

*SONOKLECT '00-'01*

*A Concert Series of Modern Music*

*TERRY VOSBEIN, DIRECTOR*

*Bruce Mahin*

*composer/performer*

*electronic wind instrument*

*interactive computer*

*synthesizer*

*video projections*

Washington and Lee University  
Keller Theatre • 8:00 p.m. • 10 February 2001

## PROGRAM

### **For Every Season . . .**

electronic wind instrument, digital delay, video

### **Synapse**

electronic wind instrument, interactive computer, synthesizers  
*video by Jennifer Spoon and Bruce Mahin*

### **Time Chants II. Los Angeles, May 1992**

electronic wind instrument, interactive computer, synthesizers  
*video by Jennifer Spoon*

### **Galileo**

electronic wind instrument, interactive computer, synthesizers  
*video by Jennifer Spoon*

## PROGRAM NOTES

*by Bruce Mahin*

**For Every Season** . . . is representative of my interest in creating expressive, interesting music from very economical structures. The actual composition is based solely on a four-note unordered pitch collection (C-C#-F-G) manipulated by transposition, inversion and various reordering. Textural interest is enhanced through the use of two digital delays connected together in series.

**Synapse** draws from recent research on brain activity as stimulus for its creation, particularly the generative processes associated with memory. Audio and visual events early in the composition shape events which follow, creating pathways (connections) between spatial, timbral and durational elements in the music.

**Time Chants** was written in response to the events leading to and including the Los Angeles riots in the Spring of 1992. Many forces may be heard in the piece, different hierarchical levels in the public community, violent outbursts, as well as meditative reflection which must accompany any such collective action. Striking chords in quick succession at the beginning of the piece recall the beating of Rodney King. Chordal outbursts occur later in reaction to the flailing he received at the hands of police. Musical sections alternate between "optimistic" melodic textures and more pensive moods suggested by sustained chords and slow-moving melodies.



**Galileo** was written as a theater piece which explores the life and philosophies of the 15th-century astronomer. Galileo's theories about the earth as a celestial body revolving around the sun put into question many of the doctrines supported by the Catholic church. One of these doctrines placed man as a divine creature living on an earth residing at the center of the universe.

Furthermore, Galileo symbolizes an era of exploration in all areas of science. His work challenged traditional views and pushed back boundaries. One might consider contemporary composers as living in a political, social climate not unlike that of the great astronomer. This work examines the nature of exploration and discovery as inspired by this great man.

## THE TECHNOLOGY

For 15 years, I have been fascinated by the idea that a computer might replicate the performer-to-performer relationship in a live concert setting. In a string quartet, for example, the dynamics between musicians constantly changes during a performance, resulting in alterations in dynamics, tempo, articulations and phrasing. These changes make any concert a unique experience, one which will be different from a performance of the same program on another night. To replicate this aspect of a musical experience with a machine is a particularly challenging enterprise. After all, machines do what they are told. They do not think for themselves. However, a computer can be given an artificial logic which allows it to make decisions, such as those which concern performers in a musical performance.

All compositions (except *For Every Season*) on this program use an interactive real-time performance system involving the performer and a computer. The performer is playing an electronic wind instrument (Yamaha WX-11) which transmits information about fingering, breath pressure, attack pressure and embouchure pressure to synthesizers and to a computer. The computer follows a score of each composition stored as a file in its memory.

As each composition progresses, the computer makes musical decisions, based on choices set by the composer at an earlier time. The computer then performs its own accompaniment based on rules which govern its choice of pitches, durations, sounds, dynamics and tempi. Compositional algorithms also play a large part in determining the computer accompaniment in all cases except where the computer plays a single chord in response to a cue from the performer. The computer part was realized using interactive performance software called Max which is published by Opcode.

The Radford University Center for Music Technology has developed an interactive real-time Max multimedia system (3M) extending the capabilities of Opcode's Max object-oriented programming environment to include control of video components. Max is designed to provide real-time interactive control over MIDI instruments. However, the system presented in this demonstration makes use of the Max 'Serial' object to communicate with the Selectra VuPort controlling the drive mechanism in the Panasonic AG-1960 SVHS videocassette recorder. All normal VCR operations are possible, including frame cueing, reverse motion, high speed search, playback and variable speed play. Up to eight videocassette recorder/players can be controlled simultaneously in this manner, offering a complex array of visual effects accomplished through superimposition and manipulation of images.





### BRUCE P. MAHIN

Bruce P. Mahin has been Associate Professor of Music, and Director of the Radford University Center for Music Technology since 1989. He received his B.Mus. from West Virginia University, M.Mus. from Northwestern University and the Doctor of Musical Arts degree from the Peabody Conservatory of The Johns Hopkins University. Mahin is a former president of the Southeastern Composers League, a former co-chair of Society of Composers Region 3, and the recipient of awards from the Virginia Commission for the Arts, Meet the Composer, Annapolis Fine Arts Foundation, Res Musica, Southeastern Composers League and others. His works are available on compact disc through Capstone Recordings (CPS-8624 and CPS-8611) and published in score by Pioneer Percussion, Ltd. and in the Society of Composers Journal of Musical Scores.