

# “IT’S IN THE

## Can you walk like a robot?

“Sure,” you answer. “I can walk with stiff straight legs and move from side to side.”

You’re right. That’s how most robots walk.

But a new kind of robot is being designed.

It’s called the MERbot.

For a long time, engineers have been trying to design a lighter, more flexible robot—one that can walk over rough ground without falling. Today’s two-legged robots wobble and topple over easily. Engineers are working on a robot that can stay on its feet. If MERbot could talk, it would say, “It’s in the legs.”

Scott Stanford and other engineers at California’s SRI International have designed a new type of robot legs. Not only are the legs different, but the whole body probably won’t look anything like present robots. Right now, MERbot’s body is a flat chunk of hard plastic sitting on top of six legs. These robots look more like bugs!

Why bugs? The fact is, bugs are better than two-legged humans at moving without falling. “To walk on two legs,” Stanford says, “you need to balance your whole system or else you fall over.” When you walk, one foot is on the ground while the other foot is in the air waiting to come down. Your body has to work hard to keep you from falling. When bugs scurry around, three of their six legs are always on the ground. The new robots might walk like bugs.

But there’s more to MERbot’s legs than just numbers. In your legs, muscles pull on your leg bones to make them move. MERbot has something like

The six-legged MERbot (above) has inspired some other “bots” with amazing legs. Little Dog (below) and Big Dog (right) are powered with gasoline engines.



**Andrew says:** If I could build a robot, I would program it to make baseball cards because I love to collect baseball cards.

# LEGS”



by Barbara Fischer

## WOOF

Meet some robotic dogs with AMAZING legs: Big Dog, Little Dog, and their pals. You can watch them walk, climb, slip, and slide at

[www.bostondynamics.com/content/sec.php?section=BigDog](http://www.bostondynamics.com/content/sec.php?section=BigDog)

muscles, too. Its legs are soft rolls, not hard metal. They are made from an amazing material that expands or moves when activated by electricity.

(The legs are called

**M**ultifunctional  
**E**lectroelastomer

**R**olls—that’s where the **MER** comes from.)

MERbot can bend its whole leg and go! And it goes smoothly—no clunky walking, no falling.

Right now, MERbot just shows off its fantastic legs. But Stanford says that with sensors added, like the five senses of humans, these robots could scramble over rocks and poke through dirt to search for trapped people. Soft robots can go places where no human or hard robot would dare. 

