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### **Interface-induced skyrmions in magnetic films and multilayers**

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The talk is on individual skyrmions induced by interface Dzyaloshinskii-Moriya Interactions (DMI) in thin magnetic films or multilayers. I will present:

1. Ab-initio calculations of the characteristic features of interface DMI [1]: extension of the DMI away from the interface in the magnetic film, thickness dependence, influence of the existence of proximity-induced magnetism in neighbor layers, influence of interface roughness, perspective with new materials. . .
2. Experimental results on small skyrmions at room temperature in (Ir/Co/Pt) $\times$ 10 multilayers [2].
3. Towards applied devices: micromagnetic simulations of the nucleation and current-induced motion of skyrmions [3].

[1] H. Yang et al, arXiv:1501.055112. [2] C. Moreau-Luchaire et al, arXiv: 1502.07853. [3] J. Sampaio et al. Nat. Nanotech. 8, 839-844 (2013).