

nsquire

Church of the sub-genius

Official Newsletter of the Engineering Undergraduate Student Society



Deep Impact

In a thorough investigation, scientists have composed a careful analysis of possible actions to take in the event of an imminent asteroid impact.



Their conclusion was this: "Give it some damn forms to fill out. That oughta slow it right down." Either this is a major breakthrough in astrophysics, or a bunch of frustrated scientists who got tired of pushing paper.

Man forgets to shave

The day Will Rogers got up late for work turned into the best day of his life. In five minutes flat he downed a bowl of cap'n crunch and slipped on an old pair of boots. As he waited at the bus stop in a dishevelled mess, coffee cup in hand, people started throwing money in his cup. Netting \$100 in a half hour, Rogers

was quite pleased with himself, and is not expected to show up at work today (or any other day for that matter.)

Discovery as you've never seen it

In a recent press release, the Discovery Channel execs revealed themselves to be a pack of super-intelligent chimpanzees. "We have brainwashed you with footage of dim-to-slightly intelligent monkeys for years. Now the human race is desensitized, and we can proceed to stage 2." In related news, the crocodile hunter was swallowed whole. Crickey!

Dumbass prank collapses under participants' own stupidity

After dredging the quad pond, crews have recovered pulley equipment and a mud-stained jacket, originally thought to be red. "As you can see, someone tried to throw a bug off the bridge, but the plan backfired as their leg became entangled in the support cable.

We assume the goldfish made quick work of their remains, which as of yet have not been recovered."

Iron Chef succumbs to greater power

History shows us once again that the forces of technology

cannot be subverted. The legacy of Iron Chef was ended in a dazzling display by his better-equipped opponent. The Iron Chef put up a fierce battle, but in the end it was the ease of cleanup that swayed the judges towards the new champion, Teflon Chef.

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EUSS Shorts

The following pit-area happenings may be of interest to you.

Card Reader:

In case you've been living inside a cave for the past four months, the south doors have been replaced, the south wall reinforced, and a card reader has been installed.

Photocopier:

Because the School removed the coin box on the Lab 1 copier, and the CS photocopier is frequently broken, the EUSS has purchased a photocopier for student use. Cost is 10-cent per side, and the copier has the ability to duplex single pages. Please treat this copier well as it was purchased with student funds and any repairs will come directly out of the EUSS budget. The EUSS is looking into getting a card reader for the copier, but they're expensive. Anyone need an ENSC340 project idea?

Pop price:

If you haven't noticed, the price for bottled juices has been increased to \$1.15/bottle. At the previous price of \$1/bottle, the EUSS was barely breaking even. Pop remains at \$0.70/can.

Spring Formal:

A successful sold-out Second Annual Spring Formal was held on March 28, 2001. A broad cross section of SFU Engineering joined a variety of invited guests at the DUC for a reception, buffer dinner, and dancing. Winners of various awards (The Garson Ho Award – Kathy McKay, Pit Dweller of the Year Award – David Lee, Best Engineering Couple – Bill England and Scott Logie) were also recognized at the time.

ApSci Volleyball:

The Applied Science volleyball tournament continues to carry on the strong tradition of the EUSS sponsoring

cross-department events. This summer's iteration was held on July 13, when a variety of teams gathered for some outdoor volleyball action.

Pool League:

Brought to you by the 'non-exec with the most EUSS expenditures,' Pool League for the summer semester has just wrapped up. Look for its next iteration (Pool League: Montezuma's Revenge) coming your way at the 8-Ball Café during 01-3.

Firstweek Preparations:

Continue to go well. (we hope)

Candidate Interviews:

If you're still signed up to ensc-student after the latest round of Candidate Interview announcements, we salute you. The School is currently in the process of selecting faculty members for two positions in the communications group.

UCC Report

The School of Engineering Science's Undergraduate Curriculum Committee (UCC) met twice since the last issue of Enquire, and a number of changes have been affected to the Engineering Science curriculum. For more information regarding any of these changes, please contact the VP Academic, Marjan Houshmand at euuss-vp-academic@sfu.ca.

ENSC230 prerequisite change:

PHYS211 – Intermediate Mechanics is now a prerequisite for ENSC230 – Introduction to Mechanical Design. Students previously entering ENSC230 were found to have an insufficient level of physics in order to do design, and students having to learn the required physics were bogging down the course.

Engineering Minor:

As a result of a student complaint, the UCC has revised the requirements for a

minor in Engineering Science. Any student who wants to do a minor must have a minimum 15 credit hours with a CGPA of 3.5 or better, and maintain a CGPA of 3.0 or better for the duration of their minor. The mandatory engineering courses are 150, 151, 220, 250, 340, 305, 320, 380, and 351/225. Three electives from the list of 350, 351, 327, 424, 429, 425, 427, 450, 489, and 495 must also be taken.

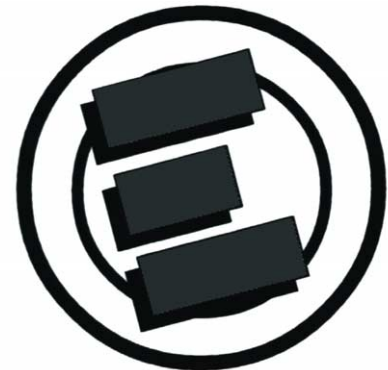
GPA Requirements:

The 3.0 GPA requirement has been modified slightly. ENSC majors and minors (ie, may be below 3.0 but have not been kicked out) may take any ENSC course. Non ENSC students with a GPA above 3.0 may seek permission to take any ENSC course. Non ENSC students with a GPA below 3.0 may seek permission to take one of a select few courses. These courses are nominated as exceptions by faculty teaching the

course. ENSC 101, 102, 300, and 406 are likely members of this group. Provided they qualify, anyone may retake an ENSC course, subject to University policy.

Semester 6 Overload:

The School has officially acknowledged a problem with the workload of Semester 6. A formal solution will be sought at the next UCC meeting. It is likely that ENSC325 will be swapped with a Semester 7 science/technical elective.



Forum Needs Beer

Our Engineering Forum rep: Underpaid and overworked. Or is it the other way around?

A. *Thierry Coppin*

Forum Needs Beer, or so says a comment in the “say anything” column of the Peak. I myself am inclined to agree. Simon Fraser Student Society meetings are, arguably, lackadaisical at best: at times I am even glad for the overzealous interruptions by the computer society representative.

When a measured third of the meeting time is taken up with debates over procedural issues (“I don’t think you can move that”, “Do we need a seconder for a move to strike”, “Are we debating the amendment, or the ability to make an amendment to that motion?”), I really start to question why I’m there. Actually, never-you-mind, I know why I’m there: I get \$150.

Mercenary, am I: Merely a hired hand. “Woman, thou art corruption”, or something as some saying goes. Plus, no one else wanted to take the position. The one drawback is that since meetings are held Wednesdays at 4:30pm, I miss parts of Mike Volker’s Business for Engineers — a class which I honestly enjoy. Is the \$150 a month a good payoff for sacrificing business knowledge? I’m not so sure.

So what is forum up to? It doesn’t really matter. As far as I can see, they have no real power: I really doubt that they have any influence over the University’s Board of Governors. The Board of Governors is going to make final decisions for the Burnaby Mountain Development Corporation: What trees are cut, how much affordable housing is put in, whether the Biology Department gets to keep their study-forest. The only influences on this issue will be: 1) How much profit can they reap from various options, 2) How much profit, and

3) Profit. Any “goodwill” gestures will be entirely forthcoming from their view as to how to improve public perception in a manner that increases their ...profit.

And what about sending delegates to Canadian Federation of Students meetings? I still don’t understand what the CFS has done for me. I’m sorry, but I need concrete examples. Claiming that the CFS had held back tuition fees is fine and dandy, so why can’t they anymore? Tuition fees will rise by Spring 2002, but only because it is too late to increase them for the fall.



But you know what? They’re going to have to rise to keep up with the rising costs of...everything! Still, as long as it is cheaper to get a comparable or better education in Canada than in the US, I suppose somebody is doing something right.

What else is going on: About the biggest joke since hollowed-out bread. There was a motion brought up (and passed) for the Executives to “look into” the possibility of providing a health and/or

dental plan for SFU students. However, note the following: 1) Does anyone remember 1997? They brought in a plan, to which everyone had to pay fees, and then you had to go get “proof” that you already had extended health insurance, stand in line, and get your fees refunded *eventually*. After one semester the plan was gone, since too many students opted out. Now, there is a faint possibility that I will be 25 before I graduate, and hence at school and no longer under my parents’ medical. But with what must be 80% of students still protected by mommy and/or daddy, how is any school-wide plan going to work for the majority? It is a nice idea, but I honestly see it as a futile waste of effort.

To their credit, the student society does do cool things once in awhile: organizing free shuttle service for residence-dwellers to buy groceries during the bus strike, being the board of directors of the pub (which *has* gotten so much better than it was in 1996), supporting special interest groups (makes the university more diverse and eclectic), organizing table space in the AQ, being the umbrella over the clubs on campus, and basically being there to support initiatives that YOU, the students, bring up (whether good or bad ideas, I guess).

One thing I did learn from forum is that members of the School of Communications hold the rest of Applied Sciences in contempt: I guess the feeling is mutual? I don’t know — I don’t think I think about the school of communications much...aha! Therein lies the root...

Oh — and by the way — the Engineering Forum Representative position will be up for grabs in the Fall semester. You couldn’t PAY me to do it any longer. No, wait...I guess you could.

The Paradox of our time

The paradox of our time in history is that we have taller buildings, but shorter tempers; wider freeways, but narrower viewpoints; we spend more, but have less; we buy more, but enjoy it less.

We have bigger houses and smaller families; more conveniences, but less time; we have more degrees, but less sense; more knowledge, but less judgment; more experts, but more problems; more medicine, but less wellness.

We drink too much, smoke too much, spend too recklessly, laugh too little, drive too fast, get angry too quickly, stay up too late, get up too tired, read too seldom, watch TV too much, and pray too seldom.

We have multiplied our possessions, but reduced our values. We talk too much, love too seldom, and hate too often. We've learned how to make a living, but not a life; we've added years to life, not life to years.

We've been all the way to the moon and back, but have trouble crossing the street to meet the new neighbor. We've conquered outer space, but not inner space; we've done larger things, but not better things.

We've cleaned up the air, but polluted the soul; we've split the atom, but not our prejudice.

We write more, but learn less; we plan more, but accomplish less. We've learned to rush, but not to wait; we have higher incomes, but lower morals; we have more food, but less appeasement; we build more computers to hold more information to produce more copies than ever, but have less communication; we've become long on quantity, but short on quality.

These are the times of fast foods and slow digestion; tall men, and short character; steep profits, and shallow relationships. These are the times of world peace, but domestic warfare; more leisure, but less fun; more kinds of food, but less nutrition.

These are days of two incomes, but more divorce; of fancier houses, but broken homes. These are days of quick trips, disposable diapers, throw away morality, one-night stands, overweight bodies, and pills that do everything from cheer to quiet to kill.

It is a time when there is much in the show window and nothing in the stockroom; a time when technology has brought this letter to you, and a time when you can choose either to make a difference, or to just hit "Skip Ahead"...

George Carlin



A word from our "other" sponsors



From the Pages of Bad Science

Bad Science is simply the perpetration of wrong ideas. Here are just a few examples of the many falsities present in today's world of science. If you are already aware of these mistakes, good for you. If not, the following may cause headaches, nausea and/ or dizziness.

Be very, very careful what you put into that head, because you will never, ever get it out.

Thomas Cardinal Wolsey (1471-1530)

WRONG: The water in a sink (or toilet) rotates one way as it drains in the northern hemisphere and the other way in the southern hemisphere. Called the Coriolis effect, it is caused by the rotation of the earth.



Hurricane Andrew

RIGHT: The Coriolis force *does* influence long-lasting vortices.

On the scale of hurricanes and large mid-latitude storms, the Coriolis force causes the air to rotate around a low-pressure centre in a cyclonic direction. Indeed, the term cyclonic not only means that the fluid (air or water) rotates in the same direction as the underlying Earth, but also that the rotation of the fluid is due to the rotation of the earth. Thus, the air flowing around a hurricane spins counter-clockwise in the northern hemisphere, and clockwise in the southern hemisphere (as does the earth, itself).

But, the Coriolis force is very small, indeed.

Compared to the rotations that one usually sees, the rotation of the earth is very small: only one rotation per day. The water in a sink might make a rotation in a few seconds and so have a rotation rate

ten thousand times higher than that of the earth. It should not be surprising, therefore, to learn that the Coriolis force is orders of magnitude smaller than any of the forces involved in everyday spinning things. The Coriolis force is so small, that it plays no role in determining the direction of rotation of a draining sink anymore than it does the direction of a spinning CD. But how are we to know when such a reputable source as The Simpsons would have us believe otherwise?

NO, INFRARED LIGHT IS *NOT* A KIND OF HEAT

Aka "We get heat from the Sun."

Indirectly, we might be able to claim that Earth receives heat from Sun, but not as most people understand the statement. Radiant heat is a 19th century concept. Remember, "Heat is the energy of the random motion of the particles in matter." Where there are no particles of matter, there cannot be any heat. "Radiant heat" is an obsolete name for infrared radiation, a band in the spectrum of electromagnetic radiation. Since human beings can only see certain frequencies of light, it's easy to see how the confusion got started. Invisible light seems bizarre and mysterious when compared to visible light, but "invisibility" is caused by the human eye and is not a property carried by the light.

(Interesting note: The range in the spectrum called 'visible light' is what our eyes can detect. This region is significant because it is not readily absorbed by atmospheric gases, so it can accurately transmit information to humans.)

Like all electromagnetic radiation from the Sun, radio, microwave, infrared, light, ultraviolet, x-ray, cosmic ray, and infrared radiation is absorbed by matter (Earth included) is changed into heat energy in the matter. At the same time, heat in matter is being converted to electromagnetic energy, and radiated away, which is why the ground cools at night.

GRAVITY IN SPACE IS ZERO? WRONG.

Everyone knows that the gravity in outer space is zero. Everyone is wrong. Gravity in space is not zero; it can actually be fairly strong. Suppose you climbed to the top of a ladder that was 300 miles tall. You would be up in the vacuum of space, but you would not be weightless at all. You'd only weigh fifteen percent less than you do on the ground. A 200lb person would weigh 170lb. Yet a spacecraft can orbit 'weightlessly' at the height of your ladder! While you're up there, you might see the Space Shuttle zip right by you. The people inside it would seem as weightless as always. Yet on your ladder, you'd feel nearly normal weight. What's going on?

The reason that the shuttle astronauts act weightless is that they're inside a container which is FALLING! If the shuttle were to sit unmoving on top of your ladder (it's a strong ladder,) the shuttle would no longer be falling, and its occupants would feel nearly normal weight. And if you were to leap from your ladder, you would feel weightless (at least until you hit the ground!)

This is due to the process of orbiting, something that everyone knows about but few understand. You shouldn't say that astronauts are 'weightless,' because if you do, then anyone and anything that is falling would also be 'weightless.' So to experience GENUINE free fall just like the astronauts, simply jump into the air! (Use precautions when jumping off tall structures.)

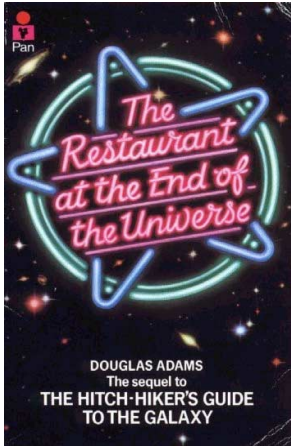


In Memory of Douglas Adams

A great author, Douglas Adams will be remembered by those who understood his strange sense of humour. Here are some favourite excerpts to reminisce over.

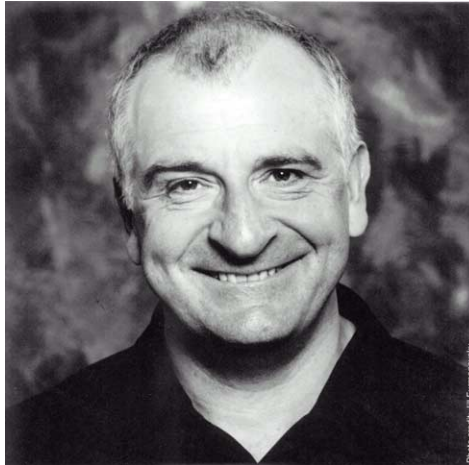
“You’d better be prepared for the jump into hyperspace. It’s unpleasantly like being drunk.”
“What’s so unpleasant about being drunk?”
“You ask a glass of water.””

- Arthur preparing for his first jump into hyperspace.



“Ford, you’re turning into a penguin. Stop it.””

- Arthur experiences the improbability drive at work.

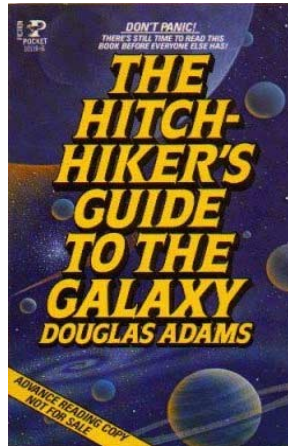


“Arthur yawed wildly as his skin tried to jump one way and his skeleton the other, whilst his brain tried to work out which of his ears it most wanted to crawl out of. ‘Bet you weren’t expecting to see me again,’ said the monster, which Arthur couldn’t help thinking was a strange remark for it to make, seeing as he had never met the creature before. He could tell that he hadn’t met the creature before from the simple fact that he was able to sleep at nights.”

- Arthur discovering who had diverted him from going to a party.

“And wow! Hey! What’s this thing coming towards me very fast? Very very fast. So big and flat and round, it needs a big wide sounding word like... ow... ound... round...ground! That’s it! That’s a good name- ground! I wonder if it will be friends with me?”

- For the sperm whale, it wasn’t.



“There is a theory which states that if ever anybody discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable.

There is another theory which states that this has already happened.”

- Hitchhiker’s Guide to the Galaxy

“This planet has - or rather had - a problem, which was this: most of the people living on it were unhappy for pretty much of the time. Many solutions were suggested for this problem, but most of these were largely concerned with the movements of small green pieces of paper, which is odd because on the whole it wasn’t the small green pieces of paper that were unhappy.”

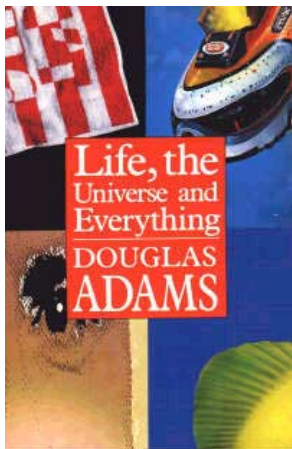
- The Restaurant at the End of the Universe

“The fronting for the eighty-yard long marble-topped bar had been made by stitching together nearly twenty thousand Antarean Mosaic Lizard skins, despite the fact that the twenty thousand lizards concerned had needed them to keep their insides in.”

- The Book describing Milliways’ politically incorrect decor.

“I teleported home one night
With Ron and Sid and Meg.
Ron stole Meggie’s heart away
And I got Sidney’s leg.”

- A poem about matter transference beams.

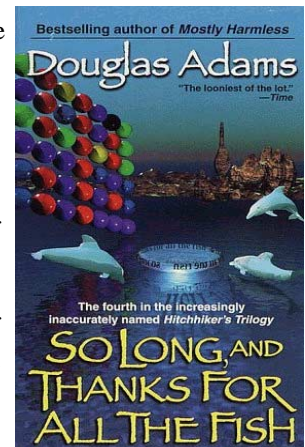


“In the beginning the Universe was created. This has made a lot of people very angry and been widely regarded as a bad move.”

- The Book just recapping what happened in the last book.

“It is known that there are an infinite number of worlds, simply because there is an infinite amount of space for them to be in. However, not every one of them is inhabited. Therefore, there must be a finite number of inhabited worlds. Any finite number divided by infinity is as near to nothing as makes no odds, so the average population of all planets in the universe can be said to be zero. From this it follows that the population of the whole universe is zero, and that all people that you may meet from time to time are merely the products of a deranged imagination.”

- The Restaurant at the End of the Universe



The Radioactive Boyscout

What happened when a teenager conducted a 'science experiment' in his back yard.

Courtesy: Harper's Magazine

Golf Manor, a subdivision in Commerce Township, Mich., some 25 miles outside of Detroit, is the kind of place where nothing extraordinary happens, where the only thing lurking around the corner is an ice-cream truck. But June 26, 1995, was not a typical day.

Cruising down Pinto Drive, a resident saw half a dozen men wearing respirators and white moon suits. They were dismantling her neighbour's shed with electric saws and stuffing the pieces into steel drums emblazoned with radioactive symbols.

Publicly, the employees of the Environmental Protection Agency (EPA) said there was nothing to fear that day. The truth is far more bizarre: the shed was dangerously irradiated and up to 40,000 residents of the area could have been at risk.

The cleanup was provoked by David Hahn. He had attempted to build a nuclear reactor in his mother's shed following a Boy Scout merit-badge project.

Grander Ambitions

David Hahn's early years were seemingly ordinary. The blond, gangly boy played baseball and soccer, and joined the Boy Scouts. An abrupt change came at age ten, when David was given *The Golden Book of Chemistry Experiments*. He became immersed. By age 12 he had digested his father's college chemistry textbooks; by 14 he had made nitroglycerin.

One night his house in Clinton Township was rocked by an explosion in the basement. David was found semiconscious on the floor. He had been pounding some substance with a screwdriver and ignited it. He was rushed to the hospital to have his eyes flushed.

David was then forbid to experiment in his father's home, so he shifted his operations to his mother's shed in Golf Manor. No one had any idea what the shy teen-

ager was up to, although they thought it was odd that David often wore a mask in the shed, and would sometimes discard his clothing after working there until two in the morning. They chalked it up to their own limited education.

Convinced he needed discipline, David's father, Ken, felt the solution lay in a goal that he didn't himself achieve, Eagle Scout, which requires 21 merit badges. David earned a merit badge in Atomic Energy in May 1991, five months shy of his 15th birthday. By now, though, he had grander ambitions.

Concocted identity

He was determined to irradiate anything he could, and decided to build a neutron "gun." To obtain radioactive materials, David used a number of cover stories and concocted a new identity.

He wrote to the Nuclear Regulatory Commission (NRC), claiming to be a physics instructor at Chippewa Valley High School. The agency's director of isotope production and distribution, Donald Erb, offered him tips on isolating and obtaining radioactive elements, and explained the characteristics of some isotopes, which, when bombarded with neutrons, can sustain a chain reaction.

When David asked about the risks, Erb assured him that the "dangers are very slight," since "possession of any radioactive materials in quantities and forms sufficient to pose any hazard is subject to Nuclear Regulatory Commission (or equivalent) licensing."

David learned that a tiny amount of the radioactive isotope americium-241 could be found in smoke detectors. He contacted smoke-detector companies and claimed that he needed a large number for a school project. One company sold him about a hundred broken detectors for a dollar each. Not sure where the americium was located, he wrote to an electronics firm in Illinois. A customer-service representative wrote back to say she'd be happy to help out with "your report." Thanks to her help, David extracted the material. He put the americium inside a hollow block of lead

with a tiny hole pricked in one side so that alpha rays would stream out. In front of the block he placed a sheet of aluminium, its atoms absorb alpha rays and kick out neutrons. His neutron gun was ready.

The mantle in gas lanterns, the small cloth pouch over the flame, is coated with a compound containing thorium-232. When bombarded with neutrons it produces uranium-233, which is fissionable. David bought thousands of lantern mantles from surplus stores and blowtorched them into a pile of ash.

To isolate the thorium from the ash, he purchased \$1000 worth of lithium batteries and cut them in half with wire cutters. He placed the lithium and thorium ash together in a ball of aluminium foil and heated the ball with a Bunsen burner. This purified the thorium to at least 9000 times the level found in nature, and up to 170 times the level that requires NRC licensing. But David's americium gun wasn't strong enough to transform thorium into uranium.

More Help From the NRC

For David, work was merely a means of financing his experiments. Wanting radium for a new gun, David began visiting junkyards and antique stores in search of radium-coated clocks. He'd chip paint from them and collect it.

It was slow going until one day, while driving through Clinton Township, he says he came across an old table clock in an antique shop. In the hack of the clock he discovered a vial of radium paint. He bought the clock for \$10.

He then concentrated the radium and dried it into a salt form. Whether he fully realized it or not, he was putting himself in danger.

The NRC's Erb had told him "nothing produces neutrons from alpha reactions as well as beryllium." David says he had a friend swipe a strip of beryllium from a chemistry lab and placed it in front of the lead block that held the radium. His cute little americium gun was now a more powerful radium gun.

The Radioactive Boy Scout (continued)

David had located some pitchblende, an ore containing tiny amounts of uranium, and pulverized it with a hammer. He aimed the gun at the powder, hoping to produce at least some fissionable atoms. It didn't work. The neutron particles, the bullets in his gun, were moving too fast.

To slow them down, he added a filter, then targeted his gun again. This time the uranium powder appeared to grow more radioactive by the day.

"Imminent Danger"

Now 17, David hit on the idea of building a model breeder reactor, using the actual radioactive elements to produce real reactions. Ignoring safety, David mixed his radium and americium with beryllium and aluminium, all of which he wrapped in aluminium foil, forming a makeshift reactor core. He surrounded this radioactive ball with a blanket of small foil-wrapped cubes of thorium ash and uranium powder, tenuously held together with duct tape. When David's Geiger counter began pick-

ing up radiation five doors from his mom's house, he decided that he had "too much radioactive stuff in one place" and began to disassemble the reactor. He hid some of the material in his mother's house, left some in the shed, and packed most of the rest into the trunk of his Pontiac.

At 2:40 a.m. on August 31, 1994, Clinton Township police responded to a call concerning a young man who had been apparently stealing tires from a car. When the police arrived, they opened David's trunk and discovered a toolbox shut with a padlock and sealed with duct tape. The trunk also contained foil-wrapped cubes of mysterious grey powder, cylindrical metal objects, and mercury switches. The police were especially alarmed by the toolbox, which David said was radioactive and which they feared was an atomic bomb.

The discovery eventually triggered the Federal Radiological Emergency Response Plan, and state officials would become involved in consultations with the EPA and NRC.

At the shed, radiological experts found an aluminium pie pan, a Pyrex cup, a milk crate and other materials strewn about, contaminated at up to 1000 times the normal levels of background radiation. After the radiation-suited workers dismantled the shed, they loaded the remains into 39 sealed barrels that were trucked to the Great Salt Lake Desert. There, the remains of David's experiments were entombed with other radioactive debris.

"These are conditions that regulations never envision," says Dave Minnaar, radiological expert with Michigan's Department of Environmental Quality. "It's simply presumed that the average person wouldn't have the technology or materials required to experiment in these areas."

David Hahn is now in the Navy, where he reads about steroids, melanin, genetic codes, prototype reactors, amino acids and criminal law. "I wanted to make a scratch in life," he explains now. "I've still got time." Of his exposure to radioactivity he says, "I don't believe I took more than five years off my life."



Be **more** THAN AN ENGINEER



Be a *pioneer*, designing high density semiconductors that enable next generation optical networking equipment. Be part of the *team* that makes it possible, working with novel chip design architectures and offering customers complete product and applications support. Be *challenged* every day to find new and better ways to overcome obstacles new and old. Be at the *forefront* of technology that impacts the world. Be *valued* by an employer who recognizes the critical importance of breakthrough thinking. Be *rewarded*—in more ways than one.

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For Higher Density Optical Networking Equipment

Top Ten


Top Ten Signs Your Prof is Nuts

- 10) He insists that the Earth revolves around actor Charles Durning
- 9) Whenever the sun comes out from behind a cloud, he yells, "Supernova!"
- 8) He's writing a chemistry textbook with Robert Downey Jr.
- 7) Claims he can turn gravity on and off by twisting his ears
- 6) He spends every class screaming in an incomprehensible Scottish accent
- 5) Demonstrates static electricity by quickly unzipping and zipping his pants
- 4) His office is wallpapered with nude photos of Madame Curie
- 3) He prefers to mix chemicals by swishing them around in his mouth
- 2) Maintains he can extract free energy from used condoms
- 1) Says the "c" in "E = mc²" stands for "carrot"

Top Ten "Talking to Americans"

- 10) In Chicago: "Congratulations Canada on having running water in all five states." 
- 9) In Washington, D.C.: "Congratulations Canada on your first national railroad."
- 8) In Washington, D.C.: "Congratulations Canada on 268 consecutive days of snow."
- 7) At Harvard: "Yes, I believe the seal slaughter should be stopped in Saskatchewan."
- 6) In Chicago: "Congratulations Canada on making Beaver Balls your national dish."
- 5) At Mount Rushmore: "Congratulations Canada, our Eskimo neighbours to the South, on your new Mount Mulroneyuk."
- 4) Governor of Arkansas: "Congratulations Canada on preserving your national igloo."
- 3) In New York: "Yes, I think Jean Chretien-Pinochet should be charged with crimes against humanity."
- 2) In New York: "Yes, I think it is time to bomb Gilles Duceppe."
- 1) Texas Governor George W. Bush: "I'm glad to have the support of Prime Minister Jean Poutine."

Top Ten rejected Ensc 340 proposals

- 10) "Auto-piloted hamster Jet pack" 
- 9) "Von Neumann probe"
- 8) "Counterfeit print card fabricator"
- 7) "Hand held pig Latin translator"
- 6) "Terry the Talking toaster"
- 5) "Self-reproducing population of MEMS to do our evil bidding"
- 4) "Super-conducting transistor!"
- 3) "Our solution to the last mile problem: The fully optical computer"
- 2) "Best of both worlds: the vinyl CD"
- 1) "Automatic origami folder"

Top ten rejected Science Papers

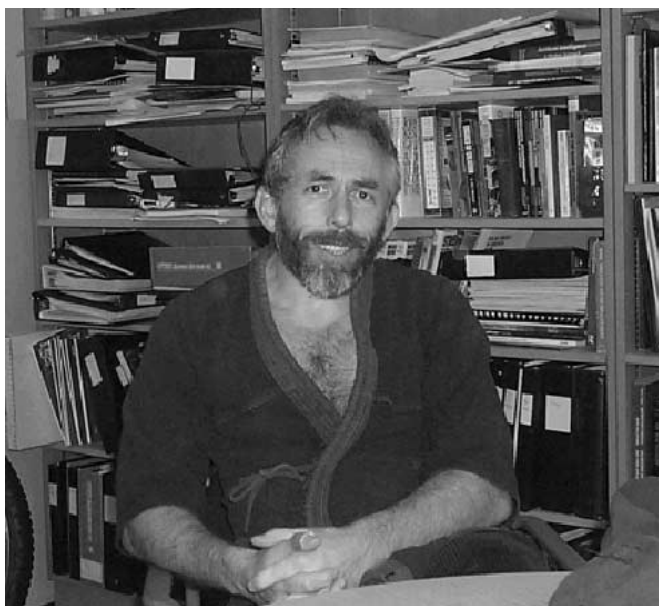
- 10) "Sex and Pregnancy: A Possible Connection"
- 9) "E=MC³: That's Right, Einstein, I Said Cubed!"
- 8) "Sweet and Sour Pork: How Can It Be Both? At The Same Time?"
- 7) "Lincoln: The Man, The President, The Town Car"
- 6) "Whoops!: I Blew My \$800,000 Research Grant At The MGM Grand Casino"
- 5) "Kraft Macaroni & Cheese: So Cheesy, It Should Be Called 'Kraft Cheese & Macaroni'"
- 4) "There Sure Are A Lot of 'Smiths' In The Phone Book, Dude"
- 3) "The Isotope Conjecture: A Fake Title So My Wife Won't Look Inside Here and See My Letters To Penthouse Forum"
- 2) "Why The People Who Award The Nobel Prize Are A Bunch Of Jerks"
- 1) "Gravity: The Devil's Tool"

Faculty Profile: John Jones

The John Jones we all know and admire spends his days doing paperwork, meeting with heads of departments and participating in various Ensc activities. He is dedicated to his work first and foremost, but there is much more to know about...

The secret world of Dr. Jones!

With the sharp wit of Oscar Wilde, the cool demeanour of Hugh Hefner and the suave moves of James Bond, women across the globe are captivated by **John Jones, Ladies Man.**



When night falls, John Jones dons his robe and lights his scented candles. He waits in his den for unsuspecting ladies to be lured in by the intoxicating aromas, and then dazzles them with his charm.



If, by some slim chance a woman loses interest, John will perform one of his dazzling feats of dexterity. On occasion he has been known to juggle flaming batons.

When evil villains strike, John is ready to fight back as **J'Onn J'Onzz, the Martian Manhunter**. He uses his shapeshifting ability to take on various forms while defending the earth from dangerous enemies. J'Onn relies on his skills as a suburb tactician and leader, as well as an excellent hand-to-hand combatant. After a long day of doling out justice, Manhunter style, he retreats to his residence on Mars. J'Onn's only known weakness is to fire. In proximity to fire, Martians lose all super-powers and eventually die with prolonged exposure.

Vital Statistics

Name: J'onn J'onzz

Other Aliases:

John Jones

Marco Xavier

Nicknames: "the Manhunter from Mars"

Height: variable (usually 6' 7")

Weight: variable (usually 250 lbs)

Eyes: variable (usually Blue)

Hair: variable (usually none)

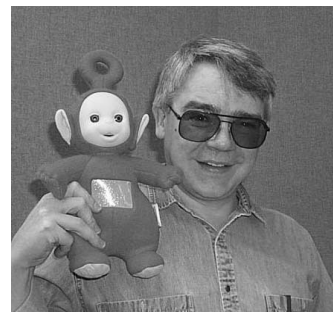
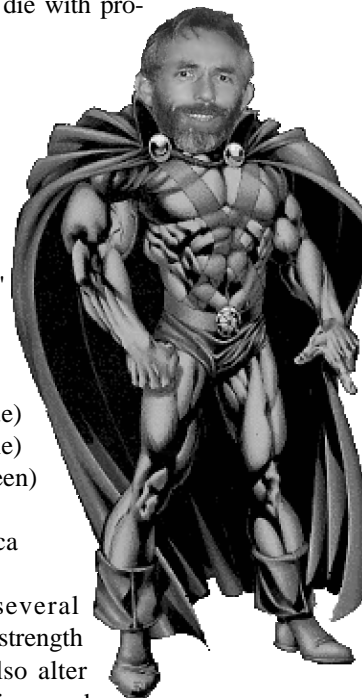
Skin: variable (usually Green)

Group Affiliation:

Justice League of America

All Martians possess several powers, including superior strength and reflexes. They can also alter their shapes to various sizes and forms. They can render themselves invisible, however when they do so, they cannot use any other super power. Martians have telepathic abilities, usually used in mind-reading and telekinesis, which allows them to fly. They also have what is called Martian Vision, which can be used as X-Ray vision and Laser vision.

J'Onn J'Onzz was a leading citizen of the planet Mars. When a planet wide racial war erupted between green-skinned Martians and the white-skinned desert dwelling Martians, J'Onn was placed in charge of the green-skinned army.



J'Onn's greatest rival is Commander St'eev W'itmor of the Appellaxians. St'eev is often spotted with his ferocious red companion, known only as 'Po'.

The \$20 Bill

Here's your chance to get the jump on the Royal Canadian mint. Use these simple instructions to design and mint your very own brand-spanking-new \$20 bill. Since no one knows when the real bills will come out or what they might look like, you will be in financial freedom until the store clerks catch on.

Step 1-

Choose a symbol of Canadian pride:



Step 5- Choose your colour(s) – You'll have to use your imagination for this one.

Look to playdoh or a box of crayola crayons for inspiration. Remember, it's Canadian money- anything goes, so go nuts!

Once you're ready, fire up the inkjet and print off as many sheets as you need. Cut out one front, one back and glue as necessary. You're now ready to spend your *hard-earned* dollars.



Step 2:

Choose a prominent political figure:



Brian Mulroney

Stock Day

Kim Campbell

Mel Lastman

Step 3-

Choose a Canadian celebrity:



Norm MacDonald

Bob & Doug McKenzie

John Candy

Martin Short

Step 4- Choose an animal:



Otter



Prairie dog



Coyote



Racoon

A Guy's* Point of View

(*theoretical guy)

What is with this whole "Women in Engineering" movement? Like some kind of 'pride' movement...get over it girls! There is no need for them to assemble and gossip and put the mask of 'support' over the whole thing - I mean when you look at the entire picture, women in engineering, at least the ones I've met here at SFU, are at a total advantage over the guys. For example:

-When it comes to lab work, usually the rest of us assume you don't know what you're doing, so we do the whole thing and let you do the write-up

-You always have a date for the SED

-One of us always opens the door for you...well only if you're good looking

-You get to enter into the 'secret guy's world' and hear us talk about our gym workouts and sexual issues

-The profs all know who you are, and sometimes they give you extra help. Even the TAs give you more attention...I've seen how that physics

TA looks at a few of you - AND he actually helps you with the homework!

-You have all these other female friends...and some of them are hot!

-There are so many guys around here for you to choose from...and quality guys too... I mean open your eyes! We totally would pay more attention to you if you'd give us a chance...well after I finish my physics homework anyhow...and I really should start that lab too...maybe tomorrow...or Friday...on second thought forget about it, I need to do my laundry this weekend too...

I suppose there are some disadvantages though, such as:

-You're not a guy

Well, actually that's the only disadvantage I can think of. All in all, I think you girls need to lighten up a bit. It would be awesome if my co-workers or fellow hot-opposite-gender students (or even TAs) were hitting on me and

commenting on what I was wearing... I would love to be noticed and questioned everyday that I wear something a little nice.

So don't worry, be happy, and have your girlfriends call me, 'kay?

By Kris Fernum

Editor's note: No matter what they say, all guys are insecure when it comes to feminist matters. We hear the phrase "Women in Engineering," and subconsciously interpret it as "Men are inferior fools, let us celebrate this fact. They won't notice us mocking them, because they don't understand our secret language." Sound crazy? The proof is before you. A few emails here, a couple articles published there, and sooner or later the apprehension finds a place to manifest itself, i.e. this article.

ENGINEERING IMPROVEMENT IN YOUR DAILY LIFE.

NAME: Jim Cavers, Ph.D., P.Eng.

OCCUPATION: Inventor and Professor of Engineering Science,
Simon Fraser University

CONTRIBUTION: State-of-the-art advances in cellular phone transmission capabilities and air traffic control safety are just two of the technological achievements complementing Jim Cavers' work as the developer and former Director of SFU's Engineering Science program.

EXPANDING COMMUNICATIONS HORIZONS AND ENLIGHTENING YOUNG MINDS - ONE PROFESSIONAL ENGINEER'S CONTRIBUTION TO OUR COMMUNITY AND BEYOND.

THE SUN NEVER SETS ON INNOVATION...



Name That Celebrity

Do you enjoy eating hot dogs? I hope you won't be put off by my frankness when I tell you that I absolutely love them. In fact, I enjoy no food item more than a freshly-boiled hot dog. Now, I've done a lot of movies, and it's true that I've worked with quite a few celebrities who did not share this opinion. I'm sorry to say that these people have always angered me.

There are two types of people in this world: those who eat hot dogs whenever it is possible to do so, and those who opt to do other things with their free time. Who do the latter think they are kidding? What pastime could be more rewarding than the consumption of hot dogs? I haven't found one, and I don't expect to in my lifetime. Unlike other foods, hot dogs can be eaten at any time, in any place, and it is not necessary to cook them. Now, I ask you: Why not eat hot dogs? They are delicious.

I carry a bag of hot dogs with me wherever I go. I eat them from the bag whenever I get the urge, regardless of the circumstances. When I make a movie, my hot dogs are my co-stars. If, in the middle of a scene, I decide I want to consume a hot dog, I do so. I waste the director's time and thousands of dollars in film stock, but in the end, it is all worth it, because I enjoy eating hot dogs more than I enjoy acting. This bothers some people. I was supposed to portray Batman, but when Tim Burton learned of my hot dog cravings, he asked Michael Keaton to wear the cape. To this day, I am peeved about this.

When we filmed *The Dead Zone*, I ate over 800 hot dogs a day. It was necessary. My character needed to come across as intense as possible, and I found the inspiration for that intensity in my intense love for hot dogs. The director, David Cronenberg, said that he would never

work with me again. I kept eating hot dogs when the cameras were rolling, and that seemed to bother him. I say screw him. He doesn't even like hot dogs.

I would like to end by emphasizing once again that I really like to eat hot dogs. If any of you people disagree, I loathe you. I despise you. Not only that, but I also despise all your loved ones. I want to see them torn to pieces by wild dogs. If I ever meet you in person, I'll smash your brains in with a large bat. Then we'll see who doesn't like hot dogs.

Did you guess who it is? That's right, he is everyone's favourite bad guy, the one and only Christopher Walken



A Repair to Remember

The incoherent ramblings of self-proclaimed handywoman Meg Ruffman

Acting Manly

When you think about it, wearing a tool belt is the closest we'll ever come to knowing what it's like to be a guy. All those dangly bits hanging off ourselves are a real distraction, just like real dangly bits are for guys. They make you want to look at them a lot, swing 'em around, and compare your hammer size to others.

I've never actually seen my own bile, but if it showed up black that could make me pretty crabby. I'd be inclined to slap a leech on and hope I perked up a bit.

But nowadays it's hard to find a good leech at this time of year. That's how I came up with my own solution for mid-winter doldrums. This time it's not getting drunk and lying on an ice floe, although that's always a real problem solver.

My new goal after the whole skiing debacle is this: Get outside more in summer. Mosquitoes are less painful

than an upper lip paralyzed by frozen nasal fluid. In fact, summer is the only Canadian season that doesn't produce mucoid leavings on your upper lip. The only nasal emission you should encounter between June and September is when somebody tells a joke while you're drinking beer.

What's not clear to me is whether the female bird gets knocked up before she and her husband start building a nest in spring, or whether they build first and then get romantic.

If you're thinking of building a birdhouse, it's your right to know. Because either you're helping a pregnant bird and her mate find critical housing, or you're creating a steamy den for frenzied bird love.

Depending on which it is, you'll want to decorate your birdhouse appropriately; should it be shag carpet and throw pillows, or a crisp IKEA nursery? Only an ornithologist knows for sure but he's

not saying, so go with your instincts. And speaking of instincts, your own libido will likely increase when you build a birdhouse. Constructing the tiny home reminds you of your first apartment when you were young and frisky, when your thighs were as firm as a good cheddar and your metabolism rivaled a ferret's.

It's nice to reminisce about those early days of burning urges and fumbled buttons as you design your birdhouse to be a subtle backyard monument to passion.

Once you've completed your birdhouse, mount it outside on a vertical surface that is high enough to be safe from the family cat. The mounting will put you in a frisky mood so, as usual, try to pace yourself.

As we all learned from *Flashdance*, the most important thing to remember about welding is to pull the shield off when you're done and shake your hair in slow motion. And then take your bra off under your shirt and pull it out your sleeve.

Kenko's Doldrum Doodles

I remember, at one point, seeing
a bright light shining over me.
And I found myself drawn toward it,
like a heart attack to obesity.

It was surreal, as if in a dream,
floating above all I could see.
I looked down below, and suddenly,
I plunged like Wile E. Coyote.

Life flashed before my eyes!
Would I have to leave Paradise?
I hoped to land on "Win the lottery"
with a lucky roll of the dice.

Seems Fate was set against me:
Life turned into Taboo!
I was left there brainstorming words,
trying to give my team a clue.

But how I came to be here -
honestly? - I forget.
That's my story so far,
and I'm sticking to it!

Feb. 02/2001

Cisco and Novell are in bed
to make my life difficult.
Protocols, topologies, access lists;
what are these all about....

From dial-up to dedicated to WAN
my head is starting to swell,
from thinking of service providers
AT&T, Telus, and Bell.

So many packets and frames
I can't keep track of them all!
They're flying all over the place
driving me up the wall.

March 09/2001

The Junk Drawer

Sweetened and condensed version

Puzzle: Driving to Kelowna

You are driving by car to a particular destination, and the only assumption is that you are free to drive at any speed you choose - no traffic jams or anything like that. For the first half of the journey (i.e. half the distance) you drive at 20 miles per hour. You then realise that this is all taking much too long, and that you are going to be late. You therefore decide that you will increase your speed so that your overall average speed for the whole journey will be 40 miles per hour. How fast do you have to drive for the remaining part of your journey in order for your average speed for the whole journey to be 40 miles per hour?

A guy was crossing a road one day, when a frog called out to him and said, "If you kiss me, I'll turn into a beautiful princess." He bent over, picked up the frog and put it in his pocket.

The frog spoke up again and said, "If you kiss me and turn me back into a beautiful princess, I will stay with you for one week." The guy took the frog out of his pocket, smiled at it and returned it to his pocket.

The frog then cried out, "If you kiss me and turn me back into a princess, I'll stay with you and do ANYTHING you want." Again the guy took the frog out, smiled at it and put it back into his pocket.

Finally, the frog asked, "What is the matter? I have told you that I'm a beautiful princess, and that I'll stay with you for a week and do anything you want. Why won't you kiss me?" The guy said, "Look, I'm an engineer. I don't have time for a girlfriend. But, a talking frog is cool."

Rex Morgan M.D. Classics



Use this handy metric conversion chart when you're in a pinch

1012 microphones = 1 megaphone
 2000 mockingbirds = 2 kilomockingbirds
 10 cards = 1 decacards
 1/2 lavatory = 1 demijohn
 10⁻⁶ fish = 1 microfiche

1012 pins = 1 terrapin
 1021 picolos = 1 gigolo
 10 rations = 1 decoration
 3 1/3 tridents = 1 decadent
 2 monograms = 1 diagram
 8 nickels = 2 paradigms

2 snake eyes = 1 paradise
 2 wharves = 1 paradox
 10⁻² mental = 1 centimental
 10⁻¹ mate = 1 decimate
 1012 bulls = 1 terabull
 10⁻¹² boos = 1 picoboo
 10⁻¹⁵ bismol = 1 femtobismol

The Enquire is:

Editor:
Mike Simons

Contributors:
Aaron Kaiway
Naomi Ko
Thierry Coppin
99 monkeys at
99 typewriters

Unnamed articles can be attributed to one of the following:
 -The author wished to remain anonymous
 -The article was plagiarized from a copyrighted source
 -The editor was too lazy to write one in

Please visit the Enquire at www.sfu.ca/~mpsimons.
 If you happen to drop by, please keep off the grass!

FROM THE EDITOR'S DESK

It's finally here! Another jam-packed issue for your reading pleasure, casually late but worth the wait! (Excuse the pun) To borrow some words from Douglas Adams, "I love deadlines. I love the whooshing sound they make as they fly by." I hope you enjoy this issue, which I have put together in my leisure time (also known as my coop job.) Now, if I can only get this to count this as my work report...

If you enjoyed this issue, please consider donating some time to help with the production of the Enquire. It would be great to see two or more issues come out in a semester, a goal which requires a dedicated production staff. If you are precluded from chipping in because of your profligate laziness, don't feel guilty; some people are just born that way.

[energy]
[vision] [growth]

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