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BIONIC STRUCTURES: FROM STALKS TO SKYSCRAPERS

A blade of grass and a high tower both need to stand up against forces that threaten to level them. Are there design principles that they can exploit to achieve this?

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EDITORIAL

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At first glance, you might wonder if this is the horror issue of *Science in School*: with themes including murder, disease and excrement, plus a feature on failure, are we trying to give our readers a gloomy start to the summer holidays? Happily, no: while this may seem a grim selection of topics, all these articles have happy endings of sorts.

In the disease dynamics article (page 52), we look at how a mathematical understanding of the way diseases are spread can help with their control – and classrooms, of course, are a key factor in infection. Our fantasy murder mystery (page 46) gets students using the chemistry of spectra and the physics of sound to solve a crime. And poo (faeces) is now being used medically to beat life-threatening infections (page 23).

Elsewhere, we take another look at the amazing feat of detecting the gravitational waves reaching us from across the Universe (page 26), this time exploring how the necessary sensitivity has been achieved. Further into the fantastical realm, we look at how buildings of the future are being inspired by structures from nature (page 12), and how comic-book superheroes can be the inspiration for some in-depth science – if we allow them a few miracles (page 57).

Finally, what could be more inspiring than the story of a world-famous scientist, and how failing a language exam nearly cost him his career? Nobel prizewinner Sir Paul Nurse meditates on the value of failure on page 37.

This issue also represents a happy ending for me personally. As a long-standing freelance writer and editor for *Science in School*, I'm delighted to have now joined the staff team. And as a parent of a teenager, I'm impressed every day by how imaginative young people are – but also how they sometimes struggle with scientific concepts. So it's a privilege to be working on a publication for science teachers – people who are professionally dedicated to helping today's students to appreciate and succeed at science. After that, we all deserve a holiday.

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