## The University of Iowa Electronic Music Studios present

## Music for Flute and Interactive with

**Guest Artist** 

Elizabeth McNutt, flute

and

**Guest Composer** 

Andrew May, electronics

December 3rd 2002 Clapp Recital Hall

School of Music

## 

8 pm

12.03.02
Clapp Recital Hall

program

The Twittering Machine

Andrew May

Atemkristall Rodger Redgate

Music for Flute and Computer Cort Lippe

Luminosity David Taddie

intermission

Network Slammer Zack Browning

Retake Elizabeth McNutt and Andrew May

The Twittering Machine was written for Elizabeth McNutt, who not only commissioned the work and suggested the title, but also provided all of the source sounds for the electronic part. The soloist 'conducts' the computer with a pedal; however, the relation in time between the two parts may vary slightly according to the performer's tempo and phrasing. As in the painting of Paul Klee after which the piece was named, grotesque birdlike images arise here, too, from abstract ideas of form and construction. In general, the computer sounds act as an incoherent chorus, shadowing and vying with the soloist's gestures. It explodes into a brief solo before receding into the background. (A.M.)

**Atemkristall** was composed in 1994 for solo 'electric' flute and was conceived as a short study for the Brannen/Kingma system quartertone flute (although the work can also be played on a traditional system instrument). Like many of my more recent works for solo instruments Atemkristall explores the relationships between notation, interpretation and instrumental technique seen as form building elements, extending beyond the use of pitch, rhythm, etc. on a more simple level. The title (a crystal of breath) derives from a poem in the cycle Atemwende (1967) by the Rumanian born poet Paul Celan. Atemkristall was commissioned by Anne La Berge, to whom it is dedicated, with funds provided by Northern Arts, UK. (R.R.)

Music for Flute and Computer was created at IRCAM using Max, developed by Miller Puckette, whose technical support along with Zack Settel's musical advice help to make this piece possible. Technically the computer tracks parameters of the flute such as pitch, amplitude, spectrum, articulation, and tempi, while offering the performer the potential to "interact" with the computer, triggering and continuously shaping the computer output. Material is manipulated via time-stretching, granular sampling and FFT- based cross synthesis, as well as by other more standard signal processing techniques such as harmonizing, frequency shifting, phasing and spatialization. The instrument/machine relationship moves constantly on a continuum between the poles of an "extended" solo and a duo. Musically, the computer part is sometimes not separate from the flute part, but serves rather to "amplify" the flute in many dimensions and directions; while at the other extreme of the continuum, the computer part has its own independent musical function. This piece is influenced by and dedicated to the people and the extraordinary musical cultures of Burundi and Rwanda, which I hope will survive present conflicts. (C.L.)

Use of the stereo field produced by electronics to increase the apparent acoustical space of a solo instrument is a process which has interested me for a long time. **Luminosity** makes extensive use of digitally processed flute samples as well as purely synthesized sounds to aurally "illuminate" the harmonic fields implied by the flute's lines and to expand the flute's apparent acoustical sound space. The piece is in a loosely structured ABA but with new "accompaniment" in the tape part when the flute returns to its earlier material. (D.T.)

Network Slammer is part of a series of experimental works by the composer which explore the structural applications of magic squares to musical form. A magic square consists of a series of numbers arranged so that the sum of each row, column, and diagonal is the same amount. Routes through the square are mapped onto a musical structure to produce a network which uses the properties of the square as a compositional model. The unique position of each number within the square is paralleled in the musical score by a particular style, rhythm, density, and orchestration. The resulting network attempts to combine the procedures of classical art with basic elements of popular culture. The tape part was produced using GACSS (Genetic Algorithms in Composition and Sound Synthesis), which is an original computer music software package developed by Benjamin Grosser. Special thanks to Mark Abbott, who served as a research assistant for the tape part, and to David Bohn, who prepared the final score and flute part. (Z.B.)

**Retake** is an improvisation by flutist and computer together, both responding to a third presence: a transformed version of an improvisation Elizabeth McNutt recorded in Berkeley in 2000. During the performance, Elizabeth can "retake" any of twenty-one places in the recorded improvisation by moving a pedal, reshaping the form of the old improvisation to suit the moment. Several computer-generated virtual "performers" listen to the live and pre-recorded improvisations (sometimes choosing one over the other), and play along, using flute samples, percussion sounds, and synthesized tones. Like the players in an improvising ensemble, these virtual personae range in temperament from imitators to mavericks. (A.M.)

"Commanding flutist Elizabeth McNutt" (LA Times) is a recitalist who concentrates on new and adventurous repertoire. She is a leading interpreter of live electronic and computer music. Committed to expanding the capabilities and repertoire of the flute, she has collaborated with numerous composers to create new works. McNutt has been a soloist at the LA Philharmonic Green Umbrella series, SEAMUS and International Computer Music Conferences, and festivals including Darmstadt, Norfolk, Scotia, and June in Buffalo. Her solo CD pipe wrench, on the Electronic Music Foundation Media label, was described as "astounding" (Flute Talk) and "a delightful listen" (SEAMUS Newsletter). Her other recordings are on the CRI and SEAMUS labels. McNutt received her doctorate from the University of California at San Diego; her major teachers included Harvey Sollberger, John Fonville, Jacob Berg, and Miller Puckette. Currently living in Colorado, she recently received a fellowship from the Rocky Mountain Women's Institute.

Andrew May is assistant professor of music and director of music technology at the University of Colorado Boulder. He has previously taught music theory, composition, and music technology at Mississippi State University and the University of Wisconsin La Crosse. May received his PhD from UC San Diego, where he studied composition with Roger Reynolds and computer music with Miller Puckette. Previous composition teachers included Mel Powell (California Institute of the Arts) and Jonathan Berger (Yale University). May's compositions, many of which grow out of collaborations with other musicians, have been performed in Germany, Japan, Greece, Switzerland, and across the United States. SEAMUS and EMF Media have released recordings of his compositions. Also a violinist, he continues to perform and to organize concerts of contemporary music.