





#### Università degli Studi di Napoli Federico II

## DOTTORATO DI RICERCA / PHD PROGRAM IN INFORMATION TECHNOLOGY AND ELECTRICAL ENGINEERING

#### Seminar announcement

Friday 15th October 2021, Time: 10:30 - 12:30 Teams (Code: 39a8bp5)



### Dr. Federico Accetta

IBM Italia IBM Quantum Ambassador

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# Qiskit: state of the art and tools for Quantum Computers from IBM

**Abstract**: We are at an exciting inflection point in quantum computing. The disciplines of quantum physics and quantum information science are mature to the point of producing a number of practical algorithms, and today's quantum computers are capable of providing a concrete implementation with which we can explore the possibilities of these techniques.

IBM has opened up real and simulated quantum computers for everyone to learn how to program in this new paradigm.

We will discuss the status of the applications in the most promising areas for quantum computing, such as Materials Science, Chemistry, Business Optimization and Machine Learning.

An overview of the tools and python modules and components to interact with a physical device will be presented alsongside with references and initial documentation to jumpstart the interaction with these systems.

**Lecturer short bio**: Federico Accetta is currently a Cloud Engineer at IBM. His core competences are Artificial Intelligence and Cloud Computing. At IBM he is involved in research and in early adoption projects on Cloud applied to different industries. Since late 2017 Federico has joined the international team of IBM Quantum Ambassadors, focused on Quantum Computing, leveraging his academic background in Physics. In 2018 he has started collaborating with Università Cattolica del Sacro Cuore di Milano as adjunct professor, currently holding 2 courses.

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