■ **17:00** Enchantment vs. Interaction

Michel Waisvisz, STEIM, Amsterdam

if our goal is musical expression we have to move beyond designing technical systems.
we have to move beyond symbolic interaction.
we have to transcend responsive logic;
engage with the system:
power it and touch it with our bodies,
with our brains.
invent it and discover it's life;
embrace it as instrument.
an instrument that sounds between our minds.
*   we will have to operate beyond pushing buttons and activating sensors*
*   beyond isolating gestures and mapping data and parameters*
*   beyond calculating response*
*   beyond assuming that the concept will create music*
we should abolish the illusion of 'control'
merge our intentions into those of the instrument and the audience
get inspired by change, miscalculation, invested instinct, insightful anticipation, surprise and failure
*   the sensors, the logic, the artistic debate, the technical debate, the circuits, the theories about perception,*
*   the new war driven technologies, the ability or dis-ability to communicate, the conferences, the endless*
*   experimentation with system tweaks, the touch and sound, the reoccurring state of disbelief, the craving*
*   for the stage, the difficult and great collaborations, composing the now, the survival of the electronic*
*   music scenes, the nime, the industry, the independents, the musical fun, the appreciation of difference,*
*   the body as source of electrical and musical energy, the bonding of thinkers, the rapid improvisers,*
*   … just to extrapolate some ingredients and vehicles of our quest.*
it might work if we manage to express ourselves musically by moving beyond interaction,
beyond mere technical beliefs and disbelief.
by engaging, by trusting ourselves into the potential of our new instruments,
enchanting our sounds, our audience.
*   enchantment is not only a state of mind,*
*   it is a technology*
*   designing for new musical expression is casting a spell on instrumental practice.*

Michel Waisvisz, Limerlé May 2006

Michel Waisvisz is a composer/performer of live electronic music, who has developed new ways to achieve physical touch with electronic music instruments. Sometimes this is done by literally touching the electricity inside the instruments and thereby becoming a thinking component of the machine. He was amongst the first play with synthesizers on stage and very early developed and performed using gestural controllers. He also is the inventor of the CrackleBox and The Web and other instruments based on touch interaction. Together with Frank Bald? he has designed live performance software like LiSa and JunXion. Beside the solo performances and the composing for music theatre he has collaborated with a great variety of musicians and composers: Laurie Anderson, Steve Lacy, DJ Spooky, Najib Cheradi, Moniek Toebosch, The Nieuw Ensemble, Willem Breuker, The San Francisco Symphony Orchestra, Maarten Altena, etc. Waisvisz was one of the first organisers of electronic sound festivals in Holland and The Touch exhibition, with electronic music instruments that can be played by the visitors, is travelling regularly through Europe. He leads the STEIM foundation in Amsterdam where performance artists from music, theater, dance and new media art, and DJ's and VJ's, work to develop their personal electronic instruments. Waisvisz is the founder of 'Physical Philosophy' a science where axioms are replaced by physical objects. Waisvisz has made works and performances in a variety of musical scenes from starting as an independent student to working in the avant garde of new music as well as in more popular venues.

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RECHERCHE ET CRÉATION MUSiCALES

SUNDAY JUNE 4, 2006

iRCAM, SALLE iGOR-STRAViNSKY
10:00—18:00

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After a first workshop at the Sound and Music Computing conference in 2004, IRCAM organises for NIME 06 the second workshop, associating this time the LAM Research Network (Live Algorithms for Music).

The workshop brings together internationally recognized musicians and researchers who will present their work from a musical as well as technological point of view.

In particular, artistic aspects of the implication of « creative machines » in the process of music improvisation and composition will be discussed.

■ Schedule

10:00   **Live Algorithms for Music**
Presentations of the LAM Research Network
Michael Young, **Tim Blackwell**, and others, LAM Research Network

11:20   **OMax, a Machine Learning Environment for Improvisation**
Marc Chemiller, IRCAM/CNRS, Paris
Gérard Assayag, IRCAM, Paris
Georges Bloch, Composer
Bernard Lubat, Pianist
Philippe Leclerc, Saxophonist
Émilie Rossez, Video Artist

12:40   **Enaction in the Design of Musical Interaction**
David Wessel, CNMAT, Berkeley

■ Lunch break

14:30   **Reflective Interactions**
François Pachet, Sony CSL, Paris

15:00   **Precision and Repetition**
Joel Ryan, Institute of Sonology, The Hague

15:40   **Improvisation in Computer Music: Integrity and Pragmatism**
Mari Kimura, The Juliard School, New York

16:20   **Improvising with Creative Machines**
George Lewis, Damon Holzborn, Columbia University, New York

17:00   **Enchantment vs. Interaction**
Michel Waisvisz, STEIM, Amsterdam

■ Break

17:20   **Final Discussion**

Violinist/Composer **Mari Kimura** performs diverse programs including own works for interactive computer systems and violin around the world. Ms. Kimura is credited for her revolutionary extended technique "Subharmonics", and has given numerous international appearances include: Spring in Budapest, Other Minds Festival, International Bartok Festival, Internacional Festival Cervantino, and ISCM World Music Days. As a recipient of prestigious Kenzo Nakajima Music Prize in Japan for her creative activities, Ms. Kimura appeared as a soloist performing concertos of Ligeti, Adams, Hillborg and Saariaho with Tokyo Philharmonic, Tokyo Symphony, Orchestra Ensemble Kanazawa and Hong Kong Symphonietta. A critically acclaimed improviser, Ms. Kimura performed and recorded with Henry Kaiser, Robert Dick, Jim O'Rourke, John Oswald, and Elliott Sharp. Ms. Kimura has published articles on subjects including computer music and Subharmonics, from MIT Press, Cambridge Univ. Press, STRINGS and Journal of Acoustical Society of America. She has been invited as an Artist in Residence including Banff Centre for the Arts, Headland Center for the Arts, Other Minds Festival and Harvestworks. Ms. Kimura's works have been supported by grants and commissions include: Jerome Foundation, Meet The Composer, Arts International, Japan Foundation, and the New York State Council on the Arts. She has served as a music juror including: International Computer Music Conference, The Kyoto Prize, The New Interface for Musical Expression (NIME) and New York Foundation for the Arts (NYFA). Based in New York city, Ms. Kimura has been on the faculty at The Juilliard School since 1998, teaching a graduate course on Interactive Computer Music Performance.

■ 16:20 Improvising with Creative Machines
George Lewis, Damon Holzborn, Columbia University, New York

Professor Lewis will discuss and improvise with a system of his own design, in which improvisors are engaged in dialogue with a computer-driven, interactive "virtual improvisor". As with Lewis's earlier work, "Rainbow Family" (commissioned by IRCAM and premiered in 1984), in this work, a computer program analyzes aspects of a performance in real time, and uses that analysis to guide the generation of complex responses to the musician's playing, while also establishing its own independent generative and analytic behavior. The improvised musical encounter is constructed as a negotiation between players, some of whom are people, others not – a subject-subject model of discourse, rather than a stimulus/response setup.

George Lewis, improvisor-trombonist, composer and computer/installation artist, studied composition with Muhal Richard Abrams at the AACM School of Music, and trombone with Dean Hey. The recipient of a MacArthur Fellowship in 2002, a Cal Arts/Alpert Award in the Arts in 1999, and numerous fellowships from the National Endowment for the Arts, Lewis has explored electronic and computer music, computer-based multimedia installations, text-sound works, and notated forms. A member of the Association for the Advancement of Creative Musicians (AACM) since 1971, Lewis's work as composer, improvisor, performer, and interpreter is documented on more than 120 recordings. His published articles on music, experimental video, visual art, and cultural studies have appeared in numerous scholarly journals and edited volumes, and a book "Power Stronger Than Itself: The Association for the Advancement of Creative Musicians" will be published by the University of Chicago Press in 2007. Lewis is the Edwin H. Case Professor of American Music at Columbia University. Lewis's pioneering multi-computer interactive work, Rainbow Family, was commissioned by IRCAM and performed in 1984 in its Espace de Projection. Lewis also performed his virtual orchestra work, "Voyager" at the IRCAM Summer Academy in 1994.

Ryan sought to bring a concreteness to digital electronic media through the intelligent touch of the performer. Performance was the essential missing ingredient and he became a pioneer in the design and playing of real-time interactive digital signal processing instruments. He has collaborated extensively with composers and artists such as Evan Parker, George Lewis, Bill Forsyth, FM Uitti, Steina Vasulka, Jerry Hunt, Michel Waisvisz and ArtAngel. Formerly a Research Associate at the Lawrence Berkeley Laboratories of the University of California, he has taught philosophy, physics, and mathematics. He currently works at STEIM in Amsterdam, tours with the Frankfurt Ballet and is Docent at the Institute of Sonology. His music has been performed in the Theater Chatelet in Paris, the Concertgebau Amsterdam, the Akadamie Der Kunst and Volks sTheater in Berlin, the Kitchen in New York and at the Alameda Festival in London. Most recently he has collaborated with William Forsyth on EIDOS/TELOS, Tight Roaring Circle, Sleepers Guts and Kammer Kammer for the Frankfurt Ballet; and with James McDonald on Roberto Zucco for the Royal Shakespeare Company, Other works include The Number Readers, Hat Moon Joy, and The Effect of Noise on the Sleep of Children.

■ 15:40 Improvisation in Computer Music: Integrity and Pragmatism

Mari Kimura, The Julliard School, New York

Can a human improviser give equal musical rights and responsibilities to the computer? Today, many contemporary musicians, performers and composers, D.J.s, academics and even amateurs can create improvisation performances using anything from the most sophisticated 'thinking machine' to ever-increasingly 'user-friendly' commercially available tools at affordable prices. No matter who you are, the integrity of the musical result lies in the hands of those who have both the musical ability to create music in real time, connecting the musical line from the past and present to the future instantaneously, and those who have the ability to create the musical context technically, using whatever instrument at hand.

I do use what George Lewis called 'hot buttons' [1] a rather old-fashioned command to fire certain events by tracking the violin's pitches or loudness, and call myself 'interactive'. To set some parameters to generate "random" data in itself is an act of control.   My relation with the computer is not 'democratic' in that sense; I am the commander and the chief participant in my performance, and the computer is my soldier who obeys. However, I do design my piece to make it 'seem,' to the audience, as if the computer is the equal musical being on stage.   I do aim to make the audience feel as if the computer has a say, feelings, and being lyrical, emotional and desiring. I try to create such 'pragmatic' strategies, in order to achieve an acoustically `democratic' result for the audience. But I am unwilling to give much credit to the computer as an intelligent being. After all, computers still need to be turned on by humans. I am simply not a good enough computer programmer, who can make the computer to 'want' to turn on for rehearsals and concerts, and maintain itself.

For the above reasons, I go as far as creating illusions of completely free and tight improvisation between humans and machines.   I would prefer to call my interactive computer works a 'pragmatic musical programming' for satisfying my own integrity. The human improviser performing with a computer needs the ability to connect the dots and create a musical triangulation: past->present->future-> instantaneously using the materials coming out of the computer as well as him/herself, whatever or however it is created. The audience hears that result, not necessarily the result of the sophistication of the thinking machine.

■ 10:00 Live Algorithms for Music

The Live Algorithms for Music network (LAM) investigates autonomous computers in performance. **http://www.livealgorithms.org/**
Funded by the UK Engineering and Physical Sciences Research Council, it is an inter-disciplinary community of musicians, software engineers and cognitive scientists, founded by Dr Tim Blackwell and Dr Michael Young (Goldsmiths College, University of London). LAM is interested in systems that interact strongly with musicians; our research agenda is a marrying of the practices of algorithmic composition, live electronics and human-only 'free' improvisation. There are some 100 members, with representatives from Europe, USA and Australia. Activities include open symposia, research workshops and experimental performances.
In this session we will introduce the activities of the network and some LAM members will briefly describe and demonstrate new projects in development.

What is a Live Algorithm?
Tim Blackwell and **Michael Young**, Goldsmiths College, University of London

BCI got Rhythm. Improvisation for Two Pianos and Brain-Computer Music Interface
Eduardo Miranda and **Marcelo Gimenes**

Behavioural Objects for Interactive and Generative Music
Alice Eldridge, Ollie Bown, Sebastian Lexer

Give Frank a brain: improvisation for piano using co-evolution & MPEG7 techniques
David Plans-Casal and **Davide Morelli**

■ 11:20 OMax, a Machine Learning Environment for Improvisation
Marc Chemiller, IRCAM/CNRS, Paris, **Gérard Assayag**, IRCAM, Paris, **Georges Bloch**, Composer, **Bernard Lubat**, Pianist, **Philippe Leclerc**, Saxophonist, **Émilie Rossez**, Video Artist

The OMax system by Gérard Assayag, Marc Chemillier and Georges Bloch, will be presented in two setups. A Midi setup with pianist Bernard Lubat, and an audio/video setup with saxophonist Philippe Leclerc. OMax is based on a real time statistical modeling engine that captures the patterns from the musician and organizes them in high-level memory structure. Simultaneously it creates its own improvisation, thus creating a co-improvisation situation to which the musician reacts in his own way. By learning, at an upper level, the interaction itself, the model may reinforce certain behaviors, thus trying to keep coherence with the musician.

Bernard Lubat began accompanying his father, Alban, an amateur trumpet player, at local dances (usually on accordion) at the age of 5. He then went on to study piano and entered the Conservatoire de Bordeaux in 1957, where he discovered drumming, jazz, and Milt Jackson. Moving from one place of learning to another, he spent two years at the Conservatoire de Paris, graduating in 1963 with a degree in percussion. In 1965 the Jef Gilson Big Band hired him and he met Michel Portal, Bernard Vitet, François Jeanneau, Jean-Louis Chautemps, Henri Texier, and countless others that he would reconnect with throughout his career. He also began circulating in Parisian studios, accompanying star singers. He worked as a vibraphonist with Jean-Luc Ponty and Martial Solal, and as a drummer with Stan Getz and Eddy Louiss. In 1965, he was a member of the renowned "Double Six." At the same time, he was working in the field of contemporary music with Diégo Masson, playing Varèse, Bartók, and Xenakis, as well as playing on the recording of Laborintus. With Portal, Jean-François Jenny-Clark, and Jean-Pierre Drouet, he started exploring free jazz.

From 1969 to 1973, he also played with Eddy Louiss and René Thomas. In 1975, he formed a group with André Ceccarelli, Marc Bertaux, and Tony Bonfils. The year of 1977 marked the birth of both the Uzeste Musical, a festival that he both created and ran, and the "Compagnie Lubat," a group with a flexible membership that included at one point or another many of the best French musicians. Ever since, he has been a drummer, a pianist, a vibraphonist, a keyboardist, a bandoneonist, an accordionist, a singer, a composer, an author, a teacher, and…an actor, never stopping, between his "Festival d'Uzeste," which has brought about some most unexpected meetings, and his Compagnie, highlighting the group spirit and a true popular culture mixing poetry, music, painting…

Georges Bloch's music centers on several themes that remain, nonetheless, perfectly compatible.

Space: *Palmipèdes d'agrément* was the first piece composed with the IRCAM Spatialisateur. *Palmipèdes sailins* makes use of the acoustics found in Nicolas Ledoux's salt marshes in Arc-et-Senans. *Foundation Beyler* is a "sound print" that offers several musical guided tours of the foundation simultaneously.

Interaction: For 25 years, Bloch has based interaction on the paradox of composed improvisation (Jimmy Durante, Boulevard, Palm Sax) and on computer-assisted composition (not necessarily in real-time). Bloch took part in the Omax project using sound and video, and continually makes use of the research carried out at IRCAM on maximal category models.

Collaboration: Georges Bloch collaborates regularly with sculptors and painters. Jean-Michel Albérola's photographs became a part of the score in *Souvenirs et moments*. *Palmipèdes corbuséens palmés* makes use of all three categories. In this piece, a mezzo-soprano walks through a strange sound space - a water tower designed by Le Corbusier - and creates a resonating, interactive sound sculpture.Born in Paris, Bloch now lives and works in Strasbourg. In 1979, Georges Bloch received his degree from the École centrale in Lille where he studied science. Later in life, he studied composition at the University of California, San Diego, receiving his PhD in 1988. A lyrical singer and sound poet, Georges Bloch currently teaches in the Atiam Master's Program (IRCAM/Paris VI) in addition to carrying out his own work, which currently centers on the relationship between music and cinema.

■ 12:40 Enaction in the Design of Musical Interaction
David Wessel, CNMAT, Berkeley

The enactive approach addresses the link between perception and action, especially the role of sensory-motor engagement with sound. This presentation will address design criteria for computer-based musical instrumentation that assure intimate gestural control and facilitate both the exploration and mastery of musical material. The role of automaticity and conscious control is viewed from a human-machine symbiosis perspective where some aspects of automaticity are "outboarded" to the instrument while maintaining the potential for supervisory control. A key concern is the way the instrument acquires knowledge during the course of performance and the manner in which the musician accesses and manipulates that knowledge. In this work the act of composition resides in the design of the instrument and its internal representation of musical material. The emphasis is on performance contexts in which improvisation and musical dialogue play a central role.

David Wessel studied mathematics and experimental psychology at the University of Illinois and received a doctorate in mathematical psychology from Stanford in 1972. His work on the perception and compositional control of timbre in the early 70's at Michigan State University led to a musical research position at IRCAM in Paris in 1976. In 1979 he began reshaping the Pedagogy Department to link the scientific and musical sectors of IRCAM. In 1985 he established a new IRCAM department devoted to the development of interactive musical software for personal computers. In 1988 he began his current position as Professor of Music at the University of California, Berkeley where he is Director of CNMAT. He is particularly interested in live-performance computer music where improvisation plays an essential role. He has collaborated in performance with a variety of improvising composers including Roscoe Mitchell, Steve Coleman, Ushio Torikai, Thomas Buckner, Vinko Globokar, Jin Hi Kim, Shafqat Ali Khan, and Laetitia Sonami has performed throughout the US and Europe.

■ 14:30 Reflective Interactions
François Pachet, Sony CSL, Paris

This talk will introduce the notion of reflective interaction – a class of interactive systems in which a mirror effect is produced by inserting a learning algorithm into the interaction loop. These systems are especially interesting for the user since they create particularly addictive interactions. This concept is based on results from various experiments carried out on two reflective interactive systems: the Continuator, an improvising companion, and the Music Browser, a music catalogue access system.

■ 15:00 Precision and Repetition
Joel Ryan, Institute of Sonology, The Hague

There is an almost theological intensity in our desire to take music out of time, to replace unreliable memory of overwhelmingly rich experiences with immutable objects. We know that memory of beauty is fragile, that time erodes pleasure itself. We remember something that was tremendous but we cannot evoke this as experience for others or even for ourselves. Of course music is about this recovery and rehearsal of experience. We are aware of the erosion of memory in general. We examine records and imagine, there once was a very great moment, and practice to travel there. We poignantly gather in groups to recall experiences already lost to us but recoverable by rites of precision and repetition. Has electronic media changed this? How does it aid in the recovery of music? It has changed the style of time but what has it done for this sense of loss? What is the relation between the automation of memory and our desire to hold onto musical experience? We exchange faithful objects without the guarantee of transmission. Joel Ryan will talk about time in improvised electro-acoustic music.

Joel Ryan could serve as a paradigm of a strain of American inventor/composers. Starting from a scientific rather than a musical education, he moved into music by degrees from physics via philosophy, studying with Herbert Marcuse, and Albert Hofstadter, and instrumental study with among others Mexican film composer and guitarist Jose Barroso and Ravi Shankar. This was in California at a time when it was possible to regularly attend performances by Subbulakshmi and Jimmy Hendrix, John Cage and Harry Partch, Thelonius Monk and John Coltrane, experiences which released him forever from the spell of academic modernism. He enrolled at the infamous Mills College Center for Contemporary Music near San Francisco where, by way of composers Robert Ashley and David Behrman he joined the emerging community of artist hackers which helped define Silicon Valley.