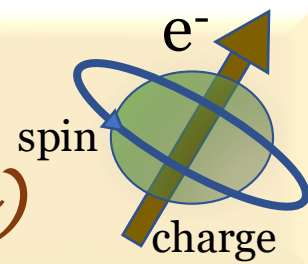




# W2S Seminar

(Webinar series on Spintronics)



**Charge-spin conversion effects, magnetization switching, and domain wall manipulation enabled by spin-orbit coupling in magnetic heterostructures**

Speaker:  
Prof. Pietro Gambardella  
Department of Materials, ETH Zurich,  
Switzerland

Date and time:  
**20.05.2021 at  
03.00 pm (IST)  
i.e. 11.30 am CET**

## Abstract

The spintronics landscape has changed dramatically over the last ten years thanks to a deeper understanding of the charge-spin conversion processes and magnetic interactions mediated by spin-orbit coupling in different classes of materials [1]. In this talk, I will review prominent mechanisms that give rise to nonequilibrium spin accumulation and spin-orbit torques in ferromagnetic and ferrimagnetic heterostructures, showing how magnetization reversal and domain wall motion triggered by current pulses unfolds in time and space. Illustrative examples will include electrical, magneto-optical and x-ray measurements of magnetic dots, tunnel junctions, and domain wall logic circuits.

[1] [Current-induced spin-orbit torques in ferromagnetic and antiferromagnetic systems](#), A. Manchon, J. Železný, I.M. Miron, T. Jungwirth, J. Sinova, A. Thiaville, K. Garello, and P. Gambardella, Rev. Mod. Phys. **91**, 035004 (2019).

To attend the lecture please visit  
Zoom link: <https://zoom.us/j/95605891365>

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