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Press release

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Heike Bräuer
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HU junior researcher Alberto Pérez-Bitrián receives Emmy Noether grant from the German Research Foundation (DFG)

New Research Group OrgXeMet investigates the properties and reactivity of xenon compounds

The new Emmy Noether research group OrgXeMet, led by Dr. Alberto Pérez-Bitrián has been launched at the Humboldt-Universität zu Berlin (HU). The group will be funded with approximately 1.75 million euros over six years through the Emmy Noether Program of the German Research Foundation (DFG) to investigate xenon compounds.

The noble gas xenon is a colorless and odorless gas, which only forms chemical compounds with a few elements of the periodic table, such as fluorine or oxygen. Although chemical compounds of xenon and carbon, known as organoxenon compounds, were discovered more than 30 years ago, their potential applications remain largely unexplored.

The research group of Dr. Alberto Pérez-Bitrián will systematically investigate various organoxenon compounds, that is, those containing xenon and carbon, to gain a detailed understanding of their properties. The aim is to use these compounds as oxidation and transfer reagents, particularly for the formation of metal-carbon bonds. This way, new metal complexes can be synthesized, which could be used, for example, as intermediates in the production of fluorinated pharmaceuticals. A key advantage of using organoxenon compounds in these processes is that xenon gas would be the only by-product—an inert substance that is easy to separate—making the process more environmentally friendly. In contrast, similar processes with other reagents generate by-products that are difficult to separate and sometimes even toxic.

“Once the properties and reactivity of organoxenon compounds are fully understood, these species will open up many new possibilities for chemists”, says Dr. Alberto Pérez-Bitrián, head of the newly established research group at the Department of Chemistry of the HU. “Our vision is for organoxenon compounds to become readily accessible and easy-to-handle reagents, integrated into the everyday synthetic toolbox of organic and organometallic chemists.”

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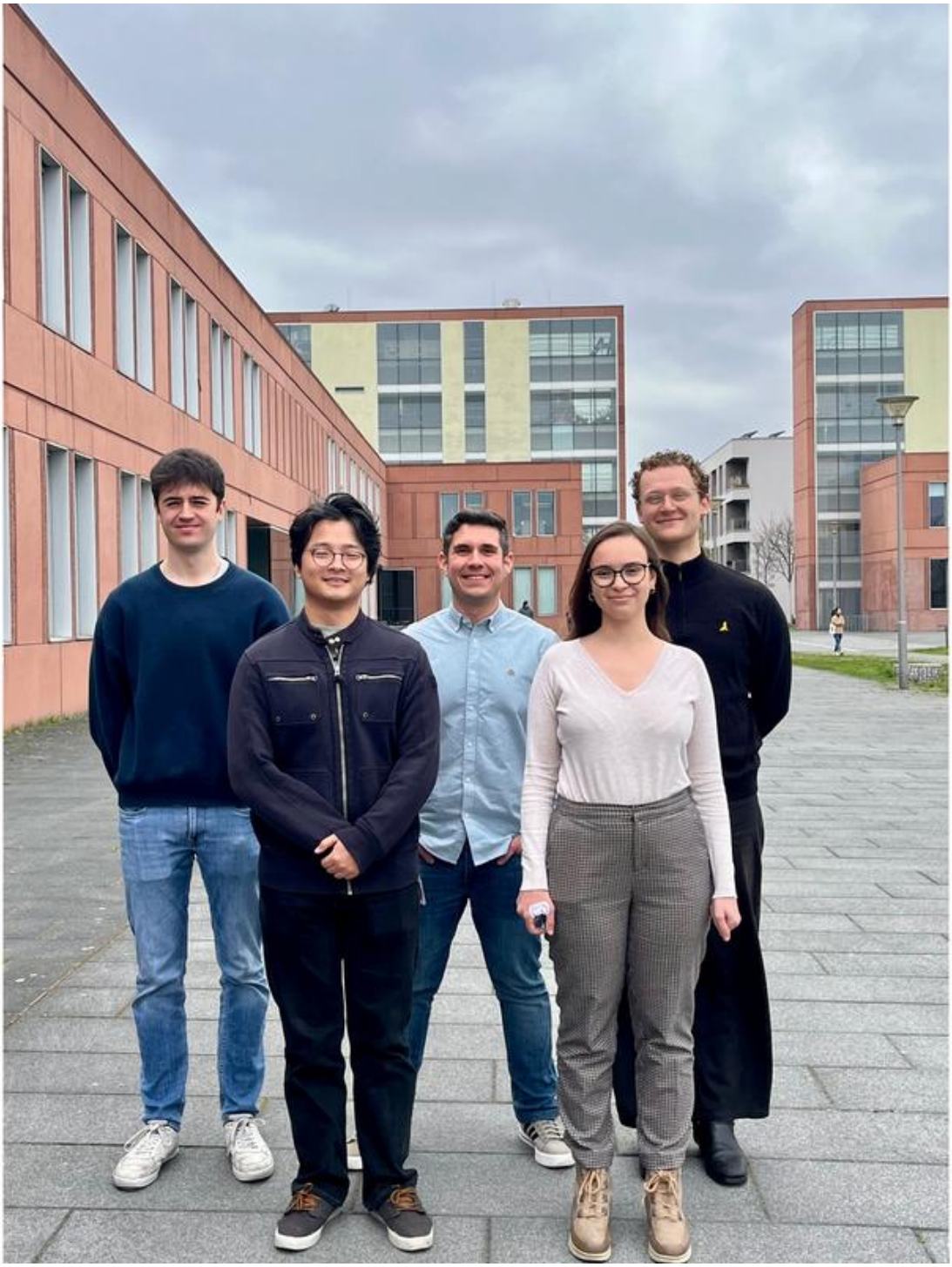

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