

## DEMONSTRATION I

09:00  
E-230

### ■ The SHARC Timbre Database on the World Wide Web

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SHARC is a public-domain, World Wide Web-available research database of musical timbre. It consists of steady state spectra taken from over 1300 different musical instrument tones, including complete chromatic runs from the standard playing range of the primary non-percussive instruments of the modern orchestra (39 instruments total). The source of the musical notes were the orchestral tones from the McGill University Master Samples (MUMS) Compact Discs, digital recordings of live musical performers. For each note, a short portion corresponding to the sustain or "steady state" portion of the tone was selected and analyzed with a Fourier analysis. The database is available on the World Wide Web (<http://www.parmly.luc.edu/sharc>). Users can download the entire database or "browse" it using SHARC's interactive plotting and soundfile features. A user can request a plot of any individual note for a given instrument, and explore ways of plotting it using various amplitude and frequency scales, synthesize a waveform of the note and play it over the user's Web browser (e.g. NetScape). Some of the

uses to which SHARC has been put, and which will be covered in the presentation are:

- \* Calculating the spectral centroids of the notes
- \* Estimating acoustic consonance of notes
- \* Studying level (dynamics) differences between instruments
- \* Investigating questions of orchestration by combining spectra into simulated harmonies.
- \* Test proposition about the makeup of acoustical "signatures" of musical instruments. For example, the often made claim that the oboe and English horn possess "formants" can be tested.

## KEYNOTE ADDRESS

11:30  
Pollack Hall

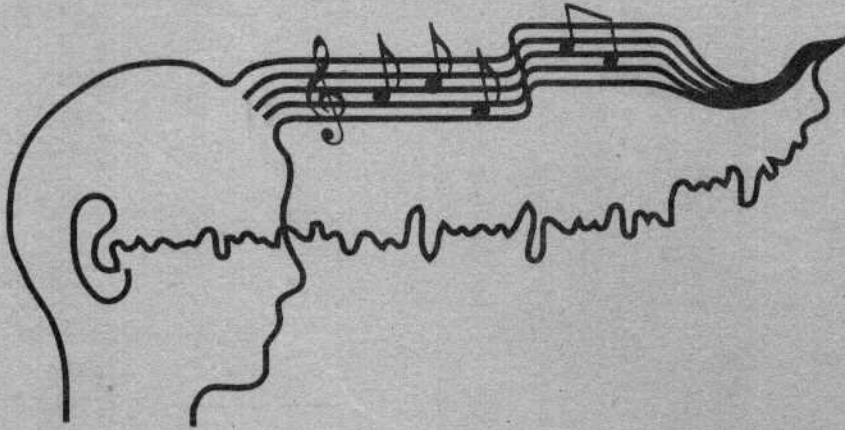
### ■ Empirical Investigation of the "Aesthetic Response" to Music: Musicians and Nonmusicians

Professor Clifford K. Madsen  
Center for Music Research  
The Florida State University

Inquiry into musical experience and more specifically, music behavior is an important endeavor for those in the psychology of music as well as in music education. Recent continuous response devices make it possible to evaluate nonverbal responses over longer music stimuli. This paper has two main themes, relating to data from such a series of investigations: 1) issues relating to the "aesthetic experience" comparing responses from musicians and nonmusicians,

**GREGORY SANDELL**

# ICMPC



**4TH INTERNATIONAL CONFERENCE ON  
MUSIC PERCEPTION AND COGNITION**

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**PROCEEDINGS**