

Welcome to **ASB Bright Sparks 2017!**

Great to have you on board, and I hope you enjoy our first exclusive newsletter.

Most people know that I am usually blowing something up in the name of science. This year, I've been busy travelling to schools around the country with my explosive science and engineering show, as well as running my nanotechnology lab at the University of Auckland. Managing both of these requires a lot of organisation and planning – and the same goes for projects in the ASB Bright Sparks programme.

So how do you successfully plan a project? With any new project, I suggest sketching out a timeline to give yourself enough time for research before you start building. That way, you can check you are on track and make sure your project is ready on time.

One thing I am really excited about for this year's competition is how accessible technology is becoming. 3D printers and

computers are popping up in our local libraries and schools, and there are heaps of free online software and videos teaching coding and programming. Thanks to these resources, learning new technology skills is becoming easier and opens up many new doors to future careers.

If you're considering taking part in ASB Bright Sparks, I highly recommend it. Not only will you learn new skills and have the chance to invent new technologies, you will also make new friends who, like you, want to make a positive difference in the world.

So challenge yourself, learn lots, and most of all, have fun!

Dr. Michelle Dickinson
ASB Bright Sparks Ambassador



How Sohail built the window to his future.

With a life as busy as Sohail Abdulla's, most people would find it near impossible to find the time to build a fully functioning robot from scratch.

But that's exactly what Sohail did in 2013, when the then Mt Roskill Grammar student took first place at that year's ASB Bright Sparks competition. His prize-winning invention was a window-cleaning robot, which he created to help his father who had back and knee pain.

"The ASB Bright Sparks competition was the foundation of my journey with my Robotic Glass Cleaner. The competition helped me realise my passion for technology and inspired me to pursue a career in Mechatronics Engineering," Sohail recalls.

Sohail is now in the third year of his Mechatronics Engineering degree at the University of Auckland. He has also worked as a junior engineer at several companies, which gave him the opportunity to design and build more robots. In his spare time, he does an online course in business management and entrepreneurship, works with quadcopters and aerial photography, and conducts research into the uses of 3D modelling in the fashion industry.

It's safe to say that the Robotic Glass Cleaner is only the start of what is sure to be a very promising career.

"The practical experience I gained from my project helped me relate the theory I learn at university to real

world problems and gave me an advantage over other students," Sohail adds. The constant refinements Sohail is making to his robot are testament to his dedication to his projects. The robot is now into its third prototype, which he hopes will feature integration with a smartphone app.

In addition to supplying the platform on which to showcase his invention, Sohail says that ASB Bright Sparks taught him a range of important life skills.

"The ASB Bright Sparks events helped me work on my communication and networking skills and I was able to meet some very inspiring individuals," he explains.

As Sohail works towards completing his engineering degree, he is also studying business so he can learn how to commercialise his inventions. After doing a Masters in engineering, his long-term goal is to become an entrepreneur so he can "put [his] inventions in the hands of consumers".

"Being part of ASB Bright Sparks was a very exciting experience. As a two-time participant, I learned many skills that will be useful to me as an engineer in the workforce," he concludes.

"ASB Bright Sparks set my career off to a good start and set me on the right path to being a successful engineer."



MYOB's Future of Business Report: The Augmented Human

Imagine a restaurant where, without you having to order a thing, the chef prepares the food you've been thinking about all day. Or imagine a shop where the owner can tell you what's in stock by consulting their neural-linked artificial intelligence. Imagine unlocking your office with a wave of your hand or lifting heavy machinery with the help of an exoskeleton.

These are just some of the everyday changes that will transform the world of work, according to the latest in the MYOB Future of Business series: The Augmented Human. The series takes a longer-term view of the technology trends shaping the world, with the previous reports examining what business will look like in 2040. MYOB says based on developments in current

technology, the rise of the augmented human is inevitable. According to the tech company we'll soon be living in a world where biology and technology blend to offer a whole range of physical and mental enhancements. So, what does it mean for business?

Wearables to embeddables



With only small developments in available technology, many already under development, wearable technology will turn into embeddables – tiny devices which will be placed within our bodies. These will be designed to track biometric information, direct the release of chemicals or the enhance other physical systems, and provide a connection with our own personal artificial intelligence which will offer all the services we now get from our smart-devices through a direct and exponentially enhanced interface.

Enhanced intelligence



The computing capability required to manage our enhanced perceptions will be driven by a direct interface with artificial intelligence – either an enhanced version of our own brain and personality we can access, or a personal digital assistant available in the cloud. Computer-brain interfaces that make use of wireless implants are already being developed by companies, meaning how we process information will begin to change the way we not only experience the world around us, but how we interact with each other.

The rise of the post-human



Where this ends is ultimately the post-human future. We'll be blending more of our biology with technology. We'll be accessing more capabilities of ever-smarter artificial intelligence. We'll be relying more and more on these enhanced abilities. And, as cell by cell we replace and enhance our bodies and brains with technology, we'll gradually become more digital than biological until, ultimately, we will no longer be able to distinguish between the natural and the technological.

[Click here to read more about The Augmented Human and the rest of MYOB's Future of Business reports.](#)

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WIN WIN WIN!

Challenge:

A storm strikes while you are aboard the S.S. Bright Sparks cruise liner. Thrown overboard, lost and alone, you wash up on a small deserted island somewhere in the Caribbean Sea. With nothing but the clothes on your back and a few items that have drifted ashore from the wreck, you need to plan your escape to return to civilisation to make it back in time for the ASB Bright Sparks competition.

**Be creative, make us laugh.
We have FIVE 3D Pens to give away!
Wow us and you could win!**

Send your answers to:
brightsparks@skills.org.nz
by the 31st of July.

How do you use all these things to escape the island and return to civilisation?

You must use all of the following items in some way:



A smartphone (no signal/wifi/3G/4G)



2 metres of rope



A metal thermos



A coat hanger (metal)



A knife (metal)



A pair of sunglasses

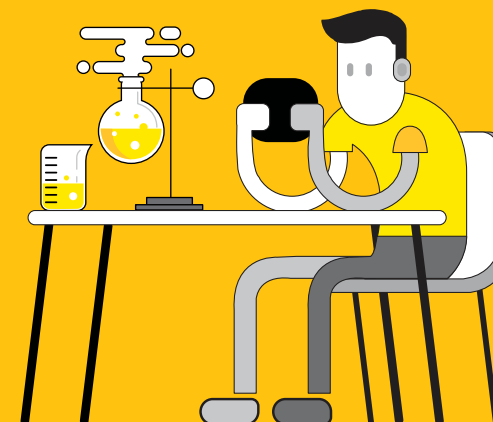
Also available to use are a handful of rocks and sticks, coconut trees, and the sand that surrounds you.



ASB BRIGHTSPARKS

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*By emailing us, you are consenting to letting us use your email address solely to send you the ASB Bright Spark eBook “The Bright Spark Bulletin”. You will not be added to any other mailing lists and your details will remain confidential.



Thanks to our sponsors for the 2017 ASB Bright Sparks competition!

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