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YOUNG ISLAND SCIENTIST

Newsletter of the
Society for the Advancement of Young Scientists

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Alumni Profile - Yichuan Wang



Do you want to be a lawyer? You may wonder, why is this in a Science Fair newsletter? Well, I would like to make the case to you that the two are correlated. I hypothesize even some causation.

I am privileged to have participated in VIRSF in 2001 and 2002, and joined our VIRSF team at the the CWSF in Kingston and Saskatoon. My projects involved coming up with a mathematical formula to solve an educational card game, and creating a software application to calculate the number of trees one would need to plant to offset vehicle CO₂ emissions.

Science fair allowed my peers and me to embark on a self-directed adventure to solve a problem of

The President's Lab Bench

By Randy Enkin

Students do Science Fair projects at all times in the year. Some projects just have to be done in the summer because they require the good weather - maybe to grow plants. Many projects get started in February, because the March deadline is looming. (People who know me well, know that I have no right to condemn that sort of procrastination.)

But I feel the best time to start a Science Fair project is in December. The school year is well established by now and you know what you are doing. But you also have a glorious vacation period coming up which allows some serious time to devote to the project. Best of all, there is time for the project to fail completely. After a redesign or rescoping, you will have the opportunity for a second pass which will work wonderfully! And then you will have learned a truly valuable lesson on how real science progresses.

Randy Enkin is head of the Paleomagnetism and Petrophysics Laboratory at the Geological Survey of Canada – Pacific. He is President of the Society for the Advancement of Young Scientists.

Pathways to the Science Fair

Several schools hold their own Science Fair. Claremont High School even holds two of them every

interest and importance through thorough investigation. This opportunity helped to foster self-discipline, channel curiosity, and train us to become experts in our fields. Receiving critical feedback and encouragement from our judges helped us to improve and motivated us to continue pursuing our passion for research, analytical thinking, and problem-solving. Engaging with the public helped us to practice advocacy early on. Most of all, making long-lasting friendships and learning from kind, inspiring mentors have been the greatest privileges in the science fair experience.

As a current articulated student in law in Vancouver, I would like to thank VIRSF and CWSF for helping me to develop an interest and skills in problem-solving, research, and advocacy early on. Heartfelt thanks to VIRSF organizers and all those supporting science fair for your hard work in igniting that spark in so many young minds. Students, go for it! We're here to support you in realizing your dreams! Best wishes!

Developing a Science Fair Project

The Need to Knead - Part 2

By Wendy Topic

Milo has already designed an experiment to test the formation of gluten in wheat flour, "the need to knead." In this instalment, he performs his experiment and collects information to determine the density of his bread. We will present separate examples of data analysis at levels appropriate for Intermediate and Senior Science Fair participants.

Read the full article at web.uvic.ca/~virsf/DevelopingAScienceFairProject.php.

Wendy Topic is a science teacher at Glenlyon Norfolk School. Follow this regular VIRSF Newsletter feature as Wendy describes Milo's journey through the whole process of doing a Science Fair project.

Sponsors

year - one each semester! These schools then recommend a number of their students to register for the Vancouver Island Regional Science Fair. We do request notification ahead of time if a school is considering sending more than 15 students to the VIRSF.

Please Note: There are SAYS volunteers who are pleased to help judge at school fairs - just contact us.

There are MANY motivated enthusiastic students in our region who do not have the privilege of going to a school which holds its own Science Fair. No problem! They can work on their Science Fair projects on their own or in pairs, and enter the VIRSF directly: <http://web.uvic.ca/~virsf/reg.html>. Registration deadline this year is Wednesday March 28, 2012, right after the Spring Break. Registration does require a signature from a teacher to verify that the students did their own work and followed the safety and ethics rules. (See *Lauren Hudson's article below.*)

Distance Learning and Home School students are particularly welcome to enter the VIRSF. Many are already doing Project-Based or Inquiry-Based Learning, and the Science Fair offers them a venue to present and discuss their work with competent and interested grown-ups. For Home School students, a parent can sign as the teacher on the registration forms.

Please make sure that all Grade 4 to 12 students who would enjoy and profit from entering the Science Fair know that this opportunity is available for them!

Prizes at the Science Fair

The joy of learning something new, working on your own project, and getting to discuss it with knowledgeable judges and present it to the public should be enough to entice almost any student, right? Well, there is even more!

We are extremely fortunate to have so many sponsors for prizes at the Vancouver Island Regional Science Fair. In fact we hand out over 150 awards, adding up to about \$15000 in cash, scholarships, trips and stuff. More than half the participants receive a prize. Check out the full list at <http://web.uvic.ca/~virsf/awards.html>. Here are a few:

NEW THIS YEAR: The Faculties of Science and Engineering are offering **ALL SENIOR PARTICIPANTS** (grades 10, 11 and 12) an individual



SAYS wants to extend a heartfelt thanks to these people, companies and organizations that support the Vancouver Island Regional Science Fair (VIRSF). Their support allows us to hold the fair each year.

Would you like to support the Vancouver Island Regional Science Fair? Get more information here: <http://web.uvic.ca/~virsf/SupportSAYS.html>

Important Dates

Registration deadline for VIRSF

Wednesday March 28, 2012

<http://web.uvic.ca/~virsf/>

Vancouver Island Regional Science Fair

Sunday April 15 & Monday April 16, 2012

Next Meeting of SAYS

Tuesday January 17, 2012

Web Resources

Local:

Vancouver Island Regional Science Fair:
web.uvic.ca/~virsf

Provincial:

Science Fair Foundation BC:
<http://www.sciencefairs.ca/students/>

National:

Youth Science Canada:
<http://www.youthscience.ca/get-started>

Contact Info

President: Randy Enkin

day of 'lab shadowing' at the University of Victoria to experience a working research laboratory. There will be a list of researchers to choose from, so each student will get a day to follow a working scientist or engineer in the field of their choice.

La Société Francophone de Victoria: Les meilleurs projets en français dans chaque niveau reçoivent \$100 ou \$200. Notez que chaque année, il y a environ 20% des projets présentés et jugés en français.

Special Topics: Many professional societies offer cash or book prizes to projects at all levels in many disciplines including agriculture, biology, chemistry, electrical safety and conservation, engineering, environment, geosciences, meteorology, oceanography, occupational hygiene, physics, and social sciences.

The BIG Prizes: Up to seven students (depending on fundraising) in grades 7 to 12 get selected to represent the Vancouver Island Region at the Canada-Wide Science Fair. This is a week-long all-expense-paid trip to a different city each year, to present the projects, meet 500 like-minded students from 100 regions across Canada, go on tours, and win even bigger prizes! In May 2012, we are going to Charlottetown, Prince Edward Island!

And on top of that, the top Senior project receives a **\$3500 Entrance Scholarship** if he or she enrolls at the University of Victoria.

The students who do really well at the Science Fair enter year after year. If you want one of the big Senior prizes, start young! Last-year's top of fair winner entered 8 times from grade 4 to grade 12.

And a New Astronomy Prize!

The Royal Astronomical Society of Canada - Victoria Centre, is pleased to sponsor two prizes for the Vancouver Island Regional Science Fair to be held in April of 2012. One prize will be awarded to an entry in the Elementary or Intermediate category and one to a Junior or Senior Category. Prizes will consist of a complimentary year's youth membership in the Royal Astronomical Society of Canada and a book. **For the Elementary or Intermediate entry, the prize also includes a presentation by the RASC in the winner's classroom.**

We are looking for projects that best demonstrate creative exploration and experimentation of an

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astronomical concept. It could involve aspects of either day or nighttime astronomy, astrophotography, light pollution abatement, or innovative astronomical or space technology. The range of topics is, well, ... astronomical!

Our members in the RASC are very interested in supporting students in their explorations. Please visit our website at victoria.rasc.ca for some ideas for projects, resources, and links to good astronomy sites or for contact information. We will be very glad to offer any assistance we can to students interested in exploring an astronomy-related project and look forward to seeing and judging some exciting presentations. Good luck and, as astronomers say, Clear Skies, to all participants.

*Lauri Roche, President, RASC, Victoria Centre,
president@victoria.rasc.ca*

“But it’s MY hamster!” – When Science Fair Meets Ethics

As a teacher, I always encourage my students to select Science Fair topics that genuinely interest them rather than the typical projects from library books and websites. Every year, students want to test how products affect them or how their pet is influenced by different conditions. I think that this is only natural; we want to know more about what is familiar to us. However, there are ethical issues to consider. In the “real world”, scientists are expected to conduct their work ethically, so must we encourage our young scientists to contemplate the impact of their experiments. Policies set in place by Youth Science Canada not only govern the projects that may enter the Canada Wide Science Fair but also all regional Science Fair chapters, including the Vancouver Island Regional Science Fair. Become familiar with the ethics documents at the following website to avoid having disappointed students:

<http://main.youthscience.ca/policy-directory>

Use the following points as a rough guide:

- An adult supervisor should always be aware of and is therefore responsible for the ethical issues involved in a project
- Projects on lower orders of life, including bacteria, protozoa, fungi, plants and invertebrates, are allowed when conducted without causing excess harm
- Projects on higher orders of life, including vertebrates or invertebrates with complex nervous systems, are

only allowed in select cases

- Any projects involving human subjects must be conducted with the participants' written consent, and the subjects' privacy must be respected

- Projects consisting of surveys of attitudes and beliefs, skill tests or observation of behaviour are allowed, but sensitivity to the dignity of and respect for the individuals must be attended to

- All projects involving exercise, ingestion of food or drink or invasive procedures are considered to be of high risk

So bring out the surveys, slap on the running shoes and tell me which carrot tastes better...just don't forget to consider the ethical and safety aspects of these projects!

Lauren Hudson, Teacher at St. Margaret's School

You received this email because you have been a supporter or a participant of the [Vancouver Island Regional Science Fair](#).

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SAYS – The Society for the Advancement of Young Scientists
Website: web.uvic.ca/~virsf/index.html