



# Physics Outreach in Canada: What, Why, When and How

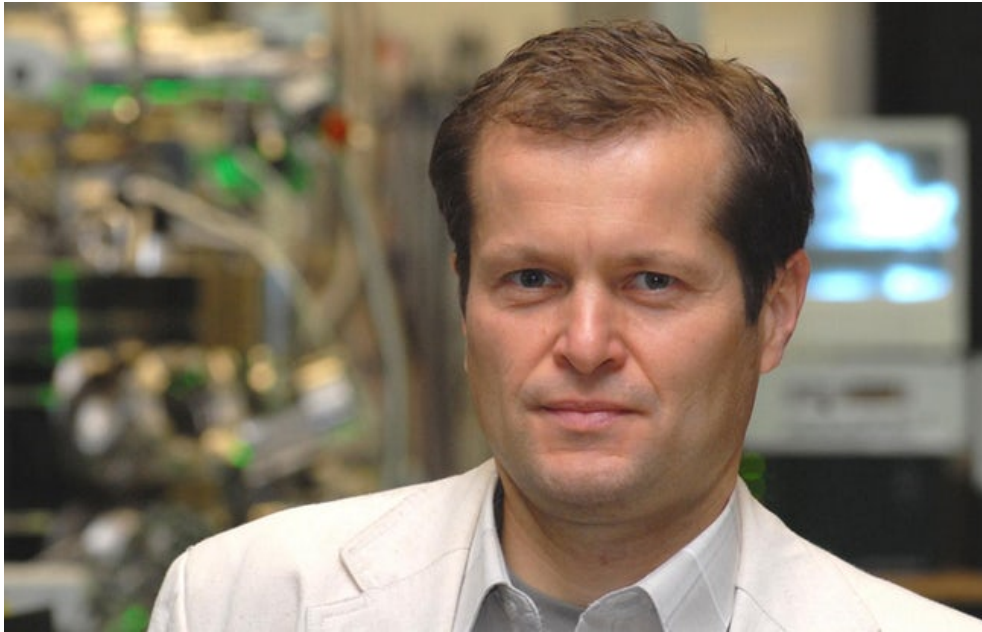
**Dr. Marina Milner-Bolotin**

Budapest, Hungary, September 26<sup>th</sup>, 2017

# Thank you for the invitation!

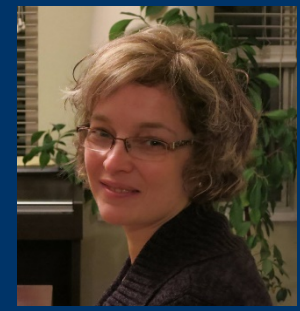


14th INTERNATIONAL CONFERENCE  
ON MULTIPHOTON PROCESSES  
24-27 SEPTEMBER 2017 | BUDAPEST



**Ferenc Krausz** generated and measured the first [attosecondlight pulse](#) and used it for capturing [electrons](#)' motion inside atoms, marking the birth of [attophysics](#).<sup>[1]</sup>

Graduate of Eotvos Lorand University



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# Part 1: Physics Outreach in Canada



# Physics Outreach in Canada

Physics in Canada, Editor Bela Joos

Special Issue on Physics Outreach:

Editors M. Milner-Bolotin, Sarah Johnson

Coming out this October – 2017, Volume 73, number 3

## PiC Archives (1955 - 2017)



Vol 73, No. 2a, 2017



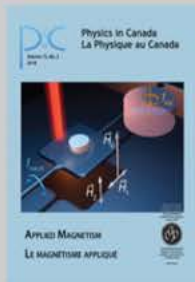
Vol 72, No. 4, 2016



Vol 72, No. 3, 2016



Vol 72, No. 2a, 2016



Vol 72, No. 2, 2016



Vol 72, No. 1, 2016



# Physics Outreach in Canada

By individual science educators

By the Departments of Physics and Astronomy

By Science Education Centers in Colleges,  
Universities, etc.

By the Faculties of Education

By Science centers and museums

By community organizations

By the Canadian Association of Physicists,  
Astronomical Society of Canada, etc.



# Physics in Canada: Outreach Issue 2017

13 papers on science/physics outreach in Canada:

- Big public science shows
- Physics Olympics
- Women in physics museum exhibits
- Student led physics outreach events
- Science Rendezvous events
- Science outreach with future teachers

# Part 2: Physics Outreach Examples

1. UBC Physics Olympics
2. UBC Faraday Science Shows
3. UBC Faculty of Education Family Math and Science Day
4. Summer science camps all across Canada
5. Scientists and Innovators in the Schools (SIS)
6. Science Rendezvous



# 1 UBC Physics Olympics

## Physics Olympics at the University of British Columbia



HOME REGISTRATION RULE BOOK SCHEDULE 2017 RESULTS PAST EVENTS ABOUT US CONTACT

### Welcome to UBC Physics Olympics Website

Thank you for participating in the 39th UBC Physics Olympics!  
We will see you next year.

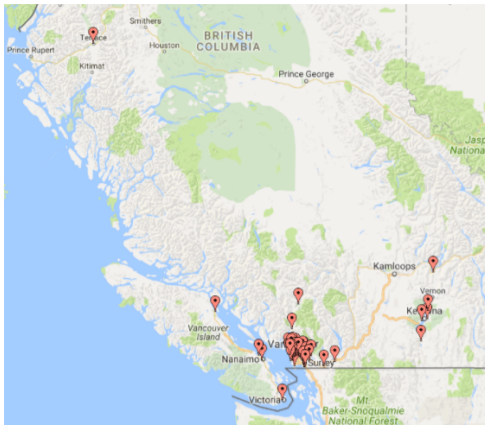
Every year teams from high schools across British Columbia will compete for medals in 6 science events, and the school of the team with the highest overall score will receive a trophy and other awards.

The 2017 Physics Olympics will be on Saturday, March 4th. Registration for the 2017 Physics Olympics is now closed. Download the final rulebook [HERE](#).

The team from a school for a given event is nominally 5 students, but different students can participate in different events, and fewer than 5 students is also OK. So the team from a school could be from 1 to 30 students.

While every school team must have a "coach" on the day of the competition, we do not require that the "coach" be the physics teacher for the school. Any adult is OK, including student teachers, parents, administrators, or friends.

#### 2017 Participating Teams



### NEWS

**NEWS** March 20, 2017  
[Results and photos from the 2017 competition](#) have been posted online.

**February 6, 2017**  
Final rulebook has been posted. [Download the rules here](#).

**January 30th, 2017**  
Registration for the 2017 Physics Olympics is now closed.

**January 6, 2017**  
We just released the preliminary rules for 2017 pre-build events! [Download the rules here](#).

**September 26, 2016**  
Save the date - the 2017 UBC Physics Olympics will be on Saturday, March 4! Registration will be available soon.

**March 8, 2016**  
Thank you everyone for participating in the 2016 Physics Olympics! Results can be found [HERE](#).

Secondary BC Physics Students  
More than 500 participants  
Students compete in teams  
6 different events  
2 events are pre-builds  
4 events at UBC (hands-on)  
Special event for physics teachers during the day

<http://physoly.phas.ubc.ca/>

# UBC Physics Olympics





# UBC Physics Olympics



# 2 Faraday Science Shows

UBC THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Science  
UBC Physics & Astronomy Outreach

Home Summer Camps Events Exams and Competitions Resources Outreach Newsletter About Us Outreach Blog

2017 Fall Pro-D Registration

» PHAS Outreach » Events » Faraday Show

## Events

Experience Science Day	>
Girl Guide Brownies Visits	>
<b>Faraday Show</b>	^
2014 Faraday Show	>
2015 Faraday Show	>
Metro Vancouver Physics Circle	>
Welcome Orientation for Women (WOW)	>
Saturday Morning Lectures (TRIUMF)	>

## Search

## Faraday Show

Thank you everyone for joining us at the 2016 Faraday Show! We will be back next year. Sign up for the Outreach Newsletter so you don't miss the announcement. Scroll down for photos from the 2016 show.

### 2016 Faraday Show: Good Vibrations! The Physics of Sound, Music, and Concerts

**WHEN:** SUNDAY, December 11, 2016, 2:00-3:30 PM

**WHERE:** [HEBB THEATRE, 2045 EAST MALL](#) (UBC CAMPUS). The North Parkade is the closest parking lot to the Hebb Theatre. *Hebb Theatre has limited capacity (375 people), so come early!*

**COST:** **FREE!** (But bring non-perishable food items to support the Greater Vancouver Food Bank!) No RSVP required, though we recommend arriving 15-20 minutes earlier for good seats.



The **Faraday Show** is UBC's annual science lecture, designed for children, presented by UBC Physics & Astronomy. **This year this show will be full of special effects, music performances, and fun physics!** We can hear sound and music at concerts – can we actually see sound and vibrations? What is the best way to measure the speed of sound? How do different instruments produce different sounds? Can we see light waves?

<http://outreach.phas.ubc.ca/events/faraday-show/>

# 2 Faraday Science Shows





# 3

## UBC Faculty of Education Family Math and Science Day



<http://blogs.ubc.ca/mmilner/outreach/family-math-science-day-at-ubc-faculty-of-education/>










# 4 Summer Science Camps



September 30, 2017 <http://outreach.phas.ubc.ca/summer-camps/>

# Scientists and Innovators in the Schools



Today we are  
**CLOSED**

[VIEW OUR COMPLETE HOURS](#)

TICKETS

DONATE

🔍


**VISIT**  
Plan A Trip

**LEARN**  
Resources & Field Trips

**OUTREACH**  
Online & Across BC

**JOIN**  
Support & Membership

**FOLLOW**  
Email & Social Media



## Scientists in Schools

[f](#)

[🐦](#)

[✉](#)

[📌](#)

[🎧](#)

**Across BC**

- At Your Event
- At Your School
- After-School Science
- Big Science For Little Hands
- Community Science Celebration
- KEVA Kits
- Pro-D For K-12 Educators
- Scientists In Schools
- Volunteer With SIS
- Teen Career Networking
- Teen Leadership Workshop

### Inspiring students with free, in-school presentations by real scientists

Scientists and Innovators in the Schools (SIS) is a volunteer-based program that helps address British Columbia's need for more scientists, engineers, technologists and technicians to promote students' interest in these areas. Our goal is to inspire students with exciting, in-school presentations by real scientists. The program is offered to Grades K-12 everywhere in BC.

In 2016/17, 240 SIS volunteers visited 420 schools in 128 communities across British Columbia, delivering free presentations to over 35,000 students.

REQUEST A SCIENTIST


VOLUNTEER WITH SIS

**Join our Educators' mailing list**

Sign up for our educators email newsletter to stay up-to-date with exclusive Science World events, activities and programs for teachers.

SIGN UP

**SIS Blog**



September 30, 2017

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# Scientists and Innovators in the Schools



6

# Science Rendezvous



☰ MENU



🔍 FIND AN EVENT



# 6

# Science Rendezvous

The screenshot displays the Science Rendezvous website interface. At the top left is the logo featuring an atom symbol above a city skyline and the text "SCIENCE RENDEZVOUS". To the right of the logo is a "MENU" button with a search icon, followed by social media icons for Facebook, Twitter, Instagram, and YouTube. Below these is a red button labeled "FIND AN EVENT". The main content is a map of Canada with several red dots indicating event locations. On the right side, there is a vertical list of Canadian provinces and territories, each with a right-pointing chevron icon. At the bottom left of the map area are zoom in (+), zoom out (-), and location icons. At the bottom right of the list is an upward-pointing chevron icon.

Alberta	>
British Columbia	>
Manitoba	>
New Brunswick	>
Newfoundland & Labrador	>
Northwest Territories	>
Nova Scotia	>
Ontario	>
Prince Edward Island	>
Saskatchewan	>



# Conclusions



Eötvös Loránd  
University



September 30, 2017