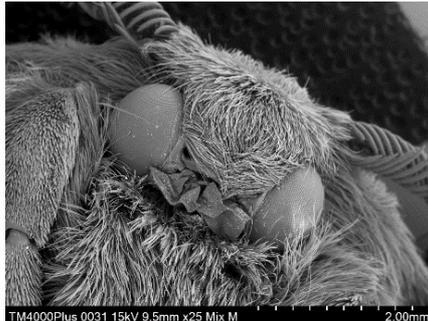




Toby, 5, operating the TM4000Plus



A Silk Moth, image taken by Toby

The Program:

In a partnership between Adelaide based company, NewSpec and Hitachi High Technologies a new initiative has been launched to inspire and enrich learning experiences for students in South Australia, Queensland and New South Wales.

Nano-technology is being referred to as the next technical revolution; it is expected to impact every part of our modern lives. Despite its key role in such things as cleaning our water, defence, mining, developing cleaner energy sources, drug treatments, targeted determination of diseases, development of smaller smart telecommunications electronics and many other industries, it is a field that most students, teachers and adults know little about. The gap between the technical skills available for STEM related careers and the technical skills required will impact directly upon our ability to find solutions for many of the world's problems (Hitachi, 2017).

It is rare for students to gain hands on access to this level of technology however Hitachi's TM4000Plus, a desktop sized scanning electron microscope (SEM), has not only made it possible but it has also enabled it to visit school sites and other educational settings for a whole week.

The "Inspire STEM Education" initiative builds connections to the world around us through experiential and discovery learning, forging strong and genuine learning outcomes. When used in philosophically sound, high quality programs, technology can ignite, enhance and fortify learning pathways and inspire curious minds to explore further, question more and deeply enrich our experience of the world.

The TM4000 illustrates to all age groups, abilities and fields of interests that there is more to our surroundings than what we can see naturally every day – to explore our place more deeply, for example to find and examine a bug, a leaf or a flower, is planting the seed for curiosities to grow. To put objects that children discover, are drawn to and collect into the SEM is to feed these curiosities, watch them take root and flourish. A whole new world is opened up when you take something of interest and look at it on another level. The learning experience is undisputedly enriched through utilising this technology.

Becoming familiar with nanotechnology is of significant importance when we consider the breadth of its real world applications, including biological research, industrial manufacturing, medicine, aerospace research, geology, food industry, cosmetics, archaeology, forensics, materials research, oceanography, entomology, the list continues. So whatever the topic, whatever the interest, this technology is relevant and can be applied in a way that enriches the learning experience and enhances learners' connections to our incredible world.

Bookings:

Telephone **(08) 8463 1967** or email outreach@newspec.com.au to make your booking.

Once successful in securing a date your site will have the Hitachi TM4000 Desktop SEM for a minimum of one full week.

Inspire staff will install and collect the technology on Friday afternoon.

Investment:

- ❖ One Week Learning Lab Hire - \$750
- ❖ Two Week Learning Lab Hire - \$1250

- ❖ SEM Professional Training Day - \$150 (per staff member)

Requirements from your site:

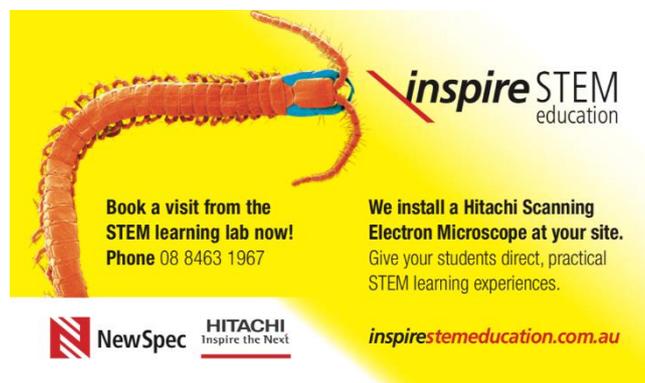
- One designated, secure set-up space, where the SEM will remain for the full week
N.B. the machine cannot be moved once set-up and must be locked away securely out of school hours
- Wheelchair access to the set up space
- An ambient room temperature of 15 to 30 degrees Celsius
- Single phase power supply AC100-240V
- At least one trained staff member – Training generally occurs during the school holidays preceding your booking, i.e. Staff for Term 4 bookings are trained at the end of Term 3 school holidays, usually the last Friday of the break

Operational Details:

School staff are fully trained at the professional learning day on the mechanics, capabilities and operational procedures of the Hitachi TM4000Plus SEM. Participants will be experienced in collecting and running their own samples, how to effectively utilise and interpret the technology with students and workshop a site specific plan to support a successful Learning Lab visit at your school. Training participation allows access to our online learning resource library with a host of ideas, best practice examples, learning support materials and student activities including pre-visit and post-visit learning continuity support.

Our support staff are available at any time in the lead up and throughout your booking.

Visit our website and follow us on Facebook @inspirestemaaustralia to see what other schools are up to in the Learning Lab!



inspire STEM
education

Book a visit from the
STEM learning lab now!
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