10 OCTOBER 2014 • VOLUME 346 • ISSUE 6206

SPECIAL SECTION

Robots

INTRODUCTION
178 The social life of robots

NEWS
180 Meet your new co-worker
By J. Bohannon
182 Minds of their own
By R. F. Service
184 Getting a feel for the world
By H. DuRant and J. You
186 Helping robots see the big picture
By J. Bohannon
188 In our own image
By D. Normile
190 Humans need not apply
By H. DuRant and J. You
192 The accidental roboticist
By A. Cho
195 Q&A: Robots and the law
By D. Normile

REVIEW
196 Biorobotics: Using robots to emulate and investigate agile locomotion
A. J. Ijspeert

SEE ALSO
▶ PERSPECTIVE P. 160
▶ REPORT P. 224
▶ PODCAST
▶ VIDEO
▶ SLIDESHOW
▶ SCIENCE TRANSLATIONAL MEDICINE:
3 RELATED ARTICLES; 8 OCT 2014
▶ SCIENCE CAREERS
▶ WORKING LIFE P. 274
▶ sciencemag.org/special/robotics

ON THE COVER
Robotics engineer Hiroshi Ishiguro and his mechanical doppelgänger “Geminoid.” No matter how uncannily human some of today’s robots may seem, the resemblance is skin deep. An ongoing challenge is endowing robots with the capability to sense their environment and the wits to comprehend it. See page 178. Photo: Osaka University

INSIGHTS

160 OF SNAKES AND ROBOTS
How can snakes and robots move up sandy slopes? By J. J. Socha
▶ ROBOTS SECTION P. 178; REPORT P. 224

162 PLANT SYNTHETIC BIOLOGY TAKES ROOT
Applying the basic principles of synthetic biology to plants shows progress By J. I. Medford and A. Prasad

163 ADJUSTING TO THE FERTILITY BUST
What is the best response to declining populations? By T. M. Smeeding
▶ REPORTS PP. 229 & 234

FEATURES
154 DON’T BLAME THE BEETLES
Beetle-killed trees aren’t necessarily fueling more severe fires in the west
By C. Carswell
157 RACING THE THAW
A trove of artifacts is emerging from alpine ice
By A. Curry

150 A CALL FOR AN NIH YOUTH MOVEMENT
Wariness greets congressman’s proposal to require agency to reduce average age at first grant
By J. Kaiser

151 IMAGINING EBOLA’S NEXT MOVE
Scientists look beyond the models to envision how the epidemic might unfold
By K. Kupferschmidt

152 CONGRESS, NSF SPAR ON ACCESS TO GRANT FILES
Grantees wonder what science panel will do with private award details
By J. Mervis

155 ADJUSTING TO THE FERTILITY BUST
What is the best response to declining populations?
By T. M. Smeeding
▶ REPORTS PP. 229 & 234

157 RACING THE THAW
A trove of artifacts is emerging from alpine ice
By A. Curry

150 A CALL FOR AN NIH YOUTH MOVEMENT
Wariness greets congressman’s proposal to require agency to reduce average age at first grant
By J. Kaiser

IN DEPTH

148 STEM CELL RECIPE OFFERS DIABETES HOPE
Researchers coax stem cells into becoming long-sought insulin-producing β cells
By G. Vogel

149 THE BRAIN’S GPS FINDS TOP HONOR
Three earn physiology or medicine Nobel for discovering “place” and “grid” cells
By E. Underwood

149 PHYSICISTS CHANGE THE LIGHT BULB
Blue LEDs win 2014 physics Nobel
By D. Normile

150 A CALL FOR AN NIH YOUTH MOVEMENT
Wariness greets congressman’s proposal to require agency to reduce average age at first grant
By J. Kaiser

151 IMAGINING EBOLA’S NEXT MOVE
Scientists look beyond the models to envision how the epidemic might unfold
By K. Kupferschmidt

152 CONGRESS, NSF SPAR ON ACCESS TO GRANT FILES
Grantees wonder what science panel will do with private award details
By J. Mervis

155 ADJUSTING TO THE FERTILITY BUST
What is the best response to declining populations?
By T. M. Smeeding
▶ REPORTS PP. 229 & 234

157 RACING THE THAW
A trove of artifacts is emerging from alpine ice
By A. Curry

150 A CALL FOR AN NIH YOUTH MOVEMENT
Wariness greets congressman’s proposal to require agency to reduce average age at first grant
By J. Kaiser

IN BRIEF

146 Roundup of the week’s news

148 STEM CELL RECIPE OFFERS DIABETES HOPE
Researchers coax stem cells into becoming long-sought insulin-producing β cells
By G. Vogel

149 THE BRAIN’S GPS FINDS TOP HONOR
Three earn physiology or medicine Nobel for discovering “place” and “grid” cells
By E. Underwood

149 PHYSICISTS CHANGE THE LIGHT BULB
Blue LEDs win 2014 physics Nobel
By D. Normile

Published by AAAS
Science 346 (6206), 145-1261739.

http://science.sciencemag.org/content/346/6206

http://www.sciencemag.org/help/reprints-and-permissions