



DIPARTIMENTO DI  
SCIENZA DEI MATERIALI

University of Milano-Bicocca, Department of Materials Science, via R. Cozzi 55, 20125 Milano

**Thursday December 5, 2019 – 12 a.m.**  
**Seminar Room, First Floor, Building U5**

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# **On Developing Quantum Computing for Music**

The development of digital computing technology for musical creativity and distribution has been evolving in tandem with the evolution of computers since the early 1950s, when the SCIR Mk1 machine, Australia's first digital computer, was programmed to play a tune. Today, computers are absolutely essential for the music industry. Despite the incredible power of existing computers, computing technology is progressing beyond today's conventional models. Quantum computing is surfacing as a promising disruptive technology. Therefore, future developments in quantum computing are most likely to impact the way in which we will create, perform and distribute music in the future. In this talk, the speaker will introduce his work into exploring the potential of quantum computing for creating music. After a brief discussion on his approach to using quantum computing in music, he will introduce his composition, Zeno. Zeno is an interactive piece for bass clarinet and sounds produced by a quantum computer. The quantum computer listens to the clarinet and produces responses during the performance. The creative process will be discussed and a demonstration of the system will be shown.