

The Royal Astronomical Society of Canada

2017 General Assembly



Algonquin College
Woodroffe Campus

June 30 to July 3
Ottawa, Ontario



Welcome to the 2017 RASC General Assembly

**His Excellency
The Right Honourable David Johnston
Governor General of Canada
Patron of
The Royal Astronomical Society of Canada**



Photo: Sgt Ronald Duchesne, Rideau Hall

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THE GOVERNOR GENERAL · LE GOUVERNEUR GÉNÉRAL

Throughout my mandate as governor general, I have worked to promote learning and innovation. It therefore gives me great pleasure to extend greetings to everyone gathered in Ottawa for the 2017 General Assembly of the Royal Astronomical Society of Canada (RASC).

Ours is an era of incredible technological advances, and I am proud that Canada has produced some of the foremost scientists in the world. Their exceptional and transformative work is helping to shape our future, notably by broadening our understanding of the universe.

The 150th anniversary of Canadian Confederation has given us a wonderful opportunity to showcase our culture, our history and the immense talent to be found right here. Over the next few days, you will be able to discuss the latest developments in the fascinating field of astronomy, celebrate your successes and chart a course for the years to come.

As patron of the RASC, I would like to congratulate this year's award recipients on their remarkable achievements. I would also like to thank the astronomical community for continuing to astound us and for having a hand in building the smarter, more caring nation to which we aspire.

Enjoy this wonderful gathering!

David Johnston

2017

Welcome from the General Assembly Committee

We always knew that a General Assembly held in Ottawa on Canada's sesquicentennial would have to be "maple-flavoured." This GA showcases some of the very best of the Canadian professional and amateur astronomical community. As we gather this weekend, take the opportunity to renew old friendships and make new ones.


Ottawa Centre extends a warm welcome to our guests and to our colleagues from all RASC Centres across Canada. We hope you find the program interesting and enjoy something of what our city has to offer.

We offer our deepest gratitude to Algonquin College President Cheryl Jensen and Special Events Manager Jennifer Thurston-Saunders for hosting us so wonderfully. And finally, thank you to the RASC Ottawa Centre Council for their unwavering support.

Now, let's enjoy our GA, and celebrate Canada's 150th birthday!

Brian McCullough,
2017 GA Chair



Tim Cole, 
Ottawa Centre President
and 2017 GA Vice-Chair

Registration June 29: Residence Foyer 4:00 pm to 10:00 pm
Registration June 30: Room T-102 Foyer 8:00 am

2017 GA Telephone Support Line 613-581-6792

Available from June 29 to July 03
7:30 am to 12:00 midnight

Safe Zone: In keeping with RASC Policy, the Ottawa Centre values respect for everyone. Please avoid uninvited touching and refrain from using demeaning or offensive language. Contact the registration desk for information on our Guide Star safe walk program.

Scent-Free Zone: We're here to share our interest in astronomy, not chemical fragrances. Please respect other people's clean air space by doing your best to use only unscented products.

Meals for the Weekend

Algonquin campus cafeterias are closed Saturday through Monday. With the exception of the Friday BBQ, Sunday Awards Banquet, and coffee breaks, registrants will need to find their own meals. College Square Shopping Centre has a number of restaurants and food outlets.

Licensed Restaurants

- Chances R Restaurant
Show badge for 10% GA discount
- Summerhays Grill (across Baseline Rd)

Fast food

- McDonald's
- Popeyes Louisiana Kitchen
- Subway
- Pizza Pizza
- Extreme Pita
- Harvey's (inside Home Depot)
- KFC (across Baseline Rd)

Coffee & Sandwiches

- Tim Hortons
- Timothy's Coffee
- Kettleman's Bagel

Other

- Loblaws – full grocery with beer, wine, and take-out food
- LCBO – provincial liquor outlet
- Beer Store
- Rexall Pharmacy
- Canada Post (inside Rexall)
- Bank of Montreal
- CIBC ATM (inside Loblaws)

Medical, Police, and Security phone numbers (other than 911)

Closest 24-hour pharmacy: Shopper's Drug Mart Westgate Shopping Centre
1309 Carling Ave 613-722-4277

Closest walk-in clinic: College Square Medical Centre in Loblaws building
613-224-6606

Closest hospital: Queensway Carleton Hospital 3045 Baseline Road
613-721-2000

Algonquin College Security – Room T124 613-727-4723 Ext 5010

Ottawa Police Services (non-emergency) 613-236-1222



*Enjoy your stay in the
Nation's Capital!*

Transportation



OC Transpo Local Bus Transit

Across Woodroffe Ave from Algonquin College is Baseline Station, a major OC Transpo bus hub. It's behind the Algonquin Centre for Construction Excellence (ACCE), which is the building with a green roof. From there, take a 94 (Riverview) bus or 95 (Orleans) bus to get downtown in about 20 minutes. For route and trip planning: www.octranspo.com.

Airport Transportation

- Local taxi: WestWay Taxi westwaytaxi.ca 613-727-0101
- Coventry Connections (taxi) www.coventryconnections.com 613-746-8740
- Ottawa Airport Shuttle: www.ottawashuttleservice.com
- Flight information: www.yow.ca

Museums and Attractions

- For downtown map and visitor suggestions: www.ottawatourism.ca/wp-content/uploads/2016/05/Ottawa-Downtown-Map.pdf
- Parliament Hill, ByWard Market and Major's Hill Park – Take bus 94 or 95 to downtown.
- National Gallery and Royal Canadian Mint – Take bus 94 or 95 to downtown, walk north along Sussex Drive about five minutes.
- Museum of Nature – Take bus 94 or 95 to downtown, walk south on Elgin or Metcalfe about 15 minutes.
- Museum of History – across the river in Gatineau: Transfer to STO bus 31 (westbound) from north side of Wellington Street
- War Museum – Take bus 94 or 95 bus to LeBreton Flats.
- Canada Aviation & Space Museum – Poor access by bus
- Canada Science and Technology Museum – Closed

Badge Policy

Please wear your GA identification badge at all times. The icons on your badge give you access to the events indicated. Remember to show your badge at Chances R Restaurant to get your 10% discount.

Far from the Madding Crowd

- The Algonquin College campus Horticulture Gardens, located behind M Building, is a lovely spot to enjoy some quiet time.
- A branch of the Ottawa Public Library is found behind Baseline Station. Take the pedestrian/bike path from the south end of the transit station to Centrepont Drive; the library is in the large building to your left.
- Central Experimental Farm and Rideau Canal: If you have a car, drive east on Baseline Road and turn left onto Prince of Wales Drive. The Fletcher Wildlife Garden will be on your right and Canada Agriculture and Food Museum will be up on the left. Trails through the Wildlife Garden lead down to the Rideau Canal and the 19th century Hartwell's Lock Station near Carleton University.



The Royal Astronomical Society of Canada

Ottawa Centre

presents



Starry Nights

An exhibition of the night sky

June 27 to July 25, 2017

Reception

July 20, 2017 from 7:00 to 9:00 pm

LaLande + Doyle Exhibition Space

Shenkman Arts Centre, 245 Centrum Boulevard, Lower Level

Summer Hours:

Monday to Friday - 7:45 am to 9:30 pm

Saturday, Sunday - 9:00 am to 5:00 pm

Information: 613-580-ARTS (2787)

shenkmanarts.ca



TTY 613-580-2401

2017 GA Presenters

Ken Hewitt-White – Keynote Speaker **Astronomy, the RASC, and Me**



Astronomy communicator Ken Hewitt-White joined Ottawa Centre in 1967, and today is a member of Okanagan Centre. Following 20 years of production work at Vancouver's H.R. MacMillan Planetarium, Ken co-hosted the Discovery Channel series *Cosmic Highway*. Currently, Ken is Associate Editor of *SkyNews* magazine. He still observes with his telescopes every clear night.

Dr. Eric Steinbring – Ruth Northcott Lecturer **Astronomy from Coast to Coast to Coast**



Dr. Eric Steinbring is an astronomer with the National Research Council of Canada, working in high-resolution imaging of distant quasars and galaxies. This combines space-telescope data with the technology of adaptive optics from the ground. It is a technique possible only from the best astronomical sites, taking him to the forefront observatories of Hawaii and Chile, and even to the High Arctic.

Dr. Nadine Manset – Banquet Speaker **24 Years of Adventures and Explorations at the Observatoire du Mont Megantic and the Canada-France-Hawaii Telescope**



Montreal native Dr. Nadine Manset became a resident astronomer at the Canada-France-Hawaii Telescope in 1999. She currently oversees the Queued Service Observing mode and manages the Astronomy group. Dr. Manset is active in astronomy education and outreach, and currently the Maunakea Outreach Committee. She teaches astronomy at the University of Hawaii in Hilo.

Dr. Brendan Quine

50 Years of VLBI at the Algonquin Radio Observatory



Very Long Baseline Interferometry (VLBI) is a Canadian invention that affects every aspect of modern society. VLBI was invented 50 years ago at the Algonquin Radio Observatory in cooperation with the Dominion Radio Astrophysical Observatory in Penticton. Today, Thoth and the University of Toronto have a flourishing VLBI program.

Kelly Jordan

Baking and Beyond



Embark on a bold journey from Astronomy to Gastronomy! Ottawa Centre Meeting Chair Kelly Jordan's astronomy-based cookbook showcases eight out-of-this-world dessert recipes for terrestrial appetites.

Brian McCullough (2017 GA Chair)

Educators Outreach Workshop



This fast-paced workshop shares a few engaging activities for school and community outreach programs: Marshmallow Moon, Teabag Galaxies, Seasonal Star Clock, Pocket Sundial, Designer Constellations, Ping-Pong Planets, and a colourful twist on the standard meteor impact demonstration.

Simon Hanmer

The Solar System: A Geological Perspective on Current Controversies



Planetary scientists have made remarkable advances in understanding how our Solar System formed and evolved. Nonetheless, unresolved controversies have arisen between schools of thought. Simon focuses on a selection of ongoing debates about the rocky planets and Pluto, which require a geological perspective for their definition, evaluation and eventual solution.

RASC General Assembly

Friday June 30		Saturday July 01		
8:55	Ken Hewitt-White Astronomy, the RASC, and Me	8:55	Educators Outreach Workshop	
9:30		9:30		
10:00	National Council Meeting T130	10:00	Coffee / Moon Sketching	
10:30		10:30		
11:00		11:00	The Solar System: A Geological Perspective and Current Controversies	
11:30		11:30		
12:00		12:00	Lunch / Moon Sketching	
1:30		1:30		
2:00		Explore ByWard Market Downtown Buses begin loading at 12:45 pm	2:00	Ruth Northcott Lecture Astronomy From Coast to Coast to Coast
2:30			2:30	
3:00			3:00	Ruth Northcott Lecture Coffee Reception
3:30			3:30	
4:00	4:00		Bravo Documentary <i>Starry Night</i>	
4:30	4:30			
5:00	5:00		CSA: Exploring the Universe	
5:30	5:30			
6:00	6:00		Just Passing Through	
6:30	6:30			
7:00	Break	7:00	Canada's 150th Birthday Celebrations on Parliament Hill!	
7:30		7:30		
8:00		8:00		
8:30	Star Party and Diefenbunker Tour	8:30		

Ottawa 2017

Sunday July 02		Monday July 03	
8:55		8:55	
9:30	Annual General Meeting	9:30	Salon A
10:00		10:00	
10:30	Coffee	10:30	Salon D
11:00	Annual General Meeting	11:00	
11:30		11:30	Room T130
12:00	Break for Lunch	12:00	
1:30	Charles Messier (1730 – 1817)	1:30	Room T102
2:00	Taking the Pulse of the Stars	2:00	
2:30	2016 Maximum of Mu Cep	2:30	Off-Site Event
3:00	Coffee	3:00	
3:30	The Starry Nights Astronomical Art Exhibit	3:30	
4:00	How Ancients Predicted Eclipses	4:00	
4:30	2017 Solar Eclipse How Lucky is That?	4:30	
5:00	Break	5:00	
5:30	Group Photo	5:30	
6:00		6:00	
6:30	RASC Awards Banquet	6:30	
7:00		7:00	
7:30		7:30	
8:00	24 Years of Adventures and Explorations at the Observatoire du Mont Mégantic and CFHT	8:00	
8:30		8:30	

Charles Ennis

Starry Nights BravoFACTUAL Documentary



This film examines the profound influence the night sky has on humankind, and how modern life has detached us from its beauty. Charles describes how Sunshine Coast Centre made this film in partnership with the Okanagan and Prince George centres, and three seasons of *Night Lights* for Coast Cable, and cooperated with APTN's *Coyote Science*.

Dr. Denis Laurin

Exploring the Universe from Space: Canada's Contribution to Space Astronomy and Exploration of the Solar System



Astronomy has made tremendous progress by observations from space. We now know that exoplanets are plentiful and that water may periodically flow on Mars. Dr. Laurin will describe recent Canadian achievements, and what the near future could hold, such as the possibility of detecting signs of life in our solar system or beyond.

Glenn LeDrew

Just Passing Through



The seemingly unrelated sprinkling of stars in the sky turns out to be not so random. Not only clusters and associations comprise stellar families, but many of the general field stars are also found to be related in dispersed streams. Glenn will detail a few such stellar streams we just happen to be traveling through.

Carmen Rush

Charles Messier (1730 – 1817)



Charles Messier is best known for his famous catalogue of Messier objects. But he made many other contributions to astronomy, in spite of the fact that he had a very difficult life. Carmen will talk about the life and accomplishments of this remarkable man.

Rick Wagner

Taking the Pulse of the Stars



Photometry, the measurement of the brightness of celestial objects, is the basis of much of our knowledge of stars and the universe. Rick has focused his photometry efforts on RR Lyrae stars since building his first observatory in 2007. He will show how to use simple amateur equipment and techniques to measure changes in the period, temperature, and size of a variable star, and actually detect stellar evolution.

David Turner

The Remarkable 2016 Maximum of the Pulsating Class M Supergiant Mu Cephei



Class M supergiant variables are relatively unstudied, although most pulsate, and like Cepheids, have a precise period-luminosity relation. As predicted predecessors of core collapse supernovae, their light signatures might show signs of future explosions. In 2016, the easily-viewed multi-mode pulsator Mu Cep displayed a rise to maximum light that was curiously late and exceptionally bright, with possible ringing near maximum.

Dr. Janet Tulloch

Starry Nights Astronomical Art Exhibit



This presentation will discuss the curatorial vision and works of art by RASC members for a multimedia art exhibit on the night sky hosted by the Shenkman Centre for the Arts in Orleans. See ad on Page 7.



*Ottawa 2017 buttons courtesy of
Marianne Wilkinson – Councillor,
Kanata North*

Ron Macnaughton

How the Ancients Predicted Eclipses



For centuries, Babylonian astrologers kept records on clay tablets of Moon-Earth-Sun patterns, in particular the Saros cycle, which let them make rough predictions. Greek lunar epicycle models improved accuracy, and by the mid-17th century, mathematical models by Kepler and others allowed astronomers to make eclipse maps showing paths of predicted totality.

Dr. Al Scott

The 2017 Solar Eclipse: How Lucky is That?



For centuries people have been amazed by the rare spectacle of a total solar eclipse. The two dominant astronomical objects in our sky appear to be the same size, but we now know that the moon is slowly receding from the earth due to tidal interactions. Could this be the last total eclipse ever?

Charles O'Dale

Holleford Crater Tour



550 million years ago, a meteorite excavated the 2.5 kilometer Holleford Crater. Amateur rock-hound and crater explorer Chuck O'Dale will lead a tour of the rim and floor of the crater.



*Best wishes to Algonquin College
on 50 years of academic excellence.*

Tour Schedules

Explore ByWard Market Downtown – Friday June 30

- 12:45 pm Bus loading begins at Algonquin Residence building
1:00 pm Buses depart for ByWard Market – drop-off and explore
4:15 pm Buses depart ByWard Market for return to Algonquin Campus
-

Evening Star Party and Diefenbunker – Friday June 30

- 7:45 pm Bus loading begins at Algonquin Residence building
8:00 pm Buses depart for Star Party and adjacent Diefenbunker
8:50 pm Star Party and staggered Diefenbunker tours
11:30 pm Buses depart Diefenbunker for Algonquin College

Note: Star Party is weather permitting. Diefenbunker is all-weather

Happy Canada Day at Parliament Hill!

Free public bus transit from Baseline Station
See www.octranspo.com for the Canada Day service notice



Holleford Crater – Monday July 3

Wear a hat and sturdy, closed-toe shoes. Don't forget sunscreen and rain gear. Box lunches and water will be provided.

- 7:45 am All aboard!
8:00 am Bus departs for Holleford Crater.
10:30–11:00 am West crater rim - group photo and presentation #1
11:15–11:45 am Crater floor presentation #2
12:00–12:25 pm Southeast crater rim presentation #3
3:00 pm Latest arrival back at Algonquin College

Meet Our General Assembly Sponsors and Donors

The 2017 GA Committee offers its deepest gratitude to our corporate sponsors and private donors, without whose generous support the special events of this weekend would not have been possible.

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Art and Anne Fraser

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Glenn LeDrew
Damien Lemay
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Charline Norgrove
Sharon Odell
Taras Rabarskyi
Gerry Shewan
John Thompson
Francois van Heerden

Meet Our General Assembly Volunteers

The 2017 GA Committee extends special thanks to the volunteers whose uncounted hours of labour made the GA possible.

Gary Boyle
Nancy Cole
Oscar Escheverri
Martha Farkas
Karen Finstad
Doug Fleming
Irene and Ken Johnston
Kelly Jordan
Paul Klauninger
Eric and Eunice Kujala
Bridget Madill
Mel Martin
Barry Matthews

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Stephen and Suzanne Nourse
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David Parfett
Michael Richards
Gerry Shewan
Donna and John Shortt
Gillian Sullivan
Noah Takahashi
Chris Teron
Sayuri Tsuruta
Jeanette Wagner
Gordon Webster

Maple wood presenter gifts provided courtesy of

Greg Anderson
My Urban Workshop

151 Bentley Ave, Unit 10, Ottawa, ON K2E 6T7
613-225-7777

Focus Scientific

Focus Scientific is proud to support the RASC Ottawa Centre and sponsor the 2017 General Assembly.

Founded in 1975, Focus Scientific is now the oldest telescope retailer in Canada. We specialize in optical equipment such as telescopes, microscopes, binoculars, night vision gear, magnifiers, and accessories. We're doing what we love, and we hope you'll love what we do.

Focus Scientific (1975)
911 Carling Ave.
Ottawa ON K1Y 4E3

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Toll-free: 1-877-815-1350
Email: sales@focusscientific.com





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