and relationships among scientific discoveries and art.

In 1987, Leonardo gave its first Leonardo Award for Excellence to recognize outstanding and particularly significant articles published in Leonardo. Recipients of this award have included composer and musician Alvin Lucier (U.S.A.), artist George Gessert (U.S.A.), artist and theorist Eduardo Kac (U.S.A./Brazil).

The newest Leonardo award, the Makepeace Tsao Leonardo Award, was given to Herve Fischer and Ginette Major of La Cite des arts et des nouvelles technologies de Montreal. This award recognizes organizations and artists' groups that have increased public awareness of art forms involving science and technology, particularly through the sponsoring of exhibitions. The award is named for the late Makepeace Tsao -- biochemist, professor, gallery owner and artist -- who served at various times as editorial board member, advisor and benefactor of Leonardo/ISAST.

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< The Eighth Brazilian Symposium >

The general Chair of SBCM2001:

Geber Ramalho  
Universidade Federal de Pernambuco  
Email: <glr@cin.ufpe.br>

VIII Brazilian Symposium on Computer Music  
31 July - 03 August 2001  
Fortaleza, Brazil

URL: <<http://www.cin.ufpe.br/~sbcm2001>>

The Eighth Brazilian Symposium will be held in Fortaleza, the capital of Ceara state, from 31 July to 03 August, 2001.

The Brazilian Symposia are organized by NUCOM, the computer music branch of the Brazilian Computing Society (SBC) and take place within the Annual SBC Congress.

There are key-note speeches by renowned researchers, paper sections, music papers, tutorials and demonstrations. Researchers, composers, educators, manufacturers and all concerned with the interplay between music and technology are invited to submit work.

**\*Important dates\***

06 March 2001: closing date for submitting music-papers

03 April 2001: closing date for submission of papers

24 April 2001: notification of acceptance of works

10 May 2001 : closing date for submitting the final version of the papers

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Submission of papers  
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**Papers Chair:**

Eduardo Reck Miranda  
Sony Computer Science Lab Paris  
Email: <[miranda@csl.sony.fr](mailto:miranda@csl.sony.fr)>

Complete papers reporting ongoing or concluded research should be submitted (abstracts or incomplete papers will not be accepted).

Note that there are two different categories of papers, both of which will be published in the proceedings.

The categories are as follows:

- a) Research papers: These papers should report concluded scientific and/or technical research results or systems. They must be written in English and should not exceed 8 pages;
- b) Discussion papers: These papers will discuss ongoing research work. They may be written in Portuguese, Spanish or English and should not exceed 6 pages.

Please state clearly in a covering front page:

- \* what topics (if any) best describes your subject matter
- \* the paper category that you are submitting (research or discussion)
- \* the name(s) and address(es) of the author(s)

Since the reviewing process is anonymous, the heading of the first page of the paper should contain only the title. You are kindly requested not to reveal your identity in your paper (avoid self reference etc.). Preferred format for submission are RTF, EPS or PDF. Should a prospective participant need to submit a paper saved in a format other than RTF, PDF or EPS, please check with the papers Chair.

How to submit (in order or preference):

[ 1] Place your paper in a public domain area of your network and send an Email informing the URL or FTP address to E. Miranda <miranda@csl.sony.fr> Please write "SBCM Submission" in the subject of your Email.

[ 2] Send your paper as a file attachment to an Email to E. Miranda. <miranda@csl.sony.fr>. Compressed files are preferred (most standard compression schemes for Unix, Mac OS or Windows are accepted).

As with previous symposia, a selection of \*Research papers\* will be considered for publication in international journals, as appropriate.

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Submission of music papers  
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Music papers Chair:  
Didier Guigue  
Universidade Federal da Paraiba  
Email: <dguigue@openline.com.br>

Composers are invited to submit music papers. A music paper is a composition accompanied by a Discussion paper presenting the compositional procedures and the role of the computer in the compositional process. These papers plus the compositions will be refereed by a dedicated committee and will appear in the proceedings.

The music papers will be presented in two concert sessions of 3 papers each. Each composer will have 30 minutes in total, for audition, communication and discussion.

More details about the music paper sections as well as instructions for submission can be obtained directly from the music papers Chair: <dguigue@openline.com.br>.

More information on submitting a tutorial proposal or a demo section will published on the Web. Please watch the symposium's Web site for up-to-date information: <<http://www.cin.ufpe.br/~sbcm2001>>.

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< ICMC 2001 -- Call for Musical Submissions >

Laboratorio Nacional de Musica Electroacustica  
Calle 17 esq. I, No 260, Primer piso, Vedado, C.  
Habana, CP 10400, Cuba  
Tel: (537) 30-3983  
Fax: (537) 66-2286/33-3716  
Email: <Lnme@cubarte.cult.cu>

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ICMC 2001  
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The 2001 ICMC will take place from Tuesday, September 18 to Sunday, September 22, 2001 in Havana, Cuba. We are currently accepting submissions for papers and musical submissions until the deadline of January 15, 2001.

\*\*\*NOTE -- Please consult the website at: [www.ICMC2001.ORG](http://www.ICMC2001.ORG) for detailed submission instructions. The information on this web site will be considered the official version of the ICMC 2001. \*\*\*

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Call for Musical Submissions

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ICMC 2001 welcomes submissions using: computers and various acoustic instruments (see below), interactive performance, improvisation, sonic processing and spatialization, loudspeakers and sound diffusion systems (eight channels maximum). Composers are strongly encouraged to provide their own computers, associated hardware and software required for their performance. The ICMC committee reserves the right to reject submissions that are not practical to perform in Cuba.

There are two principle ensembles available:

The Cuban ensemble "Nuestro Tiempo," with flute, oboe, clarinet, bassoon, horn, trumpet, trombone, 2 percussion, keyboard, 6 first violins, 4 second violins, 3 violas, 3 cellos, 2 contrabass.

The Danish ensemble "Contemporanea," with Fritz Gerhard Berthelsen, clarinets, Christian Martinez, percussion, Arendse Dalgaard, violin, Kalina Goudeva, double bass, and Ejnar Kanding, computer, sound diffusion.

In addition, there are several guitar ensembles, a saxophone quartet, clarinet quartet, piano/violin duo, chorus, and extensive percussion, in classical, folkloric and popular idioms.

Naturally, works using digitally generated tape are also welcome. All commonly used formats (DAT, ADAT, CD) may be submitted.

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Call for Papers  
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All contributions of papers, posters, studio reports, and demonstrations must be submitted by e-mail.

\*\* Abstracts must be submitted as standard ASCII files \*\*

Final submissions will be in .ps or .pdf format; please refer to web page for details. This year we welcome extended abstracts, not to exceed 3,000 words for Long Paper submissions and no more than 1,500 words for other submissions. Do not sneak in references to yourself in the abstract; the jury process is anonymous.

Email all abstracts to: <papers@icmc2001.org>  
(ICMC 2001 Papers Chair: Dr. Peter Driessen, University of Victoria, Canada)

Remembering the legacy of Stanley Kubrick, we subtitle this historic conference "ICMC 2001 in Havana: A Cultural Odyssey." Papers dealing with the influence of digital technology in both Western music and in other, traditional cultures are strongly encouraged, and also papers dealing with improvisation in electroacoustic music. We will have special sessions relating to "Open Art, Open Software & Open Hardware," with the following focus:

- \* Open source Standards for Encoding and Communication of Music and Sound
- \* Open art, open software, open hardware
- \* Linux, Hurd and Audio
- \* Improvisation in Computer Music
- \* Visualizing Music
- \* Sound Repositories
- \* Open Scientific Literature

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