SEMINAR: Algorithms for end-to-end quantum simulation

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October 02, 2026
12:00 to 13:00
Seminar Room

Quantum computing is expected to extend our ability to simulate chemistry and materials to regimes beyond classical reach. While some key algorithms like Quantum Phase Estimation have been known for some time, many issues still need addressing: how do we find good initial reference states? How do we measure the large number of observables required in practice? How do we deal with hardware noise? In this talk, I will introduce a suite of algorithms, spanning state preparation, efficient measurement schemes, and noise-resilient post-processing, designed to operate in combination to tackle these questions. I will also describe large-scale experimental results where these methods were used to simulate a real-world drug undergoing clinical trials.

Hosted by: Prof. Dr. Antonio Acin