THE CANADIAN COUNCIL OF THE BLIND WHITE CANE MAGAZINE 2020 ite The Voice of the Blind™ in Canada ell Reval **1** TORONTO nk INSIDE CCB PRESIDENT WALKS
RED CARPET AT TIFF • CCB PERSON OF THE YEAR – DONALD GRANT **ISA**  SPECIAL SECTION – LIVING WITH VISION LOSS • UNDERSTANDING ACCESSIBLE TECHNOLOGY

• A NEW KIND OF OCR





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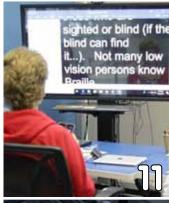
CCB National President Louise Gillis and Dr. Peter Kertes on the TIFF 2019 red carpet for the AMD campaign premiere.



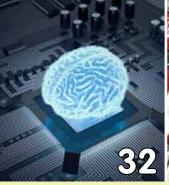


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# REFLECTIONS AND EXPECTATIONS



The ATP touches
people with disabilities
of every age and in every
facet of their lives.
The program provides
hope for all of us who
live with blindness, but
most importantly for
those of us who have
been left behind.

-Louise Gillis

As we enter the year of 2020 (20/20 vision), I want to reflect on our exciting 75<sup>th</sup> anniversary year of 2019. Beginning early in the year with White Cane Week, the Canadian Council of the Blind (CCB) became better-known throughout Canada as well as globally.

The Experience Expo held in Toronto during White Cane Week was a great success, with hundreds of attendees and a high level of engagement. A panel forum on accessible technology took place during the Expo to a packed audience.

This forum led to our undertaking an online survey of CCB members and a wide group of people with vision loss from a number of different organizations and stakeholder groups regarding their current usage of assistive and adaptive technologies and their projected needs for these devices. In a project undertaken for the federal government's Accessible Technology Program (ATP), we subsequently compared the findings of our survey with those reported in the Canadian Survey on Disability conducted by Statistics Canada in 2012 and 2017. Our report identified areas where gaps existed with respect to the use of assistive technology by people with seeing disabilities and made recommendations for improvement of the ATP, a number of which are being adopted, including that commencing in June 2020, all potential projects submitted to ATP for funding must have a training element attached.

Last year, the CCB was involved in many facets of planning with the government to get Bill C-81 in order as it moved through the channels to be approved and enacted as the Accessible Canada Act in June and July. Now that we have this Act, there's more work to be done regarding regulations and policies so that no one is left behind.

To encourage the forward movement of the Act, the CCB is working with federal corporations and organizations of people with disabilities to provide input on the policies and regulations as they will be published in 2020. It's important to work with a unified voice to ensure better results for all.

Throughout 2020, we'll be encouraging greater emphasis on vision research in Canada, among other issues such as the prevention of blindness through education on the importance of regular eye exams, the prevention of injuries, our aging population and what it means, and the active participation of younger people in blindness-related activities and organizations.

We'll be working with the government and clinicians regarding vision health policies, accessing new treatments, arranging mobile clinics, continuing research, and encouraging leadership and technology programs.

Through these efforts, we'll be working with other organizations of the blind,

#### SEVENTEENTH ANNUAL WHITE CANE WEEK™

including Fighting Blindness Canada (FBC), the CNIB, the International Federation on Ageing (IFA), the Best Medicines Coalition (BMC), and government agencies, as well as other groups or individuals as needed.

Throughout all this important work, the CCB will continue to maintain other advocacy work and programs such as GTT (Get Together with Technology), curling and many other sports and recreational programs, and book clubs. These programs are meant to improve the quality of life for those living with sight loss. As our mandate requires, we endeavour to look for ways to prevent blindness and to assist those with vision loss to become a bigger part of society. We also endeavour to maintain a working relationship with other organizations.

The CCB, together with other partners, will hold a Canadian Vision 2020 Summit to share the key issues facing the vision loss community, with the purpose of encouraging public policy and solutions to address these issues. Keep your eyes open – pardon the pun – for further news as we move through 2020.

Louise Gillis

Louise Gillis, National President, CCB



Shown here is Louise Gillis, CCB National President, presenting the CCB's 2019 Person of the Year Award to the Honourable Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion.



Shown here is Louise Gillis (centre left), skip of Team Nova Scotia, being presented with the 2019 AMI Canadian Vision Impaired Curling Championship trophy by Peter Burke (centre right), VP of Marketing and Communications at AMI.

#### FROM LEFT TO RIGHT:

Sidney Francis, Mary Campbell, Terry Lynn MacDonald, Louise Gillis, Peter Burke, Mike Vrooman, Jim Simmons, Garth Nathanson.



OTTAWA CURLING CLUB February 3 – 7

# Today's Canadian Council of the Blind











#### **Moving Past 75 Years**

The Canadian Council of the Blind (CCB) is the Voice of the Blind™ in Canada. Founded 76 years ago in 1944 by returning blind veterans and schools of the blind, the CCB is a membership-based registered charity that brings together Canadians who are blind, living with vision loss, or deaf-blind through chapters within their own local communities that provide the opportunity to share common interests and social activities. The CCB works tirelessly to improve the quality of life for persons with vision loss through advocacy, awareness, peer mentoring, sports adapted for persons with sight loss, and the promotion of health and fitness.

The CCB works with several national organizations of and for the blind, heath care organizations, various accessibility committees, and international organizations all dedicated to improving the well-being of those living with sight loss. Through these relationships, we all come to a better understanding of the barriers faced by those living with sight loss in our great country.

The CCB is proud of these efforts to change what it means to be blind and of its leadership role through initiatives that call for the provision of the very best in available medical treatments and the fostering of patients' rights, all while recognizing that blindness and vision loss are preventable.

#### What the CCB Does

- √ Strives to improve the quality of life for the blind and vision-impaired;
- √ Works to promote peer support, as with the CCB's national Get Together with Technology program, for those living with vision loss;

- √ Provides programs and initiatives for the conservation of sight and the prevention of vision loss for all, including through Mobile Eye Clinics, public awareness, and campaigns for vision health through regular eye exams;
- √ Provides programs designed to promote active healthy living, including sports and recreation;
- √Through research and advocacy, works to promote opportunities for employment and education through training in accessible technology;
- √ Provides access to information with training in computer literacy skills, communications, and support of library services:
- √ Works continuously to strengthen its membership, build on its 84 chapters across Canada, and promote a sense of purpose, self-esteem, and an enhanced quality of life amongst its members;
- √ Monitors and advocates all levels of government on relevant legislation and services that affect the needs and interests of the blind and vision-restricted community;
- √ Stands as the Voice of the Blind™ for equal treatment with full disclosure, services, and rehabilitation for the blind and vision-impaired without limitation or discrimination, and;
- √ Continues to grow and develop public awareness through White Cane Week, Experience Expo, Expo Panel Forum 2020, White Cane Magazine, and the Canadian Vision Summit 2020, along with all other economic interests of the blind and vision-impaired. □



#### This New Decade Demands a New Vision for Blind Employees

White Cane Week provides us with a time to reflect upon our successes as a community, to celebrate our achievements, and to highlight those of us who have made incredible accomplishments despite vision loss.

I believe that an important aspect of the week is also to shed light on the work that still needs to be done to eradicate the barriers that lie in the road ahead. White Cane Week provides us with a chance to advocate for these changes.

As we close out a decade and welcome the 2020s, incredibly, a huge percentage of the blind and vision-impaired community remains unemployed or underemployed. Sadly, Canadians

have seemingly become resigned to this situation, and I worry that our community is starting to as well. This is simply no longer acceptable in today's society.

Given the astounding rate at which technology has grown over the last decade, and with it accessible technology for the blind, one has to question why our community isn't using this technology to their full advantage...or are we? Maybe something else is going on here.

The Canadian Council of the Blind's A Needs Report on Accessible Technology clearly indicates that although assistive technology is more available today, if it isn't compatible with software used in the workplace, it's of no use to vision-impaired individuals.

Scratch the surface a little, and we find that assistive technology is cost-prohibitive, often not available in a timely manner, lacks associated training, and struggles to keep up with ever-changing technology in the workplace.

This is why an inclusive approach for employers purchasing any technology that involves the user in the procurement stage through to set-up and training is absolutely necessary in order to enhance employment as well as opportunities for vision-impaired people once they're in the workplace.

The high unemployment and underemployment rate in our community can be examined from many different angles. Personally, I believe it all boils down to three things: perception, perspective, and attitude.

Let's first examine perception. Unfortunately, blind and vision-impaired people are too often perceived as not fully capable, as a group that needs to be coddled, and as people who can't get the job done by ourselves. Nothing could be further from the truth. Many people from the blind community live incredibly rich and fulfilling lives, are dedicated and hard workers, and are fiercely independent. We can do anything anyone else can; we just need to do it a little differently.

Here's where my second point comes in: perspective. Let's put things into perspective for a minute. A typical working day for a blind person may look something like this: they have to get to their office, navigating any obstacles in the way – an especially tricky endeavour in the icy depths of winter. Once they arrive at the office, co-workers or clients may stop by their desk, and if they don't identify themselves, the person may have to guess who it is they're talking with. They then will most likely be using some sort of technology to perform their duties, which may or may not be compatible with their assistive technology. As much as we're moving to a paperless society, we're not there yet, and if printed material is used on the job, an accommodation is required. Maybe they have a meeting scheduled – will a slideshow be used? Will there be handouts? Diagrams? If so, all of this may require adaptations so the individual can render the information in a meaningful way.

These are many things that employees with sight simply don't even notice as they go about their day.

This in turn leads to my third point: attitude. Unfortunately, many of the barriers to employment that we face stem from uninformed opinions or lack of knowledge of the true capabilities and abilities of the members of the blind community. These attitudinal barriers are very real to an individual trying to find employment in today's marketplace. I believe as we raise awareness, through activities showcased during White Cane Week for example, the sighted community will get some perspective into our lives and these attitudes can change, allowing us to grow into a more inclusive community.

It's a no-brainer. By breaking down barriers to employment, everyone wins. The more workers we have from the blind community, the more diverse our workforce is, leading to innovation and new ways of doing things. It means more people paying taxes, supporting the economy by spending their hard-earned dollars, and, most importantly, a sense of accomplishment and fulfillment for the individual worker.

White Cane Week provides an excellent opportunity to raise these issues to our politicians, our communities, and our employers. It's a chance to remind all Canadians: we're here, we want to work, and we'll continue to fight for our rights to live on an equal playing field with our sighted peers.

Mike Potvin, Editor, 2020 White Cane Magazine



#### It's the Morning Show with Attitude!

Join Dave Brown and his guests live weekdays at 9 a.m. ET for a roundup of current events and lively discussion.

NOW with Dave Brown is a show for everyone. We're not just thinking inclusivity through a disability lens, but one where everyone is welcome to start their day with us.

- Dave Brown, host

## NOW with Dave Brown debuts Monday, February 3, on AMI-audio and AMI-tv.

For further information about NOW with Dave Brown, visit AMI.ca/NOW.

#### Looking to connect with Dave?

Follow Dave Brown on Twitter: @davebrownradio

Follow AMI-audio on Twitter: @AMIaudio



# THE CANADIAN COUNCIL OF THE BLIND'S 2020 PERSON OF THE YEAR AWARD RECIPIENT:

### **DONALD GRANT**

#### BY MIKE POTVIN

The Canadian Council of the Blind (CCB) is pleased to recognize Donald Grant as this year's White Cane Week Person of the Year.

Donald is a strong advocate for people living with vision loss. He has worked with the CCB for over 20 years and has shown his commitment to the organization through his passionate dedication and ongoing participation in meetings, conferences, and committees.

As the Ontario Division Representative on the National Board of Directors, Donald has always showed unwavering support for the CCB, the National President, and the Board of Directors as they've continuously worked together to improve

the lives of Canadians living with vision loss. Donald has provided countless insights over the years and has been a committed and invaluable member.

Donald helped to nurture and grow his local Cornwall Chapter, where he has been a devoted leader and loyal member for years. He has held the prestigious position of President of the Cornwall Chapter and has also assisted other chapters in the division in providing programs for those living with blindness.

Donald has been on many national committees over his years with the CCB, including the By-laws Committee, where he was an active and dedicated member. Donald greatly contributed to the meetings and was especially a valued and precise wordsmith, ensuring that all by-law wording was in compliance with the Canada Not-for-profit Corporations Act (CNCA). With his many years of experience and knowledge, Donald also added much value to the Nominations Committee, where he has been an active participant.

While modest and soft-spoken, Donald has provided peer mentoring to people living with blindness over the years. Going beyond official Board of Directors meetings, Donald has been known to meet with his peers over dinner and for one-on-one conversations.

"I've met and worked with so many wonderful people in the blind community over the years," says Donald. "That's what has meant the most to me."

"My goals within the CCB include increasing awareness of the CCB and growing the chapters across the country," he adds. "I'd love to see more youth get involved as well."

"Donald is a selfless leader," says Louise Gillis, CCB

National President. "He has always been there to provide guidance, and is a passionate and loyal supporter of our organization and our members."

"When I first started working with the CCB and met Donald, I quickly realized he was the kind of person I wanted to be," says Jim Tokos, CCB First Vice-President. Jim considered Donald to be a mentor when he began working with the CCB. "He exemplified leadership and was always there when I had a question or for a latenight planning session."

Now that Jim has taken a more prominent role at the CCB as First Vice-President, he still works closely with Donald. "He's a great person to

collaborate with," says Jim. "I've always said that if you're going to be a strong leader, you're only as strong as the people who surround you, and Donald is the kind of guy I want in my corner."

"A true mentor, a true gentleman, and a true friend – that's Donald," says Jim, when asked to sum up his long-time colleague.

Donald has been active in sports throughout his life. Before he became vision-impaired, Donald was a successful hockey player, tending goal with a .849 save percentage for Dundee Tigers of the Scottish Hockey League. He's also an avid golfer, and continues to golf despite his vision loss. A devoted sports fan, he enjoys watching golf and hockey on TV, especially his beloved Montreal Canadiens.

Donald supported the Military Police Fund for Blind Children for many years through his participation in their golf tournament and by representing the CCB at their events.

Donald is a family man, and enjoys spending time with his wife Avril.

Donald not only talks the talk, but through his actions, active living, dedication, and commitment to the blind community, he walks the walk as well.

"To me, the statement 'Ability, not disability' means that the loss of sight isn't the loss of life," says Donald. Donald truly exemplifies this trait in everything he does.

With his strong spirit and his belief in the CCB and the work it does, and his continual efforts to promote the CCB and its initiatives, Donald deserves to be our Person of the Year.  $\Box$ 

# GPS apps for vision accessibility needs



BlindSquare Promo and Nearby Explorer Online provide for safe, reliable and independent travel by voicing directions, points of interest and descriptions of surrounding areas, both indoors and outdoors. Take advantage of these apps anywhere you go on Canada's largest network.<sup>1</sup>



Nearby Explorer Online

\$ Available for Apple and Android devices.

Exclusive price for Bell customers:



BlindSquare Promo

\$**0**99² (reg. \$54.99)

Available for Apple devices.

bell.ca/accessibility • 1800 268-9243



#### CCB 2020 PRESIDENT'S AWARD RECIPIENT:



# Dr. Jutta Treviranus and Her Team at OCAD University's Inclusive Design Research Centre

BY MICHAEL BAILLARGEON



Community members and students assisting in the evaluation of smart city plans in the perspective of accessibility.

Those of us with vision loss are living in an age of dramatic advancement in the development of rapidly-evolving, accessible, assistive technology that has the ability to positively impact the lives of not only people with disabilities but specifically those with seeing disabilities. That being said, it's the CCB's honour and privilege to present the 2020 President's Award to Jutta Treviranus and her team at OCAD University's Inclusive Design Research Centre (IDRC) for their life-changing work in accessible technology.

New technologies – and what we do with them – offer

benefits, but also come with risks, especially if you're blind or have vision loss, and are thereby not part of the mainstream. This has become more apparent to the general population in the last few years with the abuses of social media and the internet. Back in 1993, when Dr. Treviranus founded the Inclusive Design Research Centre (then the Adaptive Technology Resource Centre at the University of Toronto), technical innovations were seen as inevitable beneficial progress. The community of people with vision loss, however, had experienced the hopefulness of text-based computing and early screen

Photo: IDRC Library

readers, only to be locked out of the progress by graphical user interfaces.

Dr. Treviranus and the team she recruited knew that digital systems and networks couldn't be retrofitted to

be made accessible, the way buildings and manufactured products can. Once a digital innovation is widely adopted, it morphs and spreads. It becomes impervious to retrofitting for the benefit of a minority. She and her team understood that access to the digital revolution by people with vision loss or blindness must be won proactively, by influencing the initial design. This required a team of vigilant, technically-competent individuals who understood the needs of people with vision loss

and were willing to become involved with the bleeding edge of new technical experiments. Because technology changes so rapidly, it also meant that they needed to be the vanguard, giving away their inventions freely so that others could follow through, while they intervened in the next opportunity and threatened barrier.

From developing the first guidelines for accessible websites – which became the basis for the Web Content Accessibility Guidelines enshrined in legislation around the world – to creating a way for individuals who are blind to experience virtual reality, making sure students who are blind can use digital learning resources and online learning, and sounding the alarm regarding the bias against people with disabilities in the decisions made by artificial intelligence, the IDRC has vigilantly intervened in the design and implementation of emerging technologies to include users who are blind or have vision loss for over 26 years.

The IDRC has received support from the Accessible Technology Program (ATP) to continue this proactive role in Project We Count. As explained by Laurent Messier, Program Lead of the ATP: "The project will tackle bias and exclusion of persons with disabilities in data systems and ensure that these systems (including artificial intelligence, smart technologies, data-driven decision-making, and data analytics) recognize, understand, and serve people with disabilities by creating innovative machine learning strategies and addressing data gaps. Project We Count will increase knowledge, establish skills, develop inclusive data tools, and create a forum whereby the Canadian disability community can help shape the rapidly-evolving

data economy in more inclusive directions. This will facilitate the passage from passive observer to active participant."

Dr. Treviranus and her team hold the conviction that



Photo: Martin Iskander

Left to right: Dr. Jutta Treviranus, Colin Clark, Associate Director of the IDRC, and Minister Qualtrough at the announcement of OCAD University receiving federal funding to support accessibility.

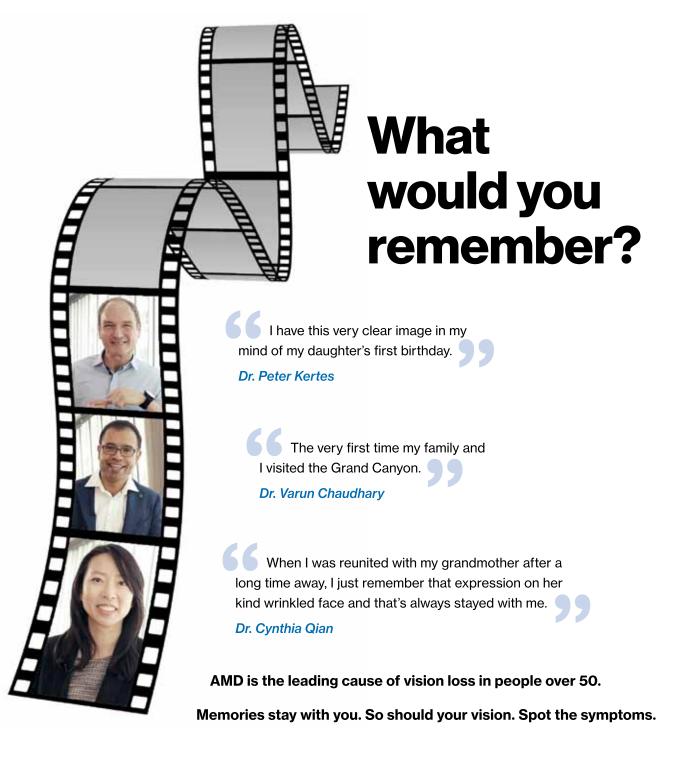
people who are blind or have vision loss must also be the designers, developers, and producers of content and technologies, not just the consumers; only then will digital inclusion be meaningful and achievable. To this end, they've led the fight for accessible authoring tools, development tools, data-science tools, and coding systems through projects such as Coding to Learn and Create, also supported through the Accessible Technology Program. "By establishing an open repository of inclusive teaching resources, educators can now adapt coding curriculum and programming environments to better match the learner's diverse needs. These resources will include collaborative programming activities and will foster collaboration and social participation among students with disabilities and their peers," says Messier.

In bestowing the 2020 President's Award, we commend Dr. Treviranus and the team at IDRC, and offer our continuing support for their inspiring vision and commitment

to accessible technology. These approaches benefit not only Canadians with blindness and vision loss, but all people with disabilities, all Canadians, and the Canadian economy.

Written with the editorial assistance of IDRC.





This public service message is part of an awareness campaign by leading Canadian vision organizations.













### AMI Year in Review:

### Highlights From the Year and a Preview of What's to Come

The past 12 months were full of milestones for AMI, as we continued fulfilling our mission of entertaining, informing, and empowering Canadians who are blind and partially-sighted.

AMI-audio's *Double Tap Canada* made the jump to a new platform with *Double Tap TV*. Bringing the same discussions on everything tech – with an eye on accessibility – to television, hosts Steven Scott and Marc Aflalo, alongside contributors, help viewers better understand how technology can aid in everyday life.

"It's not for geeks," Steven explains. "It's for real people who are coming to technology for the first time. It's for friends, family, or people who are associated with people who have sight loss. It's those people that I want to speak to."

In July, *Employable Me* won its second Rockie Award at the Banff World Media Festival 2019. The series features job seekers who are determined to prove that having a

physical disability or neurological condition shouldn't make them unemployable.

"AMI is so pleased to support a series that conveys such a powerful message of inclusion and determination," says John Melville, AMI Vice-President of Programming and Production. "This season once again featured driven, talented Canadians who brought diversity and inclusivity to the workplace."

We re-examined the death of a young Canadian who was blind in *What Happened to Holly Bartlett*. The true crime series and accompanying podcast gained national and international attention.

Over on AMI-audio, our continued outreach found us broadcasting live on location across Canada. From *Kelly and Company* at An Evening in the Key of B: A Benefit Concert and Reception for BALANCE to the 2019 Blind Fleet Racing World Championship, or *Live from Studio* 

5 at the ISPS Handa 2019 Canadian Open Blind Golf Championship, we were honoured to speak to and connect with members of the community.

With the CRTC renewing the broadcast licences for AMI-audio, AMI-tv, and AMI-télé through to 2023, it's full speed ahead on creating more exciting English- and French-speaking programming for the blind and partially-sighted community.

Television projects coming soon to AMI-tv include #IGotThis, where viewers meet remarkable people who have discovered ways to cope with a physical disability or mental health challenge and move forward with their lives. A Taste of Canada follows Mary Mammoliti as she traverses the country meeting the people and sampling the foods that make Canada truly unique. Hosted by Greg Westlake, Level Playing Field showcases and celebrates the power of sport by introducing us to the athletes, community groups, health care professionals, and grassroots innovators who drive positive social change. And Postcards From... features our AMI This Week Bureau Reporters celebrating Canadian communities.

Look for new seasons of AMI This Week, Mind Set Go, Eyes for the Job, and Reflect and Renew with Kevin Naidoo on AMI-tv. You can watch all of your favourite AMI-tv programs on our broadcast channels, on our website, or by downloading the free AMI-tv App.

Things are just as busy on AMI-audio in 2020. In addition to live broadcasts of *Kelly and Company*, *The Pulse*, *Late Edition*, *The Neutral Zone*, and *The Gazette*, we're excited to announce that Dave Brown is officially returning to AMI-audio with a brand new program.

NOW with Dave Brown will debut in February. Broadcast weekdays at 9 a.m. Eastern on AMI-tv and AMI-audio, Dave, community reporters, and show contributors break down the day's events, discuss them, and reach out to listeners and viewers for their thoughts. It's a morning show with attitude!

"NOW with Dave Brown is a show for everyone," Dave says. "We're not just thinking about inclusivity through a disability lens, but one where everyone is welcome to start their day with us live on TV or online. Diversity is a strength, and we want that reflected on air with wideranging content that we bring to you."

Don't forget: AMI-audio programming is available as podcasts for download via your favourite podcasting app.

In March, AMI-tv, AMI-audio, and our sister station, AMI-télé, are teaming up for a truly historic event: we'll be broadcasting the 2020 Canadian National Blind Hockey Tournament championship game on television and audio for the very first time. You've asked for the tournament to be on television for years and we're honoured to provide it in both English and French.

Speaking of AMI-télé, the channel celebrated its fifth anniversary in 2019. It's the first, and only, French language station to broadcast all content with open format described video serving people who are blind or partially-sighted. Remember: AMI-audio, AMI-tv, and AMI-télé are all available as part of basic digital packages offered by



most television providers across the country. If you have basic cable, you have access to AMI.

AMI's vision is to establish and support a voice for Canadians with disabilities, representing their interests, concerns, and values through accessible media, reflection, and portrayal.

We're looking forward to meeting audience members, supporters, partner organizations, and representatives of the blind and partially-sighted community at many events and conferences in the coming months.

Visit AMI.ca, AMItele.ca, or email info@ami.ca to learn more about us.

As a longtime supporter and partner, AMI is proud to participate in 2020 White Cane Week.  $\Box$ 









# **VISION 2020:**

Living With Vision Loss

#### **EVENT NEWS**

**Vision Quest Tea and Talk** 

Feb. 11, 2020

2 p.m. to 4 p.m.

Register at

fightingblindness.ca/ottawa-vision-quest

**Canadian Vision 2020 Summit** 

Feb. 12, 2020

8:30 a.m. to 12:30 p.m.

Register at

fightingblindness.ca/2020-summit

Vision 2020 Gala Dinner

Feb. 12, 2020

5:30 p.m. to 9:30 p.m.

Ticket Information available by email at

ccb@ccbnational.net

Attend all 3 events at: The Great Hall, Christ Church Cathedral, 414 Sparks Street, Ottawa, ON Call 1-613-567-0311 or 1-877-304-0968 (toll-free) to register by phone.

#### **Opening Our Eyes to Vision Loss in 2020**

visual acuity measurement of 20/20 is a standard associated with "perfect" vision. But many Canadians live with vision that isn't represented by this norm. In fact, over 1.5 million live with a seeing disability, a number that's in the process of doubling over the next two decades.

The year 2020 is symbolic for this growing community, serving as a reminder that vision loss is far-reaching in this country. Those with unimpaired sight may close their eyes and imagine what blindness entails, but vision loss is diverse and highly personal, affecting families, communities, and economies in complex ways — simply closing your eyes doesn't get you there.

For instance, those who are fully-sighted may not know that Canadians with vision loss face many stereotypes and biases. These manifest most clearly in our job market, which leaves too many with vision loss either under-employed or unemployed. Accessibility is a key concern here. There's consensus that Canada needs to incorporate accessible and assistive technologies into its workplaces, and that employers should be rewarded for embracing those with visual impairments.

At the same time, many Canadians with low sight keep the details of their vision to themselves — they're worried that transparency will lead to discrimination. The Genetic Non-Discrimination Act makes it illegal for companies to request genetic testing or deny services

based on genetic information, but additional protections are required for all of Canada's vision loss community.

The general population may also be unaware of the impact that vision loss has on family members, who often bear the largest burden of support. This can lead to financial strain and lost productivity. As work and social supports become increasingly precarious, there's a danger that caregivers will become overwhelmed. In 2020, creating support mechanisms for our support providers has never been more important.

To open our eyes to these and other issues, a summit is being held on February 12 in Ottawa by five of the country's leading vision groups — the Canadian Council of the Blind, Fighting Blindness Canada, and their partners the CNIB Foundation, the Canadian Association of Optometrists, and the Canadian Ophthalmological Society. The Canadian Vision 2020 Summit will cover topics across three categories — vision loss, research, and access — bringing together patients, caregivers, scientists, policymakers, and more.

Draft white papers on the summit's topics have been made public at **fightingblindness.ca/2020-summit**. Please visit the page to provide your input and learn more about the event. •

Chad Andrews

# Welcome to the future of medicine





# An Open Letter from the Canadian Council of the Blind and Fighting Blindness Canada

Welcome!

On behalf of the Canadian Council of the Blind and Fighting Blindness Canada, we'd like to thank you for reading Vision 2020: Living with Vision Loss.

We're living at an exciting moment in history. Research is beginning to deliver treatments for the over 5.6 million Canadians living with an eye condition that puts them at risk of losing their sight. If diagnosed early enough, three out of four can avoid blindness. It's also a time when innovative new treatments that not only prevent vision loss but also restore sight are becoming a reality.

These developments hold important implications for our vision loss community. We need to be prepared for them — we need to support Canadian researchers and vision scientists in developing Canadian-made solutions to vision loss, while also ensuring that Canada's health care system is prepared to meet the radical shift posed by the arrival of innovative treatments such as gene and stem cell therapies.

We also need to develop tangible solutions to the unique financial and social inequities faced by the vision loss community. We need to present a unified front to federal and provincial decision-makers by offering solutions to the mounting costs associated with vision health care. This is particularly important as the number of people living with vision loss, which stands at 1.5 million Canadians reporting a vision impairment, continues to grow. Most importantly, we need to continue to impress on all Canadians that they get regular eye examinations and that some vision loss is avoidable.

That's why on February 12, we're hosting the Canadian Vision 2020 Summit in Ottawa. We invite you to join our distinguished panellists in conversations about vision research, living with vision loss, and access to vision health care. As a valued member of our community, your perspective is essential in developing solutions to the challenges we all face.

Thank you for reading. Together, we can find ways to avoid vision loss and restore sight to those who have lost it.

Sincerely,

Louise Gillis

**Louise Gillis**National President,
Canadian Council of the Blind

Dry Earle

**Doug Earle**President & CEO,
Fighting Blindness Canada



Louise Gillis
National President,
Canadian Council of the Blind



**Doug Earle**President & CEO,
Fighting Blindness Canada

In partnership with













#### Your Eyes: The Line of Sight on Your Life

hen we conjure up the fondest memories of our lives, and also when we make new ones, we use all our senses. Whether it's a loved one's face or a favourite film, images are what stay with us forever and make us who we are. But as we age, it's less certain that our vision itself will stick around.

The single greatest cause of vision loss in Canadians over 50 is age-related macular degeneration (AMD), a condition where the macula — the central part of the retina responsible for our central vision — degrades over time. The retina is the film that records the movie of our life, and when the film is damaged, the movie suffers.

AMD affects more than a million Canadians, so when leading vision organizations teamed up to raise awareness, it made sense that the first avenue selected to reach a wide audience was the 2019 Toronto International Film Festival. The main message the Canadian Council of the Blind, Fighting Blindness Canada, the Canadian Retina Society, and Novartis Canada hoped would be remembered is that *memories stay with you, so should your vision.* Spot the symptoms of AMD.

"It's essential that all Canadians over the age of 50 be vigilant and know the early warning signs to look out for."

#### Early intervention can offer huge benefits

AMD comes in both dry and wet forms, with wet AMD being rarer and generally much more severe. The defining characteristic of wet AMD is abnormal blood vessels growing under the retina, which can break, leak, and bleed, causing serious damage. Dry AMD occurs when the macula becomes thinner and, as a result, less capable of supporting the retina's photoreceptors, the cells that convert light into visual signals. Vision loss occurs as these cells die off. "People with dry AMD usually maintain pretty good vision," says retina specialist and Chief of Ophthalmology Dr. Peter Kertes of Sunnybrook Health Sciences Centre. "The rule of thumb is that, while the significant majority of AMD is the dry form, the majority of severe vision loss occurs with wet AMD."

The good news for wet AMD patients is that the outcome can be quite good if the disease is caught early. "There continues to be enormous progress in treating wet AMD. With many patients, the right intervention not only stops their vision from worsening, but actually helps them to regain some of the vision they had lost," says Dr. Kertes.



Dr. Peter Kertes, retina specialist and Chief of Ophthalmology, Sunnybrook Health Sciences Centre and Louise Gillis of the Canadian Council of the Blind on the TIFF red carpet.

#### Vigilance is key to protecting eyesight

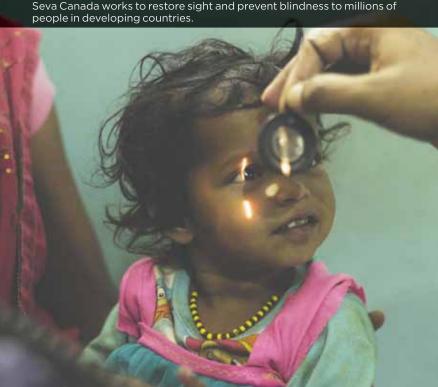
"Awareness and vigilance are so important," says Dr. Kertes. "Every patient is different, and some do better than others, but it's definitely the case that the earlier you catch wet AMD, the better."

For this reason, it's essential that all Canadians over the age of 50 be vigilant and know the early warning signs to look out for. "People should be aware of the symptoms that need immediate attention," says Dr. Kertes. "Fortunately, the onset of wet AMD isn't usually very subtle. The most common symptoms are blurred or blind spots in the central visual field as well as distortion, meaning that straight lines don't look straight anymore. If there's any significant change in your vision, it warrants attention from an eye doctor sooner rather than later."

If you're over 50, the important takeaway is to not take your vision for granted in the face of AMD. Good vision is essential as we age for maintaining independence, and for social and cultural engagement through mediums like literature and film. And it's exactly these things — independence and engagement — that allow us to age healthily and gracefully. So, next time you're taking in a film or appreciating a beautiful sight, remind yourself just how valuable your vision is, and make sure you're taking the right steps to safeguard it.

D.F. McCourt









The Vision Is Clear for a Better Tomorrow

or more than 250 million people around the world, blindness and vision impairment are a reality. Nearly 90 percent of those with a visual impairment live in developing countries, with limited access to vision care.

Blindness and poor vision can keep people trapped in vicious cycles of poverty. Vision loss limits childhood education and minimizes adult productivity, directly affecting individuals, families, and entire communities.

Incredibly, 80 percent of all vision impairment can be cured or prevented, and over a third of treatable blindness is caused by cataracts that are easily fixed. Since 1982, Seva Canada has transformed the lives of over 5 million people in communities with little or no access to eye care by restoring their sight. The organization focuses on increasing the capacity of local hospitals, supporting local training initiatives, and developing sustainable eye care programs that provide care now and in the future.

#### A powerful ripple effect

"Restoring eyesight and preventing vision impairment has a ripple effect," says Penny Lyons, Executive Director of Seva Canada. "People are able to better take care of their health, contribute to their communities, and lift their families out of poverty."

This is especially true for women, who represent over half of the people living with vision impairment and blindness in developing countries. For Lin Seouth, her increasing vision loss made every-day tasks like cooking for her family harder and harder, and she soon became unable to care for them or fend for herself. A simple life-changing cataract surgery facilitated by Seva was all it took to restore Seouth's vision. The excitement and gratitude from Seouth and her family were remarkable.

#### The case for gender equity

Social, economic, and cultural barriers often prevent visually-impaired women and girls in developing countries from getting the care they need. An astonishing two-thirds of all children who are blind are girls, a fact that clearly points to the underlying obstacles and inequity at play.

"Access to eye care services is strongly associated with lack of socioeconomic status, lack of education and financial resources, and limited decision-making power," says Lyons. "Young girls are even more at risk since they're children and can't advocate for themselves. Yet we know that for every additional year a girl stays in school her income will rise by 10-20%."

Seva Canada will continue to work hard, with the support of Canadians, to ensure that everyone, including women, children and people living in extreme poverty and isolation, have an equal right to sight.

By providing its local partners with everything from training to supplies to funding surgeries, glasses and medicine, Seva Canada's eye care programs are high-quality, self-sufficient and self-sustaining in terms of both human and financial resources. However, to achieve their vision of a world in which no one is needlessly blind or visually impaired, there is much work that needs to be done to provide eye care to meet the growing and aging population needs.

To learn more about how Seva Canada is transforming lives by restoring eyesight or to make a donation, visit **seva.ca**. •

Melissa Vekil





#### **Ben's Fight for Sight**

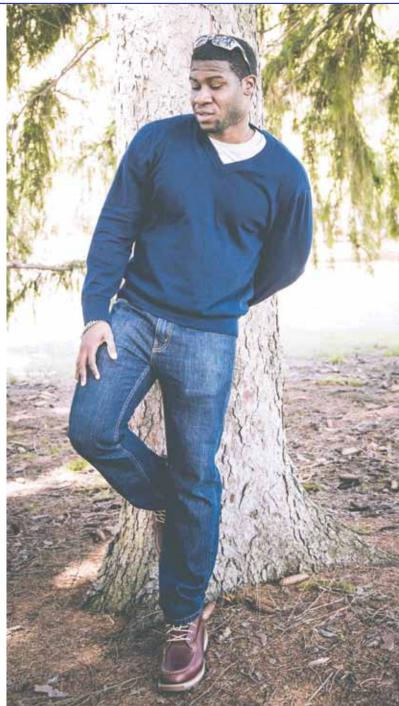
Ithough I was diagnosed with retinitis pigmentosa at the tender age of two, I didn't realize I was visually-impaired until later in my life. Growing up, I did so many of the things sighted kids do: I played football, basketball, and baseball. I rode bikes and competed in track and field. I played computer and video games and watched movies and television. I never thought that my limited vision would get in the way of those activities. But now at the age of 32, I'm beginning to see more signs of my eye condition — and I'm realizing the impact that it's having on my life. I can't do some of the activities I used to be able to do, which is difficult to come to terms with.

"I feel that I have to fight blindness every day.
Whether it's battling the stigmas faced by people with low vision or the challenges of accepting who I am, I will never give up hope."

With that in mind, I'm lucky for all the moments I get to be part of. This is a new chapter in my life where I'm meeting people in similar circumstances and learning new things about myself. I'm constantly adjusting to a life with lower vision, but I'm willing to overcome this challenge.

I feel that I have to fight blindness every day. Whether it's battling the stigmas faced by people with low vision or the challenges of accepting who I am, I will never give up hope. I refuse to let low vision alter my goals, but it would be nice one day to have sight — both for myself and for my sister, who has Stargardt disease.

I want the barriers that I face to one day disappear so I can reach my full potential. I want to be able to pick up a book and read. I want to play basketball with my friends. I want to see the faces of my family members again. I want to look back at old photo albums. I want to be able to watch my favourite shows, and to go for a run without fear. These are things that I believe will ultimately be possible, thanks to the work of organizations like Fighting Blindness Canada and the Canadian Council of the Blind.



Ben Akuoko is 32 years old and currently lives in Brantford, ON, where he's a residence counsellor at W. Ross Macdonald, a school that provides education from kindergarten to secondary school for blind and deaf-blind students.

Paving the Way for Greater Tech Accessibility



**Kataryna Patsak**Accessibility Project Manager,
Mobility Products & Services,
Bell

Mediaplanet spoke with Kataryna Patsak, an Accessibility Project Manager with Bell, about why accessibility should be embraced, and their innovative products and services that work to break down barriers.

#### **Mediaplanet** What does accessibility mean?

**Kataryna Patsak** For me, accessibility means building a barrier-free society which everyone can participate in and contribute to. Fundamentally, accessibility means that those with accessibility needs have the right to both the same level and quality of services as everyone else and that they shouldn't have to face any undue hardship to receive them. It also means that where barriers do exist, they must be removed, reduced, or altered to allow people with disabilities to access the same physical locations, products, services, and opportunities as everyone else.

#### MP Why is accessibility something companies need to be aware of, and something they should embrace?

Accessibility in customer service, user experience, user design, and so on creates an excellent user experience for everyone because it makes spaces, services, and products more accessible for every single customer while removing barriers for users with accessibility needs. Additionally, the number of Canadians with accessibility needs is growing, which means that this is a significantly large market segment that companies can tap into. Lastly, in my experience, customers who have different accessibility needs truly appreciate and are extremely loyal to companies that strive to provide them with services, products, and an experience that are truly accessible for them.

#### MP Why is accessibility important to Bell?

KP In terms of accessibility, Bell believes that the benefits of advanced communications technology should be easily accessible by everyone. Through our Accessibility Services Centre, which offers specialty products and services designed with accessibility in mind, Bell is helping to break down barriers that limit access. As a result, more Canadians are able to have access to the number one telecom brand in Canada, which not only has one of the best networks in the world but also places a priority on exceptional customer service.



#### MP How does technology play a role in eliminating barriers for people with low vision or blindness?

MP One of the main roles that technology plays in eliminating barriers for people with low vision or blindness is that it allows users to lead their lives independently and contribute their skills, talents, and personalities to their communities. Mobile devices (including iPhones, Samsung, and Google Pixel) now have great accessibility features for blind and low-vision users and are compatible with accessories such as braille keyboards, AfterShokz Trekz headphones, and Google Home. GPS apps such as BlindSquare Promo, which is available at a promotional price of \$9.99 for Bell customers, allow users to have a safe, reliable, and independent travel experience.

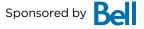
#### MP What accessibility products and services does Bell offer?

**KP** At Bell, we're very proud of the services, products, and support we offer accessibility customers. Some of these include:

- · A dedicated Accessibility Services Centre
- \$20 off per month on our current Connect Everything or Unlimited plans
- A promotional price of \$9.99 for the BlindSquare Promo app
- · Bill credits on Doro devices
- · Free directory assistance
- · Alternate bill formats such as e-text, audio, braille, and large print
- A free mobile accessible app for Android users
- \$550 discount on the tecla-e
- · Priority repair for accessibility customers

#### MP Where can consumers go to learn more on accessibility?

For more information on accessible products and services, visit bell.ca/accessibility or call the Accessibility Services Centre at 1-866-310-2355.







eople with vision loss are often excluded from media, employment opportunities, independent transportation, and more. Technology is changing that. In developing accessible technology and offering training, companies like Bell and programs like Get Together with Technology (GTT) are actively levelling the playing field.

#### The power of peer mentoring

GTT is a Canadian Council of the Blind (CCB) initiative that empowers members of the Canadian blind, deaf-blind, and low-vision communities by offering peer support and training on assistive tools, strategies, and technology. Its coaching by and for people with low vision helps participants gain competence and confidence in the use of accessible technologies.

Nowadays, technology can aid in many aspects of daily life: mobility and transportation, health and fitness, work, education, and more. From being able to read the news and identify household items to being able to get around with ease, technology can be life-changing for people with vision loss.

"If I'm in an unfamiliar area, it can tell me what street I'm crossing or what streets we're going by on the bus."

"Technology has changed enormously over the last 10 to 15 years," says Kim Kilpatrick, GTT Co-Founder and Program Coordinator. "There's so much we can do now that we couldn't before."



Kim Kilpatrick
Co-Founder &
Program Coordinator,
Get Together with Technology
(GTT)

#### Increasing accessibility

Kilpatrick, who also works as an accessibility consultant, met with Bell Canada — a company known to offer innovative and inclusive accessibility services and products — to discuss which products and services GTT participants found most helpful.

One of Kilpatrick's recommendations was BlindSquare Promo, an accessible GPS app. "If I'm in an unfamiliar area, it can tell me what street I'm crossing or what streets we're going by on the bus," she says.

Another was an innovative set of headphones called After-Shokz Trekz, which allow users to hear directions from their phone while also being able to hear what's going on around them. The headphones sit on the jaw, in front of one's ears rather than over them, transmitting sound through the jaw bone into the inner ear. "It's a weird feeling — like voices in your head," says Kilpatrick.

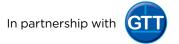
Both products facilitate safe, reliable mobility and open the doors to enhanced independence.

Based on Kilpatrick's feedback, Bell developed a specialized program to make these products more readily available to low-vision users. It worked with the BlindSquare Promo developer to get the app's price subsidized for Bell users, and offered the AfterShokz headphones as part of a gift-with-purchase program with one of its accessibility devices.

With programs like GTT and providers like Bell, getting on the tech train is easier than ever. More independent daily living awaits.  $\bullet$ 

Tania Amardeil







# Vision Quest 2020: Connecting You to Breakthroughs in Vision Research

t Fighting Blindness Canada (FBC), we're motivated by a singular goal: to develop new treatments for blindness and vision loss. This goal fuels all of the research we fund and everything that we do. Our educational programming provides exciting updates on vision research to patients and their families from coast to coast. Every year, we strive to share the latest breakthroughs in vision science directly with our supporters through our Vision Quest edu-

cational programming. In 2020, Vision Quest will visit communities across Canada in a variety of formats, including Tea and Talks, evening speaker series, and Saturday Symposiums. The first Vision Quest of the year will be a Tea and Talk about age-related vision loss in Ottawa on February 11. For more information on this and other Vision Quest events, visit us at fightingblindness.ca/get-in-volved/vision-quest.

#### **Research Delivers Sight-Restoring Treatment**

t's fitting that as we enter 2020, the year of vision, we're seeing science theory turn into life-changing treatments for people with vision loss. We're seeing the promise of personalized medicine become a reality with lab discoveries reaching clinical trials for treatments in stem cell and gene therapy.

Gene therapy is a new kind of treatment that works by delivering a functioning copy of a gene directly into the eye. This newly-introduced, functioning gene acts as a treatment by replacing a gene that's not working properly. After just a single treatment, gene therapy has the potential to restore sight, providing lifelong benefits.

The first targeted gene therapy was approved by the U.S. and European health authorities in 2018. It sets the precedent for the innovative new therapies on the way. It restores partial sight for individuals who have Leber congenital amaurosis (LCA) caused by mutations in the RPE65 gene.

#### From innovation to patient care

Jack McCormick was born with LCA and mutations in the RPE65 gene. He always had poor vision, but his condition worsened in his teens and he now uses a guide dog. He can see light and some shadows but can't see a person's face, even in good light. In poor light, he sees almost nothing.

"I'm so excited that research has delivered a potential treatment to restore my sight. I'm so hopeful that I may be able to see again, with the life skills of perseverance and determination that I learned growing up while losing my sight," he says.

When this gene therapy treatment is submitted for approval in Canada, it will also be the test case for future gene therapies and personalized drugs. It's clear that not only do we have to continue to support the research, from basic science through clinical trials, that have made this treatment a reality, but we have to ensure that Canadians have access to it — access that is equal, timely, and affordable. We know that science takes not years but decades to move an idea through to treatment. Our investments are starting to pay off and it's vital that we work together to ensure that the hope and the cure can be a reality for Canadians. For more information, visit fightingblindness.ca/research.

Larissa Moniz

In partnership with



# GPSappsforvisionac-cessibility needs



BlindSquare Promo and Nearby Explorer Online provide for safe, reliable and independent travel by voicing directions, points of interest and descriptions of surrounding areas, both indoors and outdoors. Take advantage of these apps anywhere you go on Canada's largest network.



Nearby Explorer Online

\$ Available for Apple and Android devices.

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\$ **9**9<sup>2</sup> (reg. \$54.99)

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Mediaplanet sat down with motivational speaker and blind advocate Molly Burke to learn about her experience living with retinitis pigmentosa and the future of accessibility.

Mediaplanet At age four, you were diagnosed with retinitis pigmentosa (RP), a disease causing loss of vision. What challenges did this diagnosis present you with?

**Molly Burke** The obvious challenges exist with blindness — not being able to drive, read, and so on, but to me, it's some of the small challenges that can be the most frustrating. Trying to find the soap dispenser in a public washroom, trying to pay with a debit card at a touchscreen machine... it's all those little daily tasks that can become frustrating at times.

#### MP What encouraged you to become a motivational speaker and advocate for the blind and low vision community?

MB I began public speaking at the age of five, about a year after my RP diagnosis. The moment I set foot on stage for the first time, I fell in love and I begged my parents for more. I asked to be put in acting classes and told my parents I was going to move to Hollywood and be an actress. Performing onstage has always been my passion. It's where I feel more comfortable, more myself, and most alive. It felt only fitting that I use my passion for stage performance to share my story and help others.

### MP You've become a successful content creator. Do you face accessibility issues online and through social platforms today?

MB Not all websites are accessible to screen readers, like I use. I continue to face issues of inaccessibility on different social platforms and apps, and require assistance with some things. I always try to raise awareness of these issues when they arise and hope to encourage more companies to think about accessibility in their designs.

### MP As a content creator, what would you say are the most important elements to consider to guarantee your content is accessible?

MB Platforms like YouTube currently don't have an option for audio description, which I've discussed with them and would love to see change in the future. Due to that, I try my best to be as verbally descriptive as I can when filming, although even I myself can miss things sometimes. No one is perfect, but I try my best to enable captions for the deaf and hard of hearing community and to be as inclusive with my language as possible but I'm only one person just trying my best.

#### MP How is technology re-defining accessibility?

MB Technology can either be empowering or disabling for my community. When companies think about universal and inclusive design when creating their products, it can open so many doors for blind and low-vision users. It's when they forget about us as a consumer and customer base and don't design accessible products that we really take a step back.

#### MP What can Canadians do to create a more accessible and inclusive world?

MB Everyone can play a role in making the world more accessible. It starts with knowledge and empathy. I think all Canadians can make more of an effort to educate themselves and become more involved with the disability community around them.

#### MP What advice do you have for other Canadians experiencing vision loss?

MB Be involved in the vision loss community — go to your local CNIB, join blind-friendly sports teams, find support groups (there are plenty on Facebook) — just get involved and don't be afraid of this community. The blind community is an incredible place and has amazing people to learn from and share with. ●



## AMI Working to Make Media Content More Inclusive



Peter Burke
Vice President, Marketing
& Communications,
Accessible Media Inc.

By creating content for the blind and partially-sighted community, AMI hopes to become a global leader in media accessibility.

Although we live in a media-driven culture, a lot of media content and platforms continue to be inaccessible to the blind and partially-sighted community. With vision loss being such an isolating condition, it's vital that people in this community are included in the media.

Accessible Media Inc. (AMI), a not-for-profit media company serving the blind and partially-sighted community in Canada, is bridging the media accessibility gap by producing content for them. "By doing that, we're able to inform this community about opportunities, organizations, and groups they can connect with and to feel more included," says Peter Burke, Vice President of Marketing and Communications at AMI.

#### **Evolution from content distributor to content creator**

What started as a charity reading service for the visually-impaired

in 1989 has evolved to a not-for-profit, bilingual, multi-platform media company, that delivers content through AMI-tv, AMI-audio, AMI-télé, and the AMI-tv App. Among its key inclusivity innovations is integrated described video, where key visual elements are incorporated in the pre-production, production, and post-production phases. This makes the programming accessible to all.

As AMI shifts from content distribution to content creation, media inclusion remains top of mind in all its programming — from entertaining news programs to engaging and informative shows on business, technology, arts, and culture. "In addition, all of AMI's on-air personalities and reporters are members of the blind and partially-sighted community, so people see themselves reflected and get a more true-to-life perspective on some of these issues," says Burke.

To learn more about how AMI's inclusive content is challenging and empowering the blind and partially-sighted community, please visit **ami.ca**.

Sponsored by

Anne Papmehl



#### Connecting Dry Eye Disease & Glaucoma

When we talk about diseases of the eye, there are two major ones that come to mind: dry eye disease (DED) and glaucoma. DED refers to when tears become 'sick', affecting the eye surface and the related protective tearing system. Glaucoma is a disease that causes degeneration of the optic nerve — left untreated, glaucoma can cause irreversible blindness as it advances. Both diseases in their early stages, have no symptoms and require personalized treatment and chronic care. To learn more, we connected with eyeLABS' Dr. Richard Maharaj and Dr. Faran Vafaie.

#### Mediaplanet Are DED and glaucoma linked?

**eyeLABS** These two diseases aren't directly linked, as they affect two different parts of the eye. However, glaucoma is treated by reducing pressure inside the eye through the use of daily eye drops. Unfortunately, the drops that are used to manage glaucoma can oftentimes cause DED or make it worse.

#### MP What are the signs and symptoms of dry eye in a glaucoma patient?

**eL** Symptoms range from having to blink to clear your vision to more severe ones like redness, burning, and watery eyes. Most glaucoma eye drops contain preservatives and can worsen inflammation and dryness. With regular exposure to preservatives and other ingredients, the tissues and tears are affected which contributes to DED. Mild symptoms can be easily missed, so It's best to see your optometrist to address it early, because it can be progressive and more challenging to treat the longer it progresses.

#### MP How can dry eye be treated in a glaucoma patient?

eL Traditionally, glaucoma has been a 'wait and watch' disease. There has been a recent trend toward the treatment of glaucoma being more proactive, with the use of lasers and microinvasive procedures. This has helped reduce eye drop use and avoid riskier surgical procedures — both of which are risk factors for DED. Alternatively, non-preserved lubricating drops, omega 3 supplements, and proper hydration are great steps to take. All glaucoma patients should have baseline exams with their eye doctor. ●

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illions of Canadians — and the people who care about them — are affected by vision loss, but changing government mandates could affect access to quality treatment. Here's how the Eye See You campaign is standing up for patient rights.

"If we're very lucky, we get older," says Dr. Jane Barratt, Secretary General of the International Federation on Ageing (IFA). "We should be celebrating the fact that there are more and more older Canadians, with average life expectancy increasing. One of the critical factors, though, is to maintain or improve the functional ability and autonomy of older people. Vision health is key for this."

Today, about 1.5 million Canadians identify as having sight loss, while about 5.6 million have an eye disease that could lead to sight loss down the road. With an aging population, that number is set to increase — especially if patients don't have access to early, appropriate intervention that could diminish their chance of losing their vision.

The use of biologics, complex drugs produced from living organisms, versus biosimilars, which are less-expensive alternatives to the former, is an ongoing debate in the field of vision health. As the conversation continues, informed choice for patients facing age-related vision problems is vital.

#### Vision loss — an inevitable part of aging, or a preventable problem?

In 2016, the Canadian Agency for Drugs and Technologies in Health (CADTH) released a set of recommendations that challenge the use of anti-VEGF (vascular endothelial growth factor) drugs — which have proven efficacious in helping prevent age-related macular degeneration — as a first-line treatment, in favour of biosimilar drugs. The move has generated concern on the part of patients and caregivers, who worry that the decision has more to do with cost-effectiveness than patient outcomes. And according to Dr. Barratt, the idea that the move will reduce costs is more complicated than it appears.

"We're not against biosimilars," says Dr. Barratt. "But there are a lot of unanswered questions, and we're very cautionary about switching when we haven't answered key questions about not only economic cost, but social and psychological costs."



**Dr. Jane Barratt**, Secretary General, International Federation on Ageing (IFA)

#### The Eye See You Campaign for options and informed consent

The Eye See You campaign, an initiative coordinated by the IFA, centers on advancing awareness and understanding of vision loss therapy for Canadians. Its goal? To further patient empowerment and physician autonomy, and make sure Canadians have access to top-line treatments — because dollars and cents shouldn't dictate our access to vision-saving treatments.

From developing informational materials to facilitating conversations between stakeholders, it's all about raising awareness. "Our focus is on increasing the level of education and knowledge exchange when it comes to vision health," says Dr. Barratt. "We'll also be putting together an ad hoc advisory group made up of retinal specialists and patient groups." The campaign is affiliated with the Canadian Council for the Blind, the CNIB, and the World Blind Union, to name a few.

Since vision health goes hand in hand with maintaining autonomy in an aging population, vision loss has a cascade effect that touches the family, friends, and caregivers of directly-affected individuals.

What can you do to get involved? Stay informed about your options, ask your physician about all available treatment options, and sign up for updates at **eyeseeyou.care**.

"At the heart of this, it really is about how we maintain and ensure an enabling environment that offers older people the opportunity to do what they value," says Dr. Barratt. "People need to be informed and educated to be part of that conversation, and they should be able to ask questions about the treatments they're offered."





#### ACCESSIBLE TECHNOLOGY PROGRAM

#### **WE'RE INVESTING IN NEW IDEAS!**

Hardware and software solutions that help Canadians with disabilities. Canada.ca/Accessible-Technology

# The Canadian Council of the Blind and the Accessible Technology Program Combine Efforts to Better Understand Accessible Technology's Role for People with Disabilities

#### BY KEITH GORDON

The Accessible Technology Program (ATP) is an Innovation, Science and Economic Development Canada (ISED) initiative that invests in hardware and software solutions that help Canadians with disabilities overcome the barriers that prevent their full participation in the workplace.

In February 2019, the ATP sought the help of the Canadian Council of the Blind (CCB) in obtaining input from Canadians with a seeing disability regarding gaps in the current program and ways to improve it. The CCB was tasked by the ATP with conducting a survey of CCB members, Experience Expo visitors, and other applicable stakeholder members regarding their current usage of assistive and adaptive technologies and their projected needs for these devices. The survey's ensuing report, based on 453 respondents, was dated April 9, 2019 and entitled A Needs Report on Accessible Technology. In October 2019, a supplementary study to the initial survey was conducted by the CCB on behalf of the ATP. Released on November 12, 2019, the supplementary study and report's goals were to delve into the Statistics Canada 2017 Canadian Survey on Disability (CSD 2017) and to compare its findings with those of the CCB Needs Report as well as those of the Canadian Survey on Disability 2012. In addition, the Supplementary Report was tasked with identifying any gaps that currently exist with respect to the use of assistive technology by people

with seeing disabilities and with making recommendations for improving the ATP.

The following are the main findings of the initial CCB Needs and Supplementary Reports on Accessible Technology:

1. The number of people with a seeing disability is growing as the population ages.

The CSD 2017 reported that there were 1.5 million people in Canada over the age of 15 with a seeing disability, representing 5.4% of the population over the age of 15 and 9.7% of the older population over the age of 65. Most people with a seeing disability also had another co-occurring disability. What this means for people designing new technology is that they'll be designing technology primarily for older people and will need to take into account any additional disabilities that the users may have.

2. People with a seeing disability are unemployed at a level greater than the general population.

The CCB Needs survey found that 63% of respondents aged 15 to 64 weren't employed. This compares with 38.6% for all Canadians.

3. There's a lack of availability of accessible technology. Both the CSD and CCB studies showed that the lack of availability of accessible technology was a major barrier to people seeking employment. Furthermore, both sets of studies identified lack of training on accessible technology as an issue for many people with seeing disabilities. It's important that all new technologies include extensive training for people with a seeing disability.

Inability to get to work was also identified as a barrier to employment. New technology has the ability to improve mobility to help overcome this barrier.

4. There's a lower level of educational attainment by people with a seeing disability.

The CSD 2017 reported that 21.7% of people aged 15 to 64 with a seeing disability hadn't graduated from high school. This compares with 13.7% of the general population aged 25 to 64. Survey respondents also reported a large number of aspects of their education that were negatively impacted by their disability. The lack of availability of accessible technology is a major factor that affects the educational experience of people with a seeing disability.

These findings led to the conclusion that there's an incredibly high rate of unemployment in the blind and lowvision community, and that members of this community continue to experience many barriers to employment and a lack of access to the precursors necessary for full participation in the Canadian digital economy. These everyday barriers are complex and create vicious cycles of exclusion, preventing members of the community from reaching their full potential. At best, people living with vision loss have access to specialized technology that is costly, fragmented, lacks associated training and support, and doesn't interoperate with the systems needed to participate fully in employment and education. This situation has negative consequences for the Canadian economy as the prevalence of vision loss within the working-age population increases.

The primary barriers to employment are: (1) reliance upon devices that lack interoperability with employment systems; (2) a lack of training; and (3) the rising cost of specialized equipment that won't benefit from economies of scale. Accessibility must become integrated into the technologies that everyone relies upon. This must be done proactively, from the emergence of the new technologies and associated practices. It's next to impossible to retrofit digital systems once they've been widely adopted.

Ensuring that the technologies deployed within the work environment are accessible to everyone (thereby eliminating the need for segregated assistive technologies) would benefit all employees and would lead to greater productivity. Inclusively-designed technologies would reduce the time needed for training, reduce bugs and maintenance, and improve the longevity and

# Supplementary Report A Needs Report on Accessible Technology



A Discussion on Accessible, Assistive Devices in Canada's Vision Loss Community

A Report by the Canadian Council of the Blind (Keith D. Gordon, Ph.D.) Submitted to the Accessible Technology Program, Department of Innovation, Science and Economic Development

November 12, 2019

interoperability of the systems.

One overall conclusion that emerged from this study is that there is a real shortage of research into the needs of people with vision loss. Vision loss impacts almost every aspect of one's life, from acquisition of literacy, to one's mobility; usage of technology; interaction with the community; and attainment of education and employment, yet there is very little research funded and conducted in Canada on any of these aspects affecting people with vision loss.

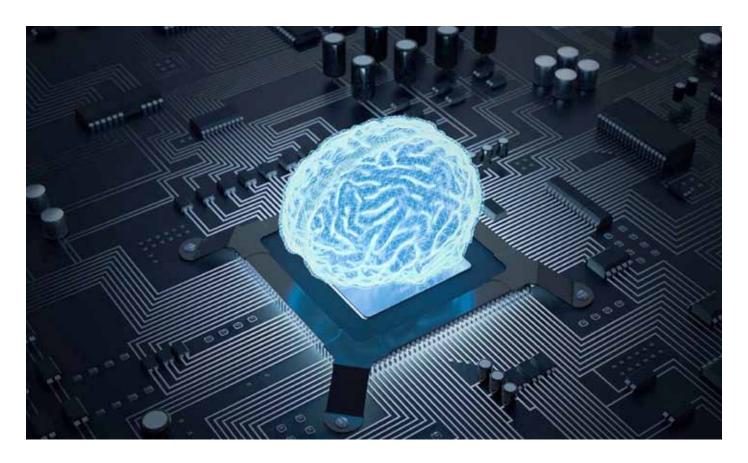
The CSD gives us a superficial understanding of some of the issues facing people with a seeing disability, most notably with regards to employment and education. However, there is a great need to dig deeper in order to understand the barriers that people with vision loss face in terms of discrimination in the workplace, educational institutions and society in general.

For complete integration of people with vision loss into society it is essential that research funders and academic institutions give more attention to conducting and supporting in-depth research into the needs of people with a seeing disability.

These approaches will not only benefit Canadians with blindness and vision loss, but all people with disabilities, all Canadians, and the Canadian economy.

# Voice Dream Scanner: A New Kind of Optical Character Recognition (OCR)

BY BILL HOLTON, AccessWorld



There is a new player in the optical character recognition (OCR) space, and it comes from an old friend: Winston Chen, the developer of Voice Dream Reader and Voice Dream Writer. The developer's latest offering, Voice Dream Scanner, will probably be the best \$5.99 you'll ever spend on a text recognition app!

Those who use their phones to audibly read e-Pub books, PDFs, or Bookshare titles are likely already familiar with Voice Dream Reader. It works so well with VoiceOver and TalkBack, it's hard to believe it wasn't developed specifically for the access market. But according to Chen, "I just wanted to build a pocket reader I could use to store all my books and files so I could listen to them on the go. No one was more surprised than me when I began receiving feedback from dyslexic and blind users describing how helpful Voice Dream Reader was for their needs and making some simple suggestions to improve the app's accessibility."

Chen's second offering, Voice Dream Writer, was also

directed at the mainstream market. "Sometimes it's easier to proofread your document by listening to it instead of simply rereading the text," says Chen. At the time, Apple's VoiceOver cut and paste features and other block text manipulation capabilities weren't quite what they are today. The innovative way Chen handled these functions made Voice Dream Writer equally useful to users with visual impairments.

#### Reinventing the OCR Engine

"I've been wanting to add OCR to Voice Dream Reader for a few years now," says Chen. "It would be useful for reading protected PDFs and handouts and memos from school and work."

The hurdle Chen kept encountering was finding a useable OCR engine.

Last year, however, Chen began experimenting with Apple's artificial intelligence (AI), called Vision Framework,

that's built into the latest iOS versions, along with Google's Tesseract, TensorFlow Lite, and ML Kit.

"Instead of using a single standard OCR engine, I combined the best aspects of each of these freely available tools, and I was pleasantly surprised by the results."

Instead of making OCR a Voice Dream Reader feature, Chen decided to incorporate his discovery into a separate app called Voice Dream Scanner.

Chen has been careful to integrate the new Voice Dream Scanner functionality into VD Reader. For example, if you load a protected PDF file into the app and open it, the Documents tab now offers a recognition feature. You can now also add to your Voice Dream Reader Library not only from Dropbox, Google Drive, and other sources, including Bookshare, but using your device's camera as well.

To take advantage of this integration you'll need both Voice Dream Reader and Voice Dream Scanner. Both can be purchased from the iOS App Store. VD Reader is also available for Android, but currently VD Scanner is iOS only.

Of course you don't have to have VD Reader to enjoy the benefits of the new Voice Dream Scanner.

#### **A Voice Dream Scanner Snapshot**

The app installs quickly and easily, and displays with the icon name "Scanner" on your iOS device. Aim the camera toward a page of text. The app displays a real-time video image preview which is also the "Capture Image" button. Double tap this button, the camera clicks, and the image is converted to text almost immediately. You are placed on the "Play" button, give a quick double tap and the text is spoken using either a purchased VD Reader voice or your chosen iOS voice. Note: You can instruct Scanner to speak recognized text automatically in the Settings Menu. From the very first beta version of this app I tested, I was amazed by the speed and accuracy of the recognition. The app is amazingly forgiving as far as camera position and lighting. Scanner even did an excellent job with a bag of potato chips, even after it was crumpled and uncrumpled several times. Despite the fact there is no OCR engine to download, and the recognition is done locally, a network connection is not required.

After each scan you are offered the choice to swipe left once to reach the Discard button, twice to reach the Save button. Note: the VoiceOver two-finger scrub gesture also deletes the current text.

Scanner does not save your work automatically. You have the choice to save it as a text file, a PDF, or to send it directly to Voice Dream Reader.

Other Scanner features of interest to those with visual impairments are edge detection and a beta version of auto capture.

Edge detection plays a tone that grows increasingly steady until all four edges are visible, at which time it becomes a solid tone. Auto-capture does just that, but since the AI currently detects any number of squares where there is no text, this feature is only available in beta. However, if you're using a scanner stand it will move along quite nicely, nearly as fast as you can rearrange the pages.

You can also import an image to be recognized.

The benefits of Voice Dream Scanner are by no means limited to the blindness community. Chen developed the app to be used as a pocket player for documents and other printed material he wishes to scan and keep. Low vision users can do the same, then use either iOS magnification or another text-magnification app to review documents. Performance is improved by the "Image Enhancement" feature, which attempts to locate the edges of scanned documents and save them as pages.

#### The Bottom Line

I never thought I'd see the day when I would move KNFB-Reader off my iPhone's Home screen. Microsoft's Seeing AI gave it a good run for its money and until now I kept them both on my Home screen. But I have now given that honored spot to Voice Dream Scanner.

Most of my phone scanning is done when I sort through the mail. Seeing Al's "Short Text" feature does a decent job helping me sort out which envelopes to keep and which to toss into my recycle bin. But Scanner is just as accurate as any OCR-engine based app, and so quick, the confirmation announcement of the Play button often voices after the scanned document has begun to read.

This is the initial release. Chen himself says there is still work to be done. "Column recognition is not yet what I hope it will be," he says. "I'd also like to improve autocapture and maybe offer users the choice to use the volume buttons to initiate a scan." Stay tuned.  $\square$ 

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### Visually-Impaired Artist Paints Her Mark in Galleries

ynda Todd was born into a family of artists, so she naturally had an affinity for creative expression. However, she never took herself seriously as an artist. Why not? Todd was born legally blind and much of her remaining vision is colour blind.

In spite of this challenge, Valerie Kent, Director of Cavan Art Gallery, encouraged Todd to take lessons and she started acrylic abstract painting. Her desire to explore and express creativity has resulted in unique colour choices melded with interesting use of texture.

"I'm blown away with the interest and enthusiasm that my work has garnered," said Todd. "I started receiving commissions and sales immediately. Then I received multiple gallery acceptances. I would never have thought I would find my happy place in a paint studio!"

She describes her visual disability as an "inconvenience". Todd is active in her community, striving to bring awareness to those living with inconveniences and to provide education and understanding to create a more inclusive and kind community. She has embraced her "inconvenience" and speaks about it openly, providing education and awareness through motivational speaking.

One opportunity keeps leading to another. So many doors have opened now that she has the independence to get around herself and embrace city life.

See Todd's artwork at Paul's Frame & Art Gallery in Peterborough, ON and at Cavan Art Gallery in Cavan, ON. □

# Blind Juror Was Almost Rejected: Disability Advocates Seek Removal of Courtroom Barriers

BY BETSY POWELL, Toronto Star

Arecent criminal trial at Toronto's downtown Superior Court featured what may be a first in Ontario: a blind juror.

The fact that is, if not a first, an extremely rare occurrence in Ontario underscores that much more needs to be done to remove the barriers to equal treatment in the criminal justice system, disability advocates say.

"Certainly this applies to ensuring adequate representation of persons with disabilities on juries," says Luke Reid, a lawyer with ARCH Disability Law Centre in Toronto.

The Criminal Code allows people with vision or hearing disabilities to serve on juries. However, an accused may challenge a juror's service and the Juries Act deems jurors ineligible if they have "a physical or mental disability that would seriously impair his or her ability to discharge the duties of a juror."



Juror 29743 almost didn't get picked. While there are likely numerous reasons preventing people with impaired vision from sitting on juries, there is still a "very active debate" around the ability of a "trier of fact" to see a witness's demeanour in order to assess credibility, Reid noted in an email.

Lawyer David Lepofsky, a retired Crown attorney who is blind and was not involved in the case, said having a blind juror not only makes the legal system more representative of society, it makes lawyers more effective.

There's a lot of stuff that goes on in a courtroom that is visual and needs to be explained for the transcript, or audio recording, so having a blind juror will help ensure that happens, "so you get a better record, and it's better for everybody," Lepofksy said. 

□

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#### Montreal Researchers Create Audible Hockey Puck for Visually-Impaired Players

Ateam of Montreal university researchers has developed an audible hockey puck they say could revolutionize the sport for blind players.

For years, visually-impaired hockey players have used a tomato juice can or a steel container filled with small balls as a puck.

The improvised devices work, but players have trouble finding them on the ice when they stop moving and become silent.

Three years ago, Gilles Ouellet, a blind hockey player and employee of l'Université du Québec à Montréal, came up with the idea for a puck that makes a continuous sound.

Now, he and a team of researchers have created a prototype consisting of a shock-absorbent plastic shell with a battery-powered circuit board inside.

A series of sensors analyzes puck movement and transmits the data to a buzzer, which can be adjusted to a maximum level of 120 decibels — about equivalent to a chainsaw or a thunderclap.

"It's going to make the game faster and more interesting," Ouellet said.

The next step is to find a partner that could help the research team scale their product. The prototype was financed in part by USA Hockey.  $\Box$ 

#### New Tech Helps Deaf-Blind People 'Watch' TV: Innovation Lets These Individuals Know What's Happening Without Asking for Help

BY KATHIANN KOWALSKI, Science News for Students

ATV delivers content through images and sound. But for those who cannot see or hear, watching TV is impossible without special technology.

Deaf people can't hear. But they can use closed captioning to read subtitles of the words spoken on TV. Blind people can't see. But they can make use of visual description in voice-over comments that describe what's happening on the TV screen. Neither method, however, works for people who are both deaf and blind. That makes it harder for them to "watch" television shows or programs.

Ángel García Crespo is a computer engineer at Carlos III University of Madrid in Spain. His group has invented a new way for deaf-blind people to "watch" TV.

Audio and video information from the TV is sent to a machine called a refreshable braille display so deaf-blind people can read it with their fingers.

People who can't see can also get and send information with a braille line, better known as a refreshable braille



display. A refreshable braille display is an electronic machine with a changeable braille display. Dots or pins rise up or drop down based on electronic information sent to the machine. With such a portable device, someone who cannot see a screen can still read email or other information from a computer.

The new system converts TV signals to data that a

refreshable braille display can use.

"Key to the system is the possibility of using subtitles to collect TV information," García Crespo explains. "Subtitles travel with the image and the audio in electromagnetic waves that we do not see. But an electronic system can capture those waves. That is what we do."

First, a computer program, or app, pulls out the subtitles and visual descriptions from the broadcast signal. The system then combines the information and converts both into data for braille. "No one had done this before," García Crespo notes.

Now another app gets to work. It sends the data out to people's refreshable braille displays on demand. "This is done in real time, in less than a second," García Crespo says. This lets a deaf-blind person "watch" TV as it is broadcast. The system will work with all types of refreshable braille displays, as long as there is a Bluetooth connection available.

Currently, the system is only used in Europe. Teams need to tweak the decoding process to work with the TV signals used by broadcasters in different regions.

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#### ScripTalk: The Talking **Prescription Reader Changing** Lives



he Canadian Council of the Blind (CCB) is working with Sobeys National Pharmacy locations Canada across to make prescriptions more accessible for those who are unable to read or have difficulty reading medication labels.

As many as 1.9 million drugrelated injuries occur each year due to prescription errors

or adverse reactions. Nearly 10% of those injuries are lifethreatening or fatal and more than half are preventable. Prescription drug mistakes are a leading cause of death and injury to seniors. More than half of all patients don't take medications as prescribed.

The ScripTalk Station label reader and the optional ScripTalk App are innovative and accessible prescription reader technologies that provide pharmacy customers with access to audible prescription information. ScripTalk talking labels and prescription readers are lightweight, portable,

and work with any prescription that has been affixed with an RFID (radio frequency identification) label. Simply press a button and place the special ScripTalk talking label over the reader and a pleasant, natural-sounding voice speaks the information printed on the label. ScripTalk label readers can be used in-store or loaned free of charge for use at home as part of Envision America's Pharmacy Freedom Program. Alternatively, the ScripTalk App can be downloaded free of charge onto compatible iOS and Android devices.

The ScripTalk Station is the only talking prescription reader to meet all federal requirements listed under the U.S. Federal Food, Drug, and Cosmetic Act (FDCA), Americans with Disabilities Act (ADA), and Health Insurance Portability and Accountability Act (HIPAA). ScripTalk Station readers are available at all Sobeys National Pharmacy locations, including Lawtons Drug, Sobeys, Safeway, Thrifty Foods, IGA (excluding Quebec), and FreshCo. □



#### Works of Art Reimagined

BY FRANCINE KOPUN, Toronto Star

eter Coppin remembers the discussion with a visually impaired student that helped understand how much can be misunderstood when a person has to depend on words to understand what someone else can see.



They were talking about Italy and the student knew that Italy is shaped like a boot. But when Coppin described it as a boot with a high heel like the Three Musketeers would wear, the student laughed. He had been envisioning Italy as an entirely different kind of boot shape and the idea of Italy as a Musketeer boot was comical to him.

It's these chasms in understanding that Coppin and the Art Gallery of Ontario are trying to bridge with a program that brings multisensory projects, based on works of visual art, to AGO museum tours for people in the blind and low vision community.

"Visuals are dominant in our culture. If you are a part of society and you don't have access to visual items, then you don't have access to a lot of stuff about the culture that people who have vision have access to," says Coppin, associate professor of the inclusive design graduate program and director of the perceptual artifacts lab at OCAD University.

This year — the second year of the program — the works included four paintings: Tom Thomson's The West Wind, Otto Dix's Portrait of Dr. Heinrich Stadelmann, La Demoiselle de magasin by James Tissot and Jar of Apricots by Jean-Siméon Chardin.

For months, Coppin's students grappled with the idea of how to render the terrifying look on Dr. Stadelmann's face into a tactile experience and how to communicate the cold of the water in The West Wind.

They made a 3-D replica of the doctor's head in silicone cast from a polymer clay mold that felt cold and a bit yielding, but still firm to the touch. The eyes bulge like they do in the painting.

They recorded an audio component — a fluent German speaker reading a passage from one of Dr. Stadelmann's writings, concerning avant-garde art in relation to what was then considered psychiatric wisdom.

lan White, president of a local Toronto chapter of the Canadian Council of the Blind called the CCB Toronto Visionaries, said that while AGO tour leaders excel at describing art in a way that triggers the imagination, the multisensory tours are evocative.

"It starts a conversation about the piece, about the artist, about the history," White said. "It really allows people to engage with works that are part of our collective culture."

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### A Pre-Launch Tour of Ottawa's New Light Rail Transit System

#### BY SHELLEY ANN MORRIS

On Friday, August 30, a group of people made history as they walked and wheeled their way through the stations and rode the rails of Ottawa's brand new light rail transit (LRT) system on a pre-launch tour.

The CCB and other local organizations, working with those who are blind/low vision, had collaborated with the City of Ottawa during the LRT's construction period. We welcomed the opportunity to take a guided tour before it opened to the public.

Wayfinding strips along the floors guide those with vision

loss to elevators, ticket machines, train platforms, and out toward bus stops and taxi stands. These wayfinding strips include "decision points" (squares with truncated domes) to alert passengers to changes in direction. The stations have different levels. Elevators have both Braille and easy-to-read/tactile signage, and we were assured that these elevators would also "talk" before launch day.

The ticket machines are similar to ATMs, as functions could be voiced when using the keypad and wearing earbuds. Instead of turnstiles, saloon-style doors flip open and



Shelley and Kim test ride Ottawa's new LRT.

closed when entering and exiting the ticketed areas. The accessibility fare gate is wider than the others. During busy periods, passengers will hear the beeps as access cards are scanned and the clunk sound of the fare gates as they open and close - these will serve as excellent sound cues. The Transecure Area is brightly-

lit, with seating, Braille and tactile signage, and telephone as well as video access to assistance if needed.

Some stations have trains coming and going on either side of the platform while others have a single track with a wall on one side. Having the opportunity to explore different station layouts reduced our fears of falling off a double-track platform. The platforms have large, yellow strips with truncated domes at their edges, and there's a very small gap between platform and train. Trains will typically be made up of two cars, and, as the train always stops at the same spot, vertical yellow posts prevent people from accidentally stepping into the space between the cars.

A red light over each train car door indicates the doors opening and closing. We all suggested that a louder chime be added so that those who could not see this light could orient themselves to the doors, and know when they were opening. Inside, we found the priority seats flip up and down theatre-style, making room for wheelchairs, strollers, and shopping buggies, and offering plenty of flexible space for service/guide dogs. There are arrows along the floor, and the announcements are clear and descriptive, in both English and French. As the doors open on either side of the train, depending on the stop, we all emphasized the

importance of having a very audible chime to indicate on which side we should exit.

Some of the stations we toured have washrooms that are equipped with grab bars and are big enough to accommodate a guide dog, a wheelchair, and/or an attendant.

The LRT opened to the public on Saturday, September 14, with existing bus service running until October 6. Like any transition, getting used to the LRT will take some time and practice. Many of us plan to play tourist, taking time to get to know the stations that we will frequent, trying the trains, learning new bus routes, and adjusting our travel plans. As our community is very strong, it's likely that the early adopters among us will waste no time in sharing information, and will tell others what we have learned. Several blind/low vision passengers have already been aboard, and found that, while it is a learning curve, it's not nearly as daunting as might be expected. Happy travels!

Content edited for space.

Listen to Kim Kilpatrick and Shelley Ann Morris on *Welcome To My World* on CKCU FM each Tuesday morning from 9:07am.

# Blind People's Brains Rewire Themselves to Help Them Track Moving Objects by Sound, Study Shows

BY ALEX MATTHEWS-KING, The Independent

**B**lind people's brains rewire themselves to allow them to track moving objects by sound, a study has found.

For the first time, scientists have shown how changes in the brain explain improvements to other senses – a phenomenon that has inspired comic book superheroes like the Marvel character Daredevil.

Some visually impaired people are able to train themselves to use clicks as a type of echolocation to detect obstacles.

The latest research from the University of Oxford and a number of US universities tracked people who were blind at birth or lost their sight as children.

They found their increased abilities may be possible because their hearing is much more finely tuned to variations in frequency.

Anyone who has heard a passing ambulance or police siren will be familiar with the way the sound appears to change pitch.



This phenomenon, known as the Doppler effect, is caused by a relative change in frequency of the soundwaves.

Being tuned into subtle differences in everyday noises may help blind people interpret their surroundings.

"For a sighted person, having an accurate representation of sound isn't as important because they have sight to help them recognize objects, while blind individuals only have auditory information," said Kelly Chang, one of the study's authors from the University of Washington.

"This gives us an idea of what changes in the brain explain why blind people are better at picking out and identifying sounds in the environment."

The findings are published in two papers. One study in the *Journal of Neuroscience* used MRIs to scan the brain activity of blind subjects and test how finely tuned their neurons were to subtle changes in frequency.

The second study, published in the journal *Proceedings of the National Academy of Sciences*, looked at how a region of the brain devoted to tracking moving visual objects in sighted people is rewired to focus on tracking these auditory movements.

Researchers also studied two people who had been blind from infancy but had their sight restored thanks to surgery as adults. In these cases, this tracking region of the brain, known as hMT+, was able to perform this role for visual and auditory movements.

Professor Ione Fine, a psychologist at the University of Washington and senior study author, said this was the first study to show these changes in the auditory cortex.

She said: "This is important because this is an area of the brain that receives very similar auditory information in blind and sighted individuals. But in blind individuals, more information needs to be extracted from sound – and this region seems to develop enhanced capacities as a result.

"This provides an elegant example of how the development of abilities within infant brains is influenced by the environment they grow up in."

### Canadian Council of the Blind

#### **EXECUTIVE COMMITTEE**

#### CANADAN COUNCIL OF THE BLIND LE CONSEL CANADEN DES AVEUGLES

#### LOUISE GILLIS, NATIONAL PRESIDENT

Louise has been serving as the President of the Canadian Council of the Blind for several years. She has represented the CCB on the national and international stage, raising the profile of the Council. Her past medical knowledge has helped change eye health for many people. Louise continues to represent the organization in advocacy and is on the World Blind Union Women's Committee, working towards empowering women in leadership roles. She believes in the CCB's mandate of improving the lives of persons with vision loss and in the prevention of blindness.

#### JIM TOKOS, 1ST VICE PRESIDENT

Jim is a well-known member of the Canadian Council of the Blind Board of Directors. He brings a passion for raising the profile of the Canadian Council of the Blind as well as being our current Board auditor. Jim continues to serve on several committees locally as well as internationally with the World Blind Union.

#### **HEATHER HANNETT, 2ND VICE PRESIDENT**

Heather has been working at all levels of the Canadian Council of the Blind for many years. She has been treasurer, helped with strategic planning, advocacy, and membership. Heather co-chairs the Membership Committee to continually increase our growth.

#### CHRISTINA LEWIS, 3RD VICE PRESIDENT

Christina, a former nurse, has worked in many different fields during her career. She is involved in many different groups such as Girl Guides of Canada, The Home and School Associations, Ladies Auxiliary Royal Canadian Legion, and more. Chris has held and continues to hold a variety of positions on the National Board as well as in her local area.

#### **BOARD MEMBERS**

#### SHANE WHEELER

Shane has been an integral member of the CCB in Newfoundland and was recently instrumental in starting the CCB Lewisporte Chapter. He prides himself on his professional bearing. Shane works with the Board on numerous committees and brings grassroots experiences to the Council.

#### SANDRA POIRIER

Sandra has worked hard for the Canadian Council of the Blind during her time on the divisional and national levels. She is a firm believer in her community. Sandra is on the Advocacy Committee and has been working with several outside accessibility advocacy groups.

#### **LEO BISSONNETTE**

Leo brings a vast amount of board experience with many different organizations. Until his retirement, Leo worked as the Manager of the Access Centre for Students with Disabilities at Concordia University. Leo is active on Board committees and has a great rapport with people.

#### MIKE VROOMAN

Mike brings with him many years of experience as a teacher in the public system. He also has experience with governance and ethics, strategic planning, and leadership. Mike is an active member on the Board and committees with his vast knowledge in the field of education.

#### **SARA BATT**

Sara is an active member of CCB Camp Bowen Society for the Visually Impaired Chapter who enjoys arranging travel and working with logistics. Sara is an active member of the National Board of Directors and is on the Advocacy Committee.

#### JEROME KUNTZ

Jerome has a wide variety of experience, from the CNIB to factory work, to music, to self-employment, all of which have made him a great member of the Board of Directors in these past years.

#### SURANDER SINGH

Surander comes with a great deal of experience from his time as a self-employed certified financial planner. Surander is a great contributor to the Board in a variety of ways. He has new and great ideas to continue moving CCB forward.

#### CANADIAN COUNCIL OF THE BLIND

#### **LOCAL CHAPTERS**



#### **ALBERTA DIVISION**



CCB Calgary Chapter
CCB Edmonton Chapter
CCB GTT Edmonton Chapter

#### **BC-YUKON DIVISION**





CCB 100 Mile House & District Chapter

**CCB Abbotsford Chapter** 

CCB Alberni Valley Chapter

CCB Camp Bowen Society for the Visually Impaired Chapter

CCB Campbell River White Cane
Chapter

CCB Cariboo White Cane Chapter

CCB Chilliwack & District Chapter

CCB Comox Valley Chapter

**CCB Dogwood Chapter** 

CCB Festival of Friends Chapter

CCB GTT Nanaimo Chapter

**CCB GTT Vancouver Chapter** 

CCB GTT Victoria Chapter

CCB Kamloops White Cane Chapter

CCB Kelowna Blind Curlers Chapter

CCB Langley Chapter

**CCB Lower Mainland Chapter** 

CCB North Shore White Cane Chapter

**CCB Penticton Chapter** 

CCB PoCo VIP Chapter

CCB Powell River White Cane Chapter CCB Prince George Blind Curling Chapter

CCB Prince George White Cane Chapter

CCB Provincial Book Club Chapter

CCB South Okanagan Chapter

CCB Sunshine Coast White Cane Chapter

CCB Vancouver Arts & Culture Lovers Chapter

CCB VIBE Creston Chapter

**CCB West Kootenay Chapter** 

#### NEW BRUNSWICK DIVISION



**CCB Bathurst Club** 

**CCB Fredricton Club** 

CCB Miramichi Chapter

**CCB Moncton Club** 

CCB Saint John Chapter

CCB Shippagan Caraguet Chapter

#### NEWFOUNDLAND AND LABRADOR DIVISION



CCB E. A. Baker Club
CCB Helen Keller Club
CCB Humber Valley – Bay of Islands
Chapter

#### **NOVA SCOTIA DIVISION**



CCB Blind Sports Nova Scotia Chapter

CCB Crafts & Hobbies Chapter

CCB Faith, Hope & Love Chapter

CCB Sydney Chapter

CCB Sydney Curling Chapter

#### **ONTARIO DIVISION**



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**CCB Hamilton Blind Curlers** 

**CCB Hamilton Chapter** 

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CCB Kawartha White Cane Chapter

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CCB London Vision Impaired Curling Chapter

CCB McMaster University Chapter

CCB Mississauga V.I.P. Chapter

CCB Ontario Visually Impaired
Golfers Chapter (OVIG)



CCB Ottawa University Chapter

CCB Peel Chapter

CCB Pembroke White Cane Chapter

**CCB Peterborough Chapter** 

CCB Road Runners Chapter

**CCB Rocks Chapter** 

CCB SSM White Cane Matinee
Chapter

CCB The Glenvale Players Theatre Group

CCB Thunder Bay & District Chapter

CCB Toronto Blind Curling Club

CCB Toronto Ski Hawks Ski Club Chapter

CCB Toronto Visionaries Chapter

CCB Waterloo Region Club

CCB Windsor/Essex Low Vision Social & Support Group CCB York Region Lighthouse

#### PRINCE EDWARD ISLAND DIVISION



Chapter

CCB Prince County Chapter CCB Queensland Chapter

#### SASKATCHEWAN DIVISION



CCB Moose Jaw White Cane Club CCB Regina Chapter

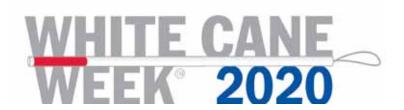
#### **NATIONAL CHAPTERS**

CCB Blind Golf Canada Chapter CCB Mysteries Chapter

For more information or to reach a National Board member, please contact the Canadian Council of the Blind at our national office: Toll-free: 1-877-304-0968 • Email: ccb@ccbnational.net

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TORONTO STAR



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Your continued presence is necessary if the CCB and this celebration of White Cane Week are to continue to grow and develop. Therefore, it is important, that you as

a group at the corporate level, as fellow stakeholders and partners, and as individuals, understand our gratitude and appreciation for your confidence in, and support of, the Council not only this week but year round.

We couldn't do it without you. Together we are working to "change what it means to be blind" and that's important. Thank you! □



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