About This Issue

Three articles herein present research whose topics reflect the issue's theme of "Interaction with Digital Devices." In the first of these, Stefano Scarani et al. present their software, Soundcool. As indicated in the upper illustration on the front cover, their system uses smartphones as controllers that communicate, via the OpenSound Control (OSC) protocol, with the Soundcool software running on personal computers. Originally designed for collaborative classroom use by children or teenagers, the system emphasizes ease of use, but also configurability somewhat akin to that of music programming languages.

The second article, by Tom Mudd and associates, approaches musical interaction by considering how properties of acoustic musical instruments could inform the design of digital musical instruments. Specifically, the article argues that the interfaces of digital instruments typically ignore the sorts of complex, nonlinear dynamics that characterize the acoustics of many traditional instruments. To investigate the musical possibilities of nonlinear dynamics, the authors conducted interviews

with 24 musicians whose practice lies in the free improvisation realm. Many of these musicians explore the rich timbral properties of nonstandard techniques that involve nonlinearities, such as overblowing of wind instruments and bowing of gongs, to name just two. The authors connect such techniques to two broader themes: deep exploration of small regions of control space, and creative use of the edges between predictable and chaotic behavior.

The article by Martin and Torreson examines how users interact with a particular interface. In this case, it is a mobile-phone application called MicroJam that bears many of the traits of social media, such as casual, frequent interaction online without need for particular expertise. Most notably, the program constrains its collaborative musical "jams" to just 5 seconds in duration, analogous to similar constraints in some text- and video-sharing applications. The authors gathered the data from 1,600 of these miniature performances and analyzed how users drew or tapped on the touchscreen to generate sounds.

Our final article is a hybrid of a history and a studio report, written to

celebrate four decades of an important Italian computer music institution. Founded in 1979, the University of Padua's Centro di Sonologia Computazionale distinguished itself from some other centers by emphasizing technological support for composers, regardless of their aesthetic orientation, rather than focusing on a particular maestro or compositional style. This attitude reflected the center's interdisciplinary nature, including a strong component of scientific research. The article surveys that research as well as the center's musical production. As examples of the latter, works by Nono, Sciarrino, De Pirro, Battistelli, Guarnieri, and Sani are described.

For our annual Sound and Video Anthology, composer Mara Helmuth of the University of Cincinnati has kindly gathered almost 3 hours of computer music by women composers. The composers' program notes appear near the end of this issue, following the curator's introduction. The recordings themselves are available online as supplementary files with this issue.

Front cover. A photo from the article by Scarani et al. (top) and another from the article by Martin and Torreson (bottom), showing two mobile phone applications that allow non-expert users to create musical sounds.

Back cover. A screenshot from the Products of Interest section, evincing an ongoing nostalgia for analog audio equipment, which is manifested nonetheless in the convenient and flexible form of software emulation.