



COVER STORY

## AUDITORY INTERVENTION

Emerging technology and a wide-open market drive drug companies to invest in prevention and treatment of hearing loss. **PAGE 12**

### QUOTE OF THE WEEK

"Mother Teresa is a saint now, but if Congress wanted to make her a saint and attached it to a vote on the debt ceiling, we probably couldn't get 218 votes on it."

REP. JOHN A. BOEHNER (R), SPEAKER, HOUSE OF REPRESENTATIVES  
**PAGE 30**



8

### NEWS OF THE WEEK

- 7 **BETTER NEGISHI CROSS-COUPLING**  
Simple change of salt additives drives more specific and efficient reactions, chemists find.
- 8 **CLIMATE-CHANGE IMPACTS**  
UN reports widespread effects of human-caused climate change around the globe.
- 8 **CYANOFORMATE PINNED DOWN**  
Chemical snare nabs elusive anion; structure could yield carbon capture methods.
- 9 **ANOTHER TARGET FOR CANCER**  
Inhibiting MTH1 enzyme disrupts DNA replication in cancer cells, researchers find.
- 9 **MORE *p*-XYLENE PROTESTS**  
Demonstrations last week against a plant planned for the Chinese city of Maoming turned violent.
- 10 **PHARMA INVESTS IN AFRICA**  
GlaxoSmithKline is the latest firm to contribute resources to fighting diseases on the continent.
- 10 **BIOORTHOGONAL CHEMISTRY**  
Technology to visualize biomolecules is getting easier to use in living cells, live animals.
- 11 **TRANSGENIC TREES, GREENER PAPER**  
Lignin modified to fall apart chemically might improve on caustic, high-heat pulping.
- 11 **CONTROLLING METHANE EMISSIONS**  
White House strategy tackles oil, gas production; it could lay the groundwork for regulation by EPA.

### BUSINESS

- 18 **CONCENTRATES**
- 21 **OPENING UP OPEN INNOVATION**  
Success of crowdsourced science inspires competition among service providers.
- 24 **GETTING THEIR FIX**  
Anticipating regulation of their products, makers of e-cigarettes seek reliable nicotine supply.

### GOVERNMENT & POLICY

- 28 **CONCENTRATES**
- 30 **CONGRESSIONAL BRAIN DRAIN**  
Departing senators and representatives will take more than 750 years of institutional knowledge with them.
- 32 **STEPHEN A. MERRILL**  
C&EN talks with the former director of the National Academies Board on Science, Technology & Economic Policy.

### SCIENCE & TECHNOLOGY

- 34 **CONCENTRATES**
- 37 **TARGETING SENSORY PROTEINS ►**  
Drugmakers set their sights on ion channels to find treatments for pain, cancer, and asthma.
- 40 **STORING NUCLEAR WASTE IN SHALE**  
With Yucca Mountain out, shale deposits may offer a safe way to store radioactive waste.
- 41 **SLIGHT UPTICK IN WOMEN FACULTY**  
Last year, growth resumed in the percentage of female chemistry professors.

### BOOKS

- 45 **"THE ACCIDENTAL UNIVERSE"**  
In his collection of essays, Alan Lightman addresses physical and philosophical questions in a personal way.

### ACS NEWS

- 48 **DALLAS HIGHLIGHTS ▼**  
Photos from the ACS spring national meeting.



### THE DEPARTMENTS

- |    |               |    |                 |
|----|---------------|----|-----------------|
| 3  | EDITOR'S PAGE | 52 | ACS CAREER TIPS |
| 4  | LETTERS       | 52 | CLASSIFIEDS     |
| 47 | ACS COMMENT   | 56 | NEWSSCRIPTS     |
| 50 | OBITUARIES    |    |                 |

COVER: Shutterstock/C&EN