DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
UNIVERSITY OF SOUTHERN DENMARK, ODENSE

# COMPUTER SCIENCE COLLOQUIUM

## Musical Informatics

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**University of Copenhagen**

**Tuesday, February 6, 2001, at 2:15 PM**
**The Seminar Room**

**Abstract:** A new and fast growing field is internationally developing throughout computer science departments, acoustics engineering laboratories and conservatory laboratories, which from a computer science point of view is termed Musical Informatics. The motivation for research in this new field lies in the cross section of the fields of computer science, computational acoustics and music. The latter have been studied for thousands of years, and a natural understanding of instruments in terms of their audible capabilities and treatment in playing situations have been obtained in a humaniora sense.

Computer science as such have in recent decades become interested in describing, modelling and coding various sort of data, text, images, sound and music, both from a general viewpoint of data representation and data handling, and from specialised and application oriented viewpoints. One such minor application is the culture-breaking field of computer music; another major and intensively expanding field is the vast industry, concerned with computer assisted music performance and record production industry. Yet other applications are the numerous musical machines, available as commercial products for homes and public organisations throughout society.

The colloquium will describe aspects of the growing field of Musical Informatics through examples of ongoing research, performed by the colloquium group:

- Data structures and algorithms for classification of styles and tunes and for automatic harmonisation.
- Data structures and algorithms for classification and resynthesis of timbre and virtual instrument control.
- On the role of phase for music perception.
- Databases and library functions for audio-sonic automatic music literature retrieval.
- Heuristic algorithms for recognition of musical style, and elements of automatic accompaniment and improvisation.
- Towards a correlation of drama notation and music composition and performance.
- The MOSART Project, a 10.000.000Dkr EU funded effort within Musical Orchestration Systems in Algorithmic Research and Technology, a project defined and co-ordinated by the colloquium group. Several examples of industrial support and co-operation are found within this project.

Host: Kim Skak Larsen