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From point contacts to spin-transfer torque[1]

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Point contacts - nanoscale electrical contacts between conductors - have been around for decades and proved to be unique experimental tools for studying the electronic transport properties of metals. Following the theoretical prediction of spin-transfer torque (STT) by John Slonczewski [1] and Luc Berger [2], point contacts were instrumental for the first experimental demonstration of STT in spin-valve multilayers [3], thanks to extremely high current densities routinely produced in such contacts. In this talk I will briefly review the point-contact technique and its contributions to the field of current-induced control over magnetic nanostructures.

[1] J. C. Slonczewski, J. Magn. Magn. Mater. 159, L1 (1996).
[2] L. Berger, Phys. Rev. B 54, 9353 (1996).
[3] M. Tsoi et al., Phys. Rev. Lett. 80, 4281 (1998).

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