

# INSIGHTS

How frigate birds soar high and far p. 26 ▶

How electrons make their escape p. 28



## LETTERS

Edited by Jennifer Sills



### NEXTGEN VOICES

## Science in brief

In April, we asked young scientists to **use exactly six words to create a story about the life of a scientist in your field.** We received almost 400 responses, some frustrated, some inspiring, some humorous, and all describing a life unique to a scientist. We have printed some of the most interesting responses here. Follow *Science's* NextGen VOICES survey on Twitter with the hashtag #NextGenSci.

### On careers

First job interview. Buy hair dye.  
**Wen Jiang**, *Oncology, USA*

Thank goodness: Yet another 6-month contract!  
**Daniela Liebsch**, *Plant Biology, Sweden*

Education: Multiple university degrees.  
Profession: n/a.  
**Wioleta Kijewska**, *Computational Neuroscience, Poland*

### On data

Koch postulates: TB, or not TB?  
**Digby F. Warner**,  
*Mycobacteriology, South Africa*

Big data! Clean: No statistical power.  
**Abhishek Niroula**, *Bioinformatics, Sweden*

Data overload: Juggling balls, many fall.  
**Noa Sher**, *Cell Therapy, Israel*

Calculation first, interpretation later. Or, never.  
**Bongjae Kim**, *Computational Materials Science, South Korea*

$P$  equals 0.051. Repeat? Abandon? Bayes?  
**Rosa Li**, *Psychology and Neuroscience, USA*

Science: seeking answers amidst whack-a-mole problems.  
**David Jason Garfield**, *Chemistry, USA*

### On setbacks

Mice eaten by cats, graduation delayed.  
**Chenggang Yan**, *Intelligent Information Processing, China*

The experiment failed. Or did I?  
**Irina Tiper**, *Immunology, USA*

Exciting new result! No...coding mistake.  
**Frank X. Vazquez**, *Chemistry, USA*

Results were promising, until they weren't.  
**David Edward Gilbert**, *Energy and Environmental Genomics, USA*

“My new discovery!” became old today.

**Han Sang Kim**, *Cancer Genomics, Medical Oncology, South Korea*

## On funding

New outbreak. Funding reprioritized.  
New outbreak.

**Jonathan J. Madara**, *Virology, USA*

Scooped. No grant. Back to clinic.

**Agnes Hou Ngee Tay**, *Genetics, Singapore*

Grant seeker: Amazing skills,  
sadly unfunded.

**Katie A. Clark**, *Molecular Genetics, USA*

Asteroid-bound spacecraft, under  
proposal pressure.

**Christine Hartzell**, *Aerospace Engineering, USA*

Funding needed for error bar revisions.

**Angela Claire Tomczik**,  
*Neuroscience, USA*

## On recognition

Epilogue: Changed the world, few knew.

**Greg Maguire**, *Physiology and Systems Biology, USA*

...but you're not a “doctor” Dr.

**Kota Hatta**, *Medical Sciences, Japan*

Frequently right. Never forgotten  
when wrong.

**Marian Peleski**, *Meteorology, USA*

“Unsung hero in sustainability,”  
says tombstone.

**Bing Xue**, *Sustainability, China*

## On diversity

You're brilliant, but you're not American.

**Yuka Takemon**, *Genomics, USA*

Female scientist, struggle for  
fairness persists.

**Masha Georges Savelieff**, *Chemistry and Biology, USA*

Developing countries: Brains of  
advanced countries.

**Mahmoud Mohamed Shehata**, *Molecular Virology and Infectious Diseases, Egypt*

## On parenthood

Reproductive scientist. Freezing  
her own eggs.

**Germaine Goh**, *Cell Biology, Singapore*

Sorry son, I should be writing.

**Timothy L. Easun**, *Chemistry, UK*

“Planning on children?” No right answer.

**Heather M. Lee**, *Immunology, USA*

Toward “reproducibility,” not “reproducing  
ability,” Mom.

**Emily Kay Petrucci**, *Neurogenetics, USA*

“Postdoc. Father. Balanced today...  
but tomorrow?”

**Matt Wiebe**, *Virology, USA*

## On discovery

There's something alive in the incubator.

**N. H. Diane Kim**, *Bioengineering, USA*

Modern ancient Palmyra. Civilization  
falls, again.

**Daniel H. Sandweiss**, *Archaeology, USA*

Scientist, looking closely, mistakenly  
finds truth.

**Joshua Isaac James**, *Digital Forensic Science, South Korea*

Controlled chaos revealing explosive  
stellar events.

**Gregory R. Sivakoff**, *Astronomy, Canada*

Planets found. Now searching for life.

**David A. Weintraub**, *Astronomy, USA*

Synthetic biologist: Engineering  
life over coffee!

**Zarrin Basharat**, *Bioinformatics, Microbiology, Environmental Sciences, Pakistan*

Deep sequencing can't replace  
deep thinking.

**Dan Webster**, *Cancer Genomics, USA*

Bridging scientists with software:  
Challenge accepted!

**Michael A. Tarselli**, *Chemistry Information Systems, USA*

Diving in sand, bridging  
adjacent ecosystems.

**Kyle Aaron Emery**, *Coastal Ecology, USA*

Animal, let me in your mind.

**Mirjam Johanna Guesgen**, *Ethology and Zoology, Canada*

Fire Science: Hot bodies, cool heads.

**Norman Joseph Alvares**, *Fire Science, USA*

Old rocks, new theory, old rocks.

**David W. Szymanski**, *Geology, USA*

Beware the restlessness of coastal sand.

**Donald C. Barber**, *Geology, USA*

Surgeons should wear masks! Possibly not?

**Silvio Daniel Pitlik**, *Infectious Diseases, Israel*



ILLUSTRATION: YASMINE GATEAU





Look! He dreams about his mom!  
**Bohan Zhao**, Neuroscience, China

Thinking over the nature of thought.  
**Rohan Sharma**, Neuroscience, India

Everything in moderation, or maybe not?  
**Ryan Alexander Coots**, Nutritional Sciences, USA

Drought approaches; previous symbionts become enemies.  
**Amelia Snyder**, Plant Ecology, USA

Hybrid rice, whole life, unchanged farmer.  
**Rongjun Chen**, Rice Breeding, China

Let's create a dancing colorful bacteria.  
**Anibal A. Arce**, Synthetic Biology—Plants, Chile

β-cells: Hey! Come and kill me.  
**Ubaid Ullah**, Type-1 Diabetes, Finland

Budding yeast research makes better beer.  
**V. Sriram**, Yeast Genetics, USA

#### ADD YOUR STORY!

Do you have a six-word story to add? Post it on Twitter with the hashtag #NextGenSci and tag @sciencemagazine. We may print your story and your Twitter username in an upcoming issue!

Remote area, broken shoes, good papers.  
**Wenjin Xia**, Geography, China

Cut jungle. Found temple. It rained.  
**Felicia Beardsley**, Archaeology in the Tropical Pacific, USA

I bunsen burnt my 1118th worm.  
**Eugene L. Q. Lee**, Neuroscience, USA

#### On schedules

Warning: No lunch at noon seminar.  
**Richard Kyle Lacher**, Immunology, USA

Carpool partner available:  
5am/11pm every day.  
**Hoang Lu**, Chemical and Biological Engineering, USA

Science and life, compartmentalized, need integration.  
**King L. Chow**, Life Science, China

Living my life under extreme pressure.  
**Alexandra Seclaman**, Mineral Physics, Germany

Post Ph.D.: 30 is new 20.  
**Terry McCallum**, Organic Chemistry, Canada

Scientists, no different from lab rats.  
**Kingston Mak**, Developmental Biology, Hong Kong

#### On publishing

Dear incompetent reviewer, we fully agree.  
**Mathias V. Schmidt**, Neuroscience, Germany

Science journalist seeks acronym-free story.  
**Carol Lynn Alpert**, Science Communication, USA

Now deleting: Negative results, never published.  
**Yifan Li**, Chemistry, USA

Reviewer wants “just one” more experiment!  
**Luis Mendoza**, Computational Biology, Mexico

No prestige given for null results.  
**John Protzko**, Psychology, USA

Endlessly pipetting toward first author dreams.  
**Heather M. Lee**, Immunology, USA

#### On motivation

Living beings make me like fossils.  
**Shivangi Tiwari**, Geology, India

Engineering life, to better everyone's lives.  
**Do Soon Kim**, Chemical Engineering and Synthetic Biology, USA

Persist: You can make a difference.  
**Sean M. Hartzell**, Conservation Biology and Herpetology, USA

A child, looking up, becomes explorer.  
**Paul Kevin Byrne**, Planetary Science, USA

Continuous failure redeemed by fleeting success.  
**Ken Halvorsen**, Biophysics, USA

Completely frustrated; insight precedes joy. Repeat.  
**Timothy Michael Kernan**, Microbiology and Bioengineering, Canada

Try. Fail. Try harder. Fail again.  
**Robert Kumsta**, Psychology, Germany

Scientists: Global citizens with local burdens.  
**Hari Krishna Bisoyi**, Synthesis and Study of Organic Liquid Crystalline Materials, USA

Cradle to grave fight against waste.  
**Jingzheng Ren**, Environmental Engineering, Denmark

# Science

## Science in brief

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