



Nathalie de Leon



How smooth can you make the surface of something? On the atomic scale, what does smooth really mean? While to the eye, a flat surface might look completely organized, the actual atoms themselves might be all mangled at the surface. A smooth and organized surface is important for creating very sensitive nanometer-scale devices in materials, which is called **nanofabrication**. Nathalie de Leon is leading the way in understanding the tangle of atoms at the surface of a material. By making them more ordered and smooth, she can improve quantum properties like coherence times in the materials she makes for use in quantum computing. She and her research group study ways to improve and master nanofabrication for creating superconducting qubit devices and creating solid-state defects in diamond. In fact, de Leon was awarded the American Physical Society Quantum Computing award in 2023 for her work in nanofabrication.