

IEEE Spectrum 210



SPECIAL REPORT

DREAM JOBS

FOR SOME PEOPLE, ENGINEERING IS A LABOR OF LOVE—FOR WHICH THEY GET PAID. HERE, 10 OF THEM SHARE THEIR STORIES

PLUS:
SECRET MESSAGES IN VOICE DATA?

BETTER OPTOELECTRONICS THROUGH CHEMISTRY

Jacob Melvin faces his demons at DreamWorks Animation



U.S.A. \$3.99
CANADA \$4.99
DISPLAY UNTIL
3 MARCH 2010
SPECTRUM.IEEE.ORG

SPECIAL REPORT

24 DREAM JOBS 2010

A willingness to jump off an obvious career path, make a sudden change in direction, or follow an intriguing idea into the unknown landed these 10 technologists their dream jobs.



DIVER'S FRIEND:
Ernst Völlm models
his wrist-riding
Zurich Scuba Diving
Assistant [p. 38].
PHOTO: CÉDRIC WIDMER

40 VICE OVER IP

Criminals can now hide secret messages in voice and network data, posing a serious threat to security.

By Józef Lubacz, Wojciech Mazureczyk & Krzysztof Szczypiorski

46 CONNECTING THE QUANTUM DOTS

Conglomerations of nanometer-size particles could replace the expensive semiconductor wafers now used to make solar cells and infrared sensors. *By Edward H. Sargent*

COVER:
PHOTOS,
DREAMWORKS
ANIMATION;
PHOTO-
ILLUSTRATION,
STATIK DIGITAL

UPDATE

9 A DASH OF WIRELESS

Low-power wireless scheme Dash7 is gaining ground. *By David Schneider*

10 A CRITIC ON CLIMATEGATE

11 THE UK GETS A SPACE AGENCY

12 THE COMPASS CRAZE

13 PAC-MAN EATS NANODIRT

14 FOREVER NODES

16 THE BIG PICTURE

Don Wales intends to set a new lawn-speed record.

OPINION

7 FORUM

We received an outpouring of comments from readers on December's "Powerless in Gaza." Here's just a small sample.

23 TECHNICALLY SPEAKING

Are you suffering from energy anorexia or eco-anxiety? What's your cookprint? Another look at the green revolution in language. *By Paul McFedries*

DEPARTMENTS

4 BACK STORY

A California photo shoot is incomplete without at least one surfer dude.

6 CONTRIBUTORS

GEEK LIFE

18 Imagine finding a genetic plus or pitfall in a potential mate during your first date. *By Mark Anderson*

19 A robot named Bandit cares for autistic kids. *By Susan Karlin*

20 HANDS ON

It's as fun to build as it is to fly your very own eye in the sky. *By David Schneider*

22 CAREERS

This Jesuit priest practices electrical engineering in Africa. *By Susan Karlin*

60 THE DATA

Buy now! 99.998% off! The cost of your genome has gone from billions to tens of thousands. *By Mark Anderson*