



THE GYROLOG

THE GYRO CLUB OF EDMONTON

Club Charter No.18, July 29, 1921

President-Jack Bowen, Past President-Ron Trant

1st Vice-President-Georg Schuller

Secretary-Barry Walker, Treasurer-Larry Dobson

Directors- Bruce Foy, Jim Lepp, Sheldon Weatherby, Martin Marshall

Peter Carter (Ex-Officio) Dunc Mills (Ex-Officio)

Database Administrator-Chuck Gerhart, Gyrolog Editor-Fred Schulte

Club Website: www.edmontongyroclub.com

JANUARY 2024

BIRTHDAYS: Cliff Revell on the 2nd, Dunc Mills on the 24th and Jack Brown on the 31st.

There are no Wedding Anniversaries.

***Pick battles big enough to matter,
Small enough to win.***

Jonathan Kozol

District Governor **Dunc Mills** played an introductory tune on the xylophone and **Past President Ron Trant** welcomed 22 Gyros and eight guests to the January 16th luncheon meeting held at the Mill Woods Golf Course Woodvale Clubhouse.

Our guests included our speaker **Allen Offenberger**, **Walter Yakimets'** son **Stephen** and grandson **Jamie**. **Sharon Pugsley**, partner of **Dick Nichols**, **Georg Schuller's** guest **Barry**, **Doug Armstrong's** guest **Jack**, **Jack Little's** guest **Alan Mabee** and **Ray Dallaire's** guest **Derrill Neumann**.

Grace was presented by **Doug Armstrong** who quoted Robert Burns.

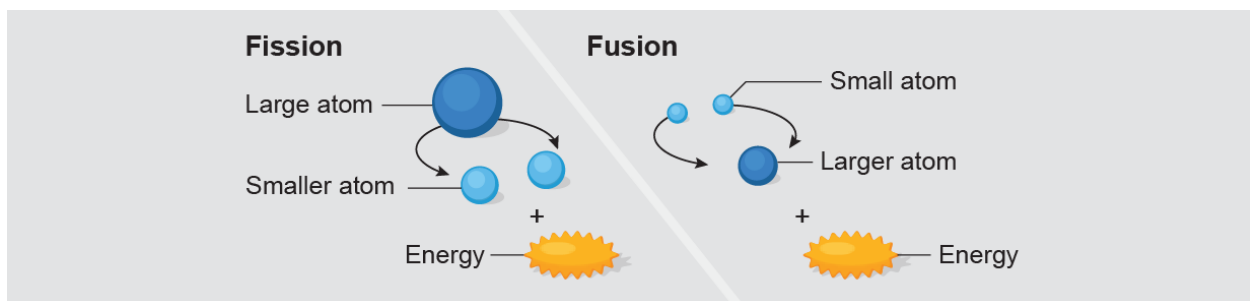
Marty Larson presented **Walter Yakimets** belatedly with his **25-year pin**. Walter was sponsored by Marty and joined our Club on May 6, 1997, almost 27 years ago.



Walter Yakimets introduced **Dr. Allan Offenberger** who is Professor Emeritus of Electrical & Computer Engineering at the University of Alberta, taking early retirement in 1995 to assume guest professor/consultant positions at various international fusion centres. He received his PhD from the Massachusetts Institute of Technology (MIT) in 1968. His research program for more than 40 years was focused on the development of high-power lasers and their application to plasma physics and internal fusion research. He was also the **Founding President of the Fusion Energy Council of Canada**.

Dr. Offenberger indicated that the prize is “**Fusion Energy**”. Fusion has the potential to provide unlimited clean energy without greenhouse gases. Scientists have been working on harnessing fusion energy for decades, but it has been a challenging task to produce more energy than it takes to create it. Recent breakthroughs in 2022 and 2023 at the nuclear fusion research at the Lawrence Livermore Laboratory in California have made it possible to achieve fusion ignition and produce more energy from fusion and produce more energy from fusion than the laser energy used to drive it.

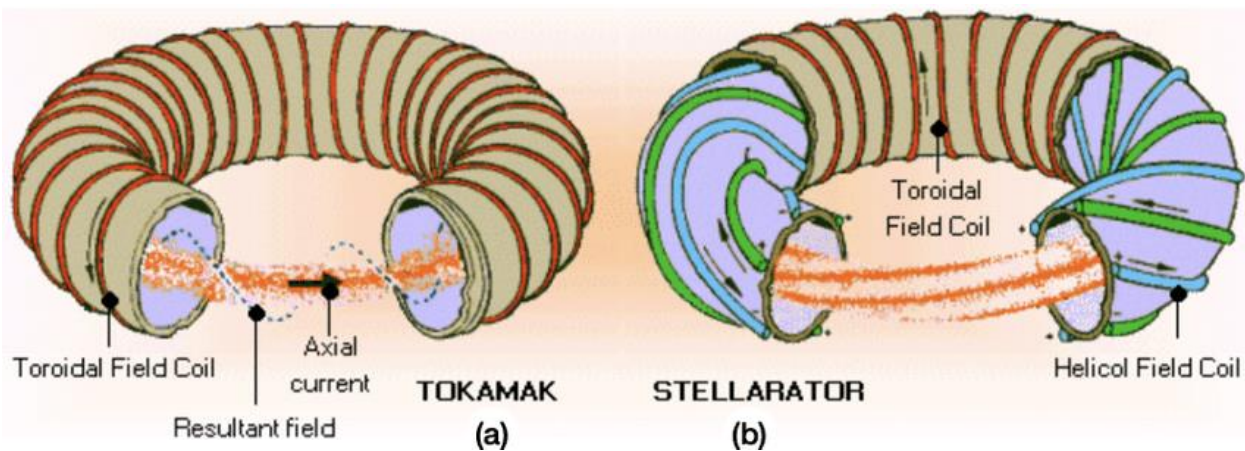
Fusion and Fission are very different!



Editor's note: Fusion is a complicated topic that is difficult to comprehend, let alone to make notes from our eminent speaker. The following is taken from various online sources.

Fusion research really started to kick off in the 1950s. In 1952 the first H-bomb “Ivy Mike” was created marking the first thermonuclear weapon ⁽²⁾. **In 1951 the tokamak was proposed by Soviet Scientists Andrei Sakharov and Igor Tamm ⁽¹⁾.** The tokamak is a device that uses magnetic fields to confine plasma so that the plasma is in the shape of a torus (a donut shape). This kind of confinement prevents the plasma from coming into contact with the outer confinement chamber so that the chamber doesn’t melt from the temperature of the plasma. **Another magnetic confinement method for plasma is the stellarator developed in 1951 by Lyman Spitzer.**

Source: Wikipedia.



By the mid-1970s, dozens of tokamaks were in use around the world. By the late 1970s, these machines had reached all of the conditions needed for practical fusion, although not at the same time nor in a single reactor. With the goal of breakeven (a fusion energy gain factor equal to 1) now in sight, a new series of machines were designed that would run on a fusion fuel of deuterium and tritium. These machines, notably the **Joint European Torus (JET)** and **Tokamak Fusion Test Reactor (TFTR)**, had the explicit goal of reaching breakeven.

Instead, these machines demonstrated new problems that limited their performance. Solving these would require a much larger and more expensive machine, beyond the abilities of any one country. After an initial agreement between Ronald Reagan and Mikhail Gorbachev in November 1985, the **International Thermonuclear Experimental Reactor (ITER)** effort emerged.

Scientists use magnetic confinement devices to manipulate plasmas. **The most common fusion reactors of that kind are tokamaks and stellarators.** Currently, these are the most promising concepts for future fusion energy plants.

Both reactor types make use of the fact that charged particles react to magnetic forces. Strong magnets in the reactors keep the ions confined. Electrons are also bound by the reactors' forces and play a role in the surroundings. The magnetic forces constantly spin the particles around their doughnut-shaped reactor chambers to prevent them from escaping the plasma. Same challenge, different solutions.

As stellarator configurations are challenging to build, most fusion experiments today are tokamaks (a short form for a Russian expression that translates as 'toroidal chamber with magnetic coils'). About 60 tokamaks and 10 stellarators are currently operating.

Both reactor types have certain advantages. While **tokamaks are better at keeping plasmas hot, stellarators are better at keeping them stable.** Despite the tokamak's current prevalence, it is still possible that stellarators could one day become the preferred option for a prospective fusion energy plant.

Researchers have made great strides in magnetic confinement fusion and can now achieve plasmas of very high temperatures with ease. They have developed powerful magnets to handle plasmas and novel materials that can withstand the challenging conditions in the reactor vessels. Advances in experimentation, theory, modelling and simulation have led to a deeper understanding of the behavior of plasmas, and devices like ITER will be central to proving the scientific and technical viability of fusion energy production.

Source: International Atomic Energy Agency (IAEA).

ITER – the world's largest nuclear fusion project – reached a construction milestone last week (**August 2020**) as the final components of the reactor arrived on the build site in southeastern France. **The \$25 billion endeavor**, which aims to produce sustainable fusion energy on a commercial scale, is financed by seven of the world's largest energy powerhouses: the European Union, United Kingdom, China, India, Russia, Japan, South Korea and the United States.

With millions of components manufactured from around the world, weighing in at 23,000 tons, and standing several stories high, **ITER may be the most complicated engineering project in human history**. The reactor will contain some 3,000 tons of superconducting magnets which will be linked by 160 miles of superconducting cables, all kept at -269C by the largest cryogenic plant in the world.

ITER is supposed to become the world's first reactor capable of self-burning **plasma** and would ideally generate up to 10 times the amount of heat that it consumes. Large-scale international cooperation on such a complex project is an example of how scientific research knows no geographic borders. This model was and should be adopted in other areas of science, such as space exploration. **Yet, the ITER project appears to be both bulky and expensive** and has inspired many smaller enterprises to develop their versions of fusion generation technology.

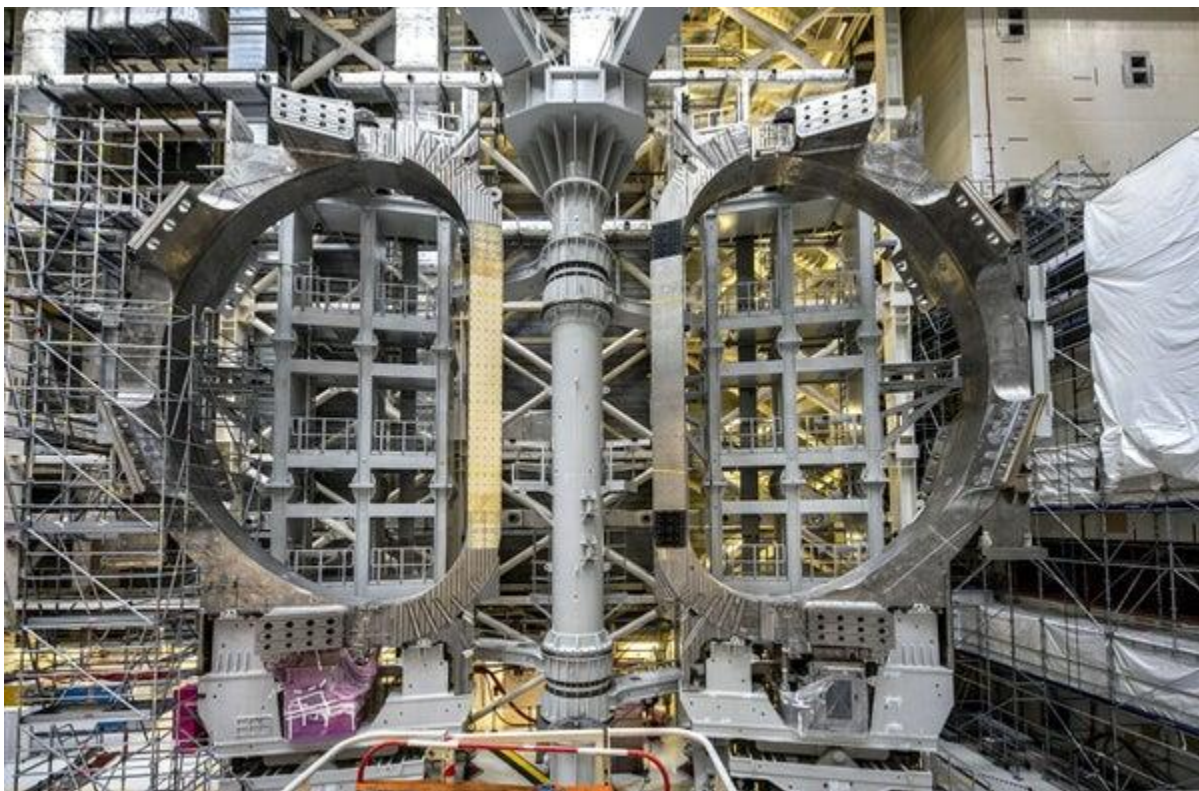
These include **UK-based Tokamak Energy**, which has already raised over \$130 million in investment. Similarly, **California-based Tri Alpha Energy**, which is backed by Microsoft MSFT and Google GOOGL attracted some \$500 million in investment for its unique particle accelerator technology. **Canada's General Fusion** uses a vortex of molten lead and lithium for its plasma containment design which has attracted the support of Amazon AMZN , as well as Britain's First Light Fusion. **America's Lockheed Martin LMT** is in the midst of developing a secretive **compact fusion reactor** no bigger than a truck that it claims will be ready for testing by 2028.

The 2020 start of the assembly stage of this colossal international project, though remarkable, does not mean that the project is yet near the finish line. ITER plans for all the core parts of the reactor to be installed, fully integrated, and ready to produce its first plasma by November 2025 (the 40-year anniversary of Ronald Reagan and Mikhail Gorbachev's historic U.S.-Soviet Geneva summit). If successful, the reactor will draw 50 megawatts (MW) of electricity to ignite the fusion process and produce stable plasma. This plasma

would then put out some 500MW of power (in short bursts), thereby generating a whopping 10x energy return.

Despite numerous delays over the years, ITER is aiming to achieve full plasma generation by 2030. While this may be consistent with a common adage in the power industry: “Fusion power is always just 10 years away,” progress in harnessing fusion is unquestionable, and, if commercial fusion is achieved, the current generation is likely to see a total revolution in energy in their lifetimes.

Source: Forbes Magazine Article by Ariel Cohen, Senior Fellow at the Atlantic Council and the Founding Principal of International Market Analysis, a global risk advisory boutique. August 2020.



Construction of the International Thermonuclear Experimental Reactor (ITER) is underway at a site in southern France. This photograph shows two of the 18 giant superconducting magnets that will help form ITER’s heart, a 23,000-metric-ton tokamak in which plasma will be confined and heated to achieve a net energy gain from thermonuclear fusion. Credit: ©ITER Organization.

Dr. Offenberger indicated that currently 40 companies worldwide have put capital into fusion. The United States has in the last two years has also put seed money into fusion practitioners. He finished his presentation with a list of Fusion Industry Opportunities: High Field Magnetics, High Power Lasers, and Precision Optics.

Ron Trant thanked our speaker for his comprehensive presentation on Fusion Energy. The Gyro audience responded with many questions which reflected the high interest on the topic.

Allen Offenberger was presented with a copy of *Giants of the Northwest The Hunt Family Totem Poles*, authored and signed by our **Doug Armstrong**.

Doug Armstrong was the winner of the **Free Lunch!**

Thanks to **Walter Yakimets**, his son **Stephen** and grandson **Jamie** for organizing this meeting and providing technical assistance with the power point presentation.

Governor Dunc Mills played an introductory tune on the xylophone and **Chuck Gerhart** welcomed 48 Gyros, Gyrettes and guests to the special luncheon meeting held at the **Mill Woods Golf Course Woodvale Clubhouse** on January 26th.

The purpose of the meeting was to honour Marty and Shirley Larson's 60th year in Gyro to the day.

Guests included Marty and Shirley's two daughters, **Marcia**, and **Andrea**. **Past International President Dale** and **Mary Ann Woodroffe**, **Stampede City Gyro Club**. **Sid Slade**, **Past District Governor**, **Sherwood Park Club**. **Ted Ewanchuk**, **Lt. Governor**, **Sherwood Park**. **Don and Cory Greig**, **Past District Governor**, **Sherwood Park**. **Nestor Slipchuk**, **President Sherwood Park**. **Ray Rohr**, guest of **Dunc Mills**.

Georg Schuller led the singing of **Cheerio** and **Larry Dobson** presented the **Grace**.

Governor Dunc spoke about the 60-year timeframe in which Marty and Shirley embraced GYRO friendship. In 1964, I was in Grade 8, the number one hit was *"I want to hold your hand" by the Beatles*, this was way before the internet, but the **atmosphere of friendship hasn't changed**.

Congratulatory emails were read from **Past Governor John Hodgson** and his partner **Laura, Donna Lee Couturier, Secretary Treasurer of the Calgary Gyrettes** and **Jan Bradley (Keith)** who joined the Sherwood Park Club in 1976.

Dunc recently attended the New Years Levee held by the **Regina Gyro Club** and met **Jack McNeil** who sends his congratulations to **Marty**. Jack's son, **Ian McNeil** is President of the Regina Club and also sends his congrats.

Fred Schulte made the following presentation:

The Gyro Club of Edmonton has been blessed with a multitude of energetic and outstanding Members over the last 102 years.

Marty and Shirley are celebrating 60 years of Gyro today! And we are talking about active membership since their introduction to Gyro in 1964 by Wes Van Dusen. Marty and Shirley have attended many dozens of District and International Conventions.

There have been only four Edmonton Gyros who have surpassed Marty's tenure.

- **Stanley Noel Smith** holds the record with 68 years between 1928 and 1996.
- **Dave Duchak** joined the Calgary Gyro Club in 1943 and then moved to Edmonton in 1962 and joined the Edmonton Club accumulating 67 years until his passing at age 97 in 2010.
- **Nelles Buchanan** was a charter member in 1921 and became the first District Governor from the Edmonton Club in 1925. He completed 65 years of Gyro service at the time of his death in 1986.
- **Wes Van Dusen**, Marty's sponsor enjoyed 61 years of Gyro friendship until his passing in 2001.

Marty served as President in 1974-75, District Governor in 1986 and International President in 1993.

Marty has been awarded virtually all the Gyro awards!

- Award of Merit 1989
- Jimmie Hubbell Award for External Expansion in 1992
- Honour Key Award 1994
- Lifetime Achievement Award 2005

Marty has also established a standard that will be hard to beat. Using the records available to us, **Marty has sponsored more than 26 Gyros in our club since 1972.**

Eight of these Gyros are still members!

David Burnett, Larry Dobson, Mike Matei, Cliff Revell, Roger Russell, Barry Walker, Larry Wang, and Walter Yakimets.

Nestor Slipchuk congratulated Marty and Shirley for their lifelong GYRO commitment and read letters from **Cory and Rikke Dootjes, Rita and Jim Malott.** **Nestor** also presented two handmade cups to Marty and Shirley.

David Burnett indicated that behind every great man is a great woman, **Shirley Larson!** She was presented with a bouquet of flowers.

Chuck Gerhart read a letter from **Walter Yakimets**, a long-time friend of Marty. **Marty** was a key player in the establishment of the Gerontology Scholarships at the University of Alberta. He was Co-Chair of the highly successful 1996 International Convention held in Edmonton, and he provided an ongoing constitutional and institutional background for GYRO.

A **Gyro International 60-year Certificate of Appreciation** was presented by 41-year member, **Roger Russell** to the Larson family.



Roger Russell

Marty

Shirley

Andrea

Marcia

Marty provided concluding remarks on his GYRO journey:

We attended our **first District VIII Convention in Trail, B.C.** and were introduced to **Bocce**. This quickly became a convention tradition!

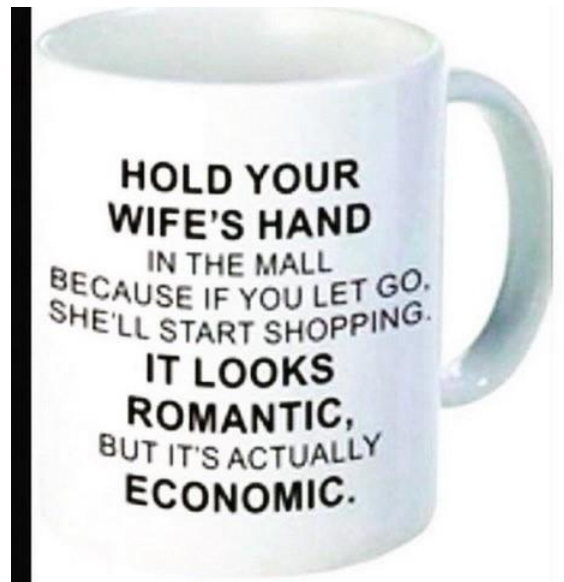
Editor's note: Marty and Shirley continue to be part of the winning teams year after year!

I was honoured to be Co-Chair with **David Burnett** when we hosted the **1996 International Convention in Edmonton**. It was one of the largest conventions ever held with 565 attendees.





Thanks to **Chuck Gerhart** and **Dunc Mills** for organizing this great event!



Chuck Gerhart and Dunc Mills report on the Hockey Pool Winners.

Game 8 January 6 Winners First Period Second Final

Oilers vs Senators

First Period	0 0	Jack Bowen	Sharon Pugsley	Ajay Bhardwaj
Second	1 0	Cathy Johnson	Dunc Mills	Margo Long
Final	3 1	Gary Campbell	Val Pohl	Martin Marshall

Game 9 January 16 Winners First Period Second Final

Oilers vs Maple Leafs

First Period	0 1	Jack Little	Jeff Baird	Jack Bowen
Second	1 2	Karl Ewoniak	Gabriel Lippiatt Long	Cathy Johnson
Final	4 2	Not sold	Ralph Bullis	Gary Campbell

Game 10 January 25 Winners First Period Second Final

Oilers vs Black Hawks

First Period	0 0	Myrna Gerhart	Sheldon Weatherby	Myrna Gerhart
Second	1 0	Sandra Foy	Mikal Mckinnon	Gary Kleebaum
Final	3 0	Janet Douglas	Walter Yakimets	Mia Scornaienchi

Fast Fred

Upcoming Events:

Tuesday Luncheon Meeting, Mill Woods Golf Course, Woodvale Clubhouse, 44 Ave. West of 50 St., past Jackie Parker Park. February 6.

Speaker: Fernanda Dal Pizzol-Gyro Gerontology Scholarship Recipient.

Topic: Research on solutions to support older persons and their family caregivers.

Team Leaders: Fred Schulte/Marty Larson

Valentines Mixed Event, Woodvale Clubhouse, 44 Ave. West of 50 St., past Jackie Parker Park. Wednesday Evening, February 14th.

District VIII Convention, Lacombe, Alberta, June 19-20, 2024