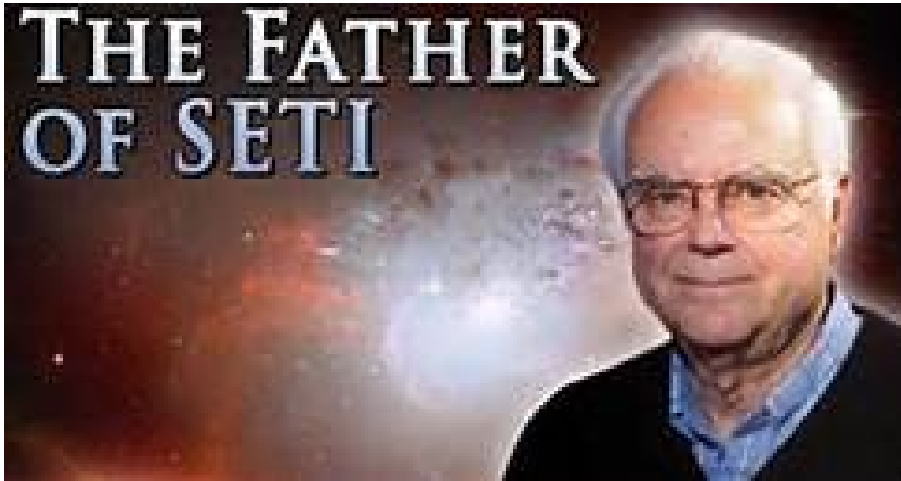




OSFS Statement

Newsletter of the **Ottawa Science Fiction Society** August 2013,
Issue 412, Volume 37, Number 8. Founded Feb 1977, Incorporated Jan 16, 1979



Frank Drake and his (in)famous equation.

$$N = R^* f_p n_e f_l f_i f_c L$$

Dinner-Gatherings nominally start at 6:00 pm.

This seems to be another month without even a semi-formal meeting however check the OSFS web site at www.ottawasfs.ca for latest details and note that we are now communicating primarily by it and Meetup. Please check the website beforehand. www.ottawasfs.ca and RSVP to <http://www.meetup.com/ottawasfs-ca/events/94895822/> to give us an estimate of the number to expect.

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Membership information Mail Dues to: Ottawa Science Fiction Society, 1568 Merivale Road, Suite 304, Ottawa, ON K2G 5Y7 website www.ottawasfs.ca executive exec@ottawasfs.ca Rates Regular \$18 Family \$24 Extraordinary & Senior \$12	Board of Directors President Diane Bruce Vice-President Grant Duff Secretary Grant Duff Appointed Officers Archivist Grant Duff Auditor Constitution Advisor David Hurst Editor Grant Duff Programming Alex Binkley Treasurer Sheila Brown Webmaster Sheila Brown	Contents Coming Events 3 Obituaries 6 Astrophysics 10 Astronomy 11 Historical Physics Reviews OSFS Logo Bruce Wright Cover art © NASA Pub by: Ottawa Science Fiction Society, Creators of Maplecon
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Editor's Blather:

obituaries younger than I am).

What is there to say except “It's Summer”. I'm getting astronomy articles referred but otherwise am reduced to trolling the net (and finding a depressing number of

FOR YOUR VIEWING PLEASURE

Venus lies low in the west after sunset. Saturn lies in the Southwest in the evening. Jupiter rises in the early hours. Mars lies in the dawn twilight. The Moon will be Full on the 20th.

Coming Events List submitted by Lloyd Penney

August 22-25 – **Fan eXpo**, Metro Toronto Convention Centre, Toronto. Guests: Dean Cain, Richard Dean Anderson, George Takei, Stan Lee, David Hasselhoff, Lena Headey, many more. - www.fanexpocanada.com.

August 22-26 - **Camp Feral!**, Algonquin Park. Furry camp. - www.campferal.org.

Worldcon ??? 8 29-02 [Worldcon](#)

August 30 - September 1 - **Queen City Conquest 2013**, Buffalo Niagara Convention Center, Buffalo. Gaming convention, Guests: Sean Patrick Fannon, Matt James. - www.queencityconquest.com.

September 8 - **Canadian Toycon**, Holiday Inn Burlington, Burlington, ON. - www.toycon.ca.

September 13-15 - **Science Fiction: The Interdisciplinary Genre** - An Academic Conference at McMaster University, Hamilton, ON. Guests include Robert J. Sawyer. - serruys@mcmaster.ca.

September 14-15 - **Field Marshal Gaming Convention**, 420 Wing RCAF Association, 1000 Stevenson Rd., Oshawa. - www.fmgcon.com.

September 20-22 - **RocCon 2013**, Main Street Armory, Rochester, NY. Anime/comics/media SF convention. Guests: Christopher Doohan, Noel Gugliemi, Cary Hiroyuki, Tagawa, Daniel Kash, Vic Mignogna, Ray Olubowale, Uncle Yo, Bella Hudson, J.G. Hertzler, Anne Serling, Joe Jusko, more. - www.rochesterescifianimecon.com.

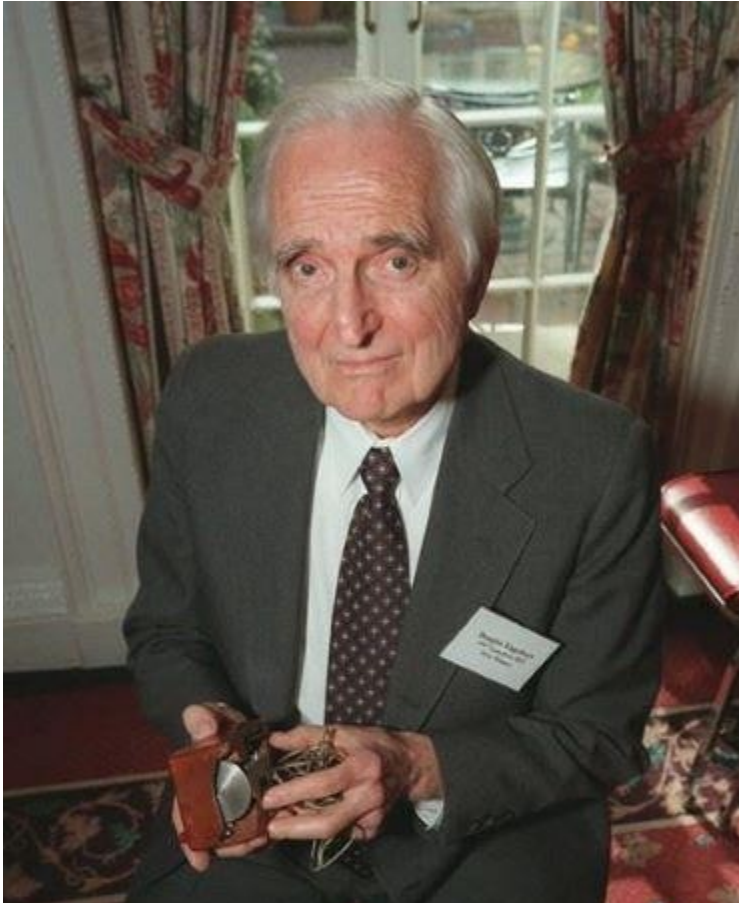
September 21 & 22 - **Toronto Mini Maker Faire**, Artscape Wychwood Barns, Toronto. Technology faire. - www.makerfairetoronto.com.

September 21 & 22 – **Ottawa Lapsmith Gem and Mineral Show**, Nepean Sportsplex (Curling Arena), Nepean.

September 28 – **CapCon**, Ottawa, ON. Model competition. - www.ipmsottawa.com/capcon/index.htm.

- September 28-29 - **Phantasm 23**, Peterborough Public Library, Peterborough. Gaming convention. - phantasm.pfga.ca.
- October 4-6 - **Can-Con 2013**, Minto Suite Hotel, Ottawa. Literary SF convention, 2013 CanVention. Guests: Robert J. Sawyer, Hayden Trenholm, more TBA. - www.can-con.org, Twitter @canconsf, page on Facebook.
- October 4-6 - **Genrecon 2013**, Delta Hotel, Guelph. Geek culture convention. - www.genrecon.com, Twitter @genrecon, page on Facebook. October 11-13 - Conclave 37, DoubleTree by Hilton Detroit-Dearborn, Dearborn, MI. SF literary convention. Guest: Allen Steele. - www.conclavesf.org.
- October 11-13 - **Salute to Supernatural**, Toronto. - www.creationent.com/cal/supernatural_toronto.htm.
- October 18-20 - **CastleCon 2013**, Best Western Plus Durham Hotel & Conference Centre, Oshawa. Gaming convention. - www.castlecon.net.
- October 26-27 - **Unplugged Expo 2**, Daniels Spectrum Centre, Toronto. Geek culture convention. Guests: Kurt Lehner, Susan Roman, Stephanie Morgenstern, Mai-Sheri, more. - www.unpluggedexpo.com.
- October 31 - November 3 - **Youmacon 2013**, Cobo Center, Detroit Marriott at the Renaissance Centre, Detroit, MI. Anime, comics and steampunk convention. Guests: Todd Haberkorn, Kyle Hebert, John Patrick Lowrie, Steam Powered Giraffe. - www.youmacon.com.
- November 1-3 - **Reversed Polarity**, Sheraton Parkway Toronto North, Richmond Hill. Doctor Who 50th Anniversary convention. Guest: Peter Davison. - www.tcon.ca/reversedpolarity, Twitter @reversedpolarity, page on Facebook.
- November 1-3 - **HammerCon V**, Plaza Hotel, Hamilton, ON. Gaming convention. - www.hammercon.ca.
- November 1-3 - **N2U**, Travelodge Hotel, Ottawa. Anime & gaming convention. - www.n2u.ca.
- November 3 - **Canadian Toycon** Toronto, Sheraton Airport Hotel & Conference Centre, Toronto, ON. - www.toycon.ca.
- November 15-17 - **Astronomicon 12**, Radisson Hotel Rochester Riverside, Rochester, NY. Literary SF convention. Guests: David Gerrold, Liana K, Ed the Sock, Dr. David Stephenson, Tom Rockwell, Peter David, Vincent DiFate, more. - www.astronomicon.info, page on Facebook.

- November 29 - December 1 - **SFCOntario 4**, Ramada Plaza Hotel, Toronto. Guests: Seanan McGuire, Dave Kyle, Chandler Davis. - www.sfcontario.ca.
- December 6-8 - **Smofcon 31**, Royal York Hotel, Toronto, ON. Convention runners' convention. - www.smofcon31.org.
- December 14 - **Frostcon 2**, St. Lawrence Centre for the Arts, Toronto. Cosplay/geek convention. Guests: Twinfools, VandorWolf, Faxen Cosplay, Toronto Batman, That Joker Guy, Erin Cossar. - ontariocosplaycommunity@hotmail.ca, page on Facebook.
- January 17-19, 2014 - **Legendary ConFusion**, Dearborn DoubleTree Hotel, Dearborn, MI. SF literary convention. Guests: Mike Carey, Rich Morris, Ian Tregillis, Mark Bernstein. - www.confusion.stilyagi.org.
- March 7-9, 2014 - **Furnal Equinox 2014**: Circus, Sheraton Toronto Airport Hotel & Conference Centre, Toronto. Furry convention. Guests: Sabretoothed Ermine, Sandy Schreiber. - www.furnalequinox.com.
- April 4-6 - **Ad Astra 2014**, Holiday Inn Markham. Guests: David Weber, Anne Groell, Patricia Briggs, Steven Erikson. - www.ad-astra.org, Twitter @adastrasociety, page on Facebook.
- April 6, 2014 - **GTA Comic-Con**, Oakville Conference Centre, Oakville. - www.gtacomicon.com.
- April 25-27, 2014 - **FilKONtario 24**, Delta Airport West, Mississauga. Guests: S. J. Tucker, with the Heather Dale Band; Gary Ehrlich, Piers Cawley. - www.filkontario.ca.
- April 25-28, 2014 - **Costume Con 32**, Sheraton Airport Hotel, Toronto. - www.costumecon32.com.
- June 6-8, 2014 - **Bloody Words XIII**, Hotel TBA, Toronto, ON. Mystery convention. Guests: Vicky Delany, - www.bloodywords.com.



OBITUARY

Doug Engelbart 1025 – 2013 SAN FRANCISCO -

Doug Engelbart, the inventor of the computer mouse and developer of early incarnations of email, word processing programs and the Internet, has died at the age of 88.



1997 file photo, Doug Engelbart, inventor of the computer mouse and winner of the half-million dollar 1997 Lemelson-MIT prize, poses with the computer mouse he designed,

The Computer History Museum, Mountain View, California, where Engelbart had been a fellow since 2005, was notified of the death in an email from his daughter, Christina. The cause of death wasn't immediately known.

Engelbart's biggest breakthrough was the computer mouse, which he developed in the 1960s and patented in 1970. At the time, it was a wooden shell covering two metal wheels.

The notion of operating the inside of a computer with a tool on the outside was ahead of its time. The mouse wasn't commercially available until 1984, with Apple's new Macintosh.

Michael Ansara -- 1922 – 2013

Ansara was one of those actors who most people have seen, all the while many don't remember.

He had a long and varied career, often portraying non-Caucasians such as the Indian (they hadn't invented 'native American then) Cochise in the TV series **BROKEN ARROW**. He also made a name for himself in science fiction circles with his portrayal of the Klingon 'Kang' in no less than three **TREK** series, of The Ruler in a first season **LOST IN SPACE** episode not to mention others including the enigmatic technomage Elric on **BABYLON 5**, the Blue Djinn (and other characters) on **I DREAM OF JEANNIE** (whose female star he married), the evil Kane on **BUCK ROGERS**, and others. One early role was that of the lead in the Harlan Ellison-penned original **TWILIGHT ZONE** episode **SOLDIER**.

He also lent his deep, penetrating voice to the tragic character of Mr. Freeze in the 90s animated **BATMAN** series, giving him more depth and personality than any version before or since.

His career lasted from 1944 to 2001 and included over 189 titles. His unmistakable voice and towering presence will be missed.

Jeanne Cooper dead at 84

Daytime-TV grand dame Jeanne Cooper, best known for her nearly 40-year run on CBS' Y&R, which launched in 1973. Cooper's career began in the 1950s with a role in the Western *The Redhead from Wyoming*. She then launched into a long string of roles on TV anthology series — including ABC's *Crossroads*, NBC's *Tales of Wells Fargo* and CBS' Dick Powell's *Zane Grey Theater* — and dramas such as *The Adventures of Kit Carson*, *Cheyenne*, *Wagon Train* and multiple appearances on *Perry Mason*, *The Big Valley* and *Ironside*. On Y&R, Cooper played high society doyenne Katherine Chancellor (as well as, now and again, her lookalike Marge Cotrooke). The actress famously invited the daytime drama to weave in storylines mirroring her own life, including a mid-1980s facelift (the show used footage from Cooper's actual procedure). The character of Kay also crossed over to sister sudser *The Bold and the Beautiful* for two episodes in 2005.

Karen Black (1939–2013)

Early roles included an unwilling defender of Earth in *The Invaders* (1967), before *Easy Rider* (1969) and *Five Easy Pieces* (1970) earned her Hollywood attention. Among her subsequent appearances were *Ghost Story* (TV, 1972), *Trilogy of Terror* (TV movie, 1975, with Black playing four roles), *Capricorn One* (1977), *The Last Horror Film* (1982), *Deadly Nightmares* (TV, 1985), *Faerie Tale Theater* (TV, 1985 & 1987), *Invaders from Mars* (1986), *Worlds Beyond* (TV, 1987), *It's Alive III: Island of the Alive* (1987), *The Invisible Kid* (1987), *Zapped Again!*, *Haunting Fear*, *Mirror Mirror*, and *Twisted Justice* (all 1990), *Children of the Night* (1991), *Plan 10 from Outer Space* (1995), *Dinosaur Valley Girls* and *Children of the Corn: The Gathering* (both 1996), *The Hunger* (TV, 1997), *Light Speed* and *Invisible Dad* (both 1998), *Soulkeeper* (2001), *House of 1000 Corpses* (2003), and *Nightmare Hostel* (2005).

Dear OSFen:

Thank you for Statement 411...does this mean there's all kinds of information within this e-zine? Let's crack the front cover on this .pdf, and find out for sure.

Great nebula on the front cover...great colour picture, too. We sure couldn't do that on the old goldenrod covers...

Based on the event calendar, Otakuthon just happened in Montréal. Anyone get to that event, and anyone want to write up a quick report on what happened there? I know it's expensive to travel (that's why we haven't been up in Ottawa in years), but someone's got to be going to Montréal for fannish conventions. As for us, we'd like to get to the Toronto Mini Maker Faire, and then to SFContario. I'd like nothing better than to get to the CanVention at Can-Con this year, but we simply can't afford to travel right now.

We are setting our schedule for this coming fall, and it is in flux...I have our dealer's table at SFContario in November, and the little dealer convention I mentioned, Art-O-Con in Burlington, in the spring.

Shorter than I wanted, but this is what I've got. The never-ending job hunt resumes in the morning, and I have some good leads. I wish there was some way to meet up

with everyone. Hope you're all having a great summer, please vote in the Aurora Awards, with the voting deadline on September 13.

Yours, Lloyd Penney.

This LOC arrived after the printed Statement was mailed and will be included in the September issue.

It wasn't just the goldenrod¹. Imagine the fun of doing colour on a Gestetner. Ed

¹ In the early years the Statement front page was printed on "goldenrod" paper. Made a distinctive publication in a sea of fanzines.

Astrophysics

Voyager and the '**Magnetic Highway**' (NASA/JPL-Caltech)

NASA's long-lived Voyager probe crossed into interstellar space last year, becoming the first man made object to leave the solar system, new research shows.

Scientists have been waiting for Voyager to detect a magnetic field that flows in a different direction than the solar system's magnetic field. But the new research shows that scenario is not accurate.

"We think that the magnetic field within the solar system and in the interstellar space are aligned enough that you can actually pass through without seeing a huge change in direction," University of Maryland physicist Marc Swisdak said in an interview with Reuters on Thursday.

That would mean that Voyager actually reached interstellar space last summer when it detected a sudden drop in the number of particles coming from the sun and a corresponding rise in the number of galactic cosmic rays coming from interstellar space.

Not everyone is convinced, however.

Voyager lead scientist Edward Stone, now retired from NASA's Jet Propulsion Laboratory in Pasadena,

California, said Swisdak's research is interesting but different computer models are portraying different scenarios to explain the Voyager data.

"We know where Voyager is in terms of distance and we know what it is observing. The challenge is relating that to these complex models of the interaction between the interstellar medium and the heliosphere," Stone said, referring to the bubble of space that falls under the sun's influence.

Stone and other scientists believe Voyager is in a previously unknown region, dubbed a "magnetic highway," that exists between the heliosphere and interstellar space.

Voyager 1 and a sister probe, Voyager 2, were launched in 1977 to study the outer planets. Voyager 1 is now about 120 times farther away from the sun than Earth. Voyager 2 is heading out of the solar system in a different direction. The probes are powered by the slow decay of radioactive plutonium. Voyager 1 will begin running out of energy for its science instruments in 2020. By 2025, it will be completely out of power.

If Swisdak and colleagues are correct, Voyager 1's magnetic field readings will stay pretty much the same throughout the remainder of its mission.

"If they see a strong shift in the magnetic field, a big jump, then that means that what we've outlined can't be correct," Swisdak said.

"I'm perfectly willing to be proven wrong here and if I were, that would be kind of cool. But it agrees with all the data that we have so far," he added.

More evidence may come when Voyager 2 crosses the solar system's boundary as well.

The research appears in *The Astrophysical Journal Letters*.

(NASA/JPL-Caltech)

DRAKE'S EQUATION

Ken Tapping, 20th August, 2013

In the late 1950's scientists concluded that if a then state-of-the-art radio transmitter were located on a planet orbiting a nearby star, it would be possible to pick up its signals here on Earth, using a similarly up-to-date radio telescope. Then, in the early 1960's, radio astronomer Frank Drake tried it. He used a 25-m diameter radio telescope located at Green Bank, West Virginia, and pointed it at two nearby Sun-like stars: Epsilon Eridani and Tau Ceti. Although not successful, this project paved the way for an ongoing search for signals from other intelligent species out there in the universe. Today's technology is millions of times more capable than the equipment used by Frank Drake, and given the current rate of progress, if there are radio signals from alien races coming in from space, within the next decade we will detect them.

Frank Drake is famous for coming up with the "Drake Equation", which is a formula for estimating how many worlds out there might have beings transmitting radio signals in our direction. It is more than 50 years since Drake did his calculation. Over that time our knowledge has improved. We know more about how stars work and

we now know that most stars have planets, whereas in the 1960's we were only guessing whether other stars might have planets at all. We can update the calculation a bit.

Our galaxy, the Milky Way, contains somewhere between 100 and 400 billion stars. However, many of those stars are unlikely to have planets with intelligent beings living on them. Some of those stars are white dwarfs, which are the burned-out remains of old stars, with energy outputs so low their planets would be frozen. Blue giant stars consume their fuel so quickly they will run out of fuel and blow up after just a few million years. It took around three billion years for life on Earth to progress to where it is now. Some stars are red giants. These are aging stars that have swelled up, incinerating any planets they might have had, and will not live for much longer, so they are not good candidates to monitoring for alien radio signals. This leaves the “Sun-like” stars, which shine fairly reliably for billions of years. We can class at least 30% of the stars in our galaxy as being “Sun-like”.

Today, our searches for planets orbiting other stars suggest all stars have planets. If we assume just three planets per star on average, then there are 90 billion planets out there orbiting Sun-like stars. If we believe our Solar System is typical, there could be almost 10 billion

Earth-like planets in the Milky Way, suitable for life as we know it.

Unfortunately, from this point the arguments get a lot weaker. At the moment we have no idea what percentage of Earth-like planets have living creatures on them, because we know of only one example – our world. On the other hand, we do know that the clouds of dust and gas occurring almost throughout our galaxy are loaded with organic chemicals that can easily be persuaded to react together to form amino-acids, the building blocks of proteins, which are the basis for our form of carbon-based life. If the same raw materials for making worlds are available everywhere, then we might reasonably expect carbon-based life to be fairly common in the universe. If life appears on just 1% of Earth-like planets, there could be around 100 million worlds in our galaxy bearing carbon-based life. Unfortunately, it is very hard to estimate how many of these life forms are using radio technology to send signals in our direction. Of course, if we do not search for those signals, we will never find out, and we really should know.

The Drake Equation can be found at (<http://www.seti.org/drakeequation>):

$$N = R^* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L, \text{ where}$$

N the number of civilizations in the Milky Way Galaxy whose electromagnetic emissions are detectable;
--

R* the rate of formation of stars
--

f_p the fraction of those stars with planetary systems

n_e the number of planets, per solar system, with an environment suitable for life

f_l the fraction of suitable planets on which life actually appears
--

f_i the fraction of life bearing planets on which intelligent life emerges

f_c the fraction of civilizations that develop a technology that releases detectable signs of their existence into space

L the length of time such civilizations actually release detectable signals into space.
--

Of all these factors only R* can be reasonably estimated. The generally agreed figure is between 1 and 40 new stars form per year in the Milky Way Galaxy. We are starting to begin to get a feel for the number of stars with planets. Depending on what values (aka. wild guesses) are assigned to the other factors the value of N varies between 10⁻⁷ and 10⁺⁷. In short it is any body's guess. The only thing we are sure of is that we really don't know.

Still, as Ken says “If we do not search for those signals, we will never find out, and we really should know.”