Breast Cancer

INTRODUCTION
1451 A Race Still Unfinished

NEWS
1452 Breast Cancer: A World of Differences
1454 Dare to Do Less
1457 The ‘Other’ Breast Cancer Genes
1460 The Advocate

PERSPECTIVES
1462 "The Race" to Clone BRCA1
M.-C. King
>> Science Podcast

LETTERS
1430 Australia’s Drought: Lessons for California
A. Aghakouchak et al.

NEWS & ANALYSIS
1415 China Gets Serious About Its Pollutant-Laden Soil
1416 25 Years After the Exxon Valdez, Where Are the Herring?
1417 Oldest Homo sapiens Genome Pinpoints Neandertal Input
1418 Pioneering Womb Transplant Trial Highlights Risks and Ethical Dilemmas
1419 Search for Martian Life Clears Another Hurdle
1421 Synthetic Biologists Design ‘Living Materials’ That Build Themselves

NEWS FOCUS
1422 The Camel Connection
1426 Building the Ultimate Yeast Genome Student Assembly Drives Yeast Project
>> Science Express Research Article by N. Annaluru et al.

PERSPECTIVES
1439 The Axis of Tolerance
T. Aychek and S. Jung
>> Research Article p. 1477

1440 A Different Class of Planets
A. Brandeker
>> Report p. 1490

1441 Why Mineral Interfaces Matter
A. Putnis

1443 The Resolution Revolution
W. Kühlbrandt
>> Research Article p. 1485

1444 Molecular Tuning of Quantum Plasmon Resonances
P. Nordlander
>> Report p. 1496

1445 Cholesterol and Cancer, in the Balance
S. Silvente-Poirot and M. Poirot
>> Breast Cancer section p. 1451

POLICY FORUM
1436 Next Steps for Citizen Science
R. Bonney et al.

EDITORIAL
1403 Breast Cancer—Thinking Globally
Benjamin O. Anderson
>> Breast Cancer section p. 1451

NEWS OF THE WEEK
1412 A roundup of the week’s top stories

BOOKS ET AL.
1433 Visions of Science
J. A. Secord, reviewed by B. Lightman
1434 Particle Fever
M. Levinson, director, reviewed by M. Reece

1466 Two Decades After BRCA1: Setting Paradigms in Personalized Cancer Care and Prevention
F. J. Couch et al.

1470 Cancer Suppression by the Chromosome Custodians, BRCA1 and BRCA2
A. R. Venkitaraman
>> Editorial p. 1403; Perspective p. 1445; Science Signaling Focus Issue; Sci. Transl. Med. Research Articles by L. M. Zasadil et al. and T. N. Pathiraja et al.; Science Careers feature by J. Carpenter; and additional reading at www.sciencemag.org/special/breastcancer

COVER
Detail of Wishing It Was Just A Bad Dream, a 1995 painting by Hollis Sigler. Sigler’s art was featured on the cover of the 7 October 1994 issue of Science, which reported the discovery of the breast cancer susceptibility gene BRCA1. She died of the disease in 2001. In this issue, Science examines breast cancer research 20 years after the cloning of BRCA1. See the special section beginning on page 1451 and at www.sciencemag.org/special/breastcancer.

Image: Courtesy of the Jean Howard and Joseph Virde collection, Salt Lake City, UT, and the Carl Hammer Gallery, Chicago, IL

ON THE WEB THIS WEEK
>> Science Podcast
On this week’s show: a look back at the race for the BRCA1 gene and a roundup from our daily news site.

>> Find More Online
Check out Science Express, the weekly podcast, videos, daily news, our research journals, and Science Careers at www.sciencemag.org.
RESEARCH ARTICLES

1477 Microbiota-Dependent Crosstalk Between Macrophages and ILC3 Promotes Intestinal Homeostasis
A. Mortha et al.
Myeloid cells, innate lymphoid cells, and the cytokines they secrete cooperate to maintain immune tolerance in the gut.
Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1249288

1478 Early Childhood Investments Substantially Boost Adult Health
F. Campbell et al.
Large investments in preschool children’s education, health care, and nutrition provide long-term health benefits.

1485 Structure of the Yeast Mitochondrial Large Ribosomal Unit
A. Amunts et al.
The mitochondrial ribosome structure has substantially diverged from that of bacterial and eukaryotic ribosomes.

REPORTS

1490 Molecular Gas Clumps from the Destruction of Icy Bodies in the β Pictoris Debris Disk
W. R. F. Dent et al.
An asymmetric disk of dust and carbon monoxide indicates a recent large-scale collision or shepherding by an unseen planet.

1493 Observation of Brownian Motion in Liquids at Short Times: Instantaneous Velocity and Memory Loss
S. Kheifets et al.
The motions of Brownian particles are tracked and evaluated on short time scales where solvent effects play a role.

1496 Quantum Plasmon Resonances Controlled by Molecular Tunnel Junctions
S. F. Tan et al.
The optical properties of silver plasmonic dimers depend on the selection of bridging molecules.

1499 Optical Broadband Angular Selectivity
Y. Shen et al.
A photonic crystal heterostructure is designed to provide optical selection based on propagation direction.

1502 Hydrologic Regulation of Chemical Weathering and the Geologic Carbon Cycle
K. Maher and C. P. Chamberlain
Consumption of carbon dioxide through silicate weathering is regulated by the intensity of the hydrologic cycle.

1505 Contribution of NAC Transcription Factors to Plant Adaptation to Land
B. Xu et al.
Similarities are revealed in the generation of internal water transport systems in moss and Arabidopsis.

1509 A Bacterial Tyrosine Phosphatase Inhibits Plant Pattern Recognition Receptor Activation
A. P. Macho et al.
A plant pathogen and its host compete for control over a key phosphorylation site in an innate immune receptor.

1513 A Non–Cell Autonomous Role of E(z) to Prevent Germ Cells from Turning on a Somatic Cell Marker
S. H. Eun et al.
Somatic cells within the gonad produce a protein that stops Drosophila germ cells from becoming somatic.

1516 The Drosophila Circadian Clock Is a Variably Coupled Network of Multiple Peptidergic Units
Z. Yao and O. T. Shafer
Behavioral rhythms emerge from the interactions of many independent oscillators rather than from a group of master pacemakers.

1520 Quantifying Global International Migration Flows
G. J. Abel and N. Sander
Estimates are provided for the international flow of people over 5-year periods between 1990 and 2010.
Science 343 (6178), 1397-1552.