

**Music for Instruments  
and Computer**

**David Eagle, aXiO MIDI controller**

**Stan Climie, bass clarinet**

**Russell Whitehead, trumpet**

**Laurie Radford, computer, electronics**

**Thursday, November 22, 2001  
at 8:00 pm**

**Studio 27**

**Fine Arts Building 2-7**

**University of Alberta**

**Program**



**Department of Music  
University of Alberta**

DR: MMI.59

# Program

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## Prelude

*FLOW*(1998)

Karlheinz Essl

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1. *Lexikon-Sonate* (1992-98) Karlheinz Essl  
Solo Disklavier

2. *Sequenza X* Luciano Berio  
C Trumpet and Piano Resonance (1984)  
Russell Whitehead, trumpet  
Sylvia Shadick-Taylor, piano

3. *Prelude for aXiO* (1999-2001) David Eagle  
David Eagle - aXiO MIDI Controller

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## Interlude

*FLOW*

Karlheinz Essl

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4. *Jackdaw* (1995) Wayne Siegel  
Bass Clarinet and Tape  
Stan Climie - bass clarinet

5. *Météores* (1989) Francis Dhomont  
David Eagle - aXiO MIDI Controller

6. *A Larus Exchange* (2001) Laurie Radford  
Trumpet and Digital Signal Processing  
Russell Whitehead - Trumpet  
Laurie Radford - Computer

7. *Instrumentarium xi.01*  
Stan Climie, bass clarinet  
Russell Whitehead, trumpet  
David Eagle, aXiO MIDI Controller  
Laurie Radford, computer

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## Postlude

*FLOW*

Karlheinz Essl

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### **fLOW (1998)**

Karlheinz Essl

**fLOW** is a site-specific work-in-progress that was started under ever-changing titles in October 1998. The entire project is carried out in numerous steps and takes place in various locations with changing musicians from different fields like New Music, experimental jazz, free improvisation and New Electronic Music. The project is based on a soundscape that is generated in real-time by a computer program written in MSP that runs on Apple Macintosh machines. It fills the space with sounds that resemble - metaphorically - the timbres of water, fire, earth, and air.

For each performance, the soundscape is interpreted and commented by live-musicians. Each realization is developed for the specific place and takes into account its individual socio-cultural context. Besides music and sound, a realization can also include light installations, film projections, and performance aspects, elaborated time scores and computer-generated Playing Strategies. Integral part of each performance is the m@ze<sup>2</sup> (Modular Algorithmic Zound Environment), a computer-based Realtime Composition and Improvisation Environment developed by Karlheinz Essl since 1996 that the composer plays himself on an Apple PowerBook computer. The very core of **fLOW** itself - the realtime generated soundscape - also functions as a multi-channel sound installation that can be adapted to different spaces and locations. A CD-based version running on several independent CD-Players has also been developed.

### **Lexikon-Sonate (1992-98)**

Karlheinz Essl

**Lexikon-Sonate** is a work-in-progress that was started in 1992. Instead of being a composition in which the structure is fixed by notation, it manifests itself as a computer program that composes the piece - or, more precisely: an excerpt of a virtually endless piano piece - in real time. **Lexikon-Sonate** lacks two characteristics of a traditional piano piece: 1) there is no pre-composed text to be interpreted, and 2) there is no need for a pianist or an interpreter. Instead, the instructions for playing the piano - the indication "which key should be pressed how quickly and held down for how long" - are directly generated by a computer program and transmitted immediately to a player which executes them.

The title **Lexikon-Sonate** refers to the "Lexikon-Roman", written in 1968-70 by the Austrian-Slovakian author Andreas Okopenko. This novel appears to be one of the very first literary HyperTexts, independently of Ted Nelson who introduced this term about the same time. This novel - "a sentimental journey to a meeting of exporters in Druden" (subtitle) - consists of several hundred small chapters. By reference arrows, as in a lexicon, the reader could make her own investigations through the multiple nested web structure of the text. Instead of presenting a sequential text with a predefined direction of reading, Okopenko provides a structure of possibilities, which challenges the reader to become a creator of her own version of this novel.

Originally, **Lexikon-Sonate** was conceived as a musical commentary to an electronic implementation of Okopenko's "Lexikon-Roman", carried out by the interdisciplinary group "Libraries of the Mind". But soon afterwards it started its own life due to its manifold ramifications, becoming an example in the domain of algorithmic composition.

**Lexikon-Sonate** consists of 24 music-generation modules (structure generators) which are related in a very complex way as a musical HyperText. Each module generates a specific characteristic musical output as a result of the compositional strategy that has been applied. A module represents an abstract model of a specific musical behavior. It does not contain any pre-organized musical material, but a formal description of it and the methods how it is being processed.

These modules are structural re-implementations of piano gestures obtained by analysis of piano music from Johann Sebastian Bach, Beethoven, Schönberg, Webern, Boulez, Stockhausen and Cecil Taylor. They will never appear as quotation (because none of these gestures have been "sampled"), but mainly as "allusion". Furthermore, they are open and generic enough such that different modules playing at the same time can intermingle, creating unforeseeable meta-structures.

The idea of autopoiesis - material organizing itself based upon certain constraints - plays an important part. By using a lot of different random generators that control each other, ever-new variants of the same model are generated. Seen in this light, **Lexikon-Sonate** can be perceived rather as a meta-composition that enables the unfolding of piano music than a fixed work.

**Karlheinz Essl** (1960-) is an Austrian composer, improviser and performer. He attended the Vienna Musikhochschule (1979--87), where he studied with Friedrich Cerha and Dieter Kaufmann, among others. He also studied musicology and art history at the University of Vienna. Active as a double bassist until 1984, he played in chamber and experimental jazz ensembles. As a composer he has contributed to the Projekt 3 composition programming environment of Gottfried Michael Koenig at Utrecht and Arnheim (1988-89) which later transformed into his own Realtime Composition Library for MAX. Essl also served as composer-in-residence at the Darmstadt summer courses (1990-94) and completed a commission for IRCAM. In 1995 he accepted a position in computer-aided composition at the Studio for Advanced Music & Media Technology at the Bruckner Conservatory, Linz.

Essl's compositions result from confrontations between ordered, abstract models and original tonal, expressive structures. He has frequently sought to combine music with other genres and has collaborated with the graffiti artist Harald Naegeli (Partikel-Bewegungen, 1991), the writer Andreas Okopenko, the architect Carmen Wiederin (Klanglabyrinth, 1992-95) and the video artist Vibeke Sorensen (MindShipMind, 1996, a multimedia installation for the Internet). During the 1990s he carried out many additional projects for the Internet and became increasingly involved with improvisation.

Besides writing instrumental music, Karlheinz Essl also works in the field of electronic music, interactive realtime compositions and sound installations. He develops software environments for algorithmic composition and acts as a performer and improviser. Most of his compositions are published by TONOS (Darmstadt).

### **Sequenza X (1984)**

Luciano Berio

*describe my limitations and clasp me in echoes, in reflections  
at length, and casually, become me for me, you for me - Edoardo Sanguineti*

Few works in recent decades have become as famous as Luciano Berio's *Sequenzas*, a cycle of solo pieces on which the composer has been working for forty years. The result is an extraordinarily successful work in progress. A number of these *Sequenzas* have left their mark on other pieces by Berio, while others, in turn, have splintered off from longer works. This constant inter-linking of individual works and the ability to spin out and vary the same underlying material, while reflecting it in the most disparate ways, is typical of Berio's whole approach to composition. Indeed, his entire output could be seen as one great work in progress. And his *Sequenzas* are the secret centre of this universe.

The title, *Sequenza*, underlines the fact that the construction of these pieces almost always takes as its point of departure a sequence of harmonic fields, from which spring,

in all their individuality, the other musical functions. In fact, almost all the *Sequenzas* have in common the intention of defining and developing through melody an essentially harmonic discourse and, above all, when dealing with the monodic instruments, of suggesting a polyphonic type of listening based in part on the rapid transition between different characteristics, and their simultaneous iteration.

Virtuosity is an obvious and common external element between the *Sequenzas*. Virtuosity often springs from a conflict, a tension between the musical idea and the instrument. A musical instrument is in itself a piece of the musical language. The composer can contribute to the evolution of musical instruments only by using them, and by trying to understand, often *post factum*, the complex nature of that evolution, reflecting as it does social, technological and economic conditions, and not merely musical and acoustic ones.

Assimilating, transforming and overcoming idiomatic aspects of an instrument (or voice) are sometimes intrinsic to the musical development of Berio's *Sequenzas*. But *Sequenza X* for trumpet and piano resonance instead dispenses with them almost entirely (if one sets aside a fleeting reference to the Israeli national anthem *HaTikva*). In *Sequenza X* there aren't even any timbre transformations, or "cosmetic adjustments". The trumpet is used in a direct and natural way, and perhaps it is precisely this nakedness which makes *Sequenza X* the most laborious of the *Sequenzas*.

**Luciano Berio** (1925-) occupies a leading position in 20th century music, a pioneer in the use of electronic and avant-garde techniques of composition. Berio was born in Oneglia, Italy. After studies with Ghedini at the Milan Conservatory, he worked for the Italian Broadcasting Corporation from 1953 until 1960, when he founded the Studio di Fonologia and directed a concert series under its name. Luciano Berio has taught at Mills College, Harvard University, and the Juilliard School. From 1973 to 1980 he headed the electroacoustic department of IRCAM in Paris. In 1960 and 1982 he was composer in residence at the Tanglewood Music Center, and in 1993-94 delivered the Norton Lectures at Harvard University. In 1981 he founded Tempo Reale, an institute for new music in Florence. In 1982 he became Musical Director of the newly founded Regional Orchestra of Tuscany. In 1984 he was Artistic Director of the Maggio Musicale in Florence. In 1988 he became an Honorary Member of the Royal Academy of Music, London.

One of the most prolific and influential composers of the late twentieth century, Berio has received many commissions, prizes (including the prestigious Siemens Prize), and honorary degrees, and has composed for voice, symphony orchestra, music theater, and solo instruments, as well as exploring electronic and digital processing of sound. He has also transcribed and adapted works by composers ranging from Monteverdi to Mahler, and collaborated with major Italian literary figures including Italo Calvino and Umberto Eco.

**Russell Whitehead** holds a Masters degree in Performance from the University of Michigan and from 1986 - 1991 was Principal Trumpet with the Saskatoon Symphony and apprentice conductor from 1989 - 1991. It was during this time Russell conducted the *Partita for Piano, Winds and Percussion* by Monty Floyd, found on the *Vistas* CD and produced by the Canadian Music Centre. He has performed in numerous Music Theatre Contemporary Opera productions at The Banff Centre and 1996 was a performer and assistant music director for a contemporary opera, *The Nature of Water*, written by Georges Aperghis.

Russell is a founding member and past artistic director of the NOWAge Orchestra (1992-2000), an eclectic group dedicated to the 'theatre' of New Music. Russell has been a featured soloist with: the Saskatoon and Red Deer Symphonies, the 1995 International Computer Music Conference held at The Banff Centre, the Edmonton Cantando Band (2000), the Alberta College Wind Sinfonia, most recently with the Alberta Baroque Ensemble in December-2000 and has recorded solo and chamber concerts for CBC radio. In January -2000 Russell toured in Saskatchewan and Alberta, performing in Regina, Saskatoon, Medicine Hat, Lethbridge and Edmonton. Presently Russell performs regularly with the Edmonton Symphony Orchestra, the Capital Brass, and teaches at the University of Alberta and King's College University. Russell Whitehead can be heard on the following CD's: *Prairie Sounds*-Roger Deegan (Arktos); *Bashaw*-Dr. Howard Bashaw (Arktos).

Premiering many Canadian and American works, pianist **Sylvia Shadick-Taylor** has performed across Canada and the U.S., including her highly successful N.Y concert debut in 1997. A popular accompanist, she adeptly spans opera classics to demanding contemporary concert repertoire. Recent performances include concerts in Canada, Germany, France, Japan, and Carnegie Hall's Weill Recital Hall in New York City with Hungarian violinist, Nandor Szederkényi. Sylvia is part of the music faculty at the University of Alberta, and also works as a vocal coach, private teacher, adjudicator and clinician.

*Prelude for aXiO* (1999-2001)

David Eagle

*Prelude for aXiO* is an interactive composition in which the performer provides real-time control of the movement of sound. By translating the physical gestures on the joystick of the aXiO into spatial motion of sound through the surrounding loudspeakers, sound diffusion becomes part of the musical interpretation. As well, some of the sounds created for this work seem to disappear into the distance that reinforces the sensation of motion. The work is in five sections or regions, some of which overlap to some degree and was composed in the spirit of a 'new adventure in sound'. It was originally composed for 'Sound Travels' using the AudioBox, a 16 channel automated matrix mixer and has since been reconceived using a multi-channel audio card and PowerBook computer.

The **aXiO** - alternative eXpressive input Object - is an electroacoustic instrument/controller that gives the musician a broad range of expression and multi-dimensional control of MIDI synthesizers and samplers, and computers. It was designed and built by Brad Cariou at the University of Calgary to provide interpreters with intimate control and flexibility for work in various new media. The instrument has a cross-like structure and stands about body height, resembling a streamlined robot. It is played with both hands on three distinct playing surfaces: 1) a sophisticated palm-rest joystick for the left hand, 2) a velocity-sensitive keyboard for the right hand, and, 3) running up the musician's shoulder, is an array of buttons used to change voices or trigger musical sequences. In performance, the right hand selects and plays the notes or events with aftertouch and pitch bending capabilities while the left hand provides more expression and transformation of sound. For instance, the left-hand joystick could be used to move a sound in space, to change its overall volume, to sustain a sound, to change its colour, and to do it all simultaneously in real time. The aXiO has the potential to transform electroacoustic music from a predominantly studio art to a performance art.

**David Eagle** (1955-) composes chamber, orchestral and electroacoustic music and in recent years, has explored computer applications to composition and improvisation. He performs the aXiO in solo interactive electroacoustic works and in mixed works composed for Calgary's Ensemble Resonance. An Associate Professor at the University of Calgary, he teaches composition and theory and is Director of the Electroacoustic Music Studio.

Born in Montreal in 1955, he grew up in Alberta and Ontario and studied music at McGill University, the Staatliche Hochschule für Musik, Freiburg, Germany, and at the University of California, Berkeley (PhD 1992). His composition teachers were Bengt Hambraeus, Donald Steven, Klaus Huber, Andrew Imbrie and Olly Wilson. His compositions have been performed at festivals in Europe, Canada, Hong Kong and Taiwan. Currently, he is working on a collection of solo flute pieces. Eagle's work can be heard on New Concert Discs, Clef, UNICAL and isodart recording labels.

**Jackdaw** (1995)

Wayne Siegel

A Jackdaw is a small European crow. The character of the piece, as well as many of the sounds, are inspired by this audacious yet clever bird. The sounds of the Jackdaw and the bass clarinet are manipulated and transformed to create a lively dialogue between the instrumentalist and the computer.

**Wayne Siegel** (1953-) studied composition and philosophy at the University of California at Santa Barbara before moving to Denmark to study with Per Nørgård. In 1986 he was appointed director of the newly founded Danish National Center for Computer Music (DIEM). Siegel has written music in many genres ranging from computer music to orchestral works, from chamber music to a full-length science fiction opera. Leading international artists, including the Kronos Quartet, Singcircle and Harry Sparnaay, have commissioned works from him, and his music has been performed widely throughout Europe, the United States and Japan, including numerous radio and television broadcasts. Many of his works fall between genres, combining diverse cultural elements and compositional techniques, encompassing influences from folk music, avant-garde rock and minimalism. He often uses computers with live musicians, and in recent years he has explored the possibilities of computer music installations. His work combines the tradition of West Coast American music and minimalism to create his own unique and compelling voice.

**Stan Climie** has earned distinction as one of Calgary's most versatile musicians. He is bass clarinetist with the Calgary Philharmonic Orchestra and has performed with the Edmonton Symphony, the Regina Symphony, the Banff Festival Orchestra, and the Royal Winnipeg Ballet Orchestra. As a founding member of the New Works Calgary Ensemble, Stan explores and exposes his passion for "the unique and the unusual" by performing newly composed works in both the solo and chamber repertoire.

In demand as a freelance artist, Stan performs in recital as a soloist and ensemble musician as well as in large scale productions such as "Phantom of the Opera", "Les Misérables", and "Show Boat". Stan's dedication to the nurturing of future musicians is evidenced by his work at Mount Royal College Conservatory, the University of Calgary, as a clinician in the schools and through his involvement in specialized programs such as MusiCamrose.

Francis Dhomont

**Météores** (1989)

3rd movement of *Chroniques de la lumière*

Eight-channel live diffusion for aXiO, David Eagle

These Chronicles are an impressionistic sonic version of visual elements—an undoubtedly metaphorical act—a personal daydream of light based on a concept by Montréal visual artist Luc Courchesne. With sound transpositions of luminous phenomena, natural rays or multiple artifacts, *Chroniques de la lumière* is comprised of three movements: *Miroitements* (Shimmers), *Artifices*, *Météores* (Meteors) or, if one prefers: adagio, allegro, presto-finale. A progression is articulated, not only from slow to fast, but also from calm to agitated, from somber to clear, from piano to forte, from static to mobile, from simple to complex. *Météores* proceeds by a progressive increase of elements, by slow accumulation, an increase of density, and a reinforcement of the sensation of speed and kinetic energy. The work was realized in the composer's home studio.

**Francis Dhomont** (1926-) studied under Ginette Waldmeier, Charles Koechlin and Nadia Boulanger. In the late 40's in Paris (France), he intuitively discovered with magnetic wire what Schaeffer would later call "musique concrète" and consequently conducted solitary experiments with the musical possibilities of sound recording. Later, leaving behind instrumental writing, he dedicated himself exclusively to electroacoustic composition. An ardent proponent of acousmatics, his work (since 1963) is comprised exclusively of works for tape bearing witness to his continued interest in morphological interplay and ambiguities between sound and the images it may create.

The Conseil des arts et des lettres du Québec has recently awarded him a prestigious career grant. In 1999, he was awarded five first prizes for four of his recent works at international competitions (Brazil, Spain, Italy, Hungary and Czech Republic). In 1997, as the winner of the Canada Council for the Arts' Lynch-Staunton Prize, he was also supported by the DAAD for a residence in Berlin (Germany). Five-time winner at the Bourges International Electroacoustic Music Competition (France) — the Magisterium Prize in 1988 — and 2nd Prize at Prix Ars Electronica 1992 (Linz, Austria), he has received numerous other awards.

Dhomont is the editor of special issues published by Musiques & Recherches (Belgium) and of "Électroacoustique Québec: l'essor" (Québec Electroacoustics: The Expansion) — for Circuit (Montréal). Musical coeditor of the Dictionnaire des arts médiatiques (published by UQAM), he is also lecturer and has produced many radio programs for Radio-Canada and Radio-France. Since 1978, he has divided his time between France and Québec, where he has taught at the Université de Montréal from 1980 to 1996. He is an Associate Composer of the Canadian Music Centre (CMC, 1989) and a Founding Member (1986) and Honorary Member (1989) of the Canadian Electroacoustic Community (CEC). A great traveler, he participates in several juries and now focuses on composition and theory.

**A Larus Exchange** (2001)

Laurie Radford

A trumpet, a computer, endless networks of possible interchange, exchange, discovery and pursuit. All sounds originate with the trumpet. A sonic feedback is established as the trumpet's sound, acted upon by digital recording and transformation, becomes the object of contemplation by both players and leads to subsequent decisions and actions that define the moment as well as shape the overall musical dialogue.

**Laurie Radford** (1958-) is active in creating music for instrumental and vocal ensembles as well as a variety of electroacoustic media. His recent work involves compositions for orchestra, solo instruments, choir and electroacoustic music, acousmatic works, and compositions that involve computer-controlled signal processing and event control in interaction with performers. Radford studied music, composition, and music technology at Brandon University, The University of British Columbia, McGill University, The Banff Centre for the Arts, Les Ateliers UPIC (Paris), and the Darmstadt Ferienkurse für Neue Musik. His music has been performed and broadcast throughout North and South America, Europe, Japan and Taiwan. He has received commissions and performances from a variety of ensembles such as Le Nouvel Ensemble Moderne, L'Ensemble contemporain de Montréal, Esprit Orchestra, Ensemble Résonance, code d'accès, Traquen'art, GroundSwell, Pro Coro Canada, Concerts M, Jean-François Guay, Laura Wilcox and Sergio Barroso, rESound Festival of Contemporary Music, Cantai Dance-Music Festival (Taiwan), and the Winnipeg Symphony Orchestra. Radford's music has received awards from SOCAN, the International Composers' Competition "Kaszmierz Serocki" (Poland), and the WSO New Music Festival Composers' Competition.

Laurie Radford has taught at Concordia University, Bishop's University and McGill University. He currently teaches electroacoustic music, music technology, and composition at the Department of Music, University of Alberta and is director of the UofA Electroacoustic Music Studio.

Upcoming Events:

23 Friday, 8:00 pm  
**The University of Alberta  
Opera Scenes**  
**Alan Ord, Director**  
**"Mozart Plus One"**

An evening of scenes from  
Mozart *The Marriage of Figaro*,  
*The Magic Flute*, *Così fan tutte* and  
Menotti *The Old Maid and the Thief*

25 Sunday, 3:00 pm  
**The University of Alberta  
Madrigal Singers**  
**Ardelle Ries, conductor**

Featuring Kodaly *Misa Brevis*, Parry  
*When Soft Voices Die*, Martin *Ode a la  
Musique*, Weelkes *O Care, thou wilt  
despatch* and *Hence Care, thou art too  
cruel*, Laurdisen *Midwinter Songs*  
All Saints' Anglican Cathedral

26 Monday, 12:00 pm  
**Noon-Hour Organ Recital**

The recital presents a variety of organ  
repertoire played by students, faculty and  
guests of the University of Alberta  
Department of Music. Free admission

27 Tuesday, 11:00 am - 12:20 pm  
The Centre for Ethnomusicology  
**Walter Bonaire**

An Elder Presents  
*Traditional Aboriginal Music*  
Studio 27, Fine Arts Building 2-7  
Free admission. For more information,  
call 492-8211

27 Tuesday, 7:00 pm  
The Centre for Ethnomusicology  
Workshop: *The Maihar Gharana Legacy:  
A Musical Style Globalized*  
with **Sarode Maestro Aashish Khan**  
Studio 27, Fine Arts Building 2-7  
Free admission. For more information,  
call 492-8211

30 Friday, 8:00 pm  
**The University of Alberta Concert  
Choir. Debra Cairns, conductor**  
Brahms *Zigeunerlieder*, Duruflé *Quatre  
Motets*, Mendelssohn *Op 59*, and works  
by Hassler, Sweelinck, Holmboe,  
Chatman, Hindemith and Sviridov

**December**

1 Saturday, 8:00 pm  
*Music at Convocation Hall*  
*Ménage à Trio*

**Stéphane Lemelin, piano**

**Martin Riseley, violin**

**Tanya Prochazka, cello**

Ludwig van Beethoven  
*Piano Trio in E Flat, Op. 1, No. 1*,  
*Piano Trio in C Minor, Op. 1, No. 3*,  
*Piano Trio in B Flat, Op. 11*,  
*Piano Trio in D, Op. 70, No. 1*  
*(The Ghost)*

Admission: \$7/student/senior, \$12

2 Sunday, 3:00 pm  
**The University of Alberta  
Concert Band Concert**  
**William H Street, Director**  
Program will include works by  
Woolfenden, von Dohnanyi, Jan Bach,  
Walton, PDQ Bach, Hanson, Ticheli and  
Jenkins

**Unless otherwise indicated**

Admission: \$5/student/senior, \$10/adult  
Convocation Hall, Arts Building, University of Alberta  
**Please note:** All concerts and events are subject to change without  
notice. Please call 492-0601 to confirm concerts (after office hours a  
recorded message will inform you of any changes to our schedule).

