

After 30 years STM still isn't easy

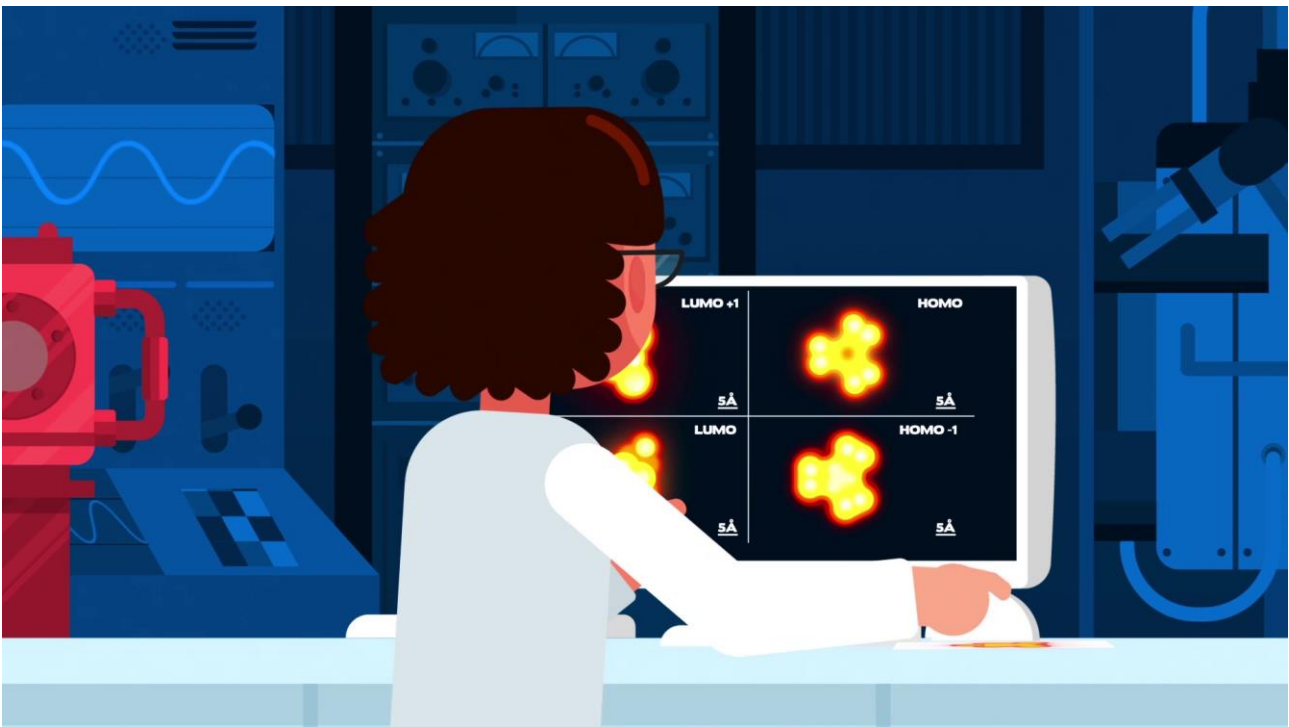
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STM was invented in 1982[1] and a decade later, 48 iron atoms were placed in a perfect circle on a copper surface[2], the so-called quantum corral. Yet now, after 36 years after the invention of STM, although new modes come out every year, it is still largely confined to specialist labs. What can be done to make this extraordinary tool more accessible to manufacture and smaller research labs?

One of major obstacles to making STM commonplace is that understanding the experimental data usually requires some input from simulations. When experimental researchers have reliably access to standard simulations they can reliably gain insight. But access isn't always easy – if theory collaborators have to be first found, and then trained to understand the experimental context, then experiments can go unanalyzed for months or even years.

Espeem was started last year with the mission to make STM (and AFM) accessible to a wider audience by providing the access to standard simulations and data analysis. By listening intently to the experimental community, we have found an approach to serve an experimental community where every lab is different.



References:

- [1] Binning, G., Rohrer, H., Gerber, C., Weibel, E. Physical Review Letters. 1982.
- [2] Crommie M. F., Lutz C. P., Eigler D.M. Science. 1993.