



# Picking fruit with cuttlefish arms

Experimental Zoology researcher Guillermo Amador got a Vidi grant from the Dutch Research Council to apply knowledge of the suction cups of cuttlefish, a relative of the squid, in soft robotics. At present, robots' grippers are often too hard and sharp. In medical operations, metal grippers can damage the skin or organs, while robots that pick fruit damage strawberries and apples.

Amador first wants to find out how exactly the cuttlefish uses its tentacles and suction cups.

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A PhD student will use images from a high-speed camera to calculate the forces on the suction cup. A second PhD candidate will map the tissues in the

tentacles and suction cups. A tentacle is like a hand with 100 fingers. Amador wants to find out more about the connective tissue, cartilage and muscles around the suction cups.

He then plans to replicate the suction cups on a physical robot arm, using a 3D printer or soft plastic moulds. Amador is collaborating with Delft University of Technology for the medical applications, and with the Biosystems Engineering and Physical Chemistry & Soft Matter groups for the fruit-picking robots. ss