1167 UNKNOWN SIGNIFICANCE
Years of writing about genetic testing did not prepare me for my own foray into this rapidly changing world
By J. Couzin-Frankel

1172 MARS, MICROBES, AND MASTODONS... OH MY!

1178 FROM YOU TO THE UNIVERSE--AND EVERYTHING IN BETWEEN

1180 HOW ICE SHELVES MELT
Warming of the water that flows under Antarctic ice shelves is key to their melting
By S. Gille

1181 DEATH TO THE LOSERS
Cell competition is linked to innate immunity mechanisms to eliminate unwanted cells and maintain healthy tissue
By G. Morata and L. Ballesteros-Arias

1183 CALCULATING THE PRESSURE DEPENDENCE OF CHEMICAL REACTIONS
A priori calculations can accurately predict rates of methane formation from radicals
By M. J. Pilling

1184 DRIVING THE EARTH MACHINE?
The region of the mantle directly below the tectonic plates plays a key role in mantle flow and volcanism
By D. L. Anderson and S. D. King

1186 STABILITY AT THE SURFACE
The structure beneath a surface is a key factor in its electronic and chemical function
By S. A. Chambers

1187 SLEEPING DOGS OF THE GENOME
Retrotransposable elements may be agents of somatic diversity, disease, and aging
By V. Gorbunova et al.

1189 USING AND IMPROVING THE SOCIAL COST OF CARBON
Regular, institutionalized updating and review are essential
By W. Pizer et al.

1191 SIZE DOES MATTER
Lysosome-based signaling machine regulates cell growth
By L. Bar-Peled

IN BRIEF
1158 Roundup of the week's news

IN DEPTH
1161 RESEARCHERS STRUGGLE TO GAUGE RISKS OF CHILDHOOD ANESTHESIA
Neurological warning signals in animals drive push for new studies and public outreach
By K. Servick

1162 SATELLITES TRACK HERITAGE LOSS ACROSS SYRIA AND IRAQ
Vandalism, looting, and collateral damage erase history
By A. Lawler

1164 THE OLD MAN AND THE DISEASE
In Liberia's Ebola outbreak, star statistician Hans Rosling is facing the intellectual challenge of a lifetime
By K. Kupferschmidt

1166 BRAZILIAN SCIENTISTS PROTEST FUNDING BONANZA FOR BRAIN CAMPUS
$100 million grant came as a surprise to many
By E. Underwood

IN BRIEF
1193 CONSERVING BRAZIL'S ATLANTIC FORESTS
By R. Buckley and F. de Vasconcellos Pegas

1193 RESPONSE
By C. Banks-Leite et al.

1193 ERRATA

RESEARCH ARTICLES
1199 CELL COMPETITION
An ancient defense system eliminates unfit cells from developing tissues during cell competition
By S. N. Meyer et al.

RESEARCH IN BRIEF
1195 From Science and other journals

REVIEW
1198 LUNAR GEOLOGY
The lunar dynamo
By B. P. Weiss and S. M. Tikoo

RESEARCH SUMMARY; FOR FULL TEXT: dx.doi.org/10.1126/science.1246753

1199 CELL COMPETITION
An ancient defense system eliminates unfit cells from developing tissues during cell competition
By S. N. Meyer et al.

RESEARCH ARTICLE SUMMARY; FOR FULL TEXT: dx.doi.org/10.1126/science.1258236

PERSPECTIVE P. 1181
**CONTENTS**

5 DECEMBER 2014 • VOLUME 346 • ISSUE 6214

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1186 &amp; 1215</td>
</tr>
</tbody>
</table>

1200 PLANT GENETICS
Dominance hierarchy arising from the evolution of a complex small RNA regulatory network E. Durand et al.

REPORTS
1205 VALLEYTRONICS
Ultrafast generation of pseudo-magnetic field for valley excitons in WSe₂ monolayers J. Kim et al.

1208 HEAVY FERMIONS
Two-dimensional Fermi surfaces in Kondo insulator SnB₇ G. Li et al.

1212 CHEMICAL KINETICS
Predictive a priori pressure-dependent kinetics A. W. Jasper et al. ▶ PERSPECTIVE P. 1183

1215 SURFACE STRUCTURE
Subsurface cation vacancy stabilization of the magnetite (001) surface R. Bliem et al. ▶ PERSPECTIVE P. 1186

1219 HUMAN CAPITAL
Summer jobs reduce violence among disadvantaged youth S. B. Heller

1223 PALEOCLIMATE
Coherent changes of southeastern equatorial and northern African rainfall during the last deglaciation B. L. Otto-Bliesner et al.

1227 OCEANOGRAPHY
Multidecadal warming of Antarctic waters S. Schmidtke et al. ▶ PERSPECTIVE P. 1180

1231 ANIMAL PHYSIOLOGY
The shocking predatory strike of the electric eel K. Catania ▶ PODCAST

1234 INFLAMMATION
Neutrophils scan for activated platelets to initiate inflammation V. Sreeramkumar et al.

1238 TRANSCRIPTION
Chromatin decondensation is sufficient to alter nuclear organization in embryonic stem cells P. Therizols et al.

1242 STRUCTURAL BIOLOGY
Time-resolved serial crystallography captures high-resolution intermediates of photoactive yellow protein J. Tenboer et al.

DEPARTMENTS
1155 EDITORIAL
The measure of research merit By Marcia McNutt

1258 WORKING LIFE
Finally free By Vincent F. Scalfani

ON THE COVER
An electric eel (Electrophorus electricus) can generate up to 600 volts using modified muscles that act as batteries. This electrical weapon allows the eel to remotely activate the muscles in nearby prey to cause either involuntary movement or involuntary immobility, depending on the eel’s needs. See page 1231 for details and links to movies that illustrate these findings. Photo: © Kenneth Catania

Science Staff ............................................. 1154
New Products ........................................... 1247
Science Careers ....................................... 1248

Published by AAAS
Science 346 (6214), 1155-1258.