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UNH Professor Wins Grammy Award

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DURHAM, N.H. - Kevin Short, professor of mathematics at the University of New Hampshire, won a Grammy Award Sunday night for his role as a mastering engineer in the restoration of a 1949 wire recording of a live Woody Guthrie concert. Short and his wife, Michelle, attended the star-studded award ceremony in Los Angeles Feb. 10.

Short was part of a team honored by The Recording Academy for their work to produce "The Live Wire: Woody Guthrie in Performance 1949." One of five nominees for best historical album, it is the only known recording of Guthrie performing in concert before an audience.

The team included Woody Guthrie's daughter, Nora, president of the Woody Guthrie Archives; Jorge Arevalo Mateus, archives curator; Steve Rosenthal and Warren Russell-Smith of The Magic Shop, a recording studio in New York City, and Jamie Howarth, music restoration specialist and founder of Plangent Processes.

The historical category award was presented in the pre-telecast ceremony in the afternoon before the televised event. When the award for best historical album was announced, Short admitted, he sat frozen for a split second until he saw the other members of the Guthrie team on their feet. "Climbing onto the stage and standing in the glare of the lights as the trophy was awarded seemed almost other-worldly," he said.

This couple with four children from a small college town found themselves immersed in the glitz and glamour of the music industry. For the evening show, Short said, "we were seated in the ring right around the super-celebs, most of whom had a bit of an entourage around them. During commercial breaks, there was a flood of people in and out around these celebrities. We were 60 to 100 feet from the performers, and we watched Beyoncé rush in right in front of us as she raced to her seat after performing on stage."

The events, of course, were black-tie. Michelle said, "I felt like I tried on every dress in New Hampshire and nothing was right!" Finally, she found a floor-length pewter-colored gown at a Macy's store in Massachusetts. Kevin wore a vintage dinner jacket that he has had since his days as a graduate student at the Imperial College in London.

It was a quick trip. They booked a room at a small inn in Venice Beach and caught the red-eye flight after the show. Although their visit was limited, they encountered a number of people who were aware of the Guthrie project. "Everyone that we spoke to that weekend had heard about it," said Short.

Guthrie was a folksinger who crusaded against poverty and social injustice in the years following the Great Depression, writing many songs that are still familiar today. Every school child knows "This Land is Your Land," and "I'm Shipping up to Boston" became the anthem of the Boston Red Sox when they won the 2007 World Series.

In 2001, the Woody Guthrie Archives in New York City received a package containing two spools of wire which had been recorded in 1949 at a Guthrie concert in New Jersey by a college student, Paul Braverman. The team of sound restoration experts was assembled to
transfer the recording from the brittle 50-year-old wire to a digital format.

Short is known for his discovery of Chaotic Compression Technology, which uses advanced signal processing methods and a mathematical theory known as chaos in the analysis of audio, speech, video and image data. When you download a song or an artist's ring tone to your cell phone, you are using this type of technology.

In the Guthrie restoration project, Short applied some of the mathematics of compression techniques to interpret the highly irregular and broken signal from the wire recording. "I came in at the end of the project," said Short. "The painstaking work of transferring the sound from brittle wire to a digital signal had already been done. By fine-tuning the Plangent Processes algorithms, we were able to remove the speed and timing problems in the signal. At first, there were segments where we could barely understand the songs or the dialog that had been recorded, but afterward the tracks had stabilized pitch and clarity. The engineers at The Magic Shop then worked their magic on the tracks to reduce the noise and bring out Woody's voice. The result was a sound of remarkable quality for a recording of that era."

The mathematics of signal processing has led Short down some interesting paths: downloads for cell phones, restoration of antique music recordings. What's next? His current projects may lead to the development of better hearing aids for the deaf and more sensitive detectors for explosive materials used in making bombs.

"As you can imagine, folks around campus are pretty excited to see one of our own recognized as Professor Short has been in receiving a Grammy Award," said Joseph Klewicki, dean of the College of Engineering and Physical Sciences at UNH. "Kevin is an example of great minds here at UNH doing great things!"


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Photograph available to download: www.ceps.unh.edu/images/Short.jpg

Caption: Dr. Kevin Short, professor of mathematics at UNH, won a Grammy award Feb. 10 for his role in restoring an antique recording of a Woody Guthrie concert. Here he holds the cover for the CD and book, "The Live Wire: Woody Guthrie in Performance 1949," and the medallion he received as a Grammy award nominee.

Credit: Douglas Prince, UNH Photo Services