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## When Molecules Met 2D Materials: Hybrid van der Waals Heterostructures

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The rise of 2D materials makes it possible to form heterostructures held together by weak interplanar van der Waals interactions. The incorporation of organic molecules within these systems holds an immense potential. Whilst nature offers a finite number of 2D materials, an almost unlimited variety of molecules can be designed and synthesized with predictable functionalities. The possibilities offered by systems in which continuous molecular layers are interfaced with inorganic 2D materials to form hybrid organic/inorganic van der Waals heterostructures will be emphasized during the talk. Moreover, specific molecular groups can be employed to modify intrinsic properties and impart new functionalities to 2D materials. In particular, molecular self-assembly at the surface of 2D materials can be mastered to achieve precise control over position and density of (molecular) functional groups, paving the way for a new class of hybrid functional 2D materials.

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