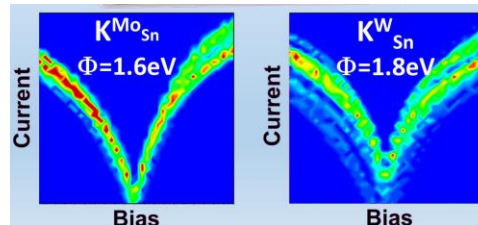
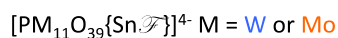
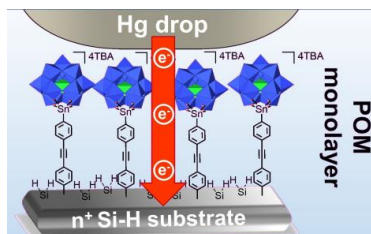
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	<a href="http://www.ipcm.fr/article742.html?lang=en">http://www.ipcm.fr/article742.html?lang=en</a>

**Research keywords:** polyoxometalates– organic-inorganic hybrids – nitrogenous ligands – organometallic oxides – electron transfer – solar energy conversion – molecular electronics – surface modification

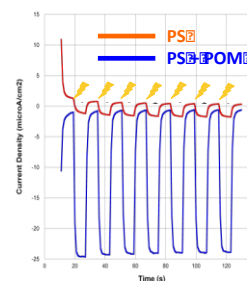
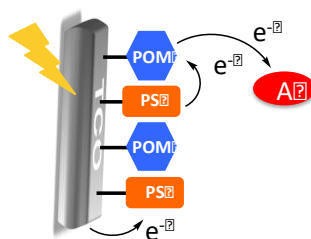
In my career, I have been interested in many aspects of the chemistry of polyoxometalates (POMs), the use of (multi)-vacant structures as all-inorganic ligands towards extra transition metal cations or organometallic complexes, for application in catalysis (*N*- and *C*-atom transfers, recently CO<sub>2</sub> reduction [1-2]) or molecular magnetism.[3] I have also a special interest in POM-redox properties and the study of related mixed valence species. Finally, I have devoted much efforts to the thorough investigation of POMs functionalization and post-functionalization to form modular and transferable organic-inorganic hybrids.[4-6] My projects are now focusing on POMs as unconventional

electro-active molecules to be integrated in functional 2D molecular materials as tunable redox



Hg/POM/Si molecular junctions

mediators or charge storage nodes. More precisely, for some years I have been studying the controlled deposition of POMs onto electrodes and I am targeting two fields of applications: modified electrodes for non-volatile multi-level digital molecular memories (data storage) and photo-cathodes for artificial photosynthesis.



POM/Photosensitizer/Acceptors for photocathodes

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