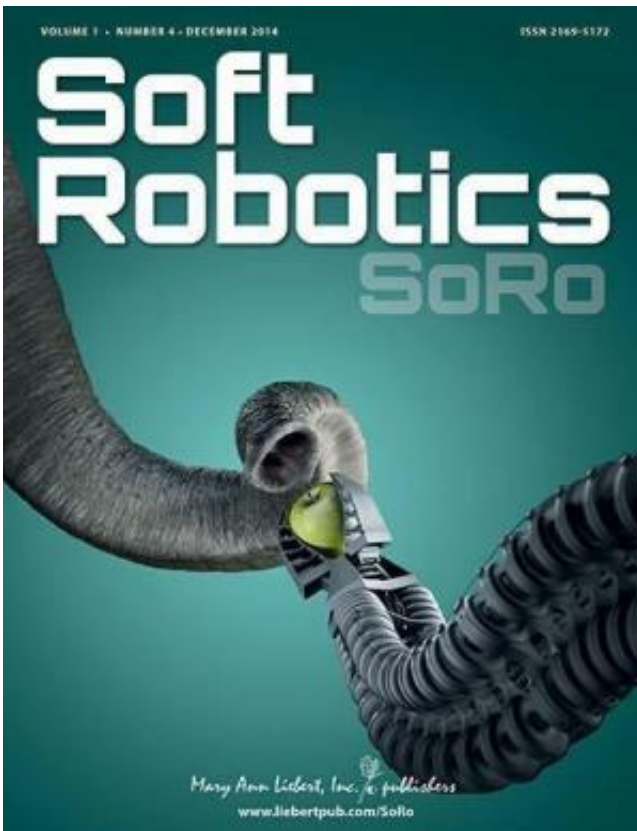


# Jumping, roly-poly, untethered robot described

March 9 2015

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Credit: Mary Ann Liebert, Inc., publishers

A novel, fully untethered soft robot capable of repeated jumping is able to cover half a meter in a single hop-and-roll motion. The innovative design of this combustion-powered robot, based on a roly-poly toy, and how it returns to an upright position after each jump are described in a

fascinating study published in *Soft Robotics*.

In the article "[An Untethered, Jumping Roly-Poly Soft Robot Driven by Combustion](#)", Michael Loepfe, Christoph Schumacher, Urs Lustenberger, and Wendelin Stark, Institute for Chemical and Bioengineering (Zurich, Switzerland), describe a soft robot powered by a mixture of nitrous oxide/propane/butane gas that can function even over rough terrain. The authors provide a detailed description of the activity of the robot and suggest future advances that could improve the [jumping](#) ability and performance of the robot.

"Although this robot is a hybrid of soft and hard components, I think it demonstrates how incorporating new materials can open up all sorts of robot capabilities," says Editor-in-Chief Barry A. Trimmer, PhD, who directs the Neuromechanics and Biomimetic Devices Laboratory at Tufts University (Medford, MA).

**More information:** The article is available on the [Soft Robotics](#) website.

Provided by Mary Ann Liebert, Inc

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