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OTTAWA PC NEWS

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ARTICLE

A Multiplicity of Linux Distros

by Alan German

Users who are new to the world of Linux are usually astounded, if not actually overwhelmed, by the large number of available versions of this free operating system. Certainly the sheer number of options can make the choice of an appropriate distribution difficult. At worst it may lead to "choice paralysis" and the inability to make an initial selection.

DistroWatch (https://distrowatch.com) is the leading resource for identifying available Linux distributions, currently listing more than 1000 products. This figure includes active, dormant, and discontinued versions, in addition to a number of Berkeley Software Distribution (BSD) variants. Restricting the listings to just active Linux distributions still provides 399 choices! So, let's dive deeper into the main options and see if we can identify a practical starting point.

But first let's quickly review the difference between Linux, the Linux kernel, and a Linux distribution or distro. For most of us, the Linux kernel is the heart of the black box that is the operating system. It manages all the system tasks such as timing and scheduling of CPU operations, handling data input and output for peripheral devices, and enforcing security protocols. A Linux distribution builds on the kernel by adding utilities and applications such as a file manager, a text editor, office suite, web browser, E-mail client, and a media player.

So, why is it that there are so many distros to choose from? The short answer is that Linux and most of its associated applications are developed from open-source software. The open-source license specially allows the reuse and modification of the code, and requires that any redistribution of developed products be provided under the same licence terms. As a result, anyone is free to use the baseline code and packages to craft a customized version of the Linux system and release their specific distro to the world. In particular, most distros use the same version of the Linux kernel but vary widely with respect to the ancillary software that is bundled with the kernel to provide a specific distribution.

Developers can be corporate entities, community-based development teams, or even individuals. They create new distros for a variety of reasons. Some developers focus on making things simple for beginners while others have advanced users in mind. Distros may target single users or enterprise environments, and be suited to use on individual PC's or as network servers. Different philosophies can also be the basis for different distros. Some developers wish to provide long-term stability and only make new versions of their distros available at specific times (point releases), while other development teams want to be at the cutting edge of technology and make frequent changes (rolling releases) as soon the included software is updated. Developers can also have different preferences for various components of the Linux system, including the file system, software repositories, package management systems and, very commonly, the pre-installed packages.

The net result of all the above is multiple choice. This can be both a good and a bad thing depending on the outlook of the end user. For those coming from the Microsoft Windows world, the freedom of choice among so many distros can be overwhelming. For individuals with even a little Linux experience, the wealth of options - and especially the level of control offered by each distribution - is simply unmatched.

Looking at the range of available Linux distributions, the short list for those that perhaps best fit the major usage categories has three main players. Debian is a stable release which offers long-term support for any given version. Arch Linux features a rolling-release model and provides cutting-

(Continued on page 8)

Inside this issue:

Next Meeting: WEDNESDAY, May 13th, 2026

Next Meeting

Wednesday, May 13th

Ask the Geeks!

OPCUG Geeks: Alan German, Chris Taylor, Harvey Hope, Steve Parker, Tom Trottier

This month's meeting will take the form of a super-Q&A session. We will have a panel of self-proclaimed "geeks" (or are they "experts"?) available to answer all of your computer-related questions. At least. they will provide the answers provided that they have sufficient expertise! So, that's going to be the challenge. In contrast to our normal Q&A sessions, we will not have a PowerPoint deck with prepared questions and answers. Instead, we invite you to test our panel's mettle with your real-time queries! So, come to the meeting with your question readily at hand. If there are no questions, it could be a very short meeting. On the other hand, there could be some useful insights into the solutions to various issues, and some very interesting discussions if our experts don't actually agree on the answers!

This meeting will be via Zoom video conference.

Join us at **https://tinyurl.com/opcug-meeting**. The Zoom link will be live at 7:15 pm. The meeting will begin at 7:30 pm.

Coming Up…

22 Apr
Next weekly Q&A session

10 Jun (6 PM)
Annual Pizza Night (must register, see next page)

09 Sep
Artificial Intelligence (AI): fun and useful tips (Chris Taylor)

14 Oct
Vibe Coding Competition (**participants needed**, see page 5)

See all our scheduled events **here**.

OPCUG Presentations at the OPL:

Thursday, 23 Apr, 2:00 pm - 4:00 pm
Windows 10 end-of-life – what's next? (Alan German)
Video conference (OPL)

Monday, 27 Apr, 2:00 pm - 4:00 pm
The ins and outs of electronic mail (Chris Taylor)
Centennial Branch

Thursday, 30 Apr, 6:00 pm - 8:00 pm
Organizing and showcasing your photos (Lynda Buske)
Rosemount Branch

Saturday, 02 May, 2:00 pm - 4:00 pm
The ins and outs of electronic mail (Chris Taylor)
Cumberland Branch

Monday, 04 May, 6:00 pm - 7:00 pm
Armchair travel: Iceland (Lynda Buske)
St. Laurent Branch

Wednesday, 06 May, 2:00 pm - 4:00 pm
Keeping passwords safe (Chris Taylor)
Video conference (OPL)

Thursday, 07 May, 2:00 pm - 4:00 pm
Protecting your PC (Chris Taylor)
Metcalfe Village Branch

See all our presentations with links to the OPL **here**.

CALENDAR

Event	Date	Time and Venue
Next Monthly Meeting	Wednesday, May 13th	7:30 pm via Zoom video conference: https://tinyurl.com/opcug-meeting See all our scheduled monthly meetings **here**.
Next Q&A Session	Wednesday, April 22nd	Q&A sessions are held weekly except on monthly meeting nights. Join us most Wednesdays at 7:30 pm for **weekly Q&A**.
Next OPL Presentation	Thursday, April 23rd	See all our presentations with links to the OPL **here**.

SPECIAL EVENT

ANNUAL PIZZA PARTY

FOR OUR MEMBERS AND THEIR GUESTS

When: Wednesday, June 10, 2026, **6 PM**
Where: Britannia Park Trolley Station (**see images at right for directions**)

Once again we are approaching the end of an OPCUG season, and once again we'll celebrate with pizza, drinks (pop, water) and dessert**. This is free and only for OPCUG members and their guests**.

The event will be on June 10 at **6 PM**. It will be at the **Britannia Park Trolley Station** which is sheltered in case of rain and has free parking in an adjacent lot.

To help with planning, we're asking you to register by email at **pizzaparty2026@opcug.ca**. Tell us how many guests you are bringing and your pizza preference (e.g. combo, special, meat lover, vegetarian, gluten free, etc.). **If you have trouble climbing into a picnic table, please let us know in the email and we will try to make accommodations** (we can provide card tables & chairs and ask the park if it can re-orient some picnic tables to expose more end-of-bench seating spots).

We look forward to seeing you and your guests!

Map of Britannia Park (open in Google Maps):

Britannia Park Trolley Station (see more photos):

Sky view of Trolley Station and parking (view larger):

THROUGH THE LENS

A guide to digital photography for computer enthusiasts. After the click of your camera, you're only half done!

Springtime photography!

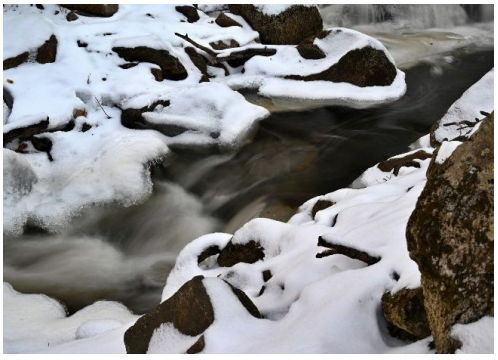
by Lynda Buske

I do a fair amount of photography in the winter but I realize others are not inspired until spring arrives! This article focuses on tips for shooting early blooms like tulips and crocuses as well as spring runoff. Both of these subjects are close at hand in the Ottawa area so lucky us! There are many icy rivers that begin to melt in April and depending on the exposure (or lack thereof) to the sun, there may be still a bit of ice in May.

There are many rivers in the Ottawa/Gatineau area that will be bursting with extra water for the next while. Within the city, you can see the runoff at Hog's Back Falls, Rideau Falls, Chaudiere Falls or Princess Louise Falls. If you prefer a more natural setting, there is flowing water in Almonte, Pakenham, Blakeney Rapids and multiple spots along the Rideau Canal system. On the Quebec side, you can visit falls near Luskville, Wakefield, Kingsmere or Meech Lake (Carbide Wilson ruins) that are all quite accessible.

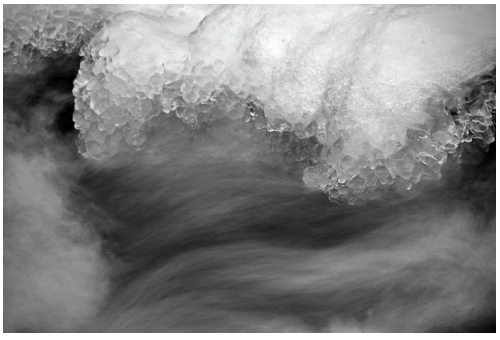
The thing I love best about ice is that the formations are completely different every year or even day by day. You can shoot same location each year and you will have unique images depending on the winter freeze/thaw patterns. When the spring temperatures melt the water, it adds to the beauty and gives a great opportunity for long exposures. So, get your tripod ready or set your camera on something steady. Alternatively, you can set your cell phone to long exposure and hold it as still as possible. It will take multiple exposures and combine them so the water is soft but everything else is in focus. However, you don't have the same control as you do with a traditional camera/tripod combo.

If using a DSLR or mirrorless, be sure to take the ISO off auto and set it to 100. Your camera does not know you are using a tripod and will automatically try to bump the speed by increasing the ISO because it doesn't believe you can hand-hold the camera and get an image without motion in the frame. This means you may not get the smoothness in the water you want and it may add graininess in low light situations. Once you are on a tripod, one option is to set your camera to shutter priority, select the shutter speed you want and the camera will adjust the aperture. Or you can set the aperture priority, set the aperture for the depth of field you want and then see what the speed will be. In either situation, you may find the camera cannot give you the speed you wish due to too much light. In this circumstance, use a neutral density filter which will cut down on the amount of light by anywhere from 2 stops to 8 stops or even more. This is particularly useful on sunny days when the light is reflecting off snow. If you don't have a filter, choose an overcast day and as small an aperture (high number) as possible. *(continued on next page)*

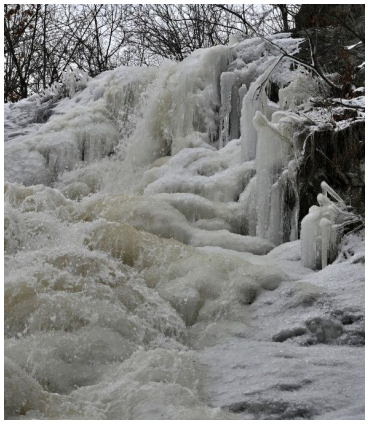


f14, 1.3 sec, ISO 100

Cell phone set to long exposure



f8, 1/3 sec, ISO 100



f11, 1/200 sec, ISO 100

Photography *(Continued from previous page)*

As the snow is disappearing and the ice is melting, the tulips and crocuses are getting ready to bloom. The best tip I can give you is to get down low when you photograph them. Otherwise, you end up with a lot of dirt in your image as there is no green undergrowth at this time of year. If you want to shoot a single blossom, make sure it fills the frame and there is a soft background (wide aperture) so again less mud visible.

Too much visible mud

Shoot lower.

Catch early morning or late afternoon light.

Choose a wide aperture for soft background

*Read all of Lynda's articles **here**. See her **presentations** at the Ottawa Public Library (select **Lynda Buske** as **Organizer**).*

Vibe Coding Competition, Oct 14th ***Participants needed!***

OPCUG will offer two prizes for submissions using vibe coding in a competition to be held at the club's monthly meeting in October. **Holding the competition will be subject to having multiple entries submitted.** The use of vibe coding will be on the honour system. For those providing entries (**non-members welcome!**), there will be two prizes offered: (1) the most useful product, and (2) the best presentation of the development process. Note that the project doesn't have to be successful for this second portion of the competition. Stories of trials and tribulations, and even abysmal failure will be happily accepted. So, get started on your vibe-coding project. You have lots of time to refine both the code and the associated presentation. When you are ready, submit your entry to the competition to: SuggestionBox@opcug.ca.

(See the article "You Too Can Be A Programmer" in the March Newsletter.)

APCUG ARTICLE

Lifespan of Various Digital Recording Media[1]

By Joel Ewing, President, Bella Vista Computer Club
Bits & Bytes, March 2025
https://bvcomputerclub.org
president (at) bvcomputerclub.org

Floppy Disk

Sometimes the media was even bad when new. Claimed lifespan of 3 to 5 years, although maybe 10 years under ideal storage conditions. Shorter life if heavily used because read/write heads physically contact the recording surface and rub oxide off the surface causing physical damage over time.

CD and DVD

Unrecorded (blank) CDs and DVDs have 5 to 10 years of shelf life! Life expectancy of recorded CDs and DVDs may be as short as 2 to 5 years, could be a long as 10 to 25 years depending on the media quality and conditions under which they are stored. Improper handling can scratch the surface and destroy data. Use of inappropriate markers or adhesive labels on a DVD can also render data unreadable.

Hard Disk Drives

It is reasonable to expect a HDD that is heavily used to last 3 - 5 years. Moving mechanical parts will eventually fail. I have also seen lightly used HDD drives that have lasted as long as 10 years, but usually by that time they are obsolete for other reasons. There are reports that under ideal storage conditions a hard drive can be stored for 20 years and still retain its data.[2] Magnetic signals tend to deteriorate with time and can also be affected by temperatures over 90° F or by exposure to other magnetic fields. Exposure to excessive humidity can also corrode internal components and shorten the HDD life.

Flash Storage (Thumb Drives)

These devices are typically designed to last 3 to 5 years based on "normal" usage, although some manufacturers offer much longer warranties, even up to a lifetime warranty. Every write or erase cycle shortens the device life by a little bit, but these devices can be designed for durability and longevity if you are willing to pay more. Storage at elevated temperatures also shortens their life. I've used maybe 25 different thumb drives over the last 25 years, but most of them are lightly used. One is still working after over 20 years. Only one has completely failed, and that was one I was given that had an unknown history.

Solid State Drives (SSDs)

These are faster and more durable than thumb drives (which also contain solid-state storage). Like thumb drives, write and erase cycles eventually will wear out the device, but current SSDs are designed to spread the wear more uniformly across the physical storage. For that logic to work well, some recommend you should always leave 10% to 30% of the SSD storage space unused. The Operating System or a user may write data repeatedly in the same logical sectors of the SSD, but internally the SSD will store the data in different physical memory locations to distribute the wear across all parts of its storage. Most SSDs can last over 5 years and the most durable units over 10 years. Many SSDs have a wear indicator that counts down from 100% to 0%, which shows how much longer they can be used. One recommendation is that an SSD should be replaced once its media life remaining is less than 10%. Some SSDs may be better at retaining data in storage than others. An SSD should be able to retain data without power in storage for a minimum of 2 to 5 years, while some SSD manufactures claim retention for 15 - 20 years without power.

What This Means If Indefinite Archival is required

Since all media has some finite lifetime, and in some cases the drives that can access a particular media may become increasingly difficult to find, no archive media can last forever. This means either the old archived data must be copied from the old media to new media, or new backups must be made to new media before the old backup media has reached end-of-life.

This is one of the current limitations of digital archival, in that current record media can only be dependably stored for decades at best. Contrast that with archival of printed documents on high-quality paper that can be expected to survive in readable form for centuries if properly stored.

I wasn't that aware that blank CDs and DVDs can also deteriorate in a few years. I strongly suspect some of the CD blanks I still have around and rarely use are probably well past the recommended shelf life and may need to be discarded. It's even possible my impression that CDs are less dependable than DVDs may actually be an indication of the age of my CD blanks.

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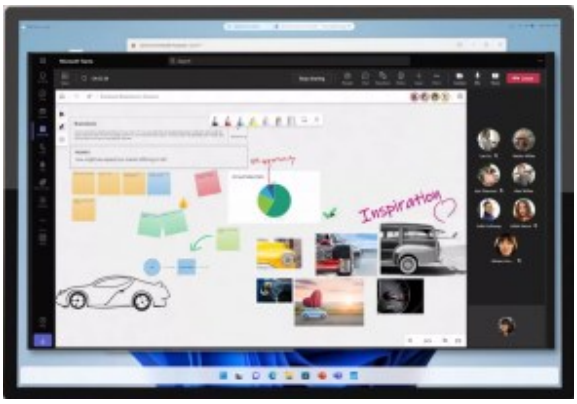
1. Mostly from https://www.arcserve.com/blog/data-storage-lifespans-how-long-will-media-really-last
2. https://datarecovery.com/rd/how-long-can-a-hard-drive-last-in-storage/#:~:text=The%20data%20retention%20rate%20of,retain%20all%20of%20its%20data.

Windows 12 - Coming Soon? Already Here?

By: Tom Burt, Vice President
Sun City Summerlin Computer Club
https://www.scscc.club
tomburt89134 (at) cox.net

Over the past year in the technical media, there have been vague rumors of an upcoming "Windows 12" release. Much of that was just speculation with not much actionable substance. However, one of our club members recently emailed me, wanting my thoughts on whether she should buy a new Windows 11 PC now, or wait for Windows 12 to be released.

I decided I should check Google for the latest news on Windows 12. I was surprised to find articles and videos suggesting Windows 12 has solidified into a real proposition. Here's a link from PC Magazine, followed by a screen shot and some commentary:
https://www.pcmag.com/articles/what-to-expect-in-windows-12-leaks-rumors-and-more.



Potential Windows 12 desktop layout at Ignite 2023 (Credit: Microsoft/PCMag)

The (perhaps intentionally) blurry image features a floating search bar at the top, a floating taskbar, system icons in the top right corner, and a weather button in the top left corner.

Here are a few more links:
https://www.pcworld.com/article/2575344/windows-12-wasnt-mentioned-at-ces-2025-thats-a-good-thing.html
https://www.youtube.com/watch?v=5Lg2zCawIw
https://www.youtube.com/watch?v=8J8hkY9828g

However, careful review showed most of the Windows 12 commentary was written in early 2024 and the videos are all speculative mockups. There's little official news from Microsoft. The video mockups are also seemingly based on images in a slide deck presented at the Microsoft Ignite 2023 conference. Given it's only about 8 months to the putative release date, it seems unlikely (but not impossible) that there will be a Windows 12 release in late 2025.

What did happen is that the fall 2024 release of Windows 11 24H2 included much of the feature content that the technical media had anticipated would be in "Windows 12". This included major revisions to the internal layers of Windows for more modularity, better performance, better security and support for "on-PC" AI. This part of the release was code-named: "Germanium".
The release of Windows 11 24H2 also saw the large PC makers release a new generation of "AI PCs". These came with more memory, larger solid-state drives, higher-end graphics cards or chips and new "AI" CPU chips from Intel and AMD that included high performance neural processing units (NPUs). All this was to support the rollout of Microsoft's Copilot AI technology in both Windows and MS Office.

So, at its core, Windows 11 24H2, essentially *was* the anticipated Windows 12, released 3 years after the original Windows 11. What was not included were some of the expected changes in the user experience (UX) layers of the OS (the desktop, taskbar and start menu, the window manager and the File Explorer). Microsoft often seems to have "Apple Envy" and tends to adopt some of Apple's UX into Windows.

It's possible that Microsoft *could* release something called Windows 12 in fall 2025 that would incorporate a revamped UX and perhaps more integration of the Copilot UI. There's some talk of Copilot evolving to have "agent" capabilities.

However, for now Microsoft is quite silent about Windows 12. One big issue Microsoft has is that, as of January 2025, only about 1/3 of the base of Windows PCs is running Windows 11. Close to 2/3 of Windows PCs are still running Windows 10. Those Windows 10 PCs are scheduled to become "unsupported" (no further security fixes) as Windows 10 reaches its "End of Life" date of October 14, 2025.

But many Windows 10 users don't like Windows 11 and don't want to upgrade. Also, the hardware (CPU and Trusted Platform Module) of many Windows 10 PCs is not officially supported on Windows 11; those users will have to go buy new hardware. This is reminiscent of Windows 7 users avoiding Windows 8 in droves until Windows 10 was finally released. Possibly a Windows 12 release, if its new UX were compelling, would stimulate more users to switch from Windows 10.

(Continued on next page)

Windows 12? *(Continued from previous page)*

Final Thoughts

Major Windows upgrade cycles are comparatively seismic events in the PC universe. The PC makers have to re-brand their products, update documentation and decide what to do with unsold inventory that has the "old" version of Windows installed. There's a vast industry of educators, writers and consultants who now have to learn the new OS and update all their products for the new OS. Businesses that use Windows have to adjust their plans and in-house training. The retail PC channels, both brick and mortar and online, have to retool their marketing, advertising, sales and customer support teams. All this will entail large costs and lots of effort.

If Windows 12 is to come out late in 2025, much of that effort has to get going very soon. And so far, there's no overt sign of it. It looks like Microsoft, for 2025, is more focused on getting its Copilot AI technology widely adopted, especially by their business customers. The Copilot technology is expected to create a new revenue stream for Microsoft through purchase of AI "tokens". I suspect Windows 12 can wait until the fall of 2026.

As to buying decisions, it's highly likely that any quality Windows 11 PC purchased today will be upgradable to Windows 12 when it's released. So, if you're ready to upgrade from Windows 10 by buying a new PC, and you see a good deal, especially on one of the "AI PCs", you might as well go for it. With the prospect of higher tariffs on imported PC components (chips, memory, disk drives), which mostly come from foreign sources, the prices of new PCs may actually go up over the next year or two.

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Linux *(Continued from page 1)*

edge features. Red Hat Software is the developer of Red Hat Enterprise Linux (RHEL), a commercial distribution widely used in businesses, data centres, and cloud storage providers.

These main distributions are flanked by various distros that use the main packages as a base. For example, Ubuntu and Linux Mint have been spun off Debian; distros like Manjaro, EndeavourOS and CachyOS are based on Arch Linux; while Red Hat Software is the primary sponsor for The Fedora Project, a community-based distro, and has spawned other distros such as Rocky Linux and Alma Linux.

There are various other Linux distributions whose names may be familiar, including Slackware, Gentoo and SUSE/openSUSE. Slackware is the oldest surviving Linux distribution and continues to focus on simple, Unix-like design, affording users exceptional control but expecting them to manage items such as system configuration. Gentoo is extremely flexible, allowing high levels of customization and optimization for specific hardware configurations. It's a source-based distribution and most software, including the Linux kernel, is normally built from source on a local computer. As such, this is definitely a distribution for advanced users. Like Red Hat and Fedora, SUSE and openSUSE are cousins in the enterprise and regular user spaces. SUSE Linux Enterprise (SLE) is designed for mission-critical servers and corporate environments while openSUSE is its community-based counterpart.

These mainstays of Linux are associated with a multitude of additional derived distributions. In addition, several independent distributions exist. These often experiment with lightweight design, advanced features, or alternative package management systems. For example, Alpine Linux prioritizes minimalism and security, making it ideal for headless servers and containerized environments.

The sheer number and diversity of available Linux distributions means there is almost certainly one that will meet the needs of any given user. The real challenge is choosing a starting point. Fortunately, with access to AI-based chatbots, a helpful recommendation may be only a single prompt away.

For example, asking "Which distro would you recommend for a Windows 10 user with no prior Linux experience?" generates the following (abbreviated) responses:

ChatGPT — Linux Mint Cinnamon — most natural step from Windows 10 with minimal headaches.

Perplexity AI — Linux Mint Cinnamon is the top recommendation for a Windows 10 user new to Linux.

Microsoft Copilot — Linux Mint Cinnamon is the easiest, least frustrating, and most familiar starting point.

If your needs closely match this basic scenario, all three chatbots converge on the same answer. Still, it's worth remembering that this is only one option among many. One of the great advantages of open source is that software can be freely downloaded, installed, tested, and even discarded, at no cost beyond the time invested. And once you've gained a little hands-on experience, you'll be in a much better position to ask more informed questions — and ultimately discover the Linux distribution that suits you best.

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OTTAWA PC NEWS

Ottawa PC News is the newsletter of the Ottawa PC Users' Group (OPCUG), and is published monthly except in July and August. The opinions expressed in this newsletter may not necessarily represent the views of the club or its members.

Member participation is encouraged. If you would like to contribute an article to Ottawa PC News, please submit it to the newsletter editor (contact info below).

To receive the monthly newsletter by email, send an email to:
opcug-newsletter+subscribe@googlegroups.com (leave subject and body fields blank)
You do **not** need to create a Gmail or Google Groups account.

To subscribe to other OPCUG Google Groups member services, go to:
https://opcug.ca/google-groups-how-to/

Group Meetings

The OPCUG holds its regular monthly meetings on the second Wednesday in the month via video conference (details at https://opcug.ca/venue/).

OPCUG Membership Fees:	$20 per year (**https://opcug.ca/join-or-renew**)	
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Director w/o Portfolio		
Karen Wallace-Graner	**karenwg@opcug.ca**	

Q&A IS ON-LINE! Weekly!

Since the pandemic, the OPCUG has been holding weekly Q&A sessions in Zoom video-conferences.

Join us every Wednesday (except on regular monthly meeting nights) at 7:30 pm to discuss computer issues. Questions (and answers) on any computer-related issue are welcome. Or, do you have a favourite computer program or topic that you would like to share with the group? Send your questions, answers, or the details of what you would like to share to: SuggestionBox@opcug.ca

Everyone is welcome to attend Q&A sessions and to ask questions about their specific computer-related problems. Join us at: https://tinyurl.com/opcug-meeting (if you use the Zoom client, the meeting ID is **924 9556 0898** and the password is **opcug**).