VIRTUAL MICROSCOPE COLLECTION

USER GUIDE

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USING THE VIRTUAL MICROSCOPE COLLECTION.

About the Virtual Microscope Collection (VMC)

The Virtual Microscope Collection (VMC), is a web-service that allows students and others to zoom in on very high resolution digital scans of histological slides, make basic annotations on those slides, by adding "markers" and comments, and to see markers and comments left for you by your lecturer.

In a 'traditional' histology laboratory, you would place a glass slide with a histological section under a microscope, and then zoom in and focus on the parts of the slide that are of interest.

This requires that each student have access to a microscope, and each slide can only be viewed by one person at a time.   It's also tricky for your lecturer to point out interesting features on the slide because you can't both be looking at the same slide at the same time.

The virtual microscope solves this problem by allowing students to simultaneously zoom in and explore digital, extremely-high resolution scans of the original glass slides, and add notes and markers to the slides to help with your learning and revision.

The VMC uses Google Maps technology to allow you to zoom in or out on parts of a slide without requiring you to download a very very large high resolution image, which would take a very long time to load over most internet connections. Instead it delivers just the parts of the image you want at the zoom level you want, making it quick and easy for everyone to view the same slides at the same time.

This version of the Virtual Microscope Collection is new. It has just been released for Semester 1 of 2021. We plan to add further features to the VMC over the coming months, which may make it even more useful.

Please let us know if you encounter any bugs or issues using the VMC, - feedback is very welcome. Let your lecturer know, or email the VMC development team directly at Digital.Team@utas.edu.au.

To use the VMC collection you will need:

- An up-to-date web-browser

- A two-button mouse with a mouse wheel (or equivalent).

Access for members of the General Public

Some slides are publicly visible on this site that you are welcome explore. **Members of the general public cannot create accounts on this service**. The signed-in service is designed for University of Tasmania Students enrolled in courses that require access to additional slides. In the future, identified school groups may also be able to access slide sets designed for their use. If you are a teacher who is interested in school access to this resource please contact Digital.Team@utas.edu.au.

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PART 1: GETTING ACCESS TO THE VMC (STUDENTS)

Sensitive materials

The slides made available to University of Tasmania students will include slides of human tissues. These tissues have often been collected post-mortem from people who have donated their bodies for educational use by University of Tasmania students who are enrolled in courses that require access to those specific materials.

These materials MUST NOT be made publicly available.

YOU MUST NOT provide access or share any images or screenshots from the Virtual Microscope Collection with anyone.

This applies not just to samples taken from deceased persons, but to all materials created from human samples (whether physical or digital versions) with the consent of the persons and/or the family of the persons who have donated those samples.

It is therefore important that you DO NOT share any 'Cohort Keys' given to you with anyone.

There are some slides from animal tissues on the site that have been made visible to the public. Only those slides are accessible without logging in to the service. Logged in students can only see slides that they are authorised to view.

Accessing the Virtual Microscope Collect (VMC)

You will need an up-to-date web-browser on a computer, *with a mouse or equivalent,* to access the VMC – we do not recommend trying to access the VMC on a mobile phone.

Currently there is limited support for using the VMC on tablet devices – slides can be explored, but there is no way to create annotations on the slides (yet) using a touch screen. It is not possible to create comments without "right clicking, ctrl-clicking or option-clicking" on a slide. (This is a feature that we hope to add to the service soon.)

The website for the Virtual Microscope Collection at UTAS is:

https://vmc.utas.edu.au

When you access the site, you will see a prominent "Sign in" button in the middle of the page.

NOTE: You will not be able to sign in until you have created you account and signed up to at least one "Cohort"

You can sign up by scrolling down to the bottom of the page, where you can enter your email address and a Cohort key, then click the sign-up button, to be taken to the full sign-up page. You will be provided with a Cohort Key by your lecturer.
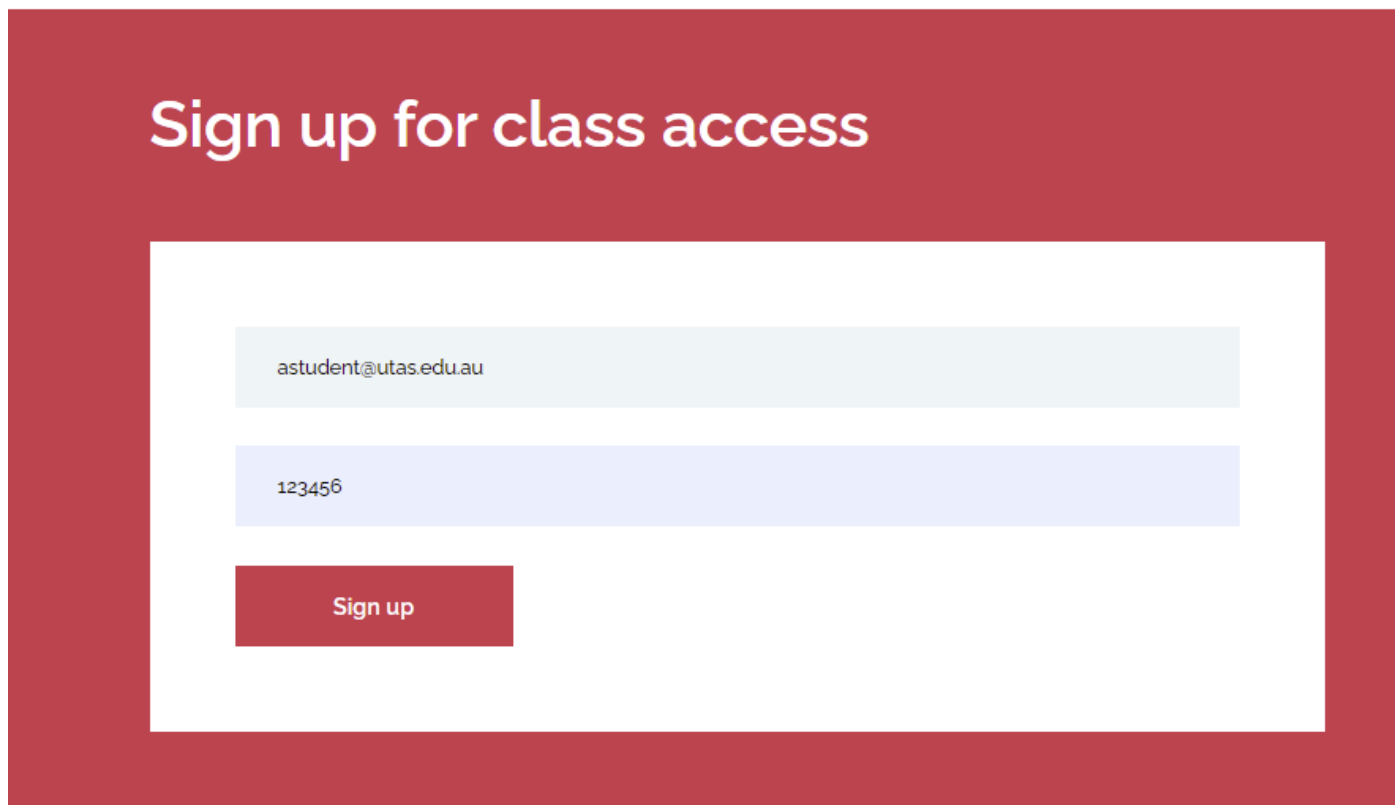
Creating an Account and "Cohort Keys"

In order to sign up, you will need a 'cohort key', an 8-Character code that uniquely identifies a set of slides that students in that class can access.

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Your lecturer will supply you with a cohort key. It is likely that you will be supplied with more than one key, so that you can access multiple slide collections. When signing up, you need to initially supply just one key. (It doesn't matter which one you use, you will add additional keys later).

<p style="text-align:center">You MUST NOT share any cohort keys provided to you.</p>

Cohort keys provide you with access to a list of slides associated with your unit, along with slide lists associated with your particular practicals or tutorials, and any annotations left by your lecturer specifically for those classes.

Creating an account

On the sign-up page, you will be prompted to create a username (we recommend leaving your email address as your username), and a password.

Please note that your Virtual Microscope Collection account is **NOT CONNECTED IN ANY WAY** to your usual UTAS account. However, for security purposes we require that your VMC account password meets the same requirements as your usual UTAS passphrase: Between 14 and 32 characters long, and should be constructed from four or more random words. Passwords cannot be a numerical sequence only.

Assuming that you have entered a valid password, email address, name, and cohort key, your account will be automatically created and you will be signed in.

You can only enter one 'cohort key' at the time that you sign up. Once you have signed up successfully, you will be taken to the 'profile' page, where you can add additional cohort keys, change your username, change your password, and even choose an 'avatar' for yourself. (But note that the only place the avatar shows is on the small sign-out button).

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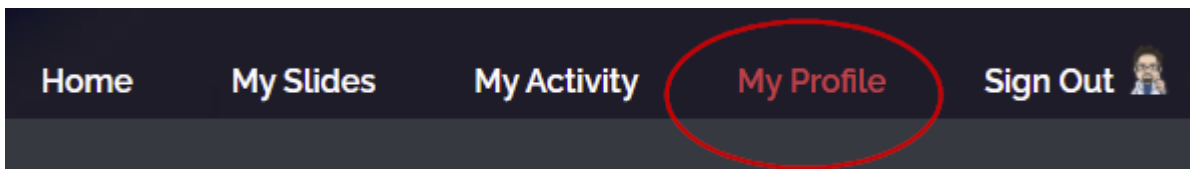## Adding Additional Cohort Keys

To add an additional cohort key, sign in (if you are not signed in already) and navigate to the "Profile" page via the menu at the top right of the website.

You should see a list of the cohorts you belong to already, and a space that you can enter a new cohort key. Enter the key supplied by your lecturer and press the "Update Membership" button.

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Signing in to the VMC

Once your account has been created you can sign in to the Virtual Microscope Collection, by clicking the "Sign in" button on the home page, or the "Sign in" link in the menu bar on the top right.

Make sure to click the "Sign-in button", not the "Sign up" button, which will take you to the sign-up page. *Note that if you already have an account, you won't be able to sign up again using the same credentials.*

Signing out of the VMC

Please remember to sign out of the VMC when you are not actively using it (using the "Sign Out" button on the top right of the menu), to ensure that others do not see sensitive materials that they are not authorised to see.

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PART 2 – USING THE VMC

Once you have signed in to the VMC you will be able to explore the slides that have been made available to you.

Start on the "My Slides" page, which you can access via the menu bar at the top of the screen.

Filtering the list to see just the slides you want

Initially you will see a list of all the slides that are available to you. Note that some slides may appear more than once because they are associated with multiple practicals etc, and might (or might not) have different annotations left on them by your lecturer (or by you).
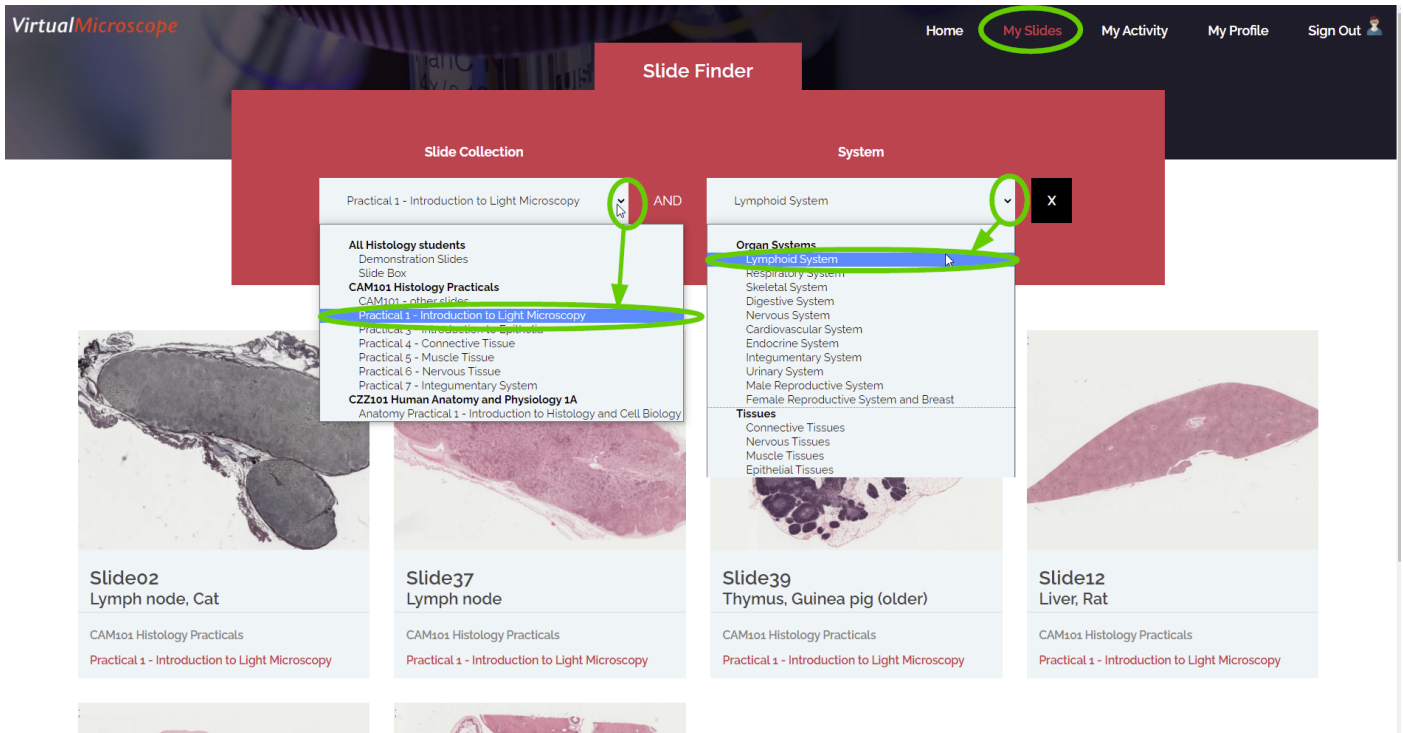
If you do not want to filter by a 'slide collection' or by a 'system' you can leave that filter blank. To clear a filter click the X button next to the filters.

If a slide has any comments attached to it , you will see a "comments" icon in the top left of the slide
These may be comments left by you or comments left by the lecturer.

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Opening a slide

To open a slide and explore it, just click on its tile!

This should open your slide in the slide viewer.

Moving around on a slide

To move around on a slide:

- Hold down the left mouse button and drag the image to the where you want it to be.

- To zoom in on slide: Scroll your mouse wheel "up".

- To zoom out on a slide: Scroll your mouse wheel "down".

- To zoom in/out to the original scale: press the "Reload Slide" button in the top middle of the screen.
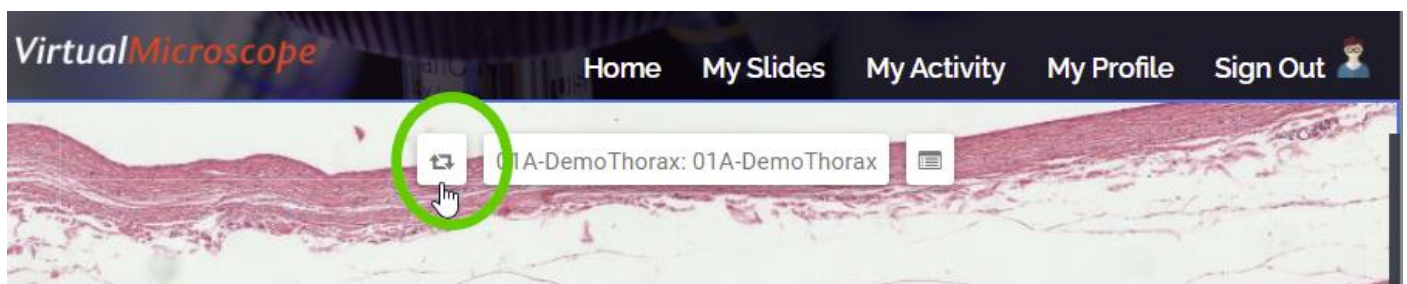
Types of Markers

There are two types of markers that you will be able so see on your slides.

	Makers you create yourself will be indicated by a blue "comment" icon.
	Makers created by your lecturers will be indicated by an " i " icon.

To Create a maker and comment.

- Zoom in to the part of the slide that you want to mark at the scale that you can see the feature of interest.

- Right-click to "Drop" a marker into place.

- Left- Click on the marker again to open its details.

- Give the Comment at title and optionally a description.

- Save the comment.

NOTE: A marker will ONLY be saved if you add a title and save it, otherwise the marker will disappear.

- You can drag the comment box off to the side if you wish by grabbing the "Comment" Heading.

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- A marker is associated with a zoom level, so that when you re-open that marker, the slide will zoom in or out to the associated scale.

Viewing a marker.

- Click on the marker to see the comments associated with that marker.

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Deleting a Marker/Comment

- Open a marker by clicking on it.

- Tick the "Delete this comment" option at the bottom of the comment, and click the delete button.

- Note that you cannot delete a comment that you did not create.
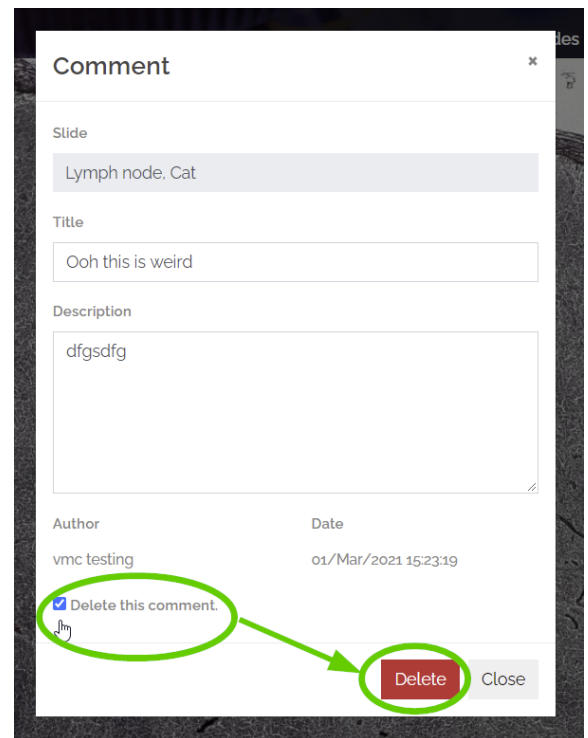
Updating a Comment

Click on a marker and optionally edit the Title or Description to edit a comment. Then click "Update".

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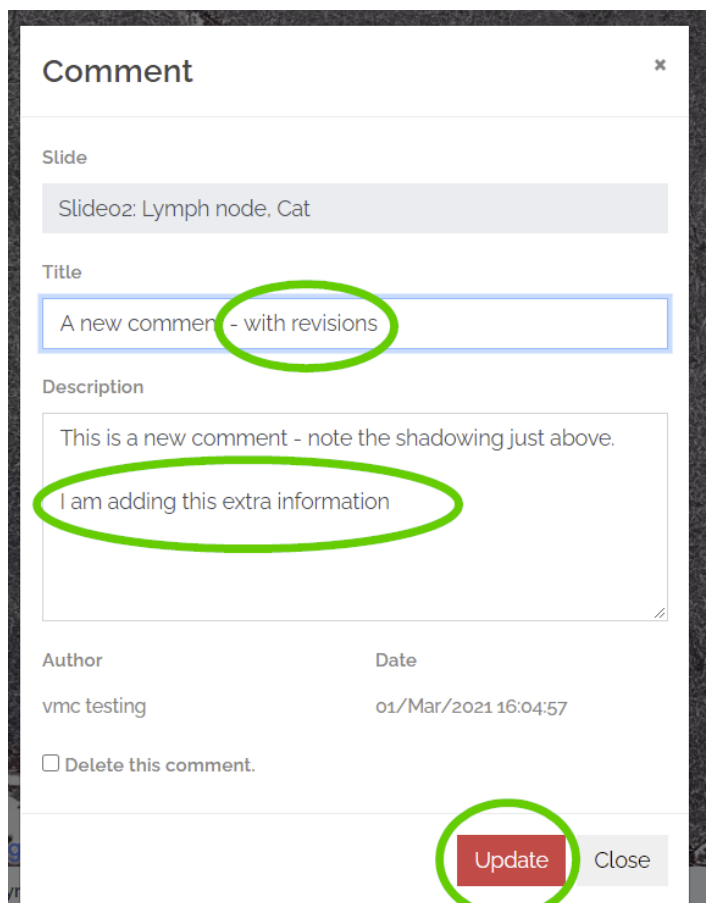
Open the slide.

Toggle the Comments List tool to see the comments for that slide listed in a side panel

Note that personal comments are indicated with the "comments" icon in the list, and that lecturer comments are indicated with an "i" icon in the list. Each comment indicates who authored it and when.

To determine which comment is associated with which marker, double click on the comment in the list to zoom and centre of the associated marker.

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Go to the My Activity page
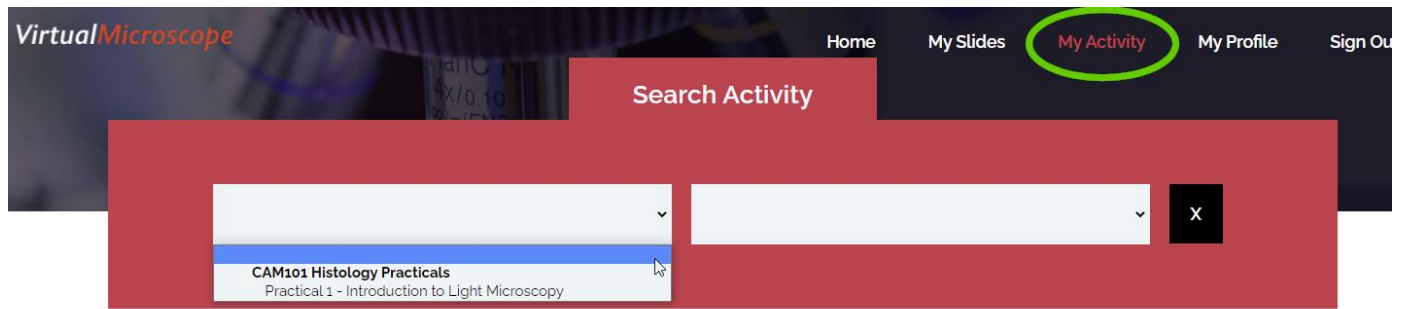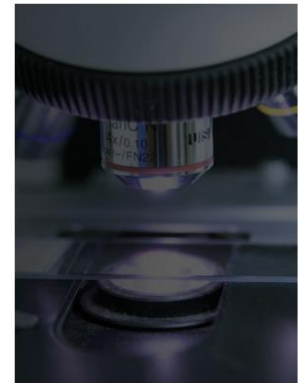
Each comment you or your lecturer has made on any slide you have access to will be listed

You can filter the comments by the same categories as per the slide tool.

👁	To open the corresponding slide and comment, click the "eye" icon next to the comment. (You will probably have to drag the "comment" box out of the way, as it is likely to obscure the marker.)
🗑	You can delete comments that you made from here directly by clicking the "rubbish bin" icon.

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