

Newsletter 298    BIG Little Science Centre    March 2017

# BIG Science

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## **Professional Development Day at the BIG Little Science Centre**

Young visitors on Friday February 24 had access to all kinds of **Lego®** materials.  
This young lady created an environment for a horse, and a horse to go in it.



**Professional Development Day Visitors to the BIG Little Science Centre**



**Testing the Equipment:** Volunteer **John Guzzarlamudi** tests the roller coaster ride display at the BIG Little Science Centre. John is an experienced physics teacher who is currently studying at TRU in the Master of Education program.

## Teachers at Professional Development Day at the BIG Little Science Centre February 24



A small but keen group of secondary science teachers attended a 3-hour morning session presented by **Dr. Jim Hebden**, with whom they discussed the new chemistry curriculum. **Susan Hammond** organized the event.

No physics teachers came to the session, but some of the visitors spent a few minutes looking at **Gordon Gore's** display of physics equipment that is not regularly put on public display because of its fragility. Thanks to **Gord Stewart**, Executive Director, and to **Eric Wiebe**, retired physics teacher and Director of the **BIG Little Science Centre**, for assisting me.

There was also a special apparatus that would be suitable for introducing *Quantum Theory* in the new Physics 11 course. However, there were no physics teachers there to see it.

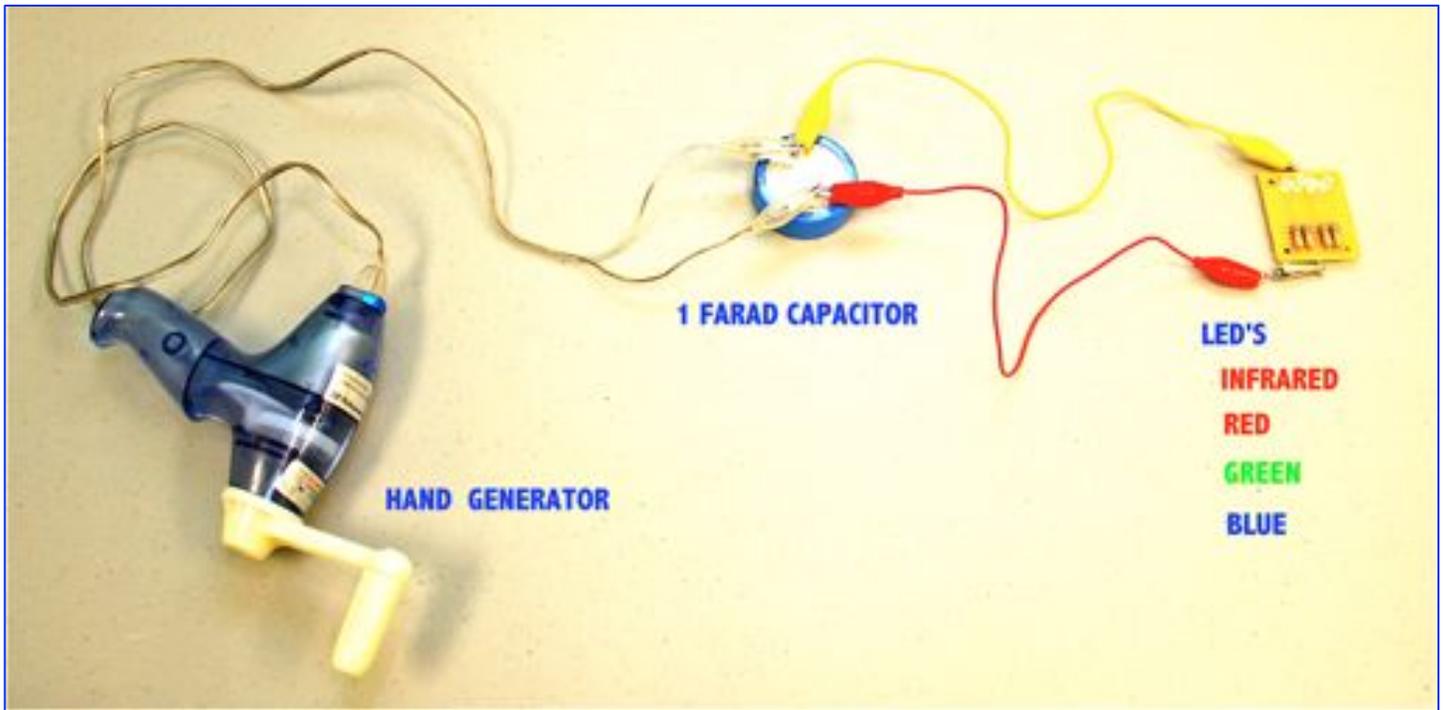


**Dr. Jim Hebden**

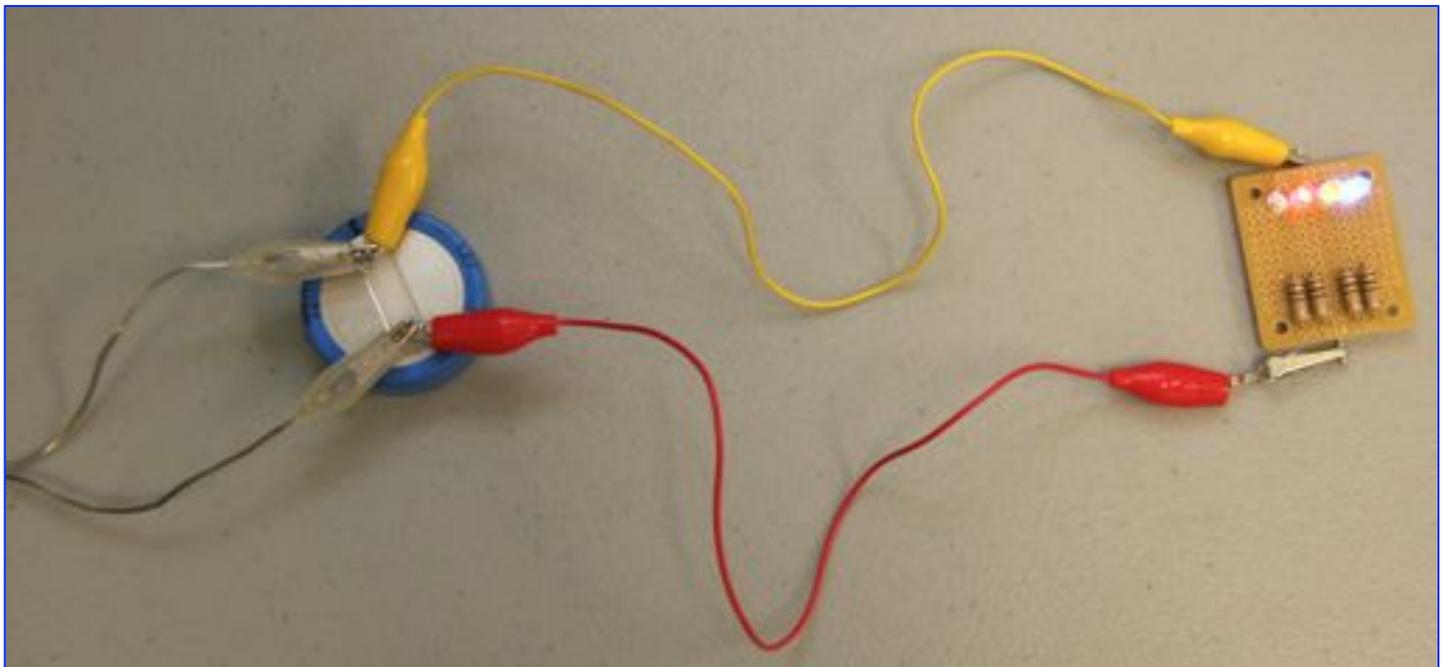
**Elementary Professional Development Day:** On the afternoon of February 24<sup>th</sup>, Professional Development Day the BIG Little Science Centre invited elementary teachers to visit the Centre and take part in exploring fun, practical, hands-on activities related to the new Science Curriculum. The teachers also explored the hands-on room for further inspiration. The session was led by **Susan Hammond**.

# Introducing Quantum Theory with Some New Apparatus

*Gordon Gore*



**Arbor Scientific** offers this **Energy of a Photon Demonstrator**, which could be used to illustrate the fact that photons of different wavelengths have different energies. A hand generator or a variable voltage source, (0 - 6 V) charges a 1-Farad capacitor, which is connected to four LED's: infrared, red, green and blue. As the voltage is increased by cranking the generator faster, first the infrared LED lights (visible through your smart phone), and then **red**, then **green** and finally, **blue**. Google **Arbor Scientific** for more information on this experiment. The capacitor and hand generator are sold separately.



*An amusing thing happens when you finish cranking the voltage up to light all the LED's. The capacitor sends current back to the generator, and the generator acts like a motor! The handle turns on its own.*

## Shows and Activities March 2017

### **Saturday March 4: Beautiful Light and Colour Show at 11am & 1:30pm**

The beautiful and enlightening Light and Colour Show is an interactive, fun show that helps you find some rainbows in your life. Help us split light and put it back together again. We discover different ways of making light and how the energy works depending on the systems involved.

### **Saturday March 11: Plate Tectonics Lab at 11am & 1:30pm**

Discover the world below the continents and how the world is put together. Slide edible continental plates to create earthquakes and mountains; and eat them too!

### **Wednesday March 29: Lecture: An Introduction to Honeybees & Beekeeping**

**Joanne Nicklas** will discuss honey bees and the important role they play in food production. Free entry. 7:00pm start, for older children and adults. Part of the Science Centre Lecture Series.

For more information please contact Susan Hammond: [susan@blscs.org](mailto:susan@blscs.org), or call 250-554-2572.

### **March Break at the BIG Little Science Centre Saturday March 18 to Saturday April 1**

Join us for science activities and fun, from Tuesday to Saturday!

**Daily: from 10am to 4pm**

**Exploration Room with over 140 different hands-on activities to try out.**

**Construction Days: LEGO! Megablox, MagNext and more!**

Building materials will be out **all day** for creative constructions.

**Daily special shows: at 11am & 1:30pm**

**Saturday March 18 Build a Vehicle Activity, ALL DAY LONG**

Using materials provided, follow/create a design to make your own vehicle to keep.

**Tuesday March 21 to Saturday March 25: Super Static Electricity Show**

An interactive, fun show that introduces static electricity, explores how it works and produces static in many ways, including using Van de Graaff generators. Is it time for your science centre hair-do?

**Tuesday March 28 to Saturday April 1: Awesome Magnetism Show**

This Awesome Magnetism Show is an interactive, fun show that explores magnetism and gives you some magnetic magic tricks to try out at home!

## More Memories



**Mentos™ and Diet Coke™ Demonstration at Bert Edwards Science School  
The Whole Gang: Summer Camp July 2007**

## Science KIDbits What is Pressure?



### *You need:*

1 large pail with a wire handle

### *Try this:*

Imagine you are trying to lift a large pail of water, using one finger wrapped around the thin handle of the pail. You can hold the pail for a short time, but soon it becomes very uncomfortable.



Put the pail down, and then lift it using four fingers. You can now hold the pail quite comfortably. The force of gravity on the pail of water is the same as before.

Why is it easier to carry the pail with four fingers than it was with one finger?

With four fingers, the force of gravity on the pail is spread over four times the area that it was with one finger. This means that the pressure on each of your four fingers will be about one quarter of what it was when all the force was exerted on one finger.

Pressure is the amount of force divided by the area over which the force acts.

$$\text{Pressure} = \text{Force} \div \text{Area}.$$

**Dr. Gordon R. Gore**  
**Founder, BIG Little Science Centre (retired)**

**Thompson Rivers University Will Offer Secondary School Teacher Training  
in Science, Technology, Engineering and Mathematics (STEM):  
(B.Ed. Secondary)**

Beginning in **July 2018**, students who once had to go elsewhere to complete programs specializing in secondary school science and mathematics can stay in Kamloops and finish their education here.

The program will be offered by the **Faculty of Education and Social Work**, and it will "prepare secondary school teachers to use an interdisciplinary approach to science and mathematics education. Students learn through experiential, project-based and inquiry-based methods that link science and mathematics learning to real-world STEM career contexts. This approach has been demonstrated internationally to be highly effective in increasing secondary students' engagement and perseverance in science and mathematics education."

**Dr. Carol Rees**, Chair of the **School of Education**, says:

"We want our graduates to bring excitement about science and mathematics to the classroom by supporting their students doing science and mathematics in engineering and technology contexts."

"There is good evidence that this helps secondary students learn better and more quickly and effectively, so it's a win-win---excitement plus solid learning."

For more information about this exciting new program, see:

<http://inside.tru.ca/2017/02/27/bachelor-of-education-secondary-first-ever-for-tru/>

*"Art is how we decorate space;  
music is how we decorate time."*

*Alex Clay Hutchings*

## BIGScience

This Newsletter is a publication of **BIG Little Science Centre Society**

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**Back issues of BIGScience can be viewed at <<http://blscs.org/newsletters/>>**

The **BIG Little Science Centre** is open to the public at these times:

**Tuesday to Saturday 10:00 AM to 4:00 PM**

**CLOSED SUNDAYS and HOLIDAYS**

**Phone: 250 554 2572 E-mail [Gord@blscs.org](mailto:Gord@blscs.org) or [Susan@blscs.org](mailto:Susan@blscs.org)**

*A family membership is \$60.00/year. An individual membership is \$45.00/year.* A family membership consists of five directly related people. (This includes any combination of grandparents, parents and children). Individual day rates are:

**Adults (16 to 59) \$6 Seniors (60 plus) \$4 Youth (6 to 15 years old) \$3 Family \$15.  
Children 5 years old or younger) Free**

### The Main Benefits of Membership:

- **Photo ID cards for all members**
- **Free entry to our Exploration Room, events, shows, activities**
- **FREE or discounted admission to MOST Canadian science centres, including Science World and the H.R. MacMillan Space Centre in Vancouver**
- **Discounts for Science and Robotics Camps / Clubs in Kamloops**
- **Voting privileges at the BIG Little Science Centre's Annual General Meeting**

Visit our website [blscs.org](http://blscs.org) for more details on the benefits of membership.

### Drop-in Visit Information

#### **What is a Drop-in Visit?**

During drop-in times our hands-on rooms are open for visitors to tour at their leisure. The rooms have approximately 140 stations of hands-on activities to try. We also have an activity or show running Saturdays!

#### **Drop-in Visiting hours**

- Tuesday - Saturday 10:00 - 4:00
- Check Facebook or twitter for the latest information.

For safety purposes we require children under age 16 be accompanied by a minimum number of supervising adults:

- For children 4 years old and under, 1 adult per every 3 children is required.
- For children 5 years old to 9 years old, 1 adult per every 5 children is required.
- For children 10 years old to 16 years old, 1 adult per 10 children is required.

**The BIG Little Science Centre is Closed Sundays and Holidays.**