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**Title of the lecture:**
An energetic and entropic viewpoint on measurements (classical and quantum)

**Format**:
TBA

**Summary**
How much energy should I spend to measure a physical system? Can I recover some of it? Is there a fundamental bound, and what is its technological significance? How irreversible is a measurement, and what are the good metrics to assess it? Can we correlate a measurement energy cost to a measurement performance? Reciprocally, could measurement provide energy on top of information? Could I design engines, that would be running just because they are looked at? In this lecture, I will provide a perspective on these questions and how they are addressed, first in the classical, then in the quantum realm.

**References:**

1. L. Bresque, P. Camati, R. Spencers, K. Murch, A. Jordan, A. Auffèves, *Two-qubit engine fueld by entanglement and local measurements*, Phys. Rev. Lett. 126, 120605 (2021), Editor's Suggestion, Communication INP, covered in Phys.org
2. C. Elouard, A. N. Jordan and A. Auffèves, *Quantum measurement engines and their Relevance for quantum interpretations*, Quantum Stud.: Math. Found., 10.1007/s40509-019-00217-2 (2020).
3. C. Elouard, D. Herrera-Martí, B. Huard, Alexia Auffèves, *Extracting work from quantum measurement in Maxwell demon engines*, Phys. Rev. Lett. 118, 260603 (2017), *featured in Phys.org https://phys.org/news/2017-07-maxwell-demon-quantum.html and Nature Research Highlights https://www.nature.com/articles/d41586-017-01312-3*
4. C.Elouard, D. Herrera-Martì, M. Clusel, A. Auffèves, *The role of quantum measurement in stochastic thermodynamics*, npj QI 3:9 (2017).