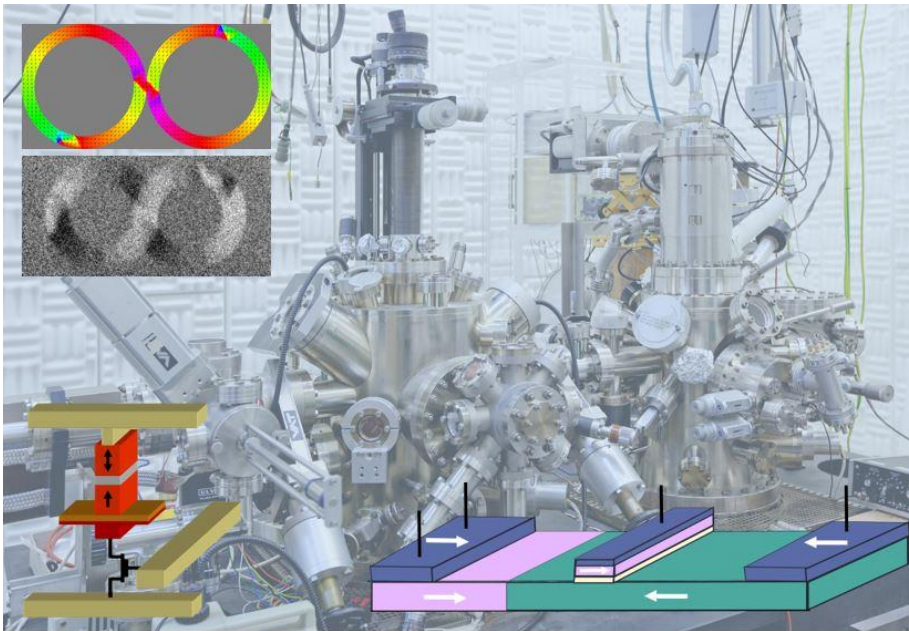


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## Towards nanomagnetic devices

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About 15 years ago, the semiconductor industry changed its roadmap in technology development: Processor clock speeds, determined to increase year after year for decades, remained constant, and performance improvements since then are due to shrinking sizes and multicore architectures. These impediments led to an increased attention to alternative device schemes.

Many have been proposed, among them also various nanomagnetic and spin-based concepts. In this colloquium, I will discuss a few of them. I will argue why some of them made into a product and why others will never make it. And I will try to outline where recently discussed physical phenomena such as the Dzyaloshinskii-Moriya interaction in ultrathin ferromagnetic films might help to improve device performance and why magnetic domain walls could be of use to build neuromorphic computing architectures.