

LABLINES



Newsletter of the Laboratory Technicians' Association of Victoria

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LABORATORY TECHNICIANS' ASSOCIATION OF VICTORIA



LTAV Website
www.ltav.org.au



ASSIST

AUSTRALIAN SCHOOL SCIENCE
INFORMATION SUPPORT FOR
TEACHERS AND TECHNICIANS

Science ASSIST re-opens!

CSIRO Education has offered interim funding for Science ASSIST and will work in collaboration with ASTA to secure long term sustainable funding for the program.

The Science ASSIST team has reopened the Q&A section of the website to answer all of your questions regarding school laboratory and science room safety.

You have continued free access to all of the technical resources including SOPs, RAs, Information sheets and the Chemical Management Handbook.

To stay up-to-date on all the latest questions subscribe to the Science ASSIST eNews.

assist.asta.edu.au



AUSTRALIAN
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Deadline for next Lablines 2019

16th August 2019

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DISCLAIMER

The views expressed in "Lablines" are not necessarily the opinions of the committee.

There is no responsibility taken for the results of any experiments published in "Lablines" and replicated elsewhere. Risk assessments should be carried out before attempting same.

Front Cover: Photo: Kerry Whitelegg, Mildura Senior College. Full article features pg.11.

President's Report

Geoff Gleadall

LTAV President



Welcome to the second term Lablines. Last term I mentioned workload issues being a significant problem for our profession. As most of you will have noticed, we carried out a quick survey last term to see if there has been any change since the last survey around five years ago.

In this time, our conditions have changed slightly for the better in the private sector.

This is not, I am afraid to say, a general improvement, but rather an improvement in some schools, and that improvement is very slight. In the government sector, things have deteriorated over the same time period.

In the private sector, the mean service factor increased to 0.5, but this is still well below the recommended minimum of 0.6. It should also be noted that some responding schools reported significantly lower service factors.

In the government sector, the mean service factor has dropped to 0.34, with some as low as 0.2. An additional question in this year's survey addressed the use of private vehicles for school business. Almost all respondents reported being required to use their own vehicle, but only 3.4% were paid for this, despite the fact that the Vic Schools Agreement and Department policy require such use to be paid for at the tax rate per km.

In other matters, by now you should all have paid your membership renewal for this year. If you haven't, then you won't be reading this! If you are aware of colleagues who are not financial members, please encourage them to attend to this.

Mary Jones should be congratulated on the work she has done with the relievers' list. It is good to see that at least some schools are replacing technicians who are away on leave or because of illness. So, if you have available days and are prepared to do this work please make sure you are on the list.

Your committee are here to help you. If you have a problem please feel free to speak to us about it, but please also remember that we are all volunteers. We ask for your patience, as sometimes it may take a little time to attend to your enquiries. If you see something that you think we should be doing, talk to us about it, or even better, offer to help.



LTAV IS LOOKING FOR A NEW LABLINES EDITOR

LTAV is looking for a new Lablines Editor to take over the collection of content, formatting and publishing of the quarterly Lablines magazine in 2020.

If you are interested in tracking down content, finding out about Lab Techs across Victoria, writing and design, then this could be for you!

You don't have to feel able, qualified or prepared! Just passionate and enthusiastic! You will be provided with thorough training, handover and support from LTAV's current Editor.

Competency in the use of Microsoft Word will prove very helpful.

Please refer all interest and enquiries to:

admin@ltav.org.au

In the News

Feeling the need to be inspired or awed? Take a look at the Intel International Science and Engineering Fair (ISEF). It's like Victoria's Science Talent Search, but on steroids! Millions of high school students compete in local science competitions around the world with their goal to be one of the 1700 or so students to make it to the Intel ISEF. Students are required to present original research projects and compete for millions of dollars of awards and scholarships.

A student as young as 15 was selected as one of the 2019 Intel ISEF winners. Shriya Reddy, a 10th-grader from Northville High School in Michigan, created a cream for the diagnosis of skin cancers and to avoid painful biopsies. The cream contains antibodies that bind to melanoma cells. Shriya bonded tiny spheres of gold to the antibodies which illuminate under infra-red light. The idea would be that doctors apply the cream to a patient's skin and shine an infra-red light causing cancer cells to glow. Did I mention this kid is 15? A 15 year old that is now \$10,000 richer after winning best in the Biomedical and Health Sciences category and the Craig R. Barrett Award for Innovation.

The top winner, Krithik Ramesh from Cherry Creek High School, Colorado, took



'Intel ISEF Exhibit Hall'. Image taken from societyforscience.org.

home \$75,000 for the creation of an augmented reality system to improve the accuracy and speed of spinal surgeries. Krithik's system maps the patient's spine and then suggests the best surgical approach to correcting the spine, including the placement of plates, rods and screws. The system displays an image, through a virtual reality headset, of what the patient's spine should look like after correctional surgery. Krithik is 16 years old.

Other top winners included 17 year old Allison Jia from California, who created a tag to follow tau clumping, a process which plays a major role in Alzheimer's

disease, and 17 year old Rachel SeEVERS from Kentucky who improved the energy efficiency of autonomous underwater vehicles (AUVs) by modelling them after a jelly fish.

May this inspire us, when we have those 'annoying' students who want to try an extension to a prac or an outrageously complex student designed project. Can we enable them to do this? Can we be facilitators of creativity, experimentation and innovation? We have seen proof of what young people are capable of, let us not be a reason for them to have to hold back.



ATTENTION NEW LAB TECHS

It has long been recognised that a new technician's first year in education can be very difficult. LTAV has decided to support beginning technicians by offering

FREE first year LTAV membership

deemed to be paid by the LTAV Committee.

The following conditions apply:

- The payment is at the discretion of the committee and will apply for the course of each membership year,
- The payment is to be made only on behalf of technicians in their first year working in education.
- Members who are given this benefit are expected to continue their membership in subsequent years.
- Such members will have all the rights and obligations of ordinary members, but in accepting the payment also agree not to run for office during that same first year

Please refer all interest and enquiries to:

admin@ltav.org.au



LABCON 2019

*Bringing Excellence to Science Education
The Conference specifically for Laboratory Technicians*

Venue

Melbourne Graduate School of Education
University of Melbourne
234 Queensberry Street, Parkville 3010

Dates

Wednesday 27 November to Friday 29 November 2019

Program Outline

Wednesday 27 November	Thursday 28 November	Friday 29 November
Keynote Speaker	Keynote Speaker	Tours
Concurrent Workshops	Concurrent Workshops	Chemwatch Session
Exhibition	Exhibition	
Annual General Meeting		
Conference Dinner		

We are now calling for workshop presenters to indicate if they are willing to present workshops at LABCON 2019. Sponsors and exhibitors are also invited to email their expression of interest.

Registration Fees for LABCON 2019

LTAV Members attending at least one day of the conference can attend one post conference tour at no charge.

	LTAV Member	Non Member
Full Registration – Wednesday and Thursday includes dinner	\$400.00	\$450.00
Full Registration – Wednesday and Thursday excludes dinner	\$330.00	\$400.00
One day Registration includes dinner	\$320.00	\$390.00
One day Registration excludes dinner	\$270.00	\$340.00
Friday Tour or Chemwatch Workshop	\$75.00	\$110.00
Conference Dinner (extra tickets)	\$95.00	\$120.00

ALL ENQUIRIES

Marg Scarlett
LABCON CONFERENCE MANAGER
pcs@cogroup.com.au

THANK YOU! YOU ARE AWESOME!

JANELLE GEHLING

BRAEMAR COLLEGE, WOODEND

Just wanted to give a big shout-out to Janelle, our Senior School lab tech. I came on board at Braemar in the middle of last year, following the opening of the new Middle School Campus. Janelle remains at what has become the dedicated campus for Senior School, while I was recruited for Middle School. Fresh out of a BSc. and into my first job as a lab tech, I had many uncertainties (and still do, still learning every day!) but Janelle has been an incredible mentor to me, always quick to answer my every question and saving me with sharing supplies and equipment. She has taught me so much in such a short period of time, and even though no longer officially looks after middle school science anymore, still always willing to assist on top of her busy workload with senior school. Thank you Janelle! Couldn't be doing this without you!! Samantha Gunning.

LOIS O'MEARA

ELTHAM COLLEGE

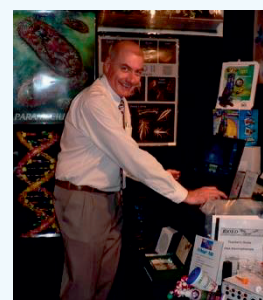
Lois O'Meara retired from her Lab Tech role at Eltham College this week (Mar, 2019). Many of you will know Lois. She has been an active member of the Nillumbik/Banyule region and the Lab Tech Association of Victoria plus a valuable vault of knowledge for many of us over many years of service. Lois has presented sessions at LABCON, STAVCON, CONASTA and hosted many regional meetings. Lois is retiring after 40 + years in the industry. Her service was acknowledged at a dinner attended by current and past colleagues. The photo shows Jackie Hamlet, Lois O'Meara, Wendy Stevens and Jenny Kelly. We all wish her well in her retirement.



PETER BALL

SOUTHERN BIOLOGICAL

A note to Lab Techs across Victoria that the legendary Peter Ball recently retired from his position at Southern Biological. He has sold his company to a young, dynamic gentlemen by the name of Matt. Peter has been in the game for over 3 decades, with extensive knowledge in Biochemistry and Biology in general. We wish him well in his retirement. Radhika Iyer.



Ever had a Lab Tech do something super nice for you?
Ever seen a Lab Tech do something awesome, far beyond their call of duty?

**This is your chance to say
THANK YOU!
and to recognise those Lab Techs who you think are
AWESOME!**

WANTED URGENTLY RELIEF LABORATORY TECHNICIANS

If you work part time or you know someone who has school laboratory experience and would like to earn some extra money.

Please contact Mary Jones
jones.mary.l@edumail.vic.gov.au

Your name will be added to the Laboratory Technician Relief list for the Melbourne Region. Laboratory Technicians that are available to work in Regional Victoria are also encouraged to make contact!

Mid-year Wellbeing Chat

with Karen Cox

A sort of mid-year 'pep talk' about looking after our wellbeing, learning to say no, reducing stress, backing ourselves and learning to somehow be friendly and assertive at the same time!

Hello Fellow Lab Techs,

Well, here we are heading towards the middle of the year already and our Winter break is on the horizon (roll on June 28th). As there are still a few weeks to go until our next break, now would be a good time for some reflection on how you, personally, are travelling with your workload and maybe tweak some things to look after yourself, so that the road you travel is a little easier for the future.

It isn't just the physical demands of the job that can make you tired; being on your feet for a large part of the day or washing glassware at a sink that isn't suitable for the purpose. Actually, if you haven't already done so, now would be a good time to speak to your OHS representative about that rotten sink or email the IT technicians about the computer monitor that is too high. Just take a moment to do something about anything that has been bugging you and cross it off your 'What Cheeses me Off' list.

The emotional pulls of the job can drain your energy just as much as the physical demands and both can leave you exhausted by the end of the day/term. I call them emotional pulls because so often one can feel pulled in the direction of wanting to support the teachers with meeting their needs, yet at the same time you can also feel pulled in what feels like an opposing direction because you need to attend to all the things on your own 'To Do List' and look after your own stress levels. If you do say "No" to a last minute prac, you may feel guilty for withdrawing your support, and if you don't say "No", you may end up feeling annoyed with yourself and resentful towards the Teachers because you have neglected your own workload (again). So, the emotional pulls can be sapping your energy too.

Right now is a great time to begin making your workplace a fair workplace, and as the old saying goes, 'there is no time like the present' to begin.

The most important first step is to give yourself some time to assess your workload when you consider a late request from a Teacher. Tell them you are not sure if you can do it for them and that you will get back to them (send an email if you are shy) by lunchtime/end of the day when you have had a chance to think about all the other things you need to address right now. It is so difficult to think of everything on your 'To Do List' while a Teacher is standing there, looking expectantly at you and waiting for your reply.

Don't crack under the pressure! Don't say "Yes"! Don't say it should be OK! Because it may not be OK. Simply stating that you would like to be able to support them, but that you are not sure if you can and need time to assess your workload, is a perfectly

reasonable statement to make. You do not need to justify it. You just need to get it out of your mouth. I know it is not easy for many people, but when you do this for the first time, after feeling guilty for a bit, you then feel so empowered that you will want to do the Toyota Jump for Joy, like in the adverts, because you are so proud of yourself. A word of caution here - last time I did the Toyota Jump for Joy I put my neck out. I suppose that is what happens as we age. I'm just glad I didn't fart when I landed.

If they are unsupportive and expect you to be SuperMagicLabTechExtraordinaireWhoCanPullThingsOutOfYourAss-tronomicallyBigMagicCupboard, don't be. Just do what you can.

This is the time to back yourself. Just be your normal, efficient self and do your best to take care of the priorities that you have been told to take care of. Work efficiently, but don't work through your morning tea or lunch breaks or work back unpaid. If you feel the need to justify why some things have not been done, make sure you time how long each thing you have been asked to do has taken, and record the task and the time it has taken to do it. Time everything you did that day. This is your proof. This is why the other things could not be done in the time frame they told you that it could all be done in. There simply wasn't time to do it all, and that is not something for you to feel guilty about. Now that you have your proof, you can use this information to start educating 'them' to help understand your role a little better.

Is it time to have a Friday or Monday sickie, a mental health day to do something just for you? Time to get your favourite ice cream or a beer and watch that movie or read that book on a rainy day off? Taking some time out for yourself could be just what you need to come back to work feeling refreshed. If that doesn't work, well at least you had a nice treat anyway. If people's requirements haven't been met during your absence that is actually good, you have given them the opportunity to miss having you there and they may now appreciate what you do a little more than they did previously. Taking care of yourself and your workload also makes it easier to be friendly and assertive with the Teachers in your workplace because you won't be carrying so much resentment towards them.

Another old saying is 'familiarity breeds contempt' and this saying can relate to our work techniques and procedures. We do the same things so often that it is tempting to cut corners at times, even though it is to the detriment of our health. Over the next few weeks, put your awareness into the task at hand and note the tasks from a safety perspective. Are you wearing gloves every



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time you are meant to? Using the fume hood even though it is just one container you need to fill? Using a carrier/trolley to get that concentrated chemical to your fume hood? Try to be aware of what you do to cut corners. For those working with other Lab Techs, you could agree to remind each other about working safer and not cutting corners. Bianca and I have this agreement and we both find it helpful and supportive.

We are all in agreement that the LTAV ListServe is a wonderful asset for us all to use and I bless the little cotton socks of the person who thought to create it for us. Experienced school lab techs, as well as those with a wealth of knowledge from working in industry, are all so generous in the sharing of their time and knowledge for the benefit of us all. However, sharing our workplace troubles over such a public venue can be a little daunting for some. If this is the case for you, think about contacting Lab Techs from your neighbouring schools and hopefully forming supportive friendships and networks with others from your Regional Meetings. It is good for the soul to have a chat and share our problems and our triumphs with other Lab Techs, and it is good for your stress level if you can borrow equipment from each other to get out of a tight spot.

Hmm, thinking of tight spots, I must remember not to partake so enthusiastically in the yummy treats on offer at LTAV get-togethers.

Karen Cox

Laboratory Technician

Gleneagles Secondary College



PETER ELLIS 2019 SCHOLARSHIPS

The Laboratory Technicians' Association of Victoria will again this year support two members in furthering their knowledge and expertise in science education by offering two scholarships to attend LABCON 2019 (27-29 November 2019).

If you have already registered and paid for LABCON this year, you are still eligible to apply for the scholarship and if you are successful, your school will be reimbursed.

The scholarships are offered to LTAV members who are school-based Victorian science laboratory technicians that have been in the industry less than five years.

Each scholarship will cover the full cost of LABCON registration including one tour, a 2-night accommodation package and entry to the conference dinner. Any other costs and charges associated with acceptance of this scholarship must be met by the winner(s). Two scholarships only will be offered. Awards are not transferable.

Applicants should provide a brief CV and details of the anticipated benefits for both the applicant and the Association. The successful applicants will be expected to write a small article for Lablines outlining their experiences at the conference.

Written applications addressed to the LTAV Secretary can be posted to:
S3/159 Burwood Road, Suite 150, Hawthorn, Victoria 3122

or emailed to: admin@ltav.org.au

and must be received no later than Friday **30 August 2019**



SUSANNAH LARRATT AWARD

In 2006 the committee approved the introduction of a new award to be presented to a laboratory technician who is, or has been, employed in a Victorian educational institution and who has made a significant contribution to the role of Victorian educational laboratory technicians.

Unlike the Distinguished Service Awards (DSAs) which have strict eligibility criteria of outstanding service by someone who has served in an official capacity for a minimum of 7 years and who is no longer serving in an official capacity, the new award is open to all present and past Victorian educational laboratory technicians.

The award is named in honour of Susannah Larratt who was the Kew Regional Representative for a considerable number of years and who passed away in 2006 while still serving in this capacity. She was posthumously awarded a DSA at the end of 2006.

The award is available for presentation on an annual basis to persons nominated as being eligible, but will not necessarily be awarded every year. It is hoped that this award will serve to recognise those who act behind the scenes to further the cause of educational laboratory technicians but who are not necessarily in the limelight.

If you know a lab technician who you consider a candidate for this award, please send a message detailing the reasons for your nomination to:

admin@ltav.org.au

by Friday 30 August 2019

Pepsin Digestion of Egg White Suspension

A creative alternative for the preparation of egg whites for pepsin digestion practicals

Sue Treloar

Laboratory Technician

Bendigo Senior Secondary College

The digestion of hard-boiled egg whites using the enzyme pepsin can be a slow process, sometimes requiring the practical set up to continue overnight. Students may not get reliable results due to the inconsistency in size of the egg white pieces and you, as the laboratory technician, have to perform all the boiling, deshelling and grating of the eggs in advance, which can take up valuable time.

Our Biology teacher, Megan Whytcross, came up with an alternative method for digesting egg white with pepsin enzyme. The preparation time for egg white is reduced to two minutes and the digestion of the solution using a 1% pepsin solution is noticeable in 15 minutes.

With no hard boiling on hotplates, (or at home while cooking your breakfast), no deshelling, no chopping, no grating or (s)mashing your egg whites, an alternative to this is a two minute preparation. Simply separate out the raw egg white from the yolk and cover it in boiling water to make a 10% cooked egg white solution.

Method

1. Carefully crack one egg open and drain out the egg white into a 500mL beaker
2. Add around a tablespoon of cold water and break up the egg white with a Blender or a fork
3. Pour boiling water over the egg mix to 250mL volume
4. Continue to mix up the egg white solution with the blender or fork to allow the hot water to 'cook' the egg
5. Pour the mix through a tea strainer to remove the larger lumps
6. Allow egg solution to cool to desired temperature for the practical
7. Keep refrigerated if not using same day

(note – the egg white can be cracked into a beaker with 250mL cold or warm water, mixed up and microwaved in 30 second bursts, (with stirring), until cooked)

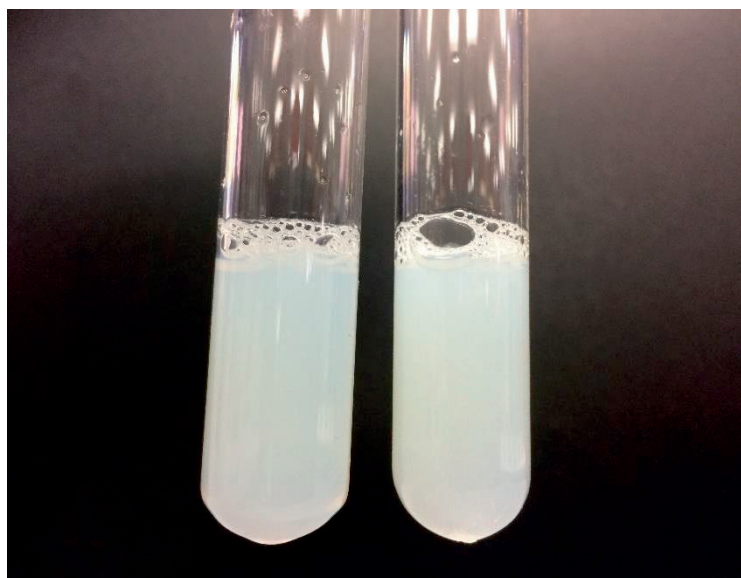
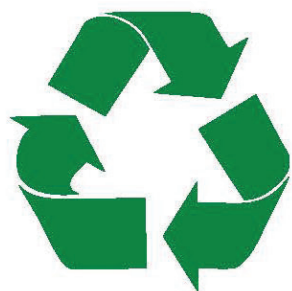


Image: Sue Treloar. Control test tube on left containing only egg white suspension and test tube on right is 5mL egg white and 1mL 1% pepsin. Time zero.



Image: Sue Treloar. Results after 20 minutes.



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POISONS & TOXICS PESTICIDES & HERBICIDES OIL & OIL FILTERS
DRUMS & CONTAINERS RAGS

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Peter Dickey
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Photosynthesis and Cellular Respiration

Her photos amazed us on the List-Serv, let's see how she does it!

Kerry Whitelegg

Laboratory Technician
Mildura Senior College

Materials

Elodea (healthy leaf shoots, each 7cm long)

3 specimen tubes

Aluminium Foil

Bromothymol Blue Indicator

Distilled Water

Straw

250ml beaker

Masking tape

Marker

Measuring cylinder, 100ml



Figure 1

Method

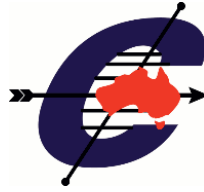
1. Label 3 specimen tubes 1, 2, and 3
 - Tube 1 will have no Elodea in the dark
 - Tube 2 will be Elodea in the dark
 - Tube 3 will be Elodea in the light
2. Pour 75ml of distilled water into a 250ml beaker.
3. Add Bromothymol Blue until the solution turns to a light green.
4. Using your straw, blow gently until the solution goes a bit darker green (a few seconds should be all that is necessary)
5. Pour 25ml of this green solution into each of the 3 specimen tubes.
6. Stopper tube 1 and cover the entire tube with aluminium foil. Place the tube into a 250ml beaker.
7. Add an approx. 7 cm piece of healthy Elodea to tube 2 and use your straw to GENTLY push down on the elodea until it is covered with the solution. Stopper the tube and cover the entire tube with aluminium foil. Place in the 250ml beaker.
8. Add an approx.. 7 cm piece of Elodea to tube 3. Using your straw, GENTLY push the Elodea to the bottom of the specimen tube. Stopper the tube and place in the 250ml beaker. All three tubes should now be in the beaker.
9. Place under the light source. I used a 3ft fish tank light (globe: NEC 5000k Quad Phosphor T8 FL4oSSEX-N/37-X) laying on its side about 2 inches from beakers. Photos over the page.



Figure 2

Notes: The Bromothymol Blue was an old stock solution that I have been using over the years with varying success and I can't remember the recipe. I decanted some into a 500ml beaker, added a tiny bit of sodium hydrogen carbonate until it was blue and then diluted it with distilled water until I thought it was a nice medium blue. I then decanted this solution into dropper bottles. Not sure if it made any difference, but the Elodea was from an outdoor pond that had been brought in a couple of days before hand and I had just put it in our elodea tank here as our supply was getting low. It is under a gro lux light during the day. No fish and just an air stone.

Continued on page 13.



Conditionaire is now offering more than just Fume Cupboard/Fume Hood/Ductless Fume Cupboard solutions for your School/Company/Research Facility/University etc. We are now in association with two other companies: Validair Sciences and Biosafety. For peace of mind, we are a Nata Accredited Company, so we get all our staff and equipment audited annually. Because of this, our reporting/results, as per the standards, must reference the correct AS/NZS 2014.8-2014 and include a photo/sketch, which is required on the reports as well. Science ASSIST reiterates/recommends using a Nata Accredited Company for testing/servicing.

Website Address <https://assist.asta.edu.au/>

Why are we associating with two other companies you may ask? Very simple; to help our existing and new clients have one Contractor who can provide expertise in three main fields:

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Photosynthesis and Cellular Respiration continued from page 11. Images: Kerry Whitelegg

Figure 1 (pg. 11): The colour of the bromothymol blue indicator after following the steps in my notes.

Figure 2 (pg. 11): Final results using the light set up as shown in Figure 5.

Figure 3: Results from the light set up in Figure 4.

Figure 4: Light set up above tubes. Results in Figure 3.

Figure 5: Light directly facing the tubes. Results in Figure 2.

Figure 3



Figure 4



Figure 5



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The Envirostore.com.au web site has a special “For Schools” section where you will find some handy downloadable materials addressing spills, banned chemicals, the GHS and more and you can enter details of your chemical waste on line for a disposal quote. Michael Pola’s Labcon and STAV presentations for 2018 are also available

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DON’T FORGET TO REGISTER YOUR SCHOOL AS A WASTE PRODUCER ON THE EPA PORTAL BEFORE 1 JULY THIS YEAR <https://portal.epa.vic.gov.au>**



Welcome to the Wonderful World of Waste

and the School Laboratory

Part V

Michael Pola
Envirostore Chemical Consulting
mike@envirostore.com.au

This quarter's article regards the new rules for completing the waste transport certificates, which will apply to all schools if you dispose of chemicals. The requirement for this is outlined in the first article in this Wonderful Waste series.

From 1st July 2019, Victoria EPA, who administer the transport and disposal of chemical wastes, will not be accepting the paper-based waste transport certificates, ie the pink and green copies your friendly waste man leaves with you when your chemicals are collected. Remember, the pink must be posted to EPA within seven days and the green copy is to be retained by disposer, ie you, for 24 months. In place of the paper certificates, which have the additional benefit of being proof of legal disposal, all disposers will be required to register with the EPA via its Portal. Also, the waste producer, ie you, will need to purchase electronic versions of the transport certificates which cost \$0.50 each. The electronic system has been in place for years now but is rarely used by schools as your disposals usually only occur once or twice a year

Advantages are that only holders of permitted vehicles and licensed premises can be accessed, and you won't be able to use a waste company that does not have your waste stream (such as laboratory chemicals) on its list of wastes they are licensed to accept for treatment. We also understand that electronic certificates will be free of charge for the first 12 months, although this is subject to confirmation. The usually atrocious handwriting of the waste man will now of course become irrelevant, so no more wondering what is written on the paper certificates.

Disadvantages are that disposers must register themselves on the EPA Portal and therefore must have internet access and a computer with printer available. Envirostore is investigating doing school collections via the Accredited Agent system. This simply means we do the certificate on your behalf, but it only applies for a run of the same type of collections on the same day, which is often the case when we do a number of schools in an area, particularly in the country. Also on the cards is accessing the portal via handheld and mobile devices which would be a phone, pad or similar, but we will see how this works at the time.

It is the responsibility of the waste producer to initiate a certificate. This can be done well before the actual collection and final weights and amounts can be filled in on the day. The registration of the

vehicle used for the collection needs to be advised as this will complete part B of the certificate, which is the transporter details. In our case, this is the same as the disposal site. A printed copy of the certificate with parts A and B completed (the same as the paper certificates) is produced for the waste transporter (ie Envirostore) to carry with him. The waste treater (also Envirostore), when he gets back to HQ with your waste, logs in using their password and user name and retrieves the electronic certificate and completes part C online. You, as the waste producer, can go online and see the completed certificate

So how do you register to be a waste producer? You go to the following site <https://portal.epa.vic.gov.au> and follow the prompts. You (the school) will receive a username and password to access the Portal where you can prepare a waste transport certificate as a waste producer. There are three choices -waste producer, transporter or waste treater. Envirostore is all three.

We urge all schools to go to the EPA website, or to the above site, and have a look and register because we will not be able to do a collection from you after 1 July this year unless you are registered.

At this stage we are unaware of any exemptions or alternatives to the new rules. We will continue to use paper certificates up until the cut off but certainly feel free to register before then. If the school has any other disposals or prescribed waste (see article 1 for a definition) then the same requirements will apply. Your skips and bins will not usually be prescribed so won't need to do a certificate but any medical waste from sick rooms or first aid bays will require a transport permit to be completed.

As usual feel free to contact us for questions on the new requirements and don't panic, we are here to assist.

Next month we will get back to some of our favourite chemicals (eg anything we can recycle/reuse) and least favourite (white phosphorous of course the hands down winner here) plus some chemicals you won't come across in School, just to scare you. We still need to have a go at gas cylinders also.

Any comments good bad or otherwise contact me or Jessica the Lablines editor, especially if there are any topics you would like mentioned in future articles.

A Week in the Life of a Lab Tech

Jessica Dowton

Laboratory Technician

Academy of Mary Immaculate



Photo: Jessica Dowton. Lab Tech in her natural environment: Colourful lab coats always make the day go quicker

My name is Jess Dowton and I have been a Lab Tech now for 5 years. I am happy to say that every week of my job is different. Some weeks are so busy I do not have time to sit down for lunch and other weeks I get so much time that I do the jobs all Lab Techs 'love', like the chemical registry.

Last week was a mixed week for me. My week started off with a large cup of coffee and a train into work. I work at the Academy of Mary Immaculate located in Fitzroy, directly across the road from the Melbourne Museum. Firstly, I checked on the school's reptiles, affectionately known as my children. Spike is a Central Bearded Dragon that is currently in the land of nod in hibernation, Sid is an Eastern Water Dragon who is slightly off his rocker and there are



Photo: Jessica Dowton. Sid the Eastern Water Dragon.



Photo: Jessica Dowton. Squeak the Murray River Turtle (Top) and Spike the Central Bearded Dragon (Bottom).

two Murray River Turtles; Bubble and Squeak. I spent the morning setting up for Year 7 fish dissections before heading off to the Museum for 4 periods with two classes of Year 8 students to study rocks. The whole time, all I could think of was the Dirt People from Big Bang theory. All of this was followed by an all staff meeting until 5pm.

Tuesday got a whole lot busier. The morning started with a quick trip to Queen Victoria Market to buy flowers and seafood for year 7 dissections. I assisted in the Year 7 classes with the fish and prawn dissection before demonstrating a large squid dissection for an excited bunch of Year 7's. Following the dissection was the clean-up. This involved a bench clean down, putting the dissection boards through the wash and disinfecting the dissection tools. I set up the dissection equipment ready to go for the next class; there are five year 7 classes. Then there was a Year 10 practical on motion with the ticker timers, home-made ramps (I was rather proud of those), and trolleys, as well as a rocks practical using examples of the three rock types. After a quick lunch break I spent the afternoon filing and saving risk assessments and answering e-mails.

Wednesday was not an average day, I am part of my school's STEM team, and we had a morning of professional development until lunch. Before I got a chance to have lunch, I went and fed the

reptiles - hungry little munchkins. Following lunch was the classic lab office clean up. I have been so busy lately that I did not have a chance to wipe down benches, put away equipment and re-organise my desk.

Thursday was an equipment shopping day with a trip to Coles and one to Jaycar to collect LDRs (light dependent resistors), thermistors, resistors, new wire, globes and batteries. Most of my afternoon was spent putting in an order to Southern Biological for supplies for the Year 12 Biology "Antibiotics in Action" practical that my year 12 Biology teacher has booked in for three weeks from now and also making new electrical cables with alligator clips on either end for the senior physics students to use during their electricity component.

Friday was a day I dedicated to the Chemical Registry, I spent the better part of the day checking and double checking chemicals and the volumes of made up chemicals, then updating the chemical registry and searching for new safety data sheets to update the ones that are close to their five years from issue date. After lunch, I spent the afternoon making a batch of nutrient agar up and plating agar plates for the Year 9s to use to look at the effectiveness of soap compared to antibacterial hand gel in cleaning hands.

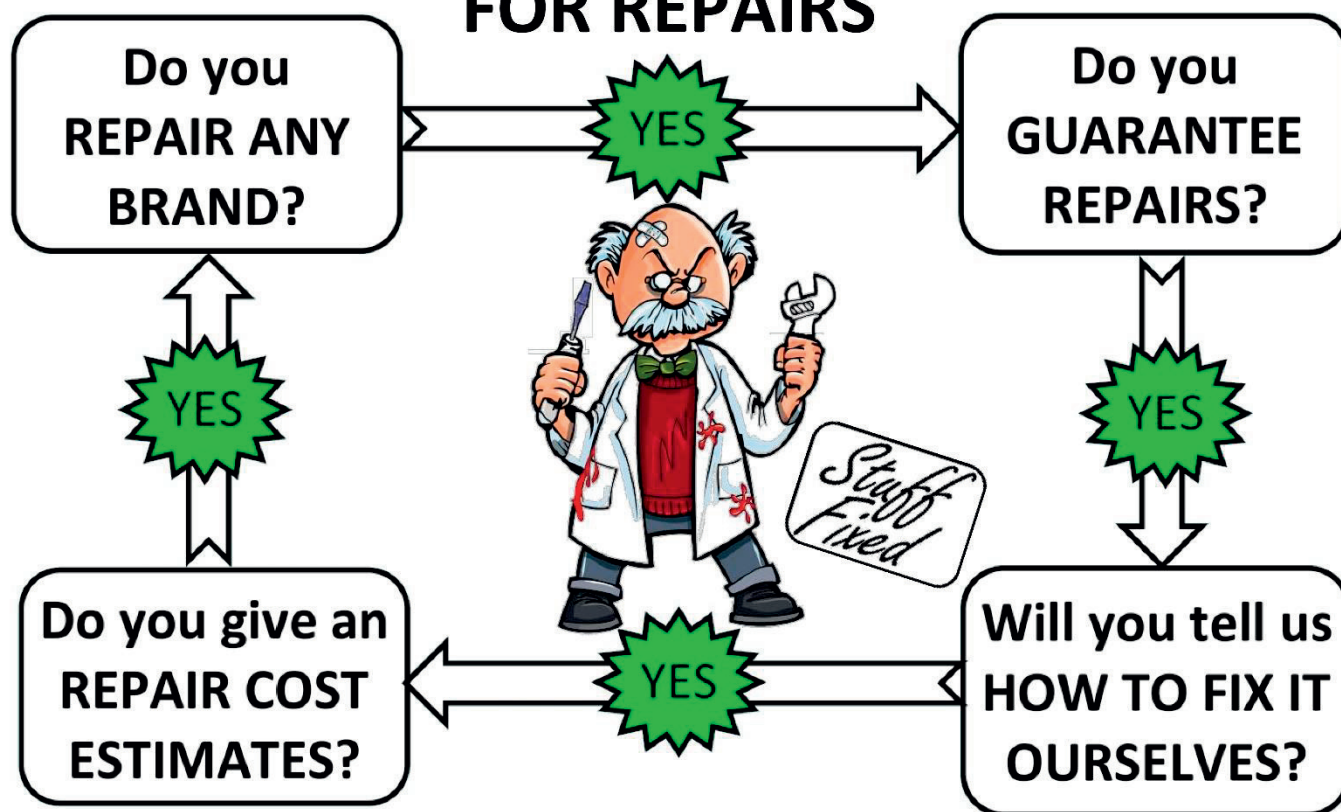
For me, this was a mixed week with some busy days and some days where I had a bit more time to dedicate to the weekly tasks. I make sure that I do a thorough clean and tidy of all the labs on a Friday to make sure they are ready to go for the next week of classes. The Academy has three Science labs which are fully timetabled throughout the week. I am lucky to have teachers that are amazing and give me challenges every day. The best part of my job is helping inspire passion in the students that we teach.



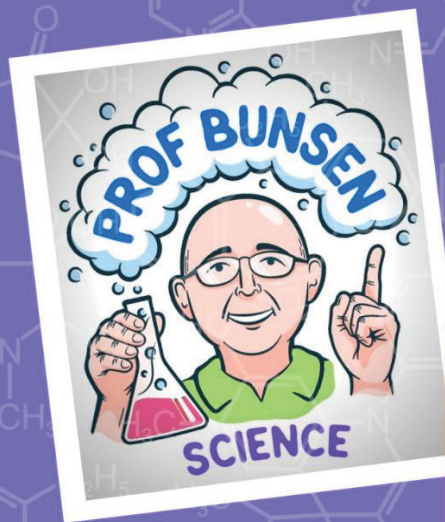
Photo: Jessica Dowton. Never a dull day for a Lab Tech in costume.

PRINCIPLES and PRACTICE

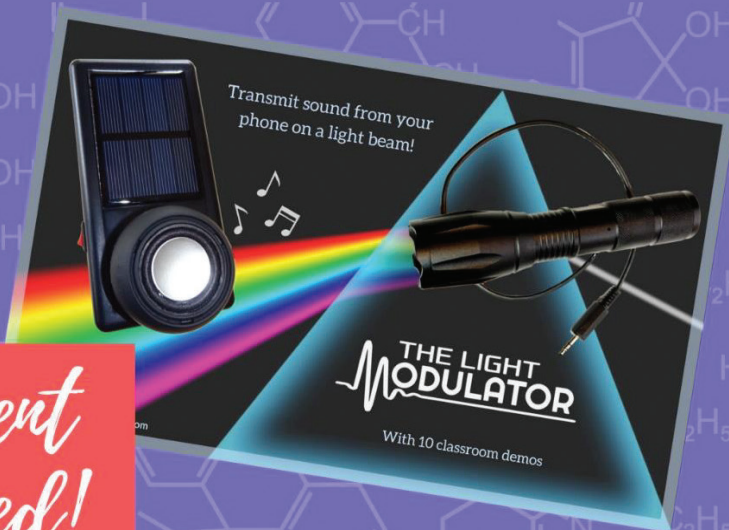
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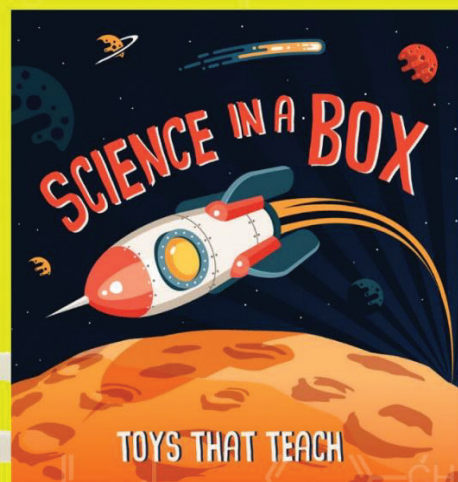
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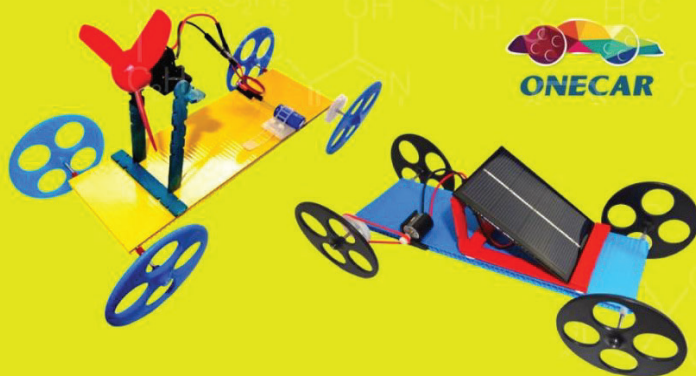
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Around Victoria

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Nillumbik/Banyule Regional Meeting

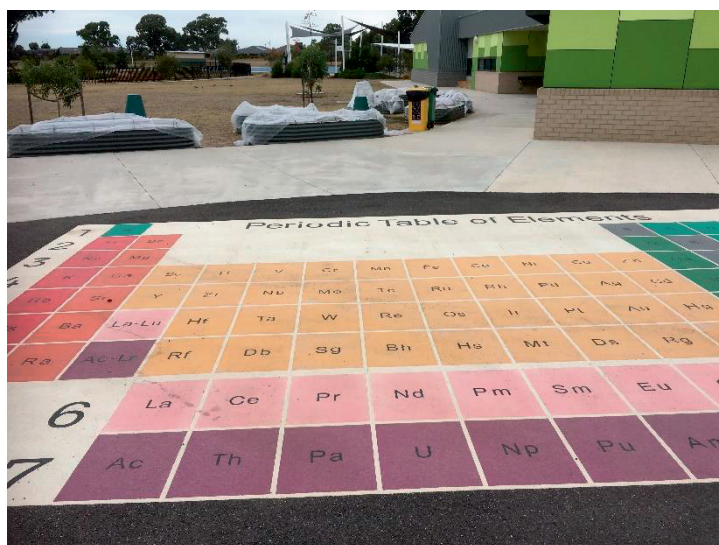
April 2019

Report by Jenny Kelly, Ivanhoe Grammar School,
Nillumbik/Banyule Regional Representative

A short summary of our recent Regional Meeting, and an example of the kind of things you can expect at Regional Meetings around Victoria. We were hosted by Marcus Dedman at Mernda Central College, which is a public school who rent the building and grounds from a private company. An interesting concept!

We invited Phil King from Science Supply as our guest Speaker. His focus was STEM/STEAM and he presented many new products including Strawbees (straws and connectors for making models), Quirkbot, LittleBits (magnetic bits, good for circuits and coding with lessons available online), Star Wars Droid Inventor Kit, One Car Kit (useful for Mechanics, Energy and Motion), Microbits, Raspberry Pi, (Coding games, simple computing) and a Light Modulation Equipment.

We then participated in a 'Catapult Challenge' where each pair of lab techs was asked to make a simple catapult to launch an M&M. A great activity for students or staff.



Marcus Dedman led us around his school. Mernda Central College runs from Prep to Year 9 currently, with 1200 students and the aim to be P-12 in the future. The school had nice spaces and versatile labs. The Periodic Table on the playground, chicken coop and vegetable garden areas were particularly wonderful. There is also access to native garden areas and wetlands – what a bonus! A visit to the primary Science area was informative too. There were simple projects to engage the younger students, including animal care with guinea pigs, plant growth in gumboots and the veggie gardens to name a few.



Photo: Lab Techs designing and creating their catapult.

Jenny Kelly showed some simple activities for Science Week. These were short, 'Minute to Win It' style activities that don't require a lot of equipment. Most things could be purchased cheaply and easily.

Jackie Hamlet talked about a 'Natural Selection' game that is good for Unit 1 Biology, where items are put on coloured cloth and picked up in a certain amount of time. She also mentioned the Outreach program at Latrobe Uni who were running events on May 5th from 10am – 12.30pm.



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Similarly, irregular balance calibration will highly lead to inaccurate weighing results. Balances which underperform will make teachers and students fail to determine the amount of a substance to be utilised or formed in a chemical reaction. 1 mg is matter!

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List Laughs and Life Hacks

The LTAV list-serv is provided to all LTAV members and is an amazing resource for laboratory technicians working in educational institutions. Whether you have a question that needs to be answered, or just need a laugh every now and then, sign up to the list-serv forum and meet a bunch of fun, friendly and helpful lab techs, just like yourself! Go to www.ltav.org.au and click 'Join the LTAV List'.

Sender: Olivia Tan
Subject: [LTAVlist] How to repair alcohol thermometers

Hello lab technicians,
 I have a stack of thermometers where the alcohol line is broken up by bubbles. So the temperature readings aren't accurate. I hear there's a way of fixing this and joining up the alcohol line by heating the thermometers? Is it worth doing for the effort and risk?

Sender: Geoff Gleadall
Subject: RE: [LTAVlist] How to repair alcohol thermometers

First they are NOT alcohol thermometers. Ethanol boils at 76 degrees so that would not work. The liquid is kerosene. To repair they need to be slowly heated until the column reaches the top of the capillary and then allowed to cool slowly. I do this by holding the thermometer well above the flame of a Bunsen burner in the hot air rising from it. This will fix most of them and takes around five minutes to do.

Sender: Olivia Tan
Subject: RE: [LTAVlist] How to repair kerosene (not alcohol) thermometers

Thanks everyone for the feedback and Geoff for the correction. Jodie Pignataro suggested heating the thermometers up with a candle; I just gave it a go and was able to fix a bunch of thermometers (-10C to 110C ones) relatively quickly. So a candle seems to work for my equipment and is less hazardous than a Bunsen flame.

Sender: Sue Treloar
Subject: RE: [LTAVlist] How to repair kerosene (not alcohol) thermometers

I took the advice on heating my thermometers over a candle - revived 19 of them within minutes!

10 of the Best

1. A magnifying glass is what type of lens?
2. What is the name of the deepest point of the world's oceans?
3. What is the solvent of gold?
4. Who first introduced the concept of electric fields?
5. What are the three time periods of the dinosaurs?
6. True or False? Crocodiles have no sweat glands.
7. What was the Manhattan Project?
8. The mass of the Earth is mostly made up by which two elements?
9. True or False? Olympic gold medals contain more silver than gold.
10. What type of animal is a Chamois?

(Answers page 22)

Brain Break

How many words of four letters or more can you make from the letters in the grid below?

Each word must contain the centre letter. No proper nouns, slang, foreign or capitalized words, hyphens, apostrophes or plurals ending in s. Only one form of a verb can be used. See if you can figure out the 9 letter word!

Average: 19

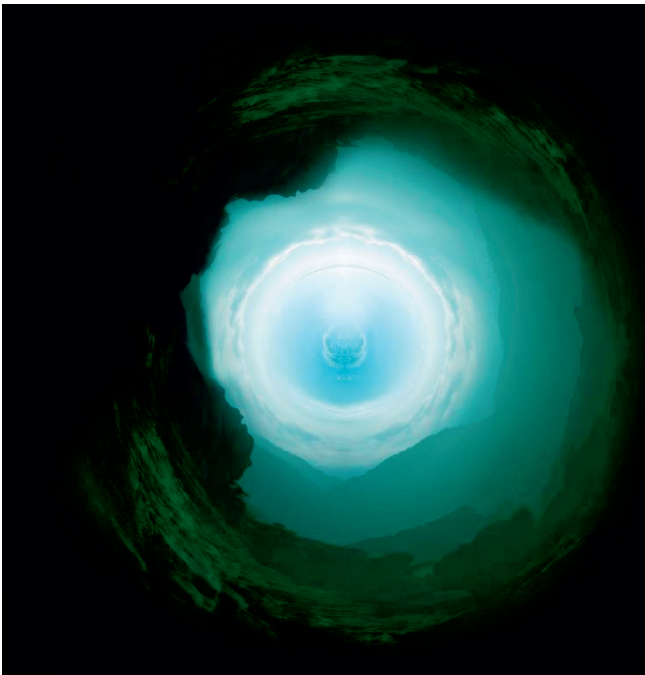
Good: 25

Excellent: 30

Genius: 36

M	I	G
N	A	T
E	U	D

9 Letter Word: _____



DID YOU KNOW?

If you drilled a tunnel straight through the Earth and jumped in, it would take you exactly 42 minutes and 12 seconds to get to the other side.

10 of the Best Answers

- 1 Convex
- 2 Mariana Trench
- 3 Aquaregia
- 4 Michael Faraday
- 5 Triassic, Jurassic and Cretaceous
- 6 True
- 7 The development of the Atomic Bomb
- 8 Iron (32%) and Oxygen (30%)
- 9 True
- 10 Mountain goat.



LTAV

Laboratory Technicians' Association of Victoria

By Lab Technicians for Lab Technicians
S3/159 Burwood Road
Suite 150
Hawthorn VIC 3122
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LTAV PUBLICATIONS 2019

The following laboratory reference manuals and/or CD are available from LTAV:

- **BIOLOGY REFERENCE MANUAL, 2013:** \$25.00 for CD and black and white hard copy combination.
This REVISED handbook contains information on biological techniques, reagents, stains and culture media commonly used in secondary schools. Dale Carroll, Ritva Fazio, Sarah Daniele and Wendy Hurle have updated the earlier version by Dale Carroll, Ritva Fazio, Jeannene Bradbury and Marg Rubans of the original authors of: Jenny Kopsidas, Rita Poole, Jean Stokes and Maya Wagner.
- **PHYSICS REFERENCE MANUAL, 2013:** \$25 for CD and black and white hard copy combination.
Svetlana Machouba has made many updates to the earlier version by Sabino Del Balso and Valerie Clements.
- **CHEMISTRY: A REFERENCE MANUAL FOR LABORATORY TECHNICIANS, 2008:** \$27.50 by Geoff Gleadall, Dip.App.Sci. A comprehensive guide for the beginning and experienced Laboratory Technician in all aspects of the chemistry laboratory.
- **LABORATORY MANAGEMENT DATABASES CD, Version 2, 2009** \$33 by Geoff Gleadall, Dip.App.Sci.

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New members to LTAV must complete an APPLICATION FORM as well (refer to website above)

Technicians employed or formerly employed in educational institutions are eligible for membership of LTAV. Financial members receive Lablines, LABCON 2019 Registration Booklet plus discount and voting rights at the Annual General Meeting at LABCON.

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LTAV Regional Representatives 2019

Ballarat Region

Carol Horsman

Saint Patrick's College, Ballarat

Tel: 5322 4440

chorsman@stpats.vic.edu.au

Dandenong Region

Vacant

Deborah Sun (Contact point only)

Waverley Christian College

Narre Warren South

Tel: 8765 7762

sun.d@wcc.vic.edu.au

Eastern/Maroondah Region

Simone Martyn

Bayswater Secondary College

Tel: 8720 7555

martyn.simone.d@edumail.vic.gov.au

Geelong Region

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Dale Carroll (Contact point only)

Geelong College

Tel: 5226 3136

dcarroll@geelongcollege.vic.edu.au

Gippsland Region

Debby Butler

Catholic College, Sale

Tel: 5143 9731

dbutler@ccsale.catholic.edu.au

Hume Region

Claire Stock

Myrtleford P-12 College

Tel: 5752 1174

stock.claire.c@edumail.vic.gov.au

Kew Region

Karen McCoy

Genazzano FJC, Kew

Tel: 8862 1000

karen.mccoy@genazzano.vic.edu.au

Loddon/Campaspe/Mallee Region

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Karen Egan (Contact point only)

Marist College Bendigo

Tel: 5400 1252

kegan@marist.vic.edu.au

Mornington Region

Hamida Lufti

McClelland College, Frankston

Tel: 9789 4544

lufti.hamida.h@edumail.vic.gov.au

Nillumbik/Banyule Region

Jenny Kelly

Ivanhoe Grammar School

Tel: 9490 3464

jenny.kelly@ivanhoe.com.au

North and North-West Metro Region

Mary L Jones

Keilor Downs College

Tel: 9365 8000

jones.mary.l@edumail.vic.gov.au

Andy Baful

Copperfield College, Delahey

Tel: 9307 5558

baful.andy.a@edumail.vic.gov.au

South Yarra/Moorabbin Region

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Hamilton and Alexandra College, Hamilton

Tel: 5572 1355

lbaxter@hamiltoncollege.vic.edu.au

Wimmera/Horsham Region

Susan Bell

Dimboola Memorial Secondary College

bell.susan.joy@edumail.vic.gov.au

Otway Region

Jan Horvath

Lorne-Aireys Inlet P-12 College

Tel: 5289 1585

horvath.janette.j@edumail.vic.gov.au

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geoffgleadall@msn.com.au



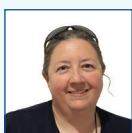
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thornley.suzanne.v@edumail.vic.gov.au



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St Michaels Grammar, St Kilda
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cnolan@stmichaels.vic.edu.au
info@ltav.org.au



**TREASURER
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Assumption College Kilmore
Tel: 5782 1422
lynette.Baker@assumption.vic.edu.au



**NATIONAL NETWORK
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DALE CARROLL**

Geelong College
Tel: 5226 3136
dcarroll@geelongcollege.vic.edu.au



**SETA REPRESENTATIVE
STACEY OLDMAN**

Melbourne University MGSE
Tel: 8344 6280
s.oldman@unimelb.edu.au



**MEMBERSHIP OFFICER
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Bayswater Secondary College
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membership@ltav.org.au



**REGIONAL LIAISON OFFICERS
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tgraham@cathedralcollege.vic.edu.au



DEBORAH SUN
Waverley Christian College,
Narre Warren South
Tel: 8765 7762
sun.d@wcc.vic.edu.au



**LTAV PUBLICATIONS OFFICER
ANDY BAFUL**

Copperfield College, Delahey
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baful.andy.a@edumail.vic.gov.au



**SAFETY INFORMATION OFFICER
LIST-SERV ADMINISTRATION
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Emerald Secondary College
Tel: 5968 5388
ballard.kellee.k@edumail.vic.gov.au



**ANIMAL ETHICS LIAISON OFFICER
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Westbourne Grammar School,
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condog@westbourne.vic.edu.au



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Mentone Girls' Secondary College
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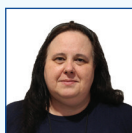
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Tel: 5942 4000
boys.jessica.j@edumail.vic.gov.au



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**GENERAL COMMITTEE
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Keilor Downs College
Tel: 9365 8000
jones.mary.l@edumail.vic.gov.au



BARBARA BLAKE

Elwood College
Tel: 9531 9566
blake.barbara.a@edumail.vic.gov.au

Please feel free to contact any member of your committee with any queries or concerns.
Members are always welcome at committee meetings. Contact any committee member for more information.

LTAV Committee Meeting Dates 2019.

The Committee meets at CBC St Kilda, 11 Westbury Street, St Kilda East and
St Michael's Grammar School, 25 Chapel Street, St Kilda.

The meetings usually go from 6:30– 9:30 p.m.

All members of LTAV are most welcome to attend. Please be in touch with the LTAV Secretary to confirm the location.

19 February, 7 May, 23 July, 10 September, 22 October, 26 November