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## Scientists and robots take a step forward

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Researchers who study walking will bring their latest insights and inventions - from walking robots to robotic limbs - to a conference at SFU next week.

While the experts do the talking, the machines will do the walking.

The inventions will be featured in a demonstration on Thursday, June 11, 3:30 p.m. on a runway outside SFU kinesiologist Max Donelan's locomotion lab (applied sciences building, room K8501)

'Watching the latest creations in motion is definitely one of the highlights,' says Donelan, conference chair, who will have on hand the newest version of Bionic Power's bionic energy harvester, a knee-brace-like device that draws energy from walking. Among others:

Andy Ruina from Cornell University will bring his Cornell Ranger, a powered, four-legged 'biped' with no knees. It has walked farther than any other walking robot - nine kilometers (Apr/08) - an autonomous-robot distance record.

<http://ruina.tam.cornell.edu/research/topics/robots/index.html>

Hugh Herr from MIT's biomechatronics group is a double amputee who builds and will feature his wearable prostheses. 'He has a great line,' notes Donelan, ''Every year your legs get worse - mine just get better.

''

Martijn Wisse of the Delft University of Technology in the Netherlands will bring a two-legged walking robot called Flame, an example of Dutch efforts to create humanoid robots.

The Dynamic Walking conference (June 8 - 11) brings together physiologists and robotocists who share an interest in understanding how we walk the way we do.

In a 'legged' version of boxcar racing, they will also give lessons in building 'bots' and racing them.

Former SFU kinesiologist Tad McGeer (son of former B.C. cabinet minister Pat McGeer) is among them. Two decades ago he built a walking robot whose movements were created by its own swinging gait - and the study of dynamic walking took root.

He currently sponsors a walking robot award called The W prize. (<http://wprize.org/>)

SFU kinesiologist Steve Robinovitch, who heads SFU's injury prevention and mobility lab, will share his expertise with a talk on How to build robots that don't fall to pieces: lessons from falling experiments with humans.

Art Kuo of the University of Michigan's College of Engineering kicks off the event Monday offering 25 ways to reduce or eliminate 'the energetic cost' of walking.

Researchers focus on walking but they're also concerned about footprints - specifically, their own carbon footprints. They've gone to great lengths to ensure that all aspects of the week-long event are green - from the purchase of carbon offsets to the donation of food and local sourcing.

## **Scientists and robots take a step forward**

For a glimpse of last year's conference see: [www.dynamicwalking.org/dw2008/](http://www.dynamicwalking.org/dw2008/)

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