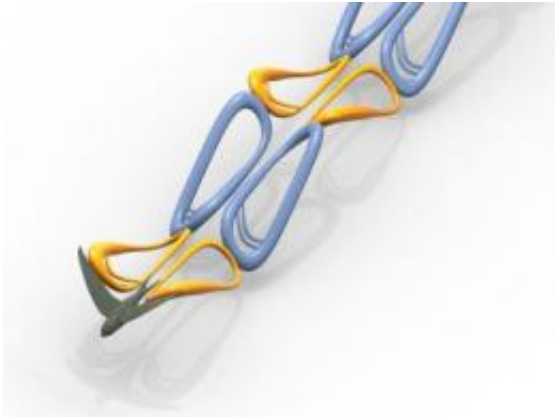


Flapping micro air vehicles inspired by swifts

July 2 2011



This shows the wake of a swift in slow forward flight, the new design mimics these birds to improve MAV performance. Credit: William Thielicke

Scientists have designed a micro aircraft that will be able to flap, glide and hover like a bird.

Researchers from the Biomimetics-Innovation-Centre in Germany have been inspired by birds to produce a new versatile design of [Micro air vehicle](#) (MAV) that combines flapping wings, which allow it to fly at slow speeds and hover, with the ability to glide, ensuring good quality images from any on-board camera.

"In birds, the combination of demanding tasks like take-off, travelling [long distances](#), manoeuvring in confined areas and landing is daily practice," explains PhD researcher Mr. William Thielicke, who is

presenting this work at the Society for [Experimental Biology](#) Annual Conference in Glasgow on the 2nd of July.

This [innovative design](#) was inspired by one bird in particular, the swift. "We know that swifts are very manoeuvrable and they can glide very efficiently. So we thought these birds would be a very good starting point for an energy efficient flapping-wing MAV," says Mr. Thielicke.



Micro air vehicles (MAVs) are small unmanned aircraft, often used for rescue or reconnaissance missions in areas where it would be dangerous or impractical for humans to go. Credit: William Thielicke

While fixed wing MAVs are energy efficient, their manoeuvrability is low. The new design would allow the flapping wing MAV to glide, improving energy efficiency and ensuring good images but when needed it can also slow its flight and [manoeuvre](#) in confined spaces.

"Although the models are not yet ready to be used, initial tests are positive and we hope that this design will combine the best of both

worlds," says Mr. Thielicke.

Provided by Society for Experimental Biology

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