

2018-09-01

▲香港科技大學機器人研究院院長王煜談軟體機器人。(圖／翻攝自雷鋒網，下同)

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この問題は、次のとおりである。

## Critical Capabilities

### Humanlike Dexterous Manipulation: 15 years

- High-complexity hands with tactile array densities
- Robust whole-hand grasp and dexterous manipulation
- Superior dynamic performance, like human's

### Safe Physical Human-Robot Interaction: 15 years:

- Recognize, work with, and adapt to human behaviors
- Intuitive assistance to human in unstructured environment



March 20, 2013

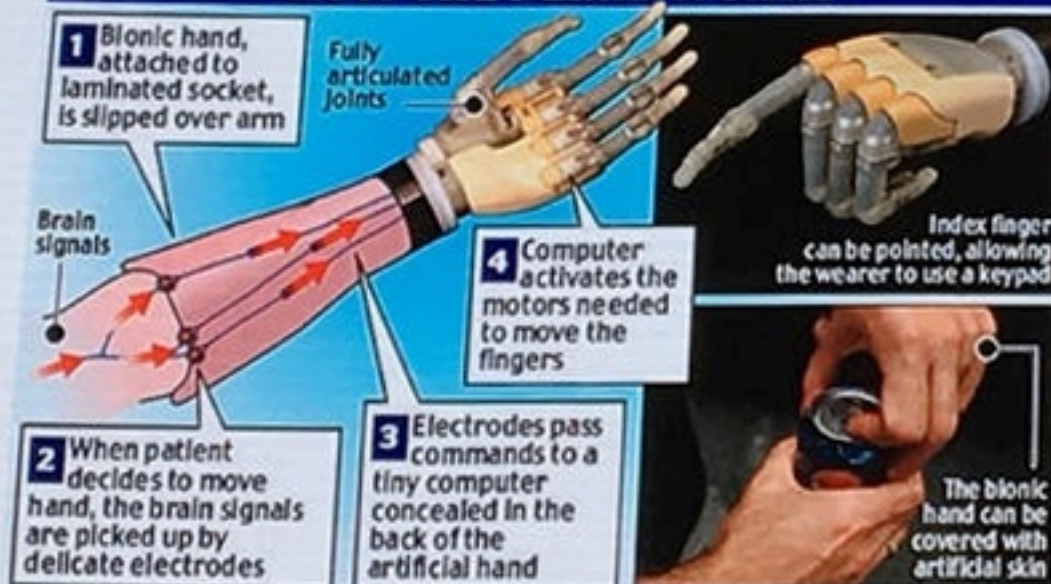
# A Roadmap for U.S. Robotics From Internet to Robotics

2013 Edition

8/18/2018

## Bionic Hand with Human Dexterity

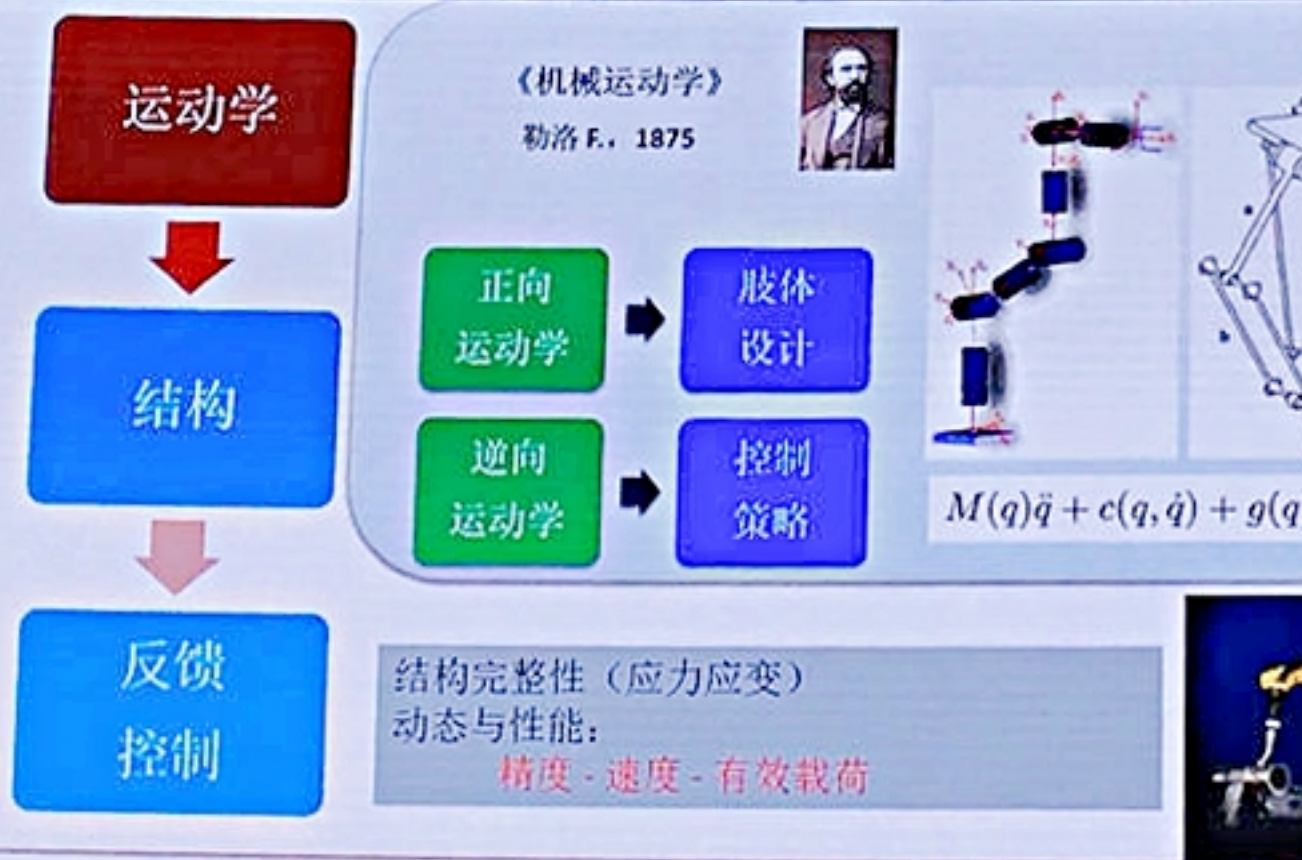
### HOW THE i-LIMB WORKS



Daily Mail (UK), July 2007

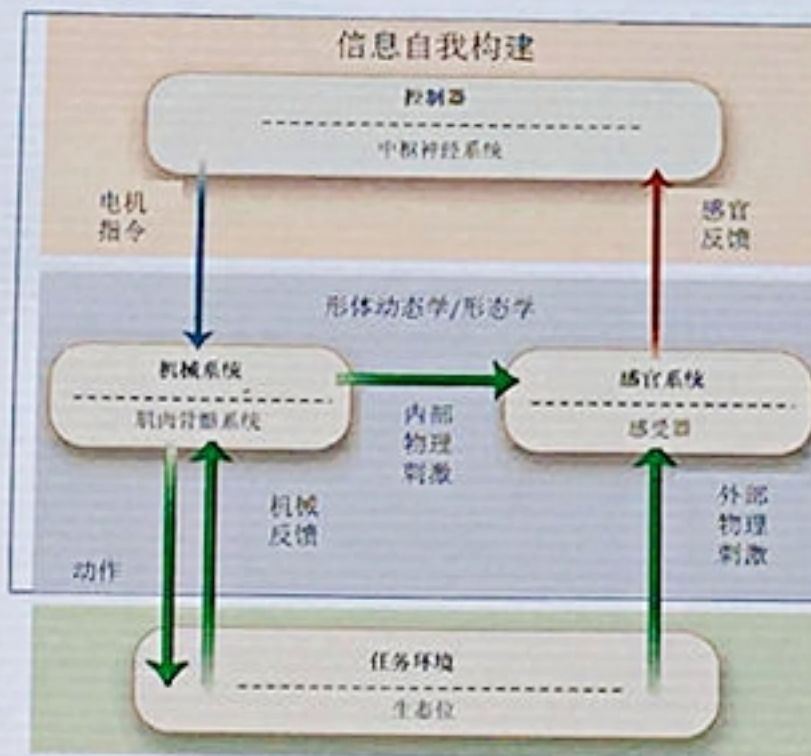


# 铰接（刚体）机器：建模与设计



1876

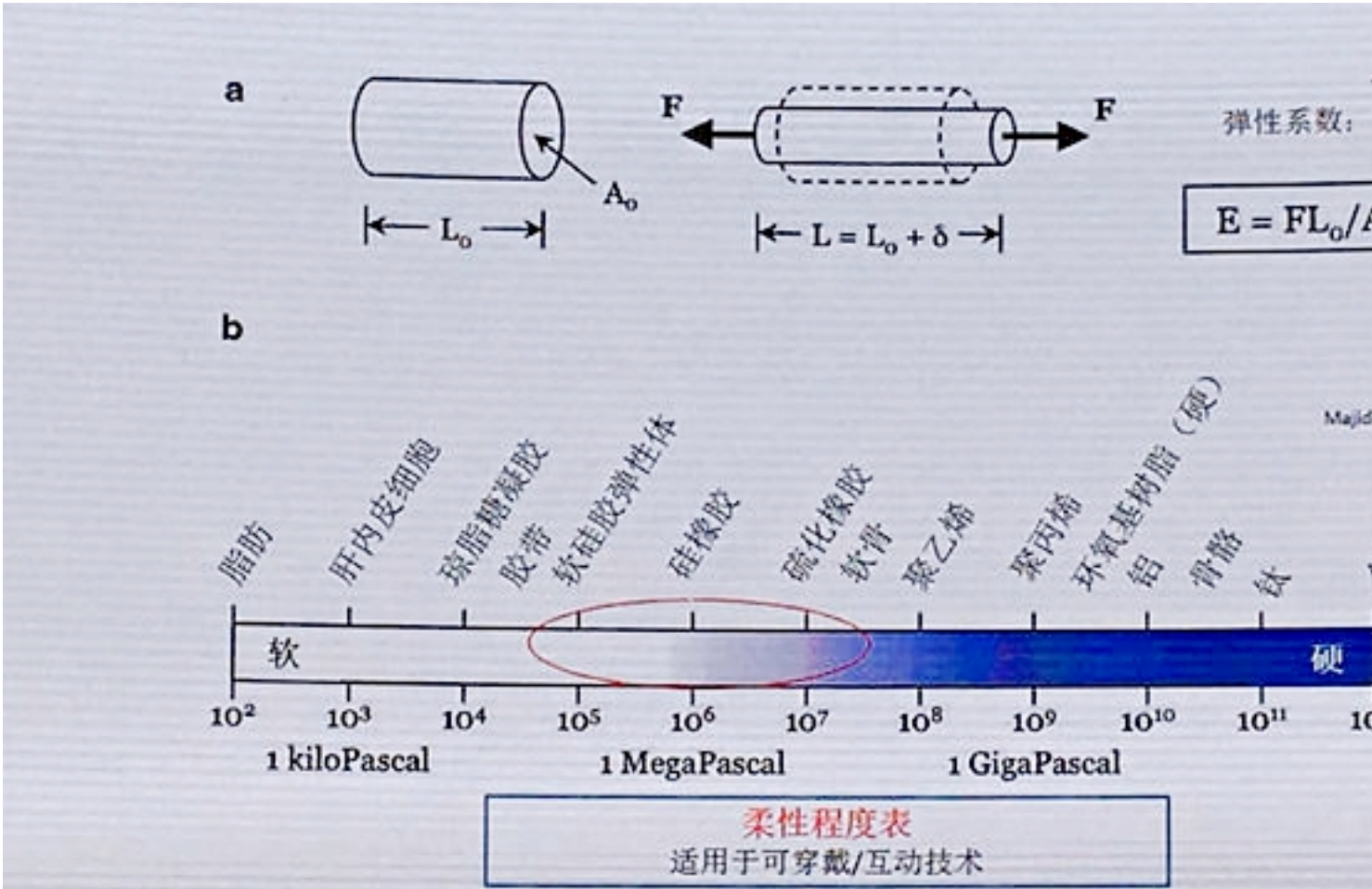
# 两种机器人的故事



主要特性:

- 速度
- 精度
- 有效载荷

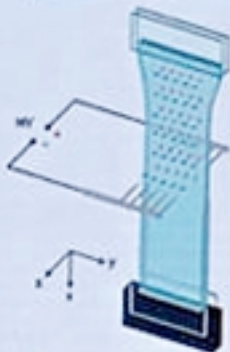
Pfeifer, 《科学》2007



# 生物启发与使能技术

## 肌腱复合体

- 电活性聚合物 (EAPs)

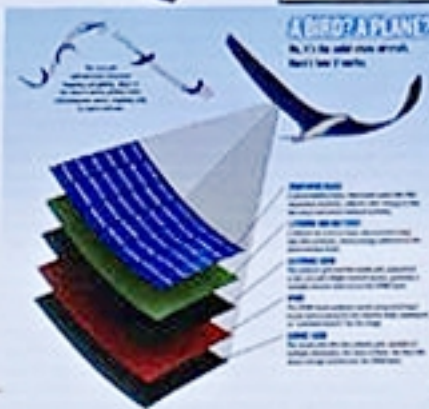


## 皮肤传感器

- 软性 (有机) 电子设备
- MEMS压力传感器



Artificial skin  
from R. Pfeifer



## 3D打印:

- 聚合物、金属
- 纳米粒子复合材料



J. Bissler 2009

J. Hiller 2011