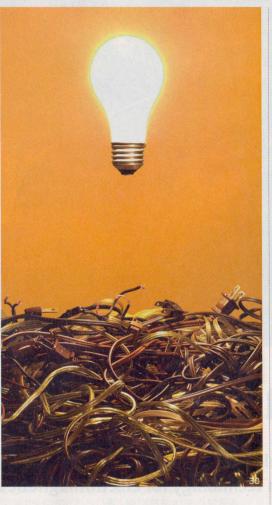


# spectrum

## 5.10







#### BUG BARBECUE:

Mosquitoes' tiny brains are no match for our high-tech weaponry [top left]; electrical power can flow even without wires [right]; Andrew Viterbi's life is a modernday Horatio Alger story.

COVER: PHOTO: BRAD SWONETZ THIS PAGE, CLOCKWISE FROM RIGHT: HOLLY LINDEM, BRAD SWONETZ, JUDE BUFFUM COVER STORY

## **42** ANDREW VITERBI'S FABULOUS FORMULA

This soft-spoken IEEE Medal of Honor winner crafted an algorithm for picking out signals from noise—and made a fortune along the way. *By Tekla S. Perry* 

## 24 BACKYARD STAR WARS

Lasers haven't yet been able to shoot swarms of missiles out of the sky, but they sure can zap mosquitoes. *By Jordin Kare* 

## **30** ELECTRONS UNPLUGGED

Sending useful amounts of electrical power through the air using magnetic induction is tricky. But that hasn't stopped people from trying. *By David Schneider* 

## 36 LITTLE GIZMO, BIG PICTURE

Soon even handheld devices will contain tiny digital projectors, allowing us to view big pictures on the go. *By Jacques Lincoln* 

### UPDATE

- **9** THE LASER TURNS 50—a fine excuse for reviewing the many records this pivotal technology has set. *By Neil Savage*
- 10 MODULAR NUKE PLANTS
- 12 TECH IN SIGHT: MOVING PEOPLE
- 13 LIGHT AT THE END OF THE CHIP
- 13 FETCHING A PIECE OF HEAVEN
- 14 BATTERIES GO WITH THE FLOW
- 16 THE BIG PICTURE

A robot vends Volkswagen vehicles.

### OPINION

#### 6 SPECTRAL LINES

Google's troubles in China show why the Internet must offer both security and liberty. *By Rebecca MacKinnon* 

#### 8 FORUM

A Corvette enthusiast finds his dream job; another reader touts engineering as a dream job for women.

#### 23 REFLECTIONS

Being a present-ist is a lot tougher than being a futurist. By Robert W. Lucky

## DEPARTMENTS

#### 4 BACK STORY

Nikola Tesla's old wireless-power lab didn't die, but it is fading away.

#### **5** CONTRIBUTORS

#### TOOLS & TOYS

- **18** Store photos and other files on your own personal data cloud. By Harry Teasley
- 19 NeuroSky's headsets may soon allow you to control more than just electric carts with brain waves. By Susan Karlin

#### 20 EDUCATION

MIT has a new program that's giving student engineers the street smarts they lack. *By Susan Karlin* 

#### 21 CAREERS

For women, leadership roles in engineering can be isolating. *By Prachi Patel* 

#### 22 BOOKS

Two new biographies look at troubled geniuses. *Review by Mark Anderson* 

#### 52 THE DATA

Some countries spend a lot more than others on information and entertainment—and not just because they're richer. By Dana Mackenzie