UVic Formula SAE Scores Big!

UVic ESS/CSCU Gamestream info on page 7!

— FOLLOW US FOR MORE NEWS AND STUFF

facebook.com/groups/uvicess/  @UvicESS  ‘fishwrap’

Feed the Fishwrap! Send content to essacom@uvic.ca
The semester is halfway done so hang in there!

**Fishwrap**

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<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Contact Email</th>
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<td>24hr Gamestream</td>
<td>Friday, June 26</td>
<td><a href="mailto:esschar@uvic.ca">esschar@uvic.ca</a></td>
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<td>Engineering Competition</td>
<td>Saturday, July 11</td>
<td><a href="mailto:essavpx@uvic.ca">essavpx@uvic.ca</a></td>
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<tr>
<td>Sports Day</td>
<td>Saturday, July 18</td>
<td><a href="mailto:essaspt@uvic.ca">essaspt@uvic.ca</a></td>
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<td>Meet the Dean</td>
<td>Tuesday, June 30</td>
<td><a href="mailto:essavpa@uvic.ca">essavpa@uvic.ca</a></td>
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<td>Billiards Night</td>
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<td>Flipcup Tourney</td>
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<td><a href="mailto:essaev@uvic.ca">essaev@uvic.ca</a></td>
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<td>Movie Night</td>
<td>Wednesday, July 9</td>
<td><a href="mailto:essarel@uvic.ca">essarel@uvic.ca</a></td>
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<td>Ice Cream Potluck Part 2</td>
<td>Monday, July 20</td>
<td><a href="mailto:essacrp@uvic.ca">essacrp@uvic.ca</a></td>
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<td>Free Food Day</td>
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<td><a href="mailto:essaprz@uvic.ca">essaprz@uvic.ca</a></td>
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Want to help out with any of these events? Have any ideas for events of your own?

Email any of these fine folks above or contact us via Facebook.

**Join the ESS soccer team**

Like playing soccer? In engineering? Maybe fascinated with buckyballs? Then join our excellent soccer team! Best of all, it’s free!

We have games every Tuesday at 7:10 pm at the turf fields. Games are announced on Facebook the night before with more details about where to go and whether the team is home or away.

**Meet the Dean!**

On Tuesday June 30th, you can get the chance to meet the dean of the engineering program Dr. Tom Tiedje, the associate dean Kin Fun Li, and the various program directors and department chairs. It will be open format so you can walk up and talk to whomever you like.

There will be free pizza and it starts at 2:00 pm in ECS 660.

**UVEC Update**

*Christina Saimoto*

*VP External*

I wanted to remind you that UVEC is coming up on July 11th. One of the competitions that we do every year is Engineering Communications. This involves pre-preparing a 20-30 minute presentation on a technical topic of your choice, for a non-technical audience. The presentation is typically assessed based on content, analysis, and presentation skills. This is one of those events that you have to plan ahead of time, so I encourage you to get together your team of 1 or 2 people, and start preparing if you are interested.

Please contact me at essavpx@uvic.ca if you have any questions!
Fishwrap

The semester is halfway done so hang in there!

Join up with one of these great clubs!

**UVic Aero**
A student-run team that designs and fabricates aircraft.

**Meeting Times**
- Mechanical: Fridays, 4:30 pm
- Electrical: Thursdays, 6:00 pm
- Software: Wednesdays, 5:00 pm

**Location**: ELW B150
**Contact**: stephen@uvic.ca

**AUVic**
A team that designs and builds autonomous submersible robots.

**Meetings**: Thursdays, 5:30 pm
**Location**: ELW B250
**Contact**: auvic@engr.uvic.ca

**ECOSat**
ECOSat builds a nano-satellite for a nationwide competition.

**Location**: EOW 148
**Contact**: ecosat@uvic.ca

**ESS Weekly Meetings**
- Tuesdays, 5:00 PM
- ESS Office (the place with the stapler)

**Formula Hybrid**
They design and build hybrid vehicles for competition.

**Meetings**: Mondays, 7:00 pm
**Location**: Q-Hut
**Contact**: uvichybridteam@gmail.com

**Formula SAE**
This team designs, builds, and races formula style cars for the Formula SAE competition which is the world’s largest engineering competition.

**Meetings**: Mondays, 7:30 pm
**Location**: ECS 116
**Contact**: fsaeadmin@uvic.ca

**Leadership Through Diversity**
Leadership Through Diversity (LTD) is a group providing leadership opportunities, and inclusive events for engineering students to network, meet other students, and get involved with their faculty.

**Meetings**: Wednesdays, 12:30 pm
**Location**: Library 113D
**Contact**: ltd@uvic.ca

**IEEE**
The IEEE UVic Student branch is a student-run organization that connects students with the opportunities that are presented by the Institute of Electrical and Electronics Engineers.

**Meetings**: Thursdays, 4:00 pm
**Location**: ELW B350
**Contact**: Ben.I.Hawker@ieee.org

**UVic Biodev**
They design and prototype commercially applicable medical grade devices.

**Meetings**: Wednesday, 5:30 pm
**Location**: ECS 108
**Contact**: uvicbiodev@gmail.com

**Engineers Without Borders**
Engineers Without Borders is a growing charitable organization dedicated to international development.

**Meetings**: Thursdays, 5:30 pm
**Location**: ECS 130
**Contact**: communication@uvic.ewb.ca
Fishwrap

Like launching things? Join the rocketry team.

ABOUT:
The UVic Rocketry (UVR) Team is a group of driven students who wish to develop skills and knowledge in the area of rocketry. This includes Propulsion, Aerodynamics, Structures, GNC (Guidance, Navigation, and Control), testing, and launch operations.

COMPETITION:
The team is competing in the 2016 Intercollegiate Rocket Engineering Competition (IREC), held in Green River, Utah. The competition is organized by the Experimental Sounding Rocket Association. The objective is to get a 10 pound (4.54 kg) payload to 10,000 feet (3,048 m) altitude.

TEAM:
The team is made up of undergraduate and graduate students at the University of Victoria. Students from high schools and colleges in Victoria are also able to join. Our team is very passionate about what we do; not because it is easy, but because it is hard.

THE ROCKET: Picea-1 Picea [PAI-see-ah] The Latin word for Spruce tree
With an expected top speed of around Mach 0.8 the Picea-1 could keep pace with a modern transcontinental passenger jet. The rocket weighs in at around 24 kilograms and is approximately 3 metres long.

The body of the rocket is made of carbon fibre composite, with additively manufactured nose cone and fins.

The solid rocket motor will produce over 2000 Newtons of thrust at launch.

Picea-1 has two parachutes. A drogue parachute that deploys just as the rocket begins to fall back to earth, and a main parachute which deploys at 1,500 feet above the ground.

All components on the rocket must perform flawlessly to have a completely successful launch and recovery.

CONTACT:
Email: rocketuvic@gmail.com
Phone: +1 250 208 3683

Emoticons from xkcd.com
The semester is halfway done so hang in there!

Fishwrap

UVic Formula Motorsports beats prestigious US Universities

Team gets in 20th place out of 112 teams

The UVic Formula Motorsports team is thrilled to inform you of the results from the 2015 Formula SAE Michigan competition (combustion) that concluded on May 16th.

Your UVic Formula Motorsports team took home 20th place out of 110 competitive teams, and 2nd among all Canadian teams. This result is the team’s best finish ever, and now ranks UVic as one of the top Formula SAE teams in the world going forward.

For those who are not familiar with the Formula SAE (FSAE) project or our team, FSAE is the largest Collegiate Design competition in the world with over 510 universities involved. The competition centers on the design and fabrication of an open-wheeled “Formula Style” racecar and the competition is scored through a number of static and dynamic events. FSAE Michigan is one of the most competitive FSAE events and draws many of the top teams from all over the world. UVic Formula Motorsports, formerly and alternately known as UVic FSAE, was founded in 2001. The team is a strictly student lead and run team and the first car was completed for competition in 2002.

Despite a massive budget disparity between the top 30 competitive teams, ranging anywhere from 4-20 times greater than what our team operates on, we were still able to post numerous team best scores and rankings in the following events.

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<td>Skidpad</td>
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Over the past few years, the team has steadily advanced in the international and national rankings, finishing 91st internationally and 7th in Canada for 2014. While there are still a number of competitions yet to take place across the globe, your UVic Formula Motorsport team is poised to move into the top five in Canada, as high as 2nd overall.

We are very proud to represent the University of Victoria and would like to thank all of our Sponsors, Supporters, Friends and Family who have been there for our team and every step along the way.

We would like to take this opportunity to wish our graduating team members good luck on their future careers and endeavors, and would like to invite any potential new members to be a part of the team. Our team has opportunities for virtually all faculties to become involved, from Business to the Sciences. Our General Team Meetings take place in the ECS124 (may be subject to change) from 7-8:30 every Monday.

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Want to help design a train as fast as a speeding bullet?

In August 2013, Elon Musk proposed an idea for a new type of train called a hyperloop that can connect San Francisco to Los Angeles with a travel time of 35 minutes.

Due to a number of difficult engineering challenges, the idea went quiet for a couple years until last week when his company SpaceX announced a competition to design the best hyperloop pod. There are even plans to build a test track in California to test these new designs by June 2016.

A few UVic students and grads would like to set up a team in collaboration with students from UBC, BCIT, SFU, and UofA. Their goal is to get everyone around the country working on this together.

If you would like to get involved with one of the most ambitious student engineering projects of all time, contact Sarah (essaprz@uvic.ca) or Hannah (hannah.tottenham@gmail.com). To read more about the hyperloop, check out the current issue of Popular Science magazine or the hyperloop_alpha.pdf article on the SpaceX website.

If you need a new jacket and want to show off that you’re an engineering student at UVic then we’ve got you covered.

These polyester/spandex/fleece jackets have many amazing features. They have active stretch, breathable wind, and water proof fabric. Don’t know what those mean? Me neither, but it sounds great! They also have zippered pockets and Velcro cuffs which can come in handy.

These jackets come in a variety of colors and they have the UVic logo on the top right side. You can also specifically ask for your engineering discipline to be printed on it.

These jackets are a steal for $65! To order, stop by the office, go to the ESS Facebook page or email Heather at essasrv@uvic.ca.

Need a mug for your life sustaining coffee? Or sunglasses to stop the harsh glare of a vicious sun? Maybe you want to cover everything you have with Viktor Viking stickers? Want an old EEE T-shirt? We got you covered for that too!

We sell lots of stuff! You can see the items on display in the cabinet by the office. Feel free to ask one of your friendly execs to make a purchase.

Get your jackets and other swag

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Get those energy drinks and Doritos ready for a 24 hr gaming marathon

Time to get your thumbs warmed up as we will be combining our Gamestream charity event with the CSCU’s LAN party this Friday, June 26th.

For just a $5 donation, we will have many different kinds of games ranging from Super Smash Brothers to League of Legends and all the food and drink you want. There will also be an Oculus Rift to try out!

If you can’t attend and you would still like to see a bunch of engineering and computer science students duke it out with video games, you can watch the live stream at http://www.twitch.tv/uvicess.

All proceeds from this event goes to Child’s Play, a charity dedicated to providing video games and toys to kids in hospitals and shelters. Remember, we play games to have fun but there are kids out there who also need the games to get a distraction from their own serious problems. All donations can be made at http://childsplaycharity.org.

The event starts on Friday, June 26th at 6:00 pm and ends on the following Saturday at 6:00 pm. For more information about the event, email Tim or Micah at esschar@uvic.ca or go to the event’s Facebook page.
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Fishwrap

Canadian Engineering Achievements

Canada Day is coming up and while it is great to celebrate our historical and cultural achievements, we could take a moment to celebrate our engineering achievements as well. We Canadians can be a clever bunch when we put our minds to it.

Canadarm and Canadarm2

Used by the International Space Station and used by the now defunct shuttlecraft, the Canadarms are a large robotic arm that routinely performs many different tasks such as hold astronauts, inspect shuttles, and set satellites into orbit. It’s so Canadian that if it became sentient, it would probably even crack open a beer for the game and give you a high five when a sick goal is scored.

Want to read more about it? Information about it is everywhere since the NRC and Canadian Space Agency love to brag about one of their crowning achievements.

External pacemaker by John Hopps

In 1889 a British doctor experimented on people by putting an electric shock through them to alter their heart rate. After discovering this works, people attempted to create devices to manage people's heart rate, including one device where a person had to use a hand crank to keep the electrical impulses running.

Enter John Alexander Hopps, an electrical engineer from Winnipeg. In 1950 he designed a pacemaker that used vacuum tube technology to maintain a good current. However, his device required the person's heart to be plugged into a wall and there was a chance of electrocution but that's not important. His invention is what drove pacemaker development into high gear (likely because people didn’t like the chance of electrocution straight through the heart but I’m sure Hopps apologized in good Canadian fashion).

Confederation Bridge

When Prince Edward Island entered Confederation in 1873, for some reason the Canadian government made the promise that there would be a way to connect the mainland to PEI by using steam ships. It wasn't any flimsy promise that governments routinely break either. This requirement was in the constitution. So after PEI joined Confederation, the federal government set up a ferry system to satisfy the requirement but due to icy conditions and poor service, people were unhappy with the arrangement.

In 1988, the federal government decided to build a bridge because running a ferry system is incredibly expensive (as we can certainly attest to) but this presented many challenges. First, the shortest bridge possible would be 12.9 km long, which for comparison is almost 5 times longer than the Golden Gate Bridge or 10 times longer than the Pattullo Bridge. Second, it would have to take a large ice load over that distance and third, it would have to deal with of the harshest ocean currents in the region. Somehow, this beast of a bridge managed to be built in 1997 with an expected lifespan of 100 years. It’s now a nasty trap though since it's free to get into PEI but you have to pay to get out of potatoland.

The Walkie Talkie by Donald Hings

Remember when you were a kid and you talked with your friends over a cheap set of walkie talkies that seemed cool at first, but got boring real fast? You can thank Canadian Donald Hings for that. He invented them in 1937 before the Second World War where they saw extensive use. Today, much improved walkie talkies are used everywhere.

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Avro Arrow

This project became the biggest boondoggle in Canadian history thanks to political interference. In the 1950s, there was a sudden rush to create new jet fighter technology to keep up with the Soviet Union. The Royal Canadian Air Force poured millions of dollars into the Avro Arrow project where each of the five planes cost $12.5 million to produce (that would be over $200 million each in today’s dollars).

By giving their researchers and engineers free reign, the research from this project helped leap the aerospace industry forward by smoothing out many of the problems associated with supersonic flight...maybe. The project’s finances got too crazy and the government shut it down. This resulted in everything from the project being scrapped. Equipment, planes, research, schematics; everything was scrapped because the Arrow was a secret project. The Avro Arrow could have been a huge leap for aerospace research but we will never know. Even worse, many talented Canadian engineers fled to the US and the UK afterwards.

Mind controlled artificial limbs by Kevin Englehart

Losing a limb has got to suck. There are ways to get around it by using prosthetic limbs but these are usually very stiff and do not offer much mobility. Kevin Englehart of New Brunswick got around this problem by creating prosthetics that respond directly to the human brain. The prosthetic reads the brain’s electromagnetic signal and acts accordingly, just like a real limb. This can make the quality of life for amputees much better.

Hopefully Dr. Englehart uses this miraculous invention for the powers of good. The last thing Canada needs is to be taken over by a mad scientist hell bent on taking over the world with his personal army of cyborg soldiers.

Snowmobiles by Bombardier

Coming from a northern town, I've seen people sink huge amounts of money into these machines. They can reach really high speeds in snowy, remote areas and can cause quite the adrenaline rush. You can thank Joseph-Armand Bombardier of Quebec for this addiction. The success of his snowmobile even caused the company to expand to produce trains and planes.

If you want to know more about the story of Bombardier and the snowmobile, watch the Canadian Heritage Minute about it. In fact, if you’re up for a nostalgia trip, watch a bunch of those this Canada Day. They're awesome classics.

Blackberry by Blackberry

The Blackberry smartphone took the world by storm. Many companies had them as their official phone, many celebrities used it, and even the President of the United States used one. It had many features such as BBM and it had some of the best cryptographic security around. It helped drive innovation in the smartphone industry by sending their competitors scrambling to keep up with their technology.

Wait... why am I saying ‘was’? They’re still around and they still kick ass. Although it is kind of telling that I don’t own a Blackberry and I don’t know anyone who does...

Of course, there are very many more Canadian innovations. If there’s one that you feel should be mentioned or if there are any glaring errors then email essacom@uvic.ca with your suggestion to be included in the next Fishwrap. Happy Canada Day!
The semester is halfway done so hang in there!

Fishwrap

ESS games night photos. It was a lot of fun!

Ln(Day) was also great!

On a sunny Saturday we went out to Gyro Park, laid out a bunch of food, brought out a bunch of games, and had a lot of fun.

A Frisbee was thrown, big balls were kicked, and small ones were thrown around. Various kinds of foods and beverages were consumed and great conversations happened. Great Henna tattoos were also drawn up.

Overall, it was a great day of fun.
The semester is halfway done so hang in there!

Fishwrap

DRAWING CONTEST!

Draw a motivational poster on this page and bring it to the office.

Winners get their poster put up on the fridge to motivate us all!
The semester is halfway done so hang in there!

Fishwrap

Hexadecimal Sudoku

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Crypto Movie Quote

MUCK CK HISY QPKM LUPELB. PXMBY MUCK, MUBYB CK EI MSYECER DPLN. HIS MPNB MUB DQS8 FCQQ - MUB KMIYH BEVK, HIS ZPNB SF CE HISY DBV PEV DBQCBOB ZUPMBOBY HIS ZPEM MI DBQCBOB. HIS MPNB MUB YBV FCQQ. - HIS KMPH CE ZIEVBYQPEV PEV C KUZ HIS UIZ VBBF MUB YPDDCM-UJQB RIBK.

-AIYFUBSK, MUB APMYCW

Quotes from Engineering

“In conclusion, it was determined that bronze is actually brass, steel is iron, and aluminum is probably glass, based on the false information give for iron and brass.”

-Mech lab report

“I can’t believe there’s books in here.”

-Engineering student in library

“We want joules and not kilojoules so we have to get rid of the killa.”

-Roszmann, Thermo

Thank you to the following for the Fishwrap submissions!
- Simon Moffatt for the Rocketry Club stuff
- Formula SAE for their write up

Wasted Talent

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