

From the Cover

- 16750 Radioactive cloud tracked over Europe
- 16742 Forecasting failure locations in lattices
- 16817 Insect mortality and neonicotinoids in honeydew
- 16856 Predicting protein folds with deep learning
- 16943 Kinetics of T cell receptors and antigens

Contents

THIS WEEK IN PNAS

- 16657 In This Issue

EDITORIAL

- 16659 Impact factor impacts on early-career scientist careers
May R. Berenbaum

CORE CONCEPTS—A brief introduction to emerging topics in science

- 16663 Quantum sensors probe uncharted territories, from Earth's crust to the human brain
Stephen Battersby

COMMENTARIES

- 16666 Network analysis predicts failure of materials and structures
Paolo Moretti and Michael Zaiser
→ See companion article on page 16742
- 16669 How drag sharpens a T cell's view on antigen
Gerhard J. Schütz and Johannes B. Huppa
→ See companion article on page 16943

LETTERS

- 16672 Concerns regarding the prediction of behavioral measures from multilayer network switching
Zhen Yang, Qawi K. Telesford, Alexandre R. Franco, Ting Xu, Stan Colcombe, and Michael P. Milham
- 16673 Reply to Yang et al.: Multilayer network switching and behavior
Mangor Pedersen, Andrew Zalesky, Amir Omidvarnia, and Graeme D. Jackson
- 16674 Spurious inference when comparing networks
Damien R. Farine and Lucy M. Aplin
- 16676 Reply to Farine and Aplin: Chimpanzees choose their association and interaction partners
Edwin J. C. van Leeuwen, Katherine A. Cronin, and Daniel B. M. Haun



Cover image: Pictured is the Sonnblick meteorological station in Austria, which is one of 252 stations detecting the radioactive ruthenium-106 (^{106}Ru) cloud. O. Masson, G. Steinhauser, et al. analyzed more than 1,000 atmospheric measurements and 200 deposition measurements of radioactive isotope ^{106}Ru levels from Eurasia and found that while the highest ^{106}Ru concentrations were detected over Romania, ^{106}Ru deposition patterns and atmospheric backtracking were consistent with a release from the Mayak nuclear complex in Russia's Southern Urals. The findings suggest that the ^{106}Ru came from reprocessing spent nuclear fuel, possibly during production of a cerium-144 source for a neutrino experiment. See the article by Masson et al. on pages 16750–16759. Image courtesy of Ludwig Rasser (Central Institution for Meteorology and Geodynamics, Vienna, Austria).

INAUGURAL ARTICLE

- 16678** **Competing national memories of World War II**
Henry L. Roediger III, Magdalena Abel, Sharda Umanath, Ruth A. Shaffer, Beth Fairfield, Masanobu Takahashi, and James V. Wertsch

PHYSICAL SCIENCES

APPLIED PHYSICAL SCIENCES

- 16687** **Dichotomy of the photo-induced 2-dimensional electron gas on SrTiO₃ surface terminations**
Slavko N. Rebec, Tao Jia, Hafiz M. Sohail, Makoto Hashimoto, Donghui Lu, Zhi-Xun Shen, and Robert G. Moore
- 16692** **Programming curvilinear paths of flat inflatables**
Emmanuel Siéfert, Etienne Reyssat, José Bico, and Benoît Roman
- 16697** **Two types of magnetic shape-memory effects from twinned microstructure and magneto-structural coupling in Fe_{1+y}Te**
Sahana Röblier, Cevriye Koz, Zhaosheng Wang, Yurii Skourski, Mathias Doerr, Deepa Kasinathan, Helge Rosner, Marcus Schmidt, Ulrich Schwarz, Ulrich K. Röblier, and Steffen Wirth
- 16703** **The entropic bond in colloidal crystals**
Eric S. Harper, Greg van Anders, and Sharon C. Glotzer

BIOPHYSICS AND COMPUTATIONAL BIOLOGY

- 16711** **Building a synthetic mechanosensitive signaling pathway in compartmentalized artificial cells**
James W. Hindley, Daniela G. Zheleva, Yuval Elani, Kalypso Charalambous, Laura M. C. Barter, Paula J. Booth, Charlotte L. Bevan, Robert V. Law, and Oscar Ces
- 16717** **Application of millisecond time-resolved solid state NMR to the kinetics and mechanism of melittin self-assembly**
Jaekyun Jeon, Kent R. Thurber, Rodolfo Ghirlando, Wai-Ming Yau, and Robert Tycko
- 16943** **TCR-pMHC kinetics under force in a cell-free system show no intrinsic catch bond, but a minimal encounter duration before binding**
Laurent Limozin, Marcus Bridge, Pierre Bongrand, Omer Dushek, Philip Anton van der Merwe, and Philippe Robert
→ See Commentary on page 16669

CHEMISTRY

- 16723** **Direct observation of 2-dimensional ices on different surfaces near room temperature without confinement**
Chongqin Zhu, Yurui Gao, Weiduo Zhu, Jian Jiang, Jie Liu, Jianjun Wang, Joseph S. Francisco, and Xiao Cheng Zeng
- 16729** **Melanin-dot-mediated delivery of metallacycle for NIR-II/photoacoustic dual-modal imaging-guided chemo-photothermal synergistic therapy**
Yue Sun, Feng Ding, Zhao Chen, Ruiping Zhang, Chonglu Li, Yuling Xu, Yi Zhang, Ruidong Ni, Xiaopeng Li, Guangfu Yang, Yao Sun, and Peter J. Stang

ENGINEERING

- 16736** **Fast contribution to the activation energy of a glass-forming liquid**
Tina Hecksher, Niels Boye Olsen, and Jeppe C. Dyre
- 16742** **Forecasting failure locations in 2-dimensional disordered lattices**
Estelle Berthier, Mason A. Porter, and Karen E. Daniels
→ See Commentary on page 16666

ENVIRONMENTAL SCIENCES

- 16750** **Airborne concentrations and chemical considerations of radioactive ruthenium from an undeclared major nuclear release in 2017**
O. Masson, G. Steinhäuser, D. Zok, O. Saunier, H. Angelov, D. Babić, V. Bečková, J. Bieringer, M. Bruggeman, C. I. Burbidge, S. Conil, A. Dalheimer, L.-E. De Geer, A. de Vismes Ott, K. Eleftheriadis, S. Estier, H. Fischer, M. G. Garavaglia, C. Gasco Leonarte, K. Gorzkiewicz, D. Hainz, I. Hoffman, M. Hyža, K. Isajenko, T. Karhunen, J. Kastlander, C. Katzlberger, R. Kierepko, G.-J. Knetsch, J. Kövendingé Kónyi, M. Lecomte, J. W. Mietelski, P. Min, B. Møller, S. P. Nielsen, J. Nikolic, L. Nikolovska, I. Penev, B. Petrinc, P. P. Povinec, R. Querfeld, O. Raimondi, D. Ransby, W. Ringer, O. Romanenko, R. Rusconi, P. R. J. Saey, V. Samsonov, B. Silobritienè, E. Simion, C. Söderström, M. Šoštarić, T. Steinkopff, P. Steinmann, I. Šykora, L. Tabachnyi, D. Todorovic, E. Tomankiewicz, J. Tschiersch, R. Tsibranski, M. Tzortzis, K. Ungar, A. Vidic, A. Weller, H. Wershofen, P. Zagayvai, T. Zalewska, D. Zapata García, and B. Zorko

PHYSICS

- 16760** **Itinerant quantum critical point with fermion pockets and hotspots**
Zi Hong Liu, Gaopei Pan, Xiao Yan Xu, Kai Sun, and Zi Yang Meng

SOCIAL SCIENCES

ECONOMIC SCIENCES

- 16768** **Standardizing the fee-waiver application increased naturalization rates of low-income immigrants**
Vasil Yassenov, Michael Hotard, Duncan Lawrence, Jens Hainmueller, and David D. Laitin

ENVIRONMENTAL SCIENCES

- 16773** **Energy and air pollution benefits of household fuel policies in northern China**
Wenjun Meng, Qirui Zhong, Yilin Chen, Huizhong Shen, Xiao Yun, Kirk R. Smith, Bengang Li, Junfeng Liu, Xilong Wang, Jianmin Ma, Hefa Cheng, Eddy Y. Zeng, Dabo Guan, Armistead G. Russell, and Shu Tao

POLITICAL SCIENCES

- 16781** **Language influences mass opinion toward gender and LGBT equality**
Margit Tavits and Efrén O. Pérez

PSYCHOLOGICAL AND COGNITIVE SCIENCES

- 16678** **Competing national memories of World War II**
Henry L. Roediger III, Magdalena Abel, Sharda Umanath, Ruth A. Shaffer, Beth Fairfield, Masanobu Takahashi, and James V. Wertsch
- 16787** **An initial investigation of neonatal neuroanatomy, caregiving, and levels of disorganized behavior**
Anne Rifkin-Graboi, Hui Min Tan, Goh Kok Yew Shaun, Lit Wee Sim, Shamini Sanmugam, Yap Seng Chong, Kok Hian Tan, Lynette Shek, Peter D. Gluckman, Helen Chen, Marielle Fortier, Michael J. Meaney, and Anqi Qiu

- 17023** **The causal role of α -oscillations in feature binding**
Yanyu Zhang, Yifei Zhang, Peng Cai, Huan Luo, and Fang Fang

SOCIAL SCIENCES

- 16793** **Risk of being killed by police use of force in the United States by age, race-ethnicity, and sex**
Frank Edwards, Hedwig Lee, and Michael Esposito

- 16799 **Subjective well-being in China's changing society**
William A. V. Clark, Daichun Yi, and Youqin Huang
- 16805 **Why foreign STEM PhDs are unlikely to work for US technology startups**
Michael Roach and John Skrentny

SUSTAINABILITY SCIENCE

- 16811 **Classifying fishing behavioral diversity using high-frequency movement data**
Shay O'Farrell, Iliana Chollett, James N. Sanchirico, and Larry Perruso

BIOLOGICAL SCIENCES

AGRICULTURAL SCIENCES

- 16817 **Neonicotinoids in excretion product of phloem-feeding insects kill beneficial insects**
Miguel Calvo-Agudo, Joel González-Cabrera, Yolanda Picó, Pau Calatayud-Vernich, Alberto Urbaneja, Marcel Dicke, and Alejandro Tena

APPLIED BIOLOGICAL SCIENCES

- 16823 **X-ray induced photodynamic therapy with copper-cysteamine nanoparticles in mice tumors**
Samana Shrestha, Jing Wu, Bindeshwar Sah, Adam Vanasse, Leon N Cooper, Lun Ma, Gen Li, Huibin Zheng, Wei Chen, and Michael P. Antosh

BIOCHEMISTRY

- 16711 **Building a synthetic mechanosensitive signaling pathway in compartmentalized artificial cells**
James W. Hindley, Daniela G. Zheleva, Yuval Elani, Kalypso Charalambous, Laura M. C. Barter, Paula J. Booth, Charlotte L. Bevan, Robert V. Law, and Oscar Ces
- 16829 **Structure, function, and ion-binding properties of a K⁺ channel stabilized in the 2,4-ion-bound configuration**
Cholpon Tilegenova, D. Marien Cortes, Nermina Jahovic, Emily Hardy, Parameswaran Hariharan, Lan Guan, and Luis G. Cuello

- 16835 **Desmin forms toxic, seeding-competent amyloid aggregates that persist in muscle fibers**

Niraja Kedia, Khalid Arhzaouy, Sara K. Pittman, Yuanzi Sun, Mark Batchelor, Conrad C. Weihl, and Jan Bieschke

BIOPHYSICS AND COMPUTATIONAL BIOLOGY

- 16841 **Five-coordinate Mn^{IV} intermediate in the activation of nature's water splitting cofactor**
Maria Chrysina, Eiri Heyno, Yury Kutin, Michael Reus, Håkan Nilsson, Marc M. Nowaczyk, Serena DeBeer, Frank Neese, Johannes Messinger, Wolfgang Lubitz, and Nicholas Cox
- 16847 **Sequence-dependent RNA helix conformational preferences predictably impact tertiary structure formation**
Joseph D. Yesselman, Sarah K. Denny, Namita Bisaria, Daniel Herschlag, William J. Greenleaf, and Rhiju Das
- 16856 **Distance-based protein folding powered by deep learning**
Jinbo Xu

CELL BIOLOGY

- 16866 **Liquid-crystalline phase transitions in lipid droplets are related to cellular states and specific organelle association**
Julia Mahamid, Dmitry Tegunov, Andreas Maiser, Jan Arnold, Heinrich Leonhardt, Jürgen M. Plitzko, and Wolfgang Baumeister

DEVELOPMENTAL BIOLOGY

- 16872 **p120-catenin regulates WNT signaling and EMT in the mouse embryo**
Rocío Hernández-Martínez, Nitya Ramkumar, and Kathryn V. Anderson
- 16882 **Endocrine regulation of multichromatic color vision**
Robert D. Mackin, Ruth A. Frey, Carmina Gutierrez, Ashley A. Farre, Shoji Kawamura, Diana M. Mitchell, and Deborah L. Stenkamp

ECOLOGY

- 16892 **A general framework for quantitatively assessing ecological stochasticity**
Daliang Ning, Ye Deng, James M. Tiedje, and Jizhong Zhou
- 16899 **Resistance in marine cyanobacteria differs against specialist and generalist cyanophages**
Sophia Zborowsky and Debbie Lindell

ENVIRONMENTAL SCIENCES

- 16909 **Disentangling the role of photosynthesis and stomatal conductance on rising forest water-use efficiency**
Rossella Guerrieri, Soumaya Belmecheri, Scott V. Ollinger, Heidi Asbjornsen, Katie Jennings, Jingfeng Xiao, Benjamin D. Stocker, Mary Martin, David Y. Hollinger, Rosvel Bracho-Garrillo, Kenneth Clark, Sabina Dore, Thomas Kolb, J. William Munger, Kimberly Novick, and Andrew D. Richardson
- 16915 **Thylakoid localized bestrophin-like proteins are essential for the CO₂ concentrating mechanism of *Chlamydomonas reinhardtii***
Ananya Mukherjee, Chun Sing Lau, Charlotte E. Walker, Ashwani K. Rai, Camille I. Prejean, Gary Yates, Thomas Emrich-Mills, Spencer G. Lemoine, David J. Vinyard, Luke C. M. Mackinder, and James V. Moroney

EVOLUTION

- 16921 **Automatic generation of evolutionary hypotheses using mixed Gaussian phylogenetic models**
Venelin Mitov, Krzysztof Bartoszek, and Tanja Stadler
- 16927 **Contrasting evolution of virulence and replication rate in an emerging bacterial pathogen**
Luc Tardy, Mathieu Giraudeau, Geoffrey E. Hill, Kevin J. McGraw, and Camille Bonneaud

GENETICS

- 16933 **Paradoxical association of TET loss of function with genome-wide DNA hypomethylation**
Isaac F. López-Moyado, Ageliki Tsagaratou, Hiroshi Yuita, Hyungseok Seo, Benjamin Delatte, Sven Heinz, Christopher Benner, and Anjana Rao

IMMUNOLOGY AND INFLAMMATION

- 16943 **TCR-pMHC kinetics under force in a cell-free system show no intrinsic catch bond, but a minimal encounter duration before binding**
Laurent Limozin, Marcus Bridge, Pierre Bongrand, Omer Dushek, Philip Anton van der Merwe, and Philippe Robert
- See Commentary on page 16669

16949 DNA probes that store mechanical information reveal transient piconewton forces applied by T cells
Rong Ma, Anna V. Kellner, Victor Pui-Yan Ma, Hanquan Su, Brendan R. Deal, Joshua M. Brockman, and Khalid Salaïta

16955 Molecular mimicry between Anoctamin 2 and Epstein-Barr virus nuclear antigen 1 associates with multiple sclerosis risk
Katarina Tengvall, Jesse Huang, Cecilia Hellström, Patrick Kammer, Martin Biström, Burcu Ayoglu, Izaura Lima Bomfim, Pernilla Stridh, Julia Butt, Nicole Brenner, Angelika Michel, Karin Lundberg, Leonid Padyukov, Ingrid E. Lundberg, Elisabet Svenungsson, Ingemar Ernberg, Sigurgeir Olafsson, Alexander T. Dilthey, Jan Hillert, Lars Alfredsson, Peter Sundström, Peter Nilsson, Tim Waterboer, Tomas Olsson, and Ingrid Kockum

16961 Epithelial delamination is protective during pharmaceutical-induced enteropathy
Scott T. Espenschied, Mark R. Cronan, Molly A. Matty, Olaf Mueller, Matthew R. Redinbo, David M. Tobin, and John F. Rawls

16971 Immuno-PET identifies the myeloid compartment as a key contributor to the outcome of the antitumor response under PD-1 blockade
Mohammad Rashidian, Martin W. LaFleur, Vincent L. Verschoor, Anushka Dongre, Yun Zhang, Thao H. Nguyen, Stephen Kolifraith, Amir R. Aref, Christie J. Lau, Cloud P. Paweletz, Xia Bu, Gordon J. Freeman, M. Inmaculada Barrasa, Robert A. Weinberg, Arlene H. Sharpe, and Hidde L. Ploegh

MEDICAL SCIENCES

16793 Risk of being killed by police use of force in the United States by age, race–ethnicity, and sex
Frank Edwards, Hedwig Lee, and Michael Esposito

16981 Repurposing dasatinib for diffuse large B cell lymphoma
Claudio Scuoppo, Jiguang Wang, Mirjana Persaud, Sandeep K. Mittan, Katia Basso, Laura Pasqualucci, Raul Rabadan, Giorgio Inghirami, Carla Grandori, Francesc Bosch, and Riccardo Dalla-Favera

16987 Proteomic and genomic signatures of repeat instability in cancer and adjacent normal tissues
Erez Persi, Davide Prandi, Yuri I. Wolf, Yair Pozniak, Georgina D. Barnabas, Keren Levanon, Iris Barshack, Christopher Barbieri, Paola Gasperini, Himisha Beltran, Bishoy M. Faltas, Mark A. Rubin, Tamar Geiger, Eugene V. Koonin, Francesca Demichelis, and David Horn

16997 EglN3 hydroxylase stabilizes BIM-EL linking VHL type 2C mutations to pheochromocytoma pathogenesis and chemotherapy resistance
Shuijie Li, Javier Rodriguez, Wenyu Li, Petra Bullova, Stuart M. Fell, Olga Surova, Isabelle Westerlund, Danijal Topcic, Maria Bergsland, Adam Stenman, Jonas Muhr, Monica Nistér, Johan Holmberg, C. Christofer Juhlin, Catharina Larsson, Alex von Kriegsheim, William G. Kaelin Jr, and Susanne Schlisio

MICROBIOLOGY

17007 Highly diversified shrew hepatitis B viruses corroborate ancient origins and divergent infection patterns of mammalian hepadnaviruses
Andrea Rasche, Felix Lehmann, Alexander König, Nora Goldmann, Victor M. Corman, Andres Moreira-Soto, Andreas Geipel, Debby van Riel, Yulia A. Vakulenko, Anna-Lena Sander, Hauke Niekamp, Ramona Kepper, Mathias Schlegel, Chantal Akoua-Koffi, Breno F. C. D. Souza, Foday Sahr, Ayodeji Olayemi, Vanessa Schulze, Rasa Petraityte-Burneikiene, Andris Kazaks, Kira A. A. T. Lowjaga, Joachim Geyer, Thijs Kuiken, Christian Drosten, Alexander N. Lukashov, Elisabeth Fichet-Calvet, Rainer G. Ulrich, Dieter Glebe, and Jan Felix Drexler

17013 Analysis of lipoprotein transport depletion in *Vibrio cholerae* using CRISPRi
Florence Caro, Nicole M. Place, and John J. Mekalanos

NEUROSCIENCE

16787 An initial investigation of neonatal neuroanatomy, caregiving, and levels of disorganized behavior
Anne Rifkin-Graboi, Hui Min Tan, Goh Kok Yew Shaun, Lit Wee Sim, Shamini Sanmugam, Yap Seng Chong, Kok Hian Tan, Lynette Shek, Peter D. Gluckman, Helen Chen, Marielle Fortier, Michael J. Meaney, and Anqi Qiu

17023 The causal role of α -oscillations in feature binding
Yanyu Zhang, Yifei Zhang, Peng Cai, Huan Luo, and Fang Fang

17029 A small number of cholinergic neurons mediate hyperaggression in female *Drosophila*
Caroline B. Palavicino-Maggio, Yick-Bun Chan, Claire McKellar, and Edward A. Kravitz

17039 Activity-evoked and spontaneous opening of synaptic fusion pores
Dinara Bulgari, David L. Deitcher, Brigitte F. Schmidt, M. Alexandra Carpenter, Christopher Szent-Gyorgyi, Marcel P. Bruchez, and Edwin S. Levitan

17045 TNFR2 promotes Treg-mediated recovery from neuropathic pain across sexes
Roman Fischer, Maksim Sendetski, Tania del Rivero, George F. Martinez, Valerie Bracchi-Ricard, Kathryn A. Swanson, Elizabeth K. Pruzinsky, Niky Delguercio, Michael J. Rosalino, Tanja Padutsch, Roland E. Kontermann, Klaus Pfizenmaier, and John R. Bethea

17051 Rhodopsin-based voltage imaging tools for use in muscles and neurons of *Caenorhabditis elegans*
Negin Azimi Hashemi, Amelie C. F. Bergs, Christina Schüler, Anna Rebecca Scheiwe, Wagner Steuer Costa, Maximilian Bach, Jana F. Liewald, and Alexander Gottschalk

17061 Molecular codes and in vitro generation of hypocretin and melanin concentrating hormone neurons
Ali Seifinejad, Sha Li, Cyril Mikhail, Anne Vassalli, Sylvain Pradervand, Yoan Arribat, Hassan Pezeshgi Modarres, Bridget Allen, Rosalind M. John, Francesca Amati, and Mehdi Tafti

PHYSIOLOGY

17071 BCL6 regulates brown adipocyte dormancy to maintain thermogenic reserve and fitness
Vassily I. Kutuyavin and Ajay Chawla

PLANT BIOLOGY

17081 The avocado genome informs deep angiosperm phylogeny, highlights introgressive hybridization, and reveals pathogen-influenced gene space adaptation
Martha Rendón-Anaya, Enrique Ibarra-Laclette, Alfonso Méndez-Bravo, Tianying Lan, Chunfang Zheng, Lorenzo Carretero-Paulet, Claudia Anahí Perez-Torres, Alejandra Chacón-López, Gustavo Hernandez-Guzmán, Tien-Hao Chang, Kimberly M. Farr, W. Brad Barbazuk, Srikar Chamala, Marek Mutwil, Devendra Shivhare, David Alvarez-Ponce, Neena Mitter, Alice Hayward, Stephen Fletcher, Julio Rozas, Alejandro Sánchez Gracia, David Kuhn, Alejandro F. Barrientos-Priego, Jarkko Salojärvi, Pablo Librado, David Sankoff, Alfredo Herrera-Estrella, Victor A. Albert, and Luis Herrera-Estrella

17090 A role for S-nitrosylation of the SUMO-conjugating enzyme SCE1 in plant immunity

Michael J. Skelly, Saad I. Malik, Thierry Le Bihan, Yuan Bo, Jihong Jiang, Steven H. Spoel, and Gary J. Loake

17096 Identification of key enzymes responsible for protolimonoid biosynthesis in plants: Opening the door to azadirachtin production

Hannah Hodgson, Ricardo De La Peña, Michael J. Stephenson, Ramesha Thimmappa, Jason L. Vincent, Elizabeth S. Sattely, and Anne Osbourn

17105 CsBRC1 inhibits axillary bud outgrowth by directly repressing the auxin efflux carrier CsPIN3 in cucumber

Junjun Shen, Yaqi Zhang, Danfeng Ge, Zhongyi Wang, Weiyuan Song, Ran Gu, Gen Che, Zhihua Cheng, Renyi Liu, and Xiaolan Zhang

POPULATION BIOLOGY

17115 Inference of complex population histories using whole-genome sequences from multiple populations

Matthias Steinrücken, Jack Kamm, Jeffrey P. Spence, and Yun S. Song

SYSTEMS BIOLOGY

17121 Long noncoding RNAs are involved in multiple immunological pathways in response to vaccination

Diógenes S. de Lima, Lucas E. Cardozo, Vinicius Maracaja-Coutinho, Andreas Suhrbier, Karim Mane, David Jeffries, Eduardo L. V. Silveira, Paulo P. Amaral, Rino Rappuoli, Thushan I. de Silva, and Helder I. Nakaya

CORRECTIONS

PHYSICS, SYSTEMS BIOLOGY

17127 Mechanical bounds to transcriptional noise

Stuart A. Sevier, David A. Kessler, and Herbert Levine

CELL BIOLOGY

17128 Interspecies analysis of MYC targets identifies tRNA synthetases as mediators of growth and survival in MYC-overexpressing cells

Jonathan Zirin, Xiaochun Ni, Laura M. Sack, Donghui Yang-Zhou, Yanhui Hu, Roderick Brathwaite, Martha L. Bulyk, Stephen J. Elledge, and Norbert Perrimon

EVOLUTION

17129 Ecomorphological diversification in squamates from conserved pattern of cranial integration

Akinobu Watanabe, Anne-Claire Fabre, Ryan N. Felice, Jessica A. Maisano, Johannes Müller, Anthony Herrel, and Anjali Goswami

GENETICS

17130 Mutations in TFAP2B and previously unimplicated genes of the BMP, Wnt, and Hedgehog pathways in syndromic craniosynostosis

Andrew T. Timberlake, Sheng Chih Jin, Carol Nelson-Williams, Robin Wu, Charuta G. Furey, Barira Islam, Shozeb Haider, Erin Loring, Amy Galm, Yale Center for Genome Analysis, Derek M. Steinbacher, Dawid Larysz, David A. Staffenberg, Roberto L. Flores, Eduardo D. Rodriguez, Titus J. Boggon, John A. Persing, and Richard P. Lifton