

# Robots & People



# Today's program

## Learn about robots and nanobots

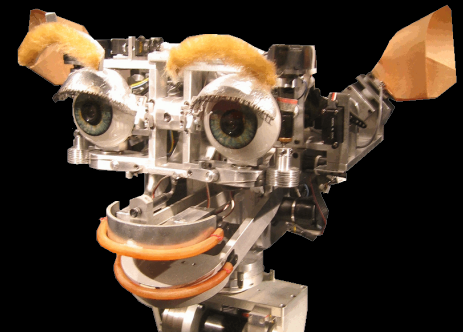
- What are they?
- What can they do?
- How do they affect our lives?

## Design a robot

- What can it do?
- How could it change our lives?

What is a robot?

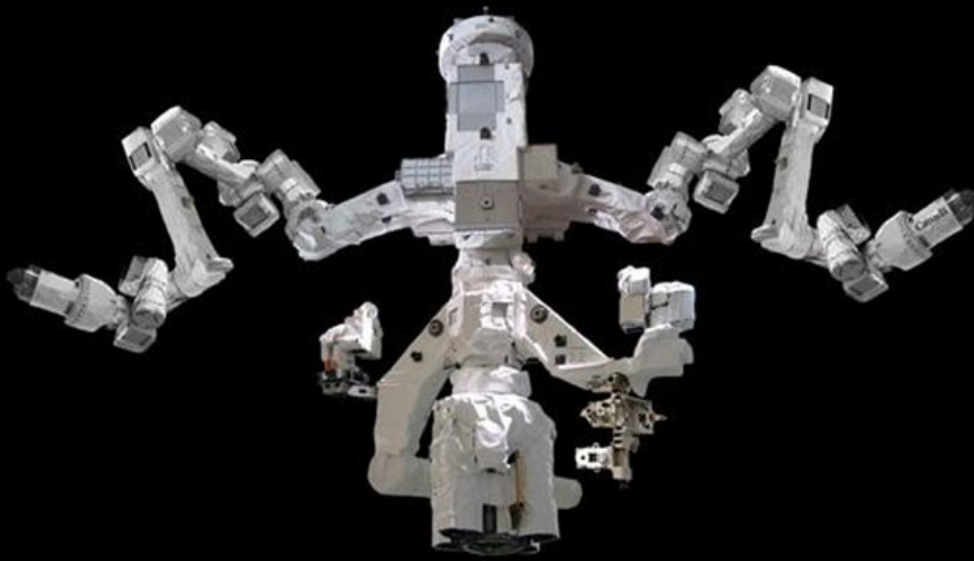
Robots are machines  
that can sense, plan, and act





What can robots do?

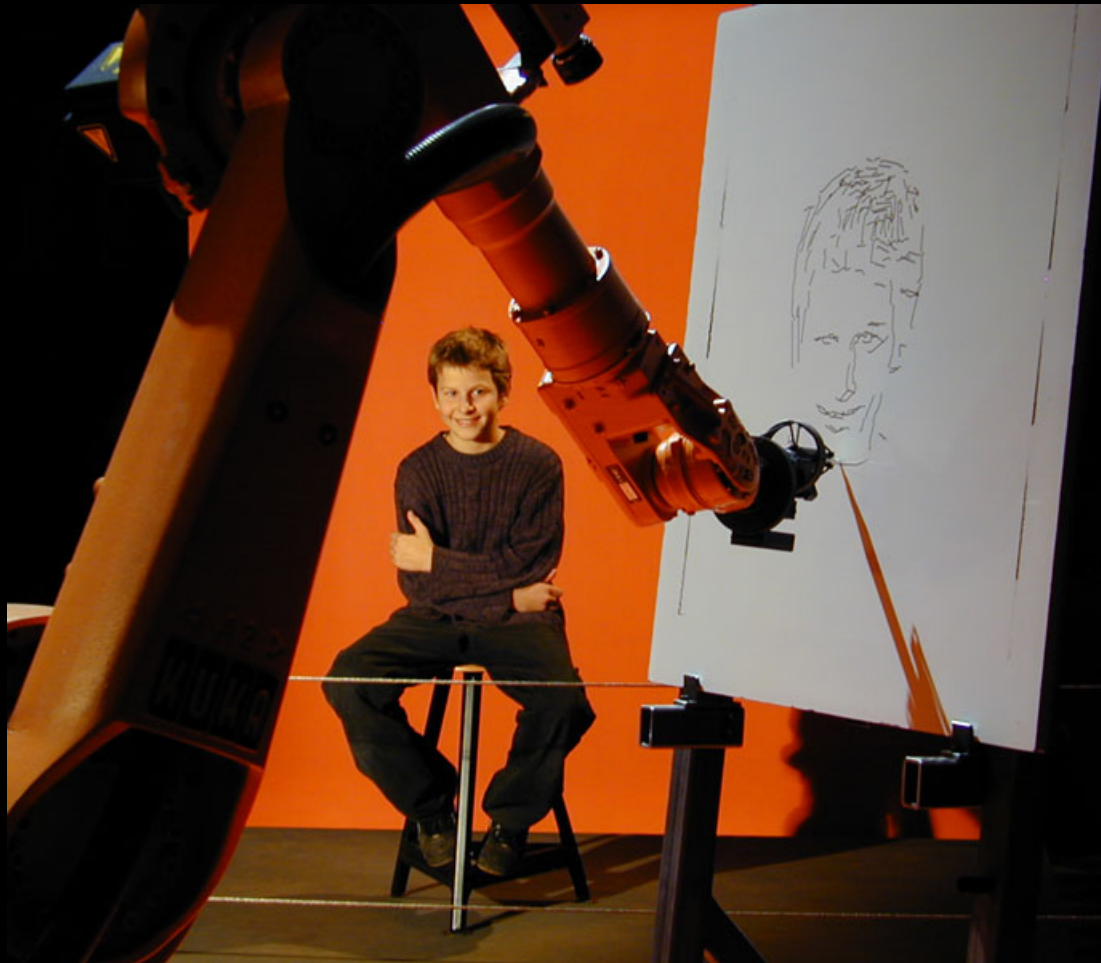
# Robotic arms



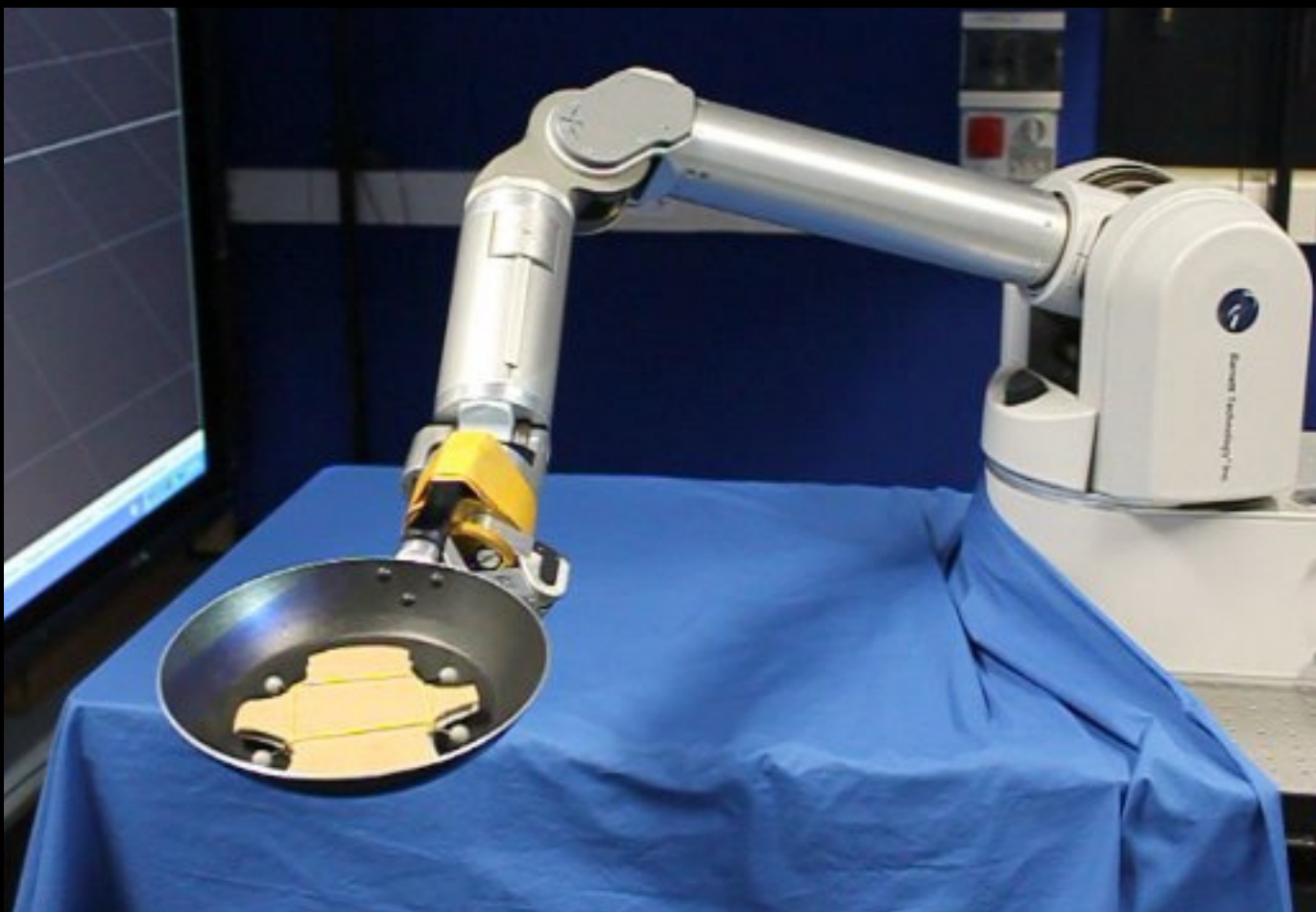
# Work in a factory



# Draw portraits

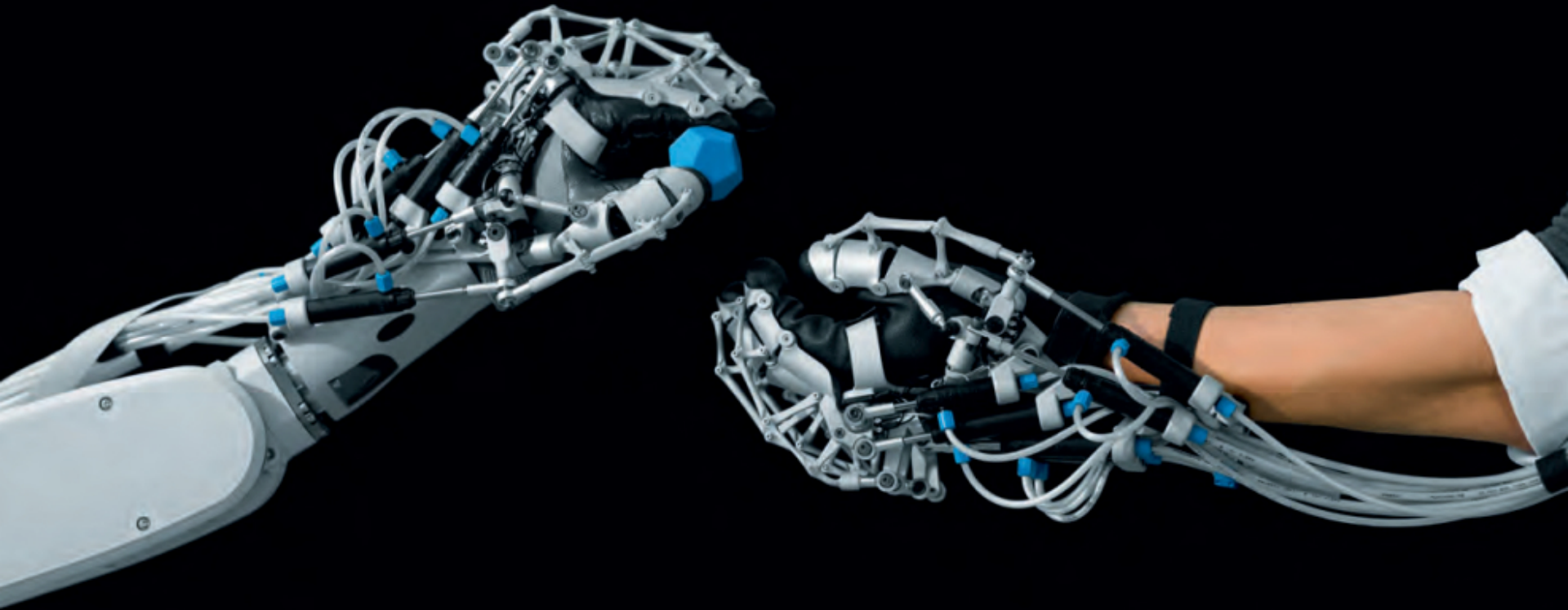


# Make pancakes



P. Kormushev, Italian Institute of Technology

# How would YOU use this robot?



# Humanoid robots



Honda Motor Co., Inc.



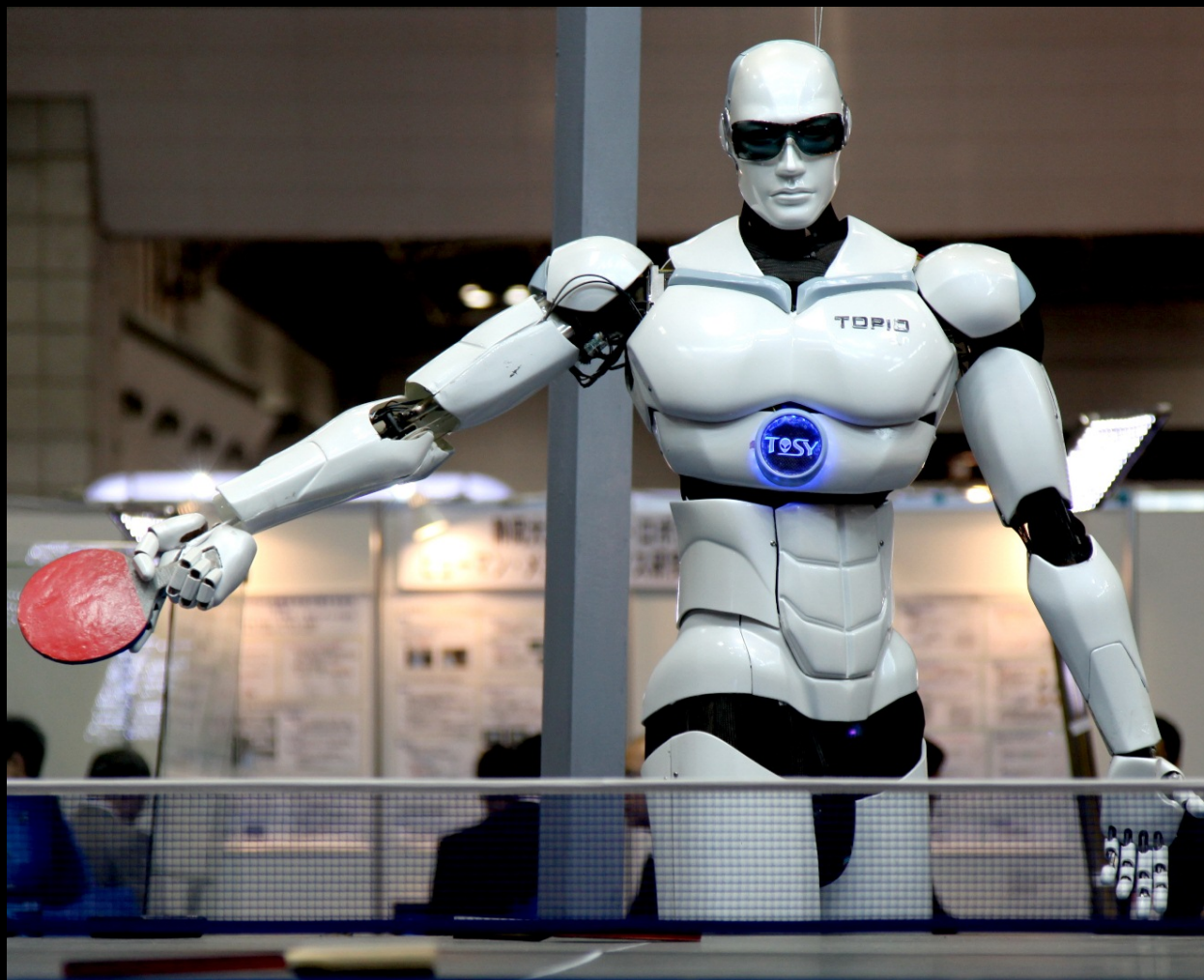
# Help at home



Honda Motor Co., Inc.

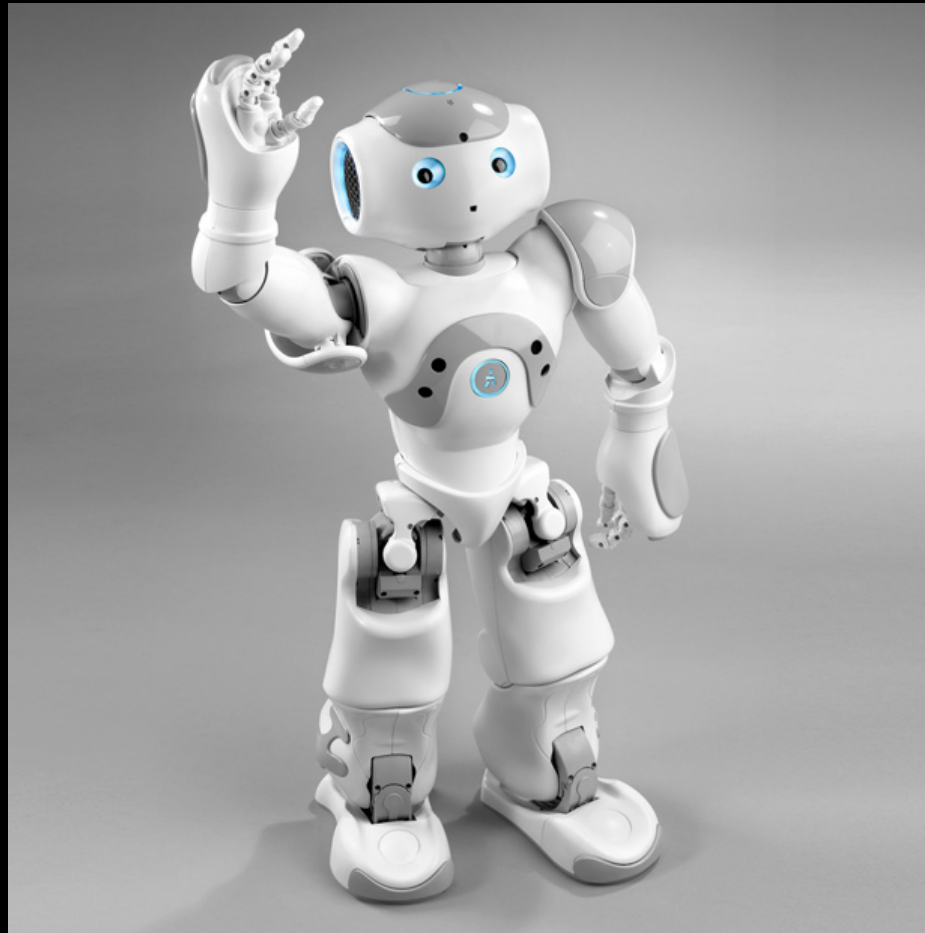


# Play ping-pong



Humanrobo

# How would YOU use this robot?



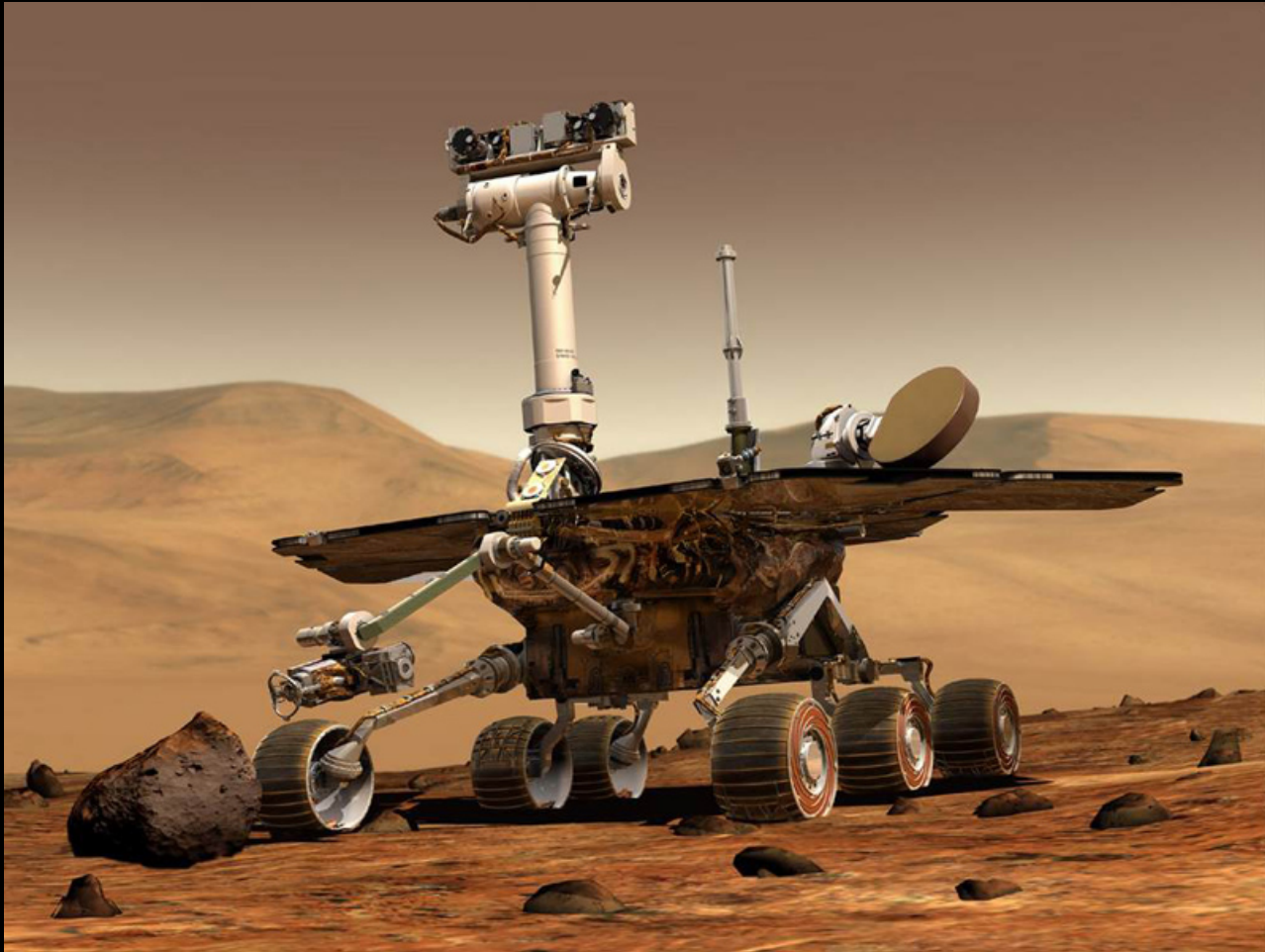
Aldebaran Robotics

# Robot vehicles



Festo

# Explore space



# Vacuum



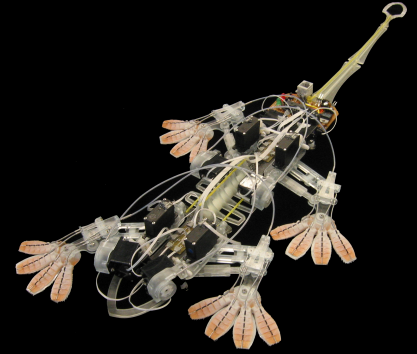


# How would YOU use these robots?



Serg

# Biomimetic robots



# Soar like a bird

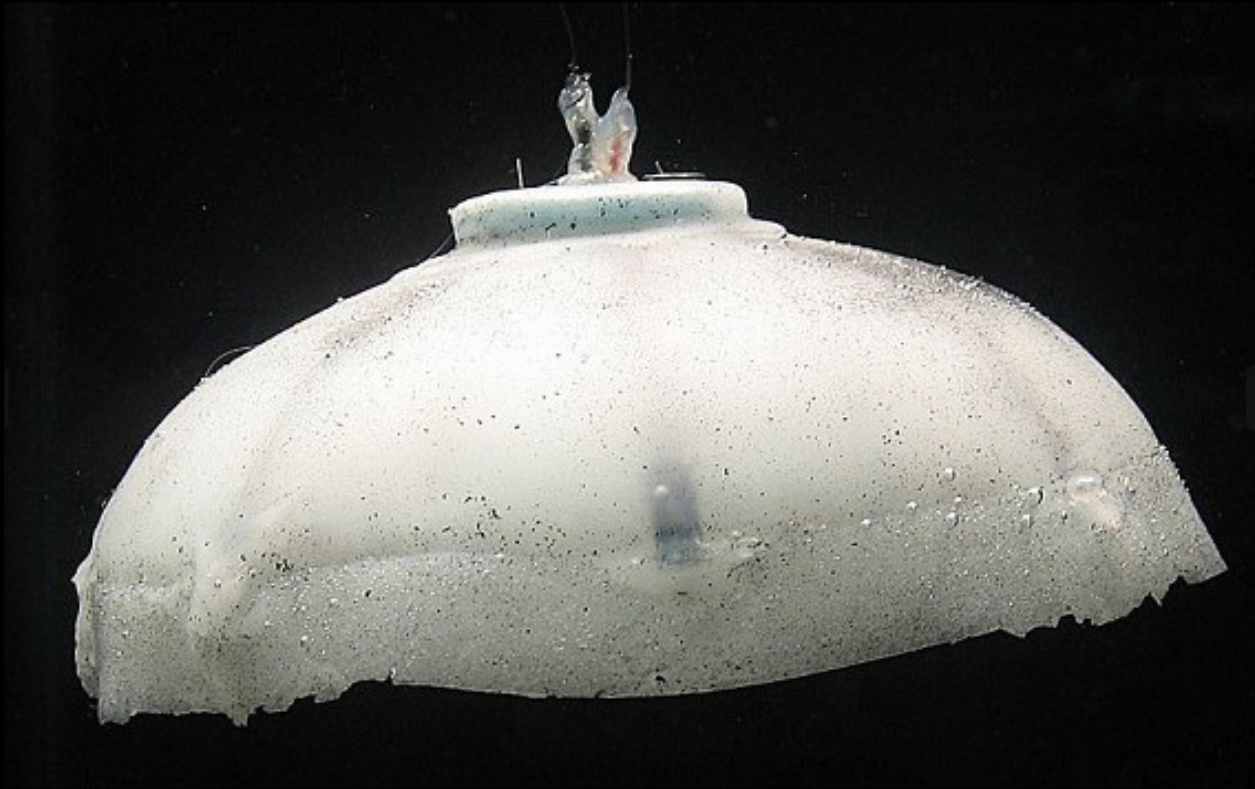




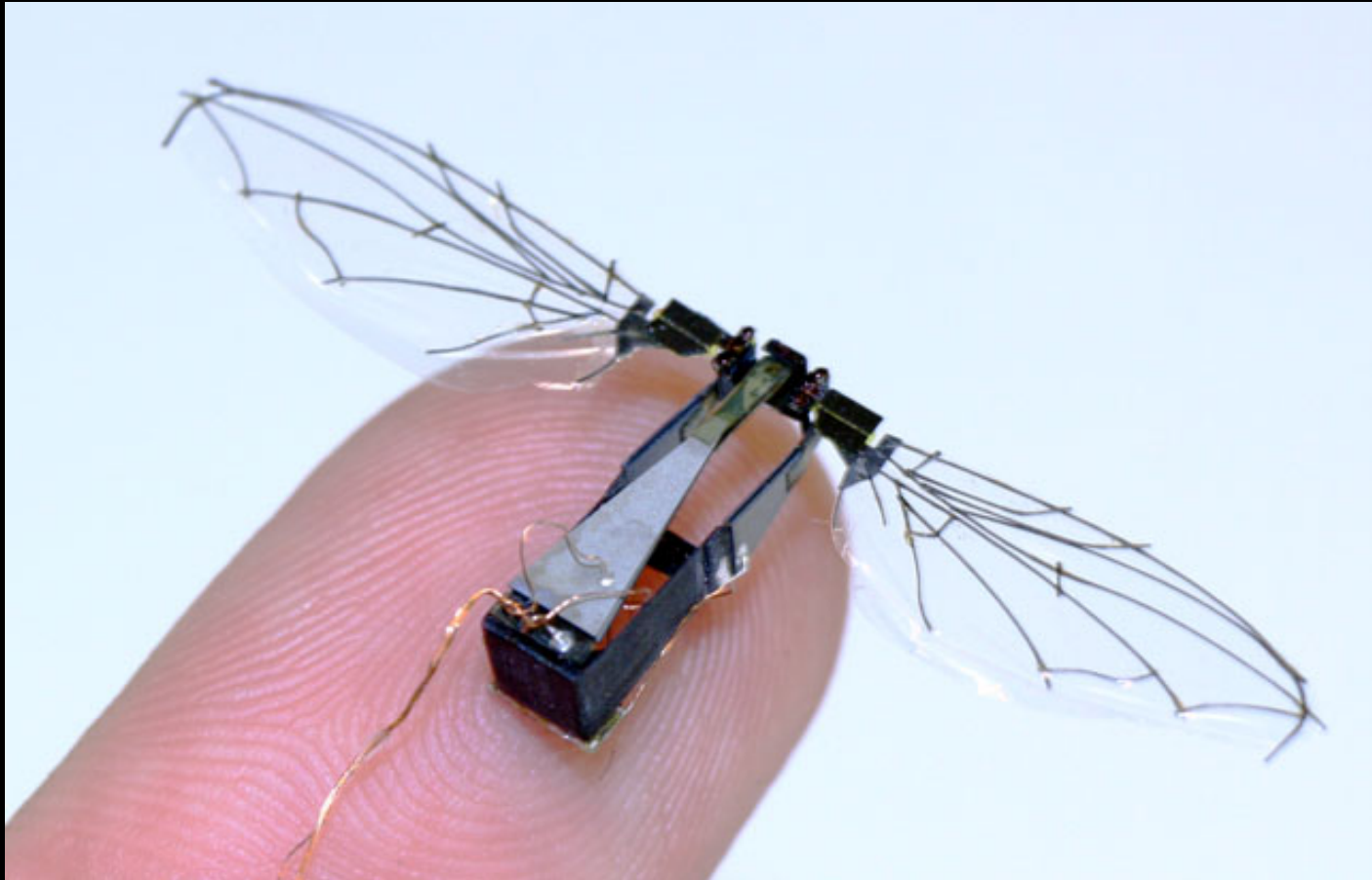
# Monitor pollution

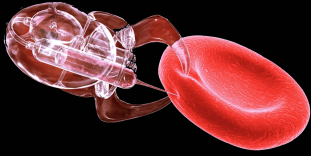


# Spy on ships and subs



# How would YOU use this robot?

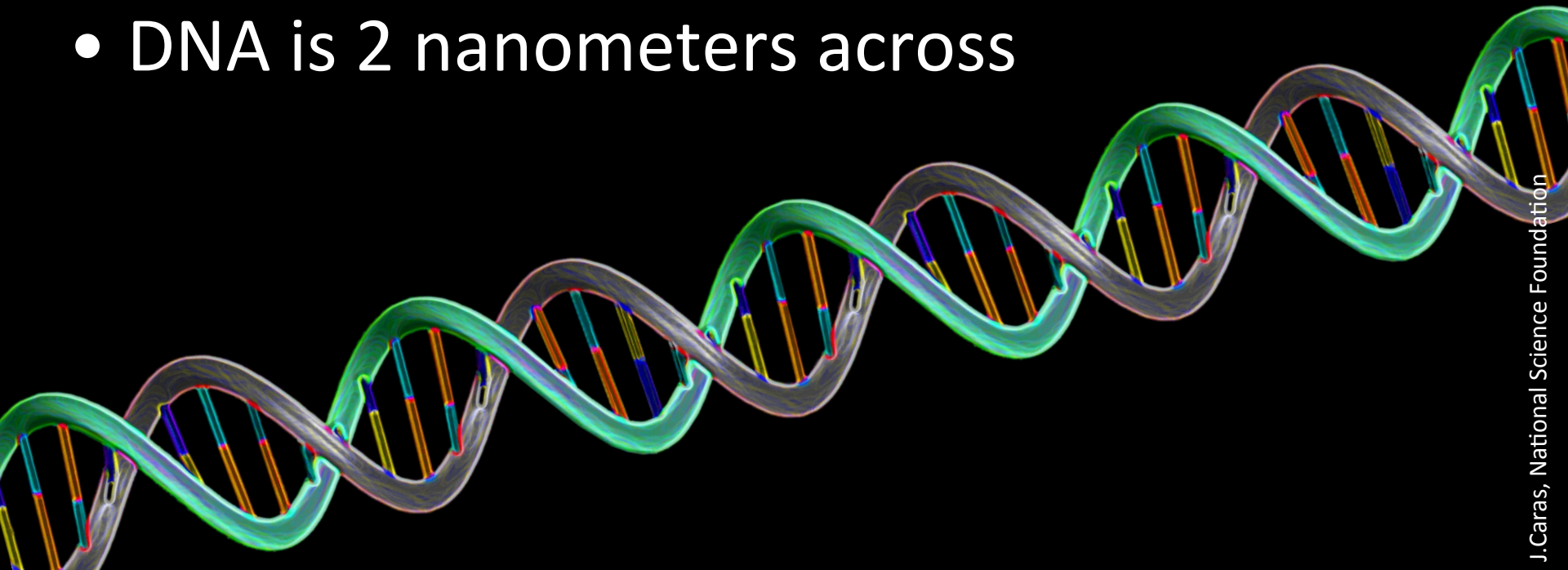




What are nanobots?  
Are they real?

# Nanobots would be very, very small robots!

- A nanometer is a billionth of a meter
- DNA is 2 nanometers across

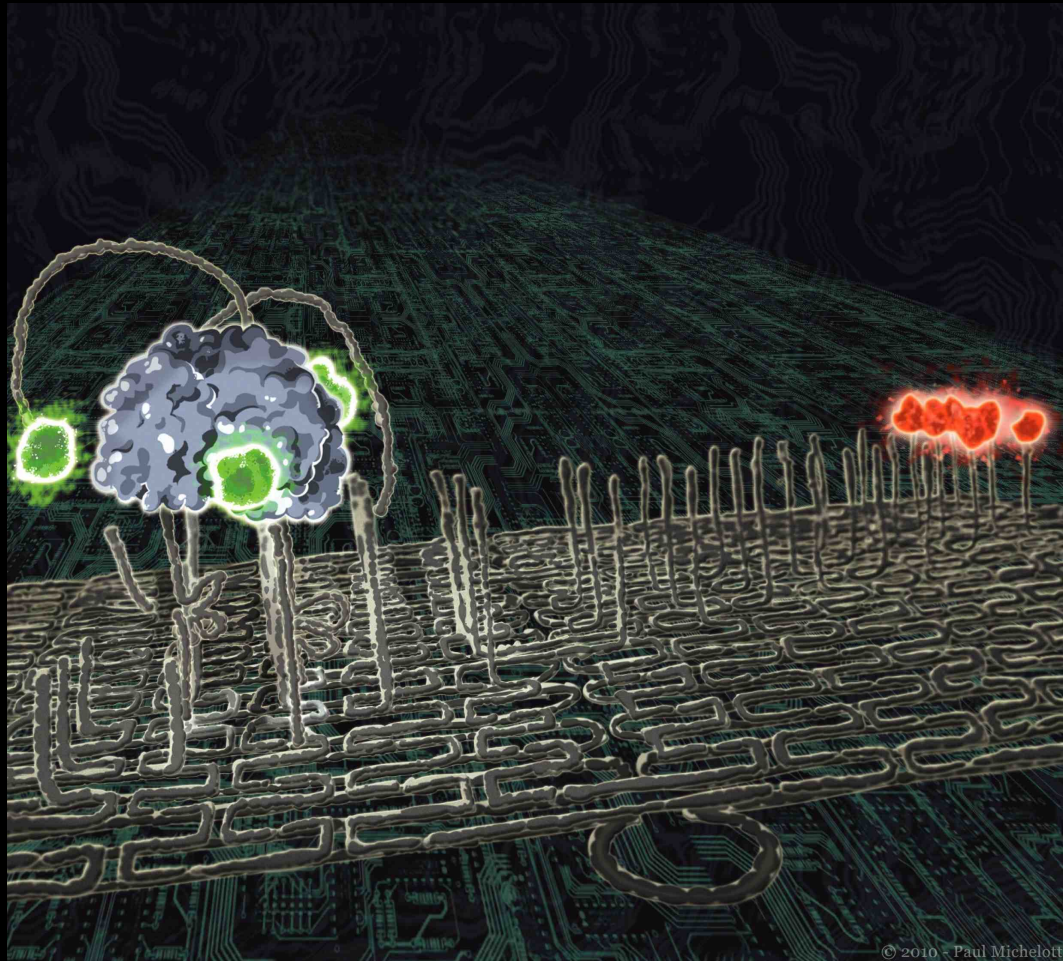


# Nanobots don't exist...yet

- Nano-sized machines exist
- Larger robots use nanotechnology and nanomaterials



# DNA spider can walk



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P. Michelotti, Arizona State University

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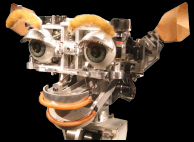


What can YOUR robot do?

# Image credits



Richard Greenhill and Hugo Elias, Shadow Robot Company, Wikimedia Commons



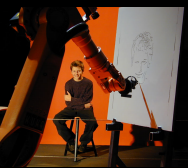
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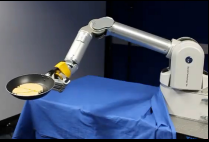


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robotlab

# Image credits



P. Kormushev, Italian Institute of Technology



Festo

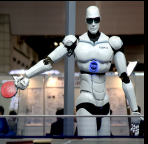


American Honda Motor Co., Inc



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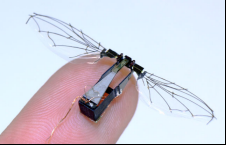


Huosheng Hu, University of Essex



Alex Villanueva, Virginia Polytechnic Institute and State University

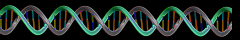
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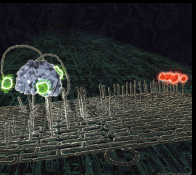
Ben Finio, Harvard University



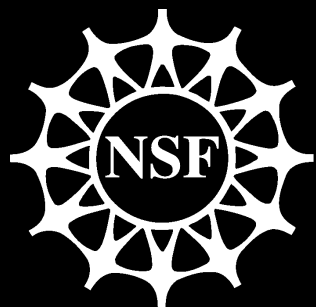
Conyl Jay



James J. Caras, National Science Foundation



Paul Michelotti. Courtesy Kyle Lund, Arizona State University



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