York University, Allan I Carswell Observatory, Toronto ON

2023 Astronomy Review

January 2023 - December 2023

New Dome Commissioning, Supernova explorations, and more!

Research, Outreach, and Students: working together! A letter from the director:

Astronomy is a science of community, our observatory crew of students, volunteer, work study and high-school make it possible for us to run an amazing amount of both research and outreach. This year has been a record breaker at the Allan I Carswell Observatory (AICO)! With the return to in-person tours as well as a continuation of online activities we have never been busier. Starting with our new ASH domes which were lifted into place on June 14th 2022 we have begun a major retrofit of both mechanical and electrical systems in addition to providing new software and processes which will enhance both research and outreach. This document will provide highlights followed by a detailed summary of outreach at the observatory in 2023. Please note that events included in the summary at the end are in addition to our weekly astronomy outreach shows for Monday night York Universe radio (with astronomy.fm), Monday night online public viewing (OPV) and Wednesday night TeleTube. For lists of our regular occurring weekly events see the archive episodes in the highlights section (starred list).

A few highlights from 2022 (as there was no newsletter then):

- 2022 new domes: https://www.yorku.ca/science/2022/06/09/two-new-observatory-domes-coming-to-york-u-will-improve-night-sky-viewing/
- 2022: Herschel Concert and Astronomy (Oct 31st): https://events.yorku.ca/events/halloween-herschel-lecture-and-concert/
- 2022: Haunted Astronomy Event (Oct 31st): https://www.yorku.ca/science/events/a-haunted-herschel-halloween-telescope-tour/
- 2022: Nuit Blanche 2022 October 1st (over 250 participants): https://yfile.news.yorku.ca/2022/09/24/nuit-blanche-comes-to-york-universitys-keele-campus
- 2022: First Astronomer in Residence: https://yfile.news.yorku.ca/2022/04/06/york-university-killarney-park-collaborate-to-launch-astronomer-in-residence-program/

A few highlights from outreach in 2023 include:

- ★ YouTube Informational Astronomy channel = 2317 subscribers, approximately 700 views/month
- ★ 20 new YouTube Teletube Astronomy outreach broadcasts: https://youtube.com/playlist?list=PLQG2xolgDEDhPQWznHrdouuMR31cBe3BU
- ★ 48 new online public viewing (OPV) YouTube Astronomy outreach broadcasts: https://youtube.com/playlist?list=PLQG2xolgDEDj4ZS0rXCAr_QdfRaXq8gwU
- ★ 39 new Astronomy.fm York Universe radio show broadcasts: https://www.yorku.ca/science/observatory/outreach/
- ★ Twitter @yorkobservatory = 2832 followers, @YorkUniverse = 765 followers
- ★ Facebook Allan I Carswell observatory = 1401 followers, average engagement = 1900 impressions per 28 day period or approximately 22800 impressions per year
- ★ Instagram @yorkuobservatory = 411 followers
- ★ 8 new local high school tours (average 50 students per group)
- ★ 22 new public viewing astronomy evenings (average 120 persons per session)
- ★ 18 new grade-school and high-school tour groups (average 60 students per group)
- ★ 2022-current: A new observatory online store and YorkU Bookstore sales to provide enhanced access to observatory educational materials and promote outreach
- ★ Special events: 2022 AND 2023 Astronomer in Residence Program - note: resources created for this program includes a full website hosting as well as a dedicated Killarney Parks Astronomy shows playlist on our YouTube channel here: https://youtube.com/playlist?list=PLQG2xolgDEDg-HbhLGS1HN-i_dY8xaZdE and a dedicated instructional video playlist here: https://youtube.com/playlist?list=PLQG2xolgDEDjZSUPYi_akq5LfHmRCYaV-
- ★ Special events: 2023 Valentines Astronomy Day (over 100 participants), Haunted Hydrogen Halloween (over 100 participants), Science Rendezvous 2023, and more!
- ★ Nov 2023 - Launch of AIC Observatory Proposal System

We are looking forward to more events, excitement and research this year, but in this document you will find a summary of some of the most successful activities over our past year. A special thanks to the Allan I Carswell foundation for providing funding to the observatory in 2023. I would also like to

specially thank the Science Dean's office for their 2022 contribution of $1000 to reimburse the york student musicians at our special Haunted Herschel Halloween event [October 2022].

With the work of so many wonderful students and volunteers, I do want to especially thank recent graduates Joshua Parsons, Obada Wazwaz and Amin Jafarov who have finished their undergraduate studies at York University and moved on to other pursuits.

All this of course, just goes to show, telescopes do make the best spaceships.

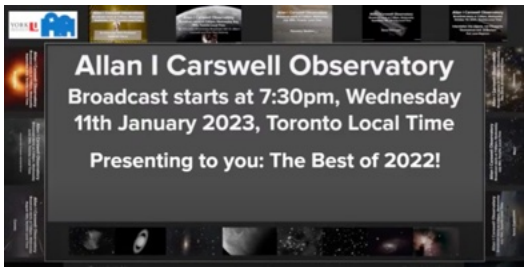
Clear Skies,
Dr. Elaina A. Hyde
Assistant Prof., York University
Director, Allan I Carswell Observatory

During the year 2023, the following students, volunteers and staff were observatory members:
Emanuele Mendicelli, William Pauls, Victoria VanDyk, Ushieja De Zoysa, Swati Dhakal, Sunna Withers, Sorena, Shannon Fernando, Shai, Roshan, Rafia Madni, Quinton Weyrich, Pruthvi, Paul A. Delaney, Palvisha Sharma, Noa , Nicole Light, Neil McCall, Matt Walker, Kshitij Govil, Kitsa Statti, Kevin Delany, Jupiter Jones, Katherine, Kat, Joshua Parsons, John Moores, Johannes Irnawan, Jesse Rogerson, Jen Mehrnoush Zomederis, Jared Carlson, James Pascutto, Gianluigi Zito, Gaganpreet Sidhu, Frank Chen, Elham, Elaina Hyde, Davina, Connor Mooney, Charissa Campbell, Ben Mend, Azeem Naveed, Atifa Syed, Aria, Antonthas Jeevitha, Anna Skrinnik, Anita Nasiri , Amin Jafarov, Abteen Sanaee, Kat Benevides, Shannon Fernando, Tarnjot Bajwa, Maykel Faragalla, l. Stanley, Obada Wazwaz, Matt Quirola, Matteo Statti, Arfa Ali, Maheen Hemani, Kasra Fard, Laura Eliza Monroy, Christina Nguyen, Caleb Hopkins, Vithurshan Suthakar, Mani Mehdipoor, Sergiy Kernytsky, Elora Nabon, Sherry, Dhyan Thakkar, Nathan Minuk, Conor Hayes, Toby Avila, Dorsa Ahmadieh, Rafia, Rosayla Coulthard, Halima Mohamud, Yalda Radan, Nakul Ramjee, Khushi Vyas, Nicholas Wu, Thomas Yang, Tina Mojirleilani, Pouria Azimi, Camila Guzman, Zena Khadour, Rosalyn Chan Yoke Ling, Marianna Veltri, Martin Memo, Brock Koch Nichol, Karan Alavi Harati , Wayne, Annie Ghimire , Bradley Neville, Tara Jami Rizehgi, Prameet Guha, Lauren Morley, Seyed Masoumi Lari, Melissa Corvelo, Zeinab Imani, Akshat Aggarwal

Major Activities in January 2023-December 2023:

2023 - Preserving the Data: A new cloud-based data system for the observatory. The new robotic domes will allow for data collection at a much higher nightly rate than previous. The observatory has started an arrangement with the Canadian Data Science Center to host telescope data, and potentially skycam data as well. This will mean that we will have a fully operational database which can be queried by any student or scientist from Canada and beyond. The initial docker containers were placed this year to test small pipelines and when active will be linked to the AICO website.

2023 - Data Science in Outreach: A new digital outreach format: A few of our current digital projects include building an Augmented Reality Display with LiDAR scanner, 3D renderings of observatory interior for digital walkthroughs, 3D printing for accessible touchable displays, and ML/AI processes for fast data reduction and interactive outreach tools.



2023-01-11 The Top of 2022: Our top YouTube episodes from 2022 were recapped in this new years special broadcast. In 2022, due to the pandemic, we used an entirely new format of astronomy show (implemented in 2021 at the pandemic closure). These broadcasts are informative astronomical shows which feature topics such as

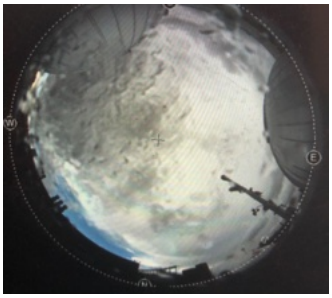
planets, galaxies, space exploration and more. Broadcasts also feature interactive games that the public can 'play' while live in YouTube chat as well as provide a useful resource for grade-school and high-school instructors. We also host science and astronomy guest speakers to feature breaking research, discoveries and share the latest breaking news. The observatory crews favorites of 2022 can be found here: https://youtube.com/live/_E-SUmELROM [image credit: AICO]

2023-01-15 through 2023-02 -01 Green Comet Observing: Feb. 1, comet C/2022 E3 (ZTF) made its closest approach to Earth, and its position in the sky is such that Canadians (and the AICO) were in an ideal place to spot it. Comet C/2022 E3 (ZTF) was discovered in March 2022 by the Zwicky Transient Facility in San Diego, California. The comet orbits the sun only once every 50,000 years (at most), and passed around the sun on Jan. 12. On 1 Feb, it passed Earth on its way out of the solar system. The February first live imaging session was recorded and can be seen here: https://www.youtube.com/live/pSVS2LzqrUM?feature=share (views as of June 2023 =429)[image credit: Elaina Hyde, AICO]

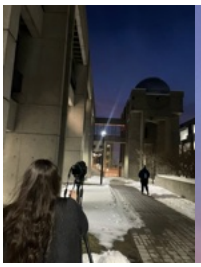
2023-02-08: QUAIL reconnected! The Quad Array of Isolating Lenses (QUAIL) instrument was installed atop the 60cm telescope in 2019 as part of a master's thesis project. Two of the planned four canisters were used for the first light imaging before QUAIL was dismounted in 2022 to allow for the 60cm telescope control renovations. On this day, the original two cameras were reconnected to the newly installed QUAIL operating computer as part of our observatory dome refurbishment. This will allow the 60 cm telescope to continue cutting edge wide field imaging in addition to its ongoing monitoring program for SX Phoenicis variable star monitoring program. [image credit: Elaina Hyde, AICO]

2023-02-14: Special Valentines Day tour event. There was a special Valentines Day tour Feb 14th at the Observatory this year. The event poster is shown on the right. Participants were invited to *'Comet along and learn about heart shaped objects in space, or just relax under the stars with our observatory team.'* The eventbrite event was fully booked for this valentines day adventure with 100+ participants touring the decorated observatory, taking pictures at the photo booth, and playing a valentine's day themed astronomy treasure hunt. [image credit: AICO, Nakul Sethuram, Pouria Azimi]

2023-03-01: The observatory all-sky camera is officially online. This important component of our new dome installation consists of a large fish-eye lens which can watch the sky above the observatory directly and show any threatening weather conditions (like the snowstorm condition shown). The all-sky camera runs through a newly installed network rack and is vital for remote operations of the 1m and 60cm telescopes. The first livestream from the camera was on

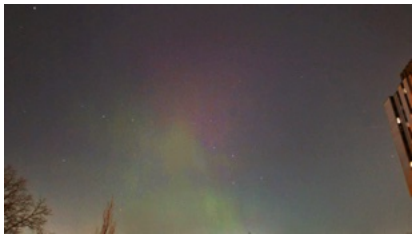


2023-03-01 and is found here: Camera Livestream [image credit: AICO, Elaina Hyde]


2023-03-01: Venus and Jupiter Conjunction. This major astronomical event saw the planets Jupiter and Venus at their closest on March 1 when they were separated by just 29.4 arcminutes, or about half a degree, of each other. At an apparent width apart http://www.r-project.org/of a tiny fraction of a finger, this meant the two planets captured the imagination of skywatchers. Venus and Jupiter will have their next close approach on Feb. 7 2032 when they will come to within 21 arcminutes or around a third of a degree of each other. Our observatory crew stayed up to catch these marvels of the sky, using a wide field camera and a narrow view from outside the observatory. [image credit: Sunna Withers, AICO (left, middle) Nakul Sethuram Ramjee, AICO (right)]

2023-03-09: A new observatory lounge area! In conjunction with York Facilities the observatory has sourced a display cabinet and chairs to create a new observatory lounge area on the 3rd floor of the Petrie building just across from the main entry doors. Placed around our existing observatory display and information screen, this will allow tour groups a place to meet as well as increase student engagement with the observatory. The display cabinet features several interesting observatory historical objects as well as the observatory 'store' items and general astronomical information. This new area is officially opened to students, faculty, staff, and visitors as of 9 March 2023.



2023-03-23: An Aurora visible from York Observatory. The large solar storm created a light show in Ontario that was even captured on York Campus. The extremely wide field of view means this phenomena is not visible via telescopes but rather with wide field cameras or the naked eye. This image shows the light show as visible at Keele campus on the evening of the 23rd [image credit: AICO, Joshua Parsons]

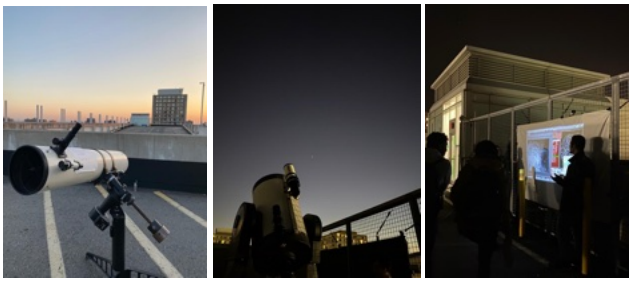
2023-03-24: York University Spring Open House: During the Spring Open House event, the observatory hosted an informational table with outreach and research information, helping attendees to 'explore all of our undergraduate faculties at the Keele Campus open house with exhibits, tours, panel discussions and more. Connect with staff, current students and professors in your program(s) of interest.' In addition the observatory also ran tours during the event, allowing attendees to see the domes in the daytime and get a small taste of what students can get up to here at York.

2023-03-25: A first cleaning of the 1m mirrors! The mirror cleaning of the telescope is a delicate process, the 1m being installed in 2019 was due for a clean and received the telescope equivalent of a quick bath (no water is used!), to remove dust and artifacts from the primary mirror. As part of our realignment of the 1m optical system with our

contractor SeaWest, the Planewave 1000 was delicately cleaned on the primary and secondary mirrors. This process improves the imaging quality at the observatory and will allow for clearer astrophotography from our primary imaging camera. [image credit: AICO, Elaina Hyde]

2023-03-28: On March 28, 2023, Mercury, Venus, Mars, Jupiter, and Uranus were aligned in an arc form along with the moon after sunset, constituting a rare astronomical event. The Allan I Carswell Observatory captured images of these planets from several of our smaller telescopes for public outreach and sharing via our social media channels.

2023-04-12: First Atrium Tours of the season started atop the Arboretum parking garage at the Allan I Carswell Observatory satellite facility. The 40 cm telescope and several smaller telescopes were used in conjunction with our wireless projector to provide a safe and entertaining outdoor astronomy experience. [image credit: AICO, Maheen Hemani]. Bright objects such as planets, the moon, and stars are ideal for observing from the atrium facility with the smaller telescopes. Venus could be imaged safely even with a simple cell phone held up to the eyepiece and many members of the public came away with planetary images of their very own. [image credit: AICO, June Parsons]



2023-05-04: A new public infographic system! The observatory worked in conjunction with York media officers to create a new template for informative astronomy graphics both inside the observatory and as handouts. These 12 infographic posters were created alongside a new, playable interactive 6 graphic display for the public. An astronomy treasure hunt activity. These two activities provided increased outreach potential at the observatory and were completed by observatory member Marianna Veltri. [image credit: AICO, Marianna Veltri]

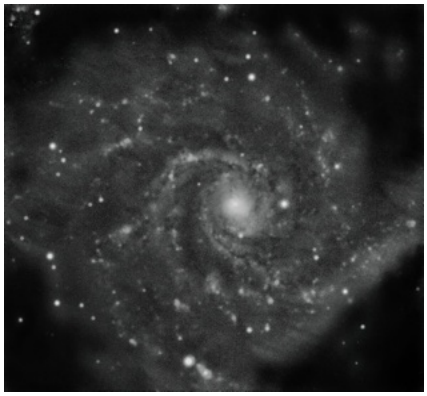
2023-05-10: Sunspots and Solar Viewing: The Allan I Carswell Observatory has been able to take advantage of the recent uptick in solar activity to image sunspots and the solar surface with our smaller telescopes located atop the arboretum parking garage. This session was the start of our 2023 solar monitoring. Solar Cycle 25 began in December 2019 with a marked increase in solar activity. Increased sunspots, flares and activity are responsible for effects like the aurora mentioned earlier! [image credit: Joshua Parsons, AICO]

2023-05-13: The Return of Science Rendezvous all day event with the Allan I Carswell Observatory: (university site: Science Rendezvous - Science Engagement Programs). For the first time since the pandemic the observatory was able to participate in the all-day street fair event held in Markham, Ontario for Science Rendezvous (event site: Science Rendezvous » York University). This event saw hundreds of families, children

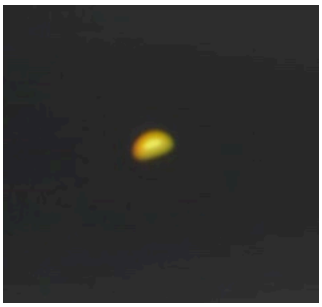
and participants coming over the course of the day to play the observatory astronomy game, receive henna constellation tattoos (temporary!) and to learn about space and astronomy. [image credit: Tina Mojirleilani, Ren Morley, AICO]

2023-05-16: The Astronomer in Residence Program Returns! Our successful astronomer in residence program run as a joint effort between the Allan I Carswell Observatory and the Killarney provincial park (KPP) has returned in 2023 for a second season after an amazingly successful inaugural run in summer 2022. This program hosts astronomers in the certified dark sky site of KPP in Ontario during summer months (May-Oct). Our AIRs lead in-person astronomy presentations and shows using the Park Observatory. Qualified candidates will reside (for free) at the park for their tenure and collaborate with the AICO on outreach and livestream broadcasts. Hundreds of KPP visitors over the summer will enjoy these astronomy programs as our astronomers lead the science programming. The program information, archived 2022 blog as well as the current 2023 blog are all available on the AICO website for this program at: https://www.yorku.ca/science/observatory/air/ [image credit: AICO]

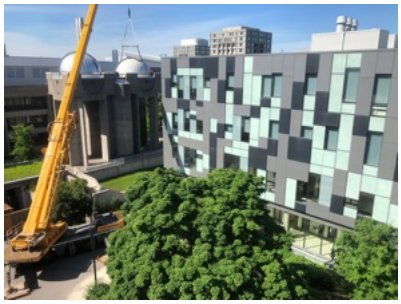
2023-05-21: The M101 Supernova - A student observing project: The M101 galaxy supernova appeared on May 19 in the Pinwheel Galaxy, (also designated as Messier 101, or M101). The closest core collapse supernova in decades, SN2023ixf is most likely a type II based on early spectroscopy results and was easily viewable with the 1m. A student project to monitor the supernova was started May 21st (the first clear night) and photometric data was collected by several members of the observatory student team from May through July. Lead observers were Sunna Withers, Tina Mojirleilani, Sergiy Kernytsky, and prof. Elaina Hyde. This supernova monitoring project provided students a direct connection to current research, as well as some wonderful astrophotography. [image credit: Joshua Parsons, Sunna Withers, Tina Mojirleilani, Sergiy Kernytsky, Elaina Hyde, AICO]



2023-05-31: Phases of Venus and Phases of the Moon: A new monitoring project by high-school co-op student Tara Jami follows the phases of the planet Venus over the course of several nights of observing. Our high-school student designed and executed the observing program (with the help of fellow observatory members). [image credit: Tara Jami, AICO] Conjointly, our atrium tours monitored the phase changes in our nearest satellite, the Moon. The moon phases were imaged via smaller telescopes atop the atrium while the phases of Venus were imaged via the MallinCam instrument in the 1m telescope. [image credit: Camila Guzman, AICO]



2023-06-14: The 1 year anniversary of the new observatory domes! After a year of working on electrical and mechanical systems, our dream of a robotic observatory has come to pass. Both domes are now controllable remotely and can be synced to the two different telescopes inside them. The 60cm telescope has an entirely new control system, replacing decades old encoders with a modern Ascom interface system. Both domes can be driven by Voyager software and follow their telescopes across the sky. It has been a long journey, so today we remember just how far we have come! [image credit: AICO, Elaina Hyde]



2023-07: Renovations and floor Replacement in the Domes! A new construction/renovation project for 2023 was taken up with the York Facilities team and Jonathan Cevallos. The old (original) asbestos tiling has finally been removed from the observatory warmroom, entryway, and 60cm dome. Not only does this eliminate a slipping hazard, it also allows us to maneuver ladders more effectively and operate the 60cm with greater speed and accuracy. The highly technical replacement and grinding process that had to occur before new flooring could be put in meant that the 60cm telescope was not widely used during July 2023, but seeing it now, it is well worth the effort. This renovation was coupled with shelf replacements and new observatory astronomy graphics for the 60cm walls. Special thanks to the department of Physics and Astronomy and chair prof. Pat Hall for donating astronomical hanging graphics to the observatory for this project. [image credit: 2023, EAHyde, AICO]

2023-08-30: Bethune College Orientation Event: Date: Academic Orientation Day for YorkU Bethune College was Wednesday August 30, 2023 and as part of this event we offered special student tours from 8:30-10:30 pm. This event allowed incoming students to come to the Allan I Carswell Observatory Domes and tour the largest telescope on any Canadian university campus, our 1-Meter telescope, as well as a 60-cm and a 40-cm telescope. Our telescopes are used by students, faculty, and volunteers for research and astronomy outreach. Bethune students got to see projected images, the telescopes, and of course the observatory itself! On this tour incoming students were able to meet astronomy students, find out how students can participate in the observatory, do lots of Q&A, and pose for the astronomy photo booth!

2023-09-06: The Allan I Carswell Observatory Grand ReOpening! Wednesday, September 6th, 2023 from 8 p.m. to 10 p.m. our observatory was officially open for business (and outreach) again! This reopening celebrates the finish of a grand renovation project at the observatory, including new robotic domes and more! In addition, starting on September 6th, we resumed in-person public tours of the

Observatory every Wednesday (except holidays) evening after sunset. To join the tour, come to the 3rd floor of the Petrie Science and Engineering building (PSE) from 8-10pm, and walk to the blue Observatory doors. All regular tours will be listed on the observatory website with FREE eventbrite tickets at: https://www.yorku.ca/science/observatory/ The event description can be found here: https://events.yorku.ca/events/grand-reopening-of-the-allan-i-carswell-astronomical-observatory/ [image credit: AICO, EAHyde]

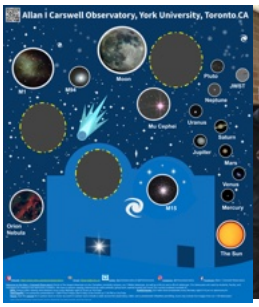
2023-09-28: Occultation by Chaos. As part of the development for our new online proposal system (launched in November) this collaborative science observation was done with the ERC project Lucky Star whose aim is to study the solar system beyond Neptune with stellar occultations. The project is led by Bruno Sicardy in collaboration with groups from Paris, Meudon, Granada, Rio and of course York University Allan I Carswell observatory. This target was successfully observed and is hopefully the first of many collaborative targets.

2023-10-10,15: Stars over Killarney 2023: This October was the wrap-up of the AICO 2023 Astronomer in Residence Program. Our last activity of the 2023 season is the famous 'Stars over Killarney' event. For this event, a direct quote from our final 2023 astronomer Bruce Waters: "The Stars over Killarney program focuses on connecting some aspects of astronomy to the Park experience of the visitors. The first year (2018) was focused on the importance of dark skies to celebrate the opening of Ontario Park's first Dark Sky Preserve. However, in addition to the astronomical importance of dark skies, the program also spoke to the human health and ecological importance of dark skies. In 2019, the program was on Indigenous astronomy and experiences in the Park. After a few year health hiatus, the 2022 program focused on geology and planetary science connecting the incredible geology of the Park (did I mention "the Crack" trail earlier). This year was all about connecting the incredible beauty of Killarney Provincial Park, which has a history richly steeped in artistic endeavors to the beauty and science of the celestial beauty of the cosmos." The blog can be found here: https://www.yorku.ca/science/observatory/air/astronomer-in-residence-blog/ Interested students, faculty and staff, may note that 2024 applications will open at the end of January 2024 for the summer 2024 season. The website, application, and info are all here: https://www.yorku.ca/science/observatory/air/ [image credits: 2023 AICO, Bruce Waters]

2023-10-14: Partial (Annular) Solar Eclipse: While it was a partial eclipse for Ontario, this eclipse appeared like a "ring of fire" – known as an annular eclipse – in western North America. The moon is a bit further away during these eclipses, so it will never fully block the light from the Sun (hence its name). The best visibility in Canada was in B.C. (almost 80 per cent of the partial eclipse), but Toronto and the AICO still got a pretty good view from our Atrium location atop the YorkU Arboretum parking garage. Several observatory members

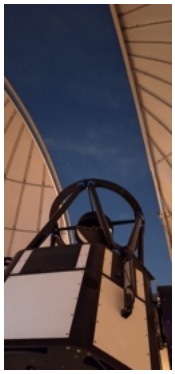
grabbed pictures from locations around the Toronto general area. [image credit: 2023 AICO, Paul Mackin]

2023-10-18: Carnival Cutouts Arrive at the AICO! A long time in the making, this interactive display and outreach area was created by our director Dr. Hyde. The Carnival Cutout showcases astrophotography done at the AICO as well as links to the website and credit information for students involved in the astrophotography. The original design was approved by the university and printed onto a weatherproof board. The design is shown on the left and the final product, fitted with a wheel to allow the frame to maneuver into position during tours is shown on the right. The observatory would like to issue special thanks to York Facilities for the donation of the 2x4 wooden planks and the York Science Mechanical Shop with Jerry Grech, Wilf Stein and Thomas Mueller who have constructed and assembled the frame. [image credit: AICO, EAHyde, image features: Paul Mackin, Nakul Ramjee, Zena Khadour, Camila Guzman, Marianna Veltri, Sunna Withers, Tina Mojirleilani]



2023-10-31: Haunted Hydrogen Halloween: Have you ever wondered what the spookiest element is? Or perhaps which holiday has the most astronomy content? The halloween of 2023 at the Allan I Carswell Observatory held a 'haunting' of our telescopes for a special event. The Halloween show was run with our crew from 6-9pm on Halloween evening and featured decorations, spooky Hydrogen, and of course lots of astronomy. The event was featured on the York calendar and had attendees from the students, faculty, and of course the public. [image credits: AICO, Jatin Dhirani]

2023-11-02-03: Jupiter opposition: Jupiter was closest to Earth – at perigee – on November 1-2, 2023. It was one day before Earth flew between the sun and Jupiter – bringing Jupiter to its yearly opposition – on November 2-3. That's when Jupiter will be most opposite the sun in our sky. At midnight your local time as seen from around the globe, Jupiter will be shining at its highest in the sky, more or less where the sun was at your local noon. At that time, the sun will be below your feet. It'll all happen as Earth flies between the sun and Jupiter. Jupiter was precisely closest to Earth at 21 UTC (4 p.m. CDT) on November 1-2. At that time, its distance will be 370 million miles/ 595 million km/ 33.11 light-minutes from Earth. At opposition Jupiter will have Magnitude -2.9. Jupiter will shine as the 4th-brightest object in the sky, after the sun, the moon and the planet Venus. It'll be the brightest starlike object visible for most of the night (until Venus rises before dawn). The size at opposition (as seen through a telescope) was 49.45 arcseconds across. Due to cloudy



weather the AICO was able to capture Jupiter on November 9th on a very clear and still night (shown in the image here) using the 1 m telescope MallinCam instrument. [image credit:AICO, Sunna Withers, Nakul Ramjee]

2023-11-09: Launch of AIC Observatory Proposal System - Collaborative Observations
The finishing touches on the new observatory open proposal system have now been put into place. One of our first collaborative observations this year was with the Lucky Star group on the Chaos trans-Neptunian object. The occultation was observed from the 1m at the Allan I. Carswell Observatory as well as several other telescopes around the world and has bolstered support for an additional undetected satellite.
Researchers, students, and more can all now apply for time on either the 1m or 60cm robotic telescopes (with in-person optional observing) by submitting a proposal using the template and submission form here: https://www.yorku.ca/science/observatory/observers/schedules-apply-for-time/
Observation planning can be done entirely from the observers resources on our new informational page here: https://www.yorku.ca/science/observatory/observers/
Additionally, instructors are invited to copy the template for astronomy courses and provide it as an example (or perhaps assignment) for students in the astronomy arena. The initiative of outreach is also available here and RASC members who are following the Variable Star Campaign, the last Friday of every month (allowing for holidays off) is reserved for this outreach campaign.

2023-11-01: A new Computer Backup system for the Observatory.
The network rack has been a great success but you never know when a computer might fail. That is why we used the last of our calendar sale funds from 2022-23 to purchase a Synology NAS backup system which will store the system settings for all four of the computers in our network rack. Assisted by York Faculty of Science IT, we now have a system backup for our most important operational computers.

2023-11-18: Fall Campus Day. The Faculty of Science Fall Campus Day is always a busy event, but this year the Observatory was able to host both a table for astronomy and outreach as well as regular observatory tours. During the event we also offered attendees the chance to play the new interactive Observatory Treasure Hunt, where participants can search for certain astronomically relevant information throughout the domes to attempt to win a small prize (upon exiting the tour). The Fall campus day saw several large tour groups as well as walk-in attendees and were able to illustrate some of the fun, as well as practical, benefits of choosing YorkU to the attending grade 11 and 12 students.

2023-12-01 - Jan 2024: Best of 2023 contest! This event will feature only 8 of our events from 2023 in an elimination contest to determine what 'event' was the BEST during the last year, according to popular vote. The voting will be held on the observatory Facebook, Instagram, and Twitter channels, so keep an eye out for your favorite if you want to make it through the semi-finals. Results will be announced after the last voting during the upcoming 2024 new year.