

**Atomistic modeling of electron transfer:
Toy-model studies from Thales's cat to Galvanic cells.**

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Modelling triboelectric processes from atomistic principles requires potential energy surfaces to be constructed that allow for jumps between different energy surfaces. In my talk, I will present such a model, in which each atom is assigned an integer oxidation state in addition to a partial charge. The model is shown to reproduce the characteristics of tribocharging between two metallic and between two insulating surfaces. It can also be used to simulate the discharge of a battery, which can ultimately also be seen as a process hinging on tribo electrification, since the current flow through a circuit breaker does not flow back once the switch is reopened. If time permits, it will be discussed how the compliance of a Hertzian tip adds to the work needed to be done to separate two (tribo) charges.