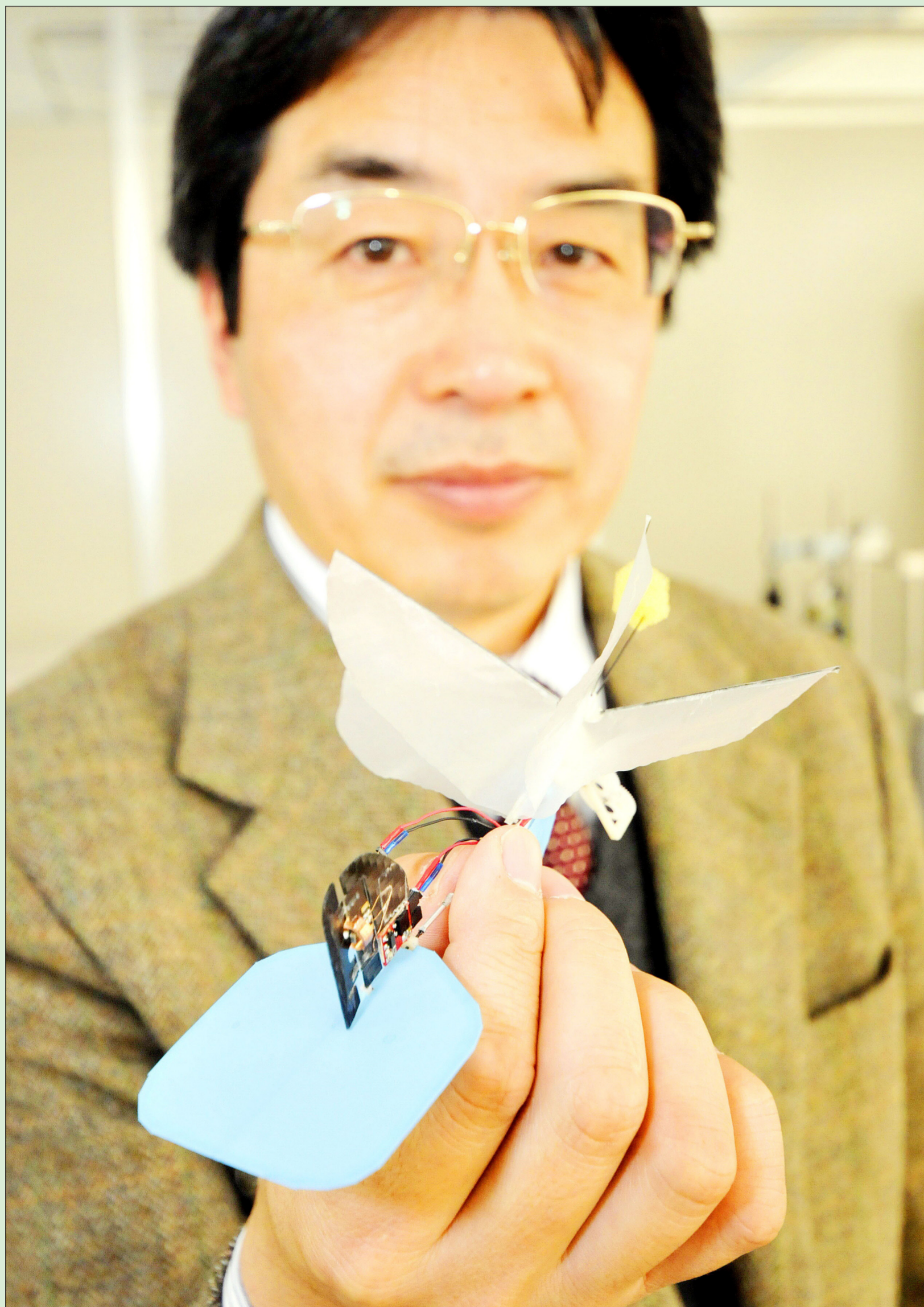


Japanese researcher unveils 'hummingbird robot'

日本研究人員展示「蜂鳥機器人」



You'd be forgiven for thinking that **it would never fly**, but Japanese researchers say they have developed a "hummingbird robot" that can **flutter** around freely in mid-air with rapid wing movements.

The robot, similar in size to a real hummingbird, is equipped with a micro motor and four wings that can flap 30 times per second, said Hiroshi Ryu, a researcher at Chiba University east of Tokyo.

It is controlled with an infrared sensor and can turn up, down, right or left.

The robot, which weighs 2.6g, can fly in a figure of eight more stably than a helicopter with rotor blades, said Ryu, 46, who specialises in developing robots based on living creatures.

"The next step is to make it hover to stay at one point in mid-air," Ryu said, adding that he also plans to **equip** it with a micro camera by March 2011.

The robot, whose development cost has topped 200 million yen (US\$2.1 million), may be used to help rescue people trapped in destroyed buildings, search for criminals or even operate as a probe vehicle on Mars, he said.

"First, we need to learn about effective **mechanisms** from natural life forms, but we want to develop something to go beyond nature eventually," Ryu said. (AFP)

如果你一點也不看好這項研究，沒有人會跟你計較；不過日本研究學者表示，他們已研發出一種可以快速振動翅膀、在半空中飛來飛去的「蜂鳥機器人」。

東京東部千葉大學的研究學者劉浩說，這種機器人配備一個微小馬達和四片每秒能振動三十次的翅膀，體型和真正的蜂鳥相當。

它藉由一個紅外線感應器接收指令，能向上、下、左、右方移動。

專門研發生物機器人的劉浩（四十六歲）說，這個重二點六公克的機器人能飛「8」字型，穩定度比螺旋槳直昇機更好。

劉說：「下一步是要讓它能停留在空中一個定點盤旋。」他還說他計畫在二〇一一年三月前，為其配備一個微型攝影機。

他說，這個機器人的研發成本高達兩億日圓（兩百一十萬美元），能用來協助援救倒塌建築中的受困者、尋找罪犯，甚至做為火星探測車。

劉說：「首先，我們得認識自然界生物體形的有效機制，但我們最終的希望，是研發出優於自然生物的機器人。」

(法新社/翻譯：袁星塵)

Professor Hiroshi Ryu of Japan's Chiba University displays his flying robot, which flutters its wings 35 times a second like a hummingbird, at his laboratory in Chiba city, suburban Tokyo on Dec. 28, 2009. PHOTO: AFP

十二月二十八日於日本近郊的千葉市，千葉大學劉浩教授在他的研究室展示這個會飛的機器人，其翅膀每秒振動三十五次，就像是蜂鳥一樣。

照片：法新社

TODAY'S WORDS 今日單字

1. flutter /'flʌtə/ v.

振翅 (zhen4 chi4) , 飄動 (piao1 dong4)

例: We watched as the money fluttered into the river.

(我們眼睜睜看著錢飄進河裡。)

2. equip /i'kwɪp/ v.

配備 (pei4 bei4)

例: The troops are equipped with the latest high-tech gadgets.

(軍隊配備最新穎的高科技小工具。)

3. mechanism /'mɛkə,nɪzəm/ n.

機制 (ji1 zhi4) , 機械 (ji1 xie4)

例: If the firing mechanism jams, you'll have to clean the gun.

(如果擊發裝置卡住，就得清理槍隻。)

IDIOM POINT 重要片語

it'll never fly
絕不可能成功

If you say something **will never fly**, you mean it won't work. This expression probably originates from the time of early aircraft, when many designs failed to fly.

Example: "Your proposal is intriguing, but I'm afraid **it'll never fly**."

如果說某事「will never fly」，指的就是這件事絕不可能成功。這個片語可能源於航空器發展初期，許多設計都沒能成功。

例如：「你的提案雖然很吸引人，但恐怕不會過關。」