THE GYROLOG

THE GYRO CLUB OF EDMONTON
Club Charter No.15, July 29, 1921

NOVEMBER 2013

Marty Larson celebrated his birthday on November 14th. Those celebrating their wedding anniversaries are **John and Helen Ross, 50** years on the 2nd; **Jack** and **Terrie Ellis,** 47 years on the 19th; **Arv** and **Berni Hardin,** 48 years on the 23rd and **Dick** and **Marilyn Nichols, 50** years on the 23rd.

The Gyro District VIII-2013 CURLARAMA was held in Banff, Alberta, November 1-3. Eighty Gyros and guests played a minimum of three, six ended games on Saturday November 2nd at the new Fenlands Recreation complex. Eighteen teams were in attendance representing Gyro clubs from Regina, Edmonton, Edmonton Crossroads, Sherwood Park, Calgary, Stampede City, Nelson, Cranbrook, Castlegar, Wallace and the Albernis (District IV). The more savvy teams continued their playoffs games on Sunday morning.
The Edmonton Club representatives were **Mike Matei, Chuck Gerhart, Fred Schulte** and **Sam Gruden.**
Thanks to **John Hodgson** and the **Gyro Club of Calgary** for organizing another excellent weekend of hospitality, competition and friendship.

Mike Matei Chuck Gerhart Fred Schulte Sam Gruden

President Sam Gruden welcomed 83 Gyros, Gyrettes and guests to the November 5th luncheon meeting held at the Derrick Golf and Winter Club. **Larry Dobson** led the group in the singing of Cheerio and **Jim Lochhead** presented the Grace.

President Sam introduced our guest speaker **Dr. Knut Woltjen,** a native Edmontonian. Dr. Woltjen obtained his B.Sc. in Molecular Genetics from the University of Alberta in 1988 and a Ph.D. in Biochemistry and Molecular Biology (2006) from the University of Calgary (under the supervision of Dr. Derrick Rancourt). Knut studied DNA recombination in bacteria as a method to construct gene-targeting vectors for custom modification of the mouse genome.

During his Ph.D. studies, Knut took part in an 18 month (2001-2003) Monbusho research exchange at Kyushu University in Fukuoka, Japan under the supervision of Teruhisa Tsuzuki. There, he shared his DNA recombination methods, and in turn learned about learned mouse transgenic techniques and DNA repair pathways.

From 2006, Dr. Woltjen pursued his Post-Doctoral Studies in Medical Genetics at the Samuel Lunenfeld Research Institute, Toronto under the supervision of Dr. Andras Nagy, where he established a novel, non-viral induced pluripotent stem (iPS) cell derivation technique based on the *piggyBac* transposon.

During his last year in Toronto (2009-2010), Knut served as Manager of the Human iPS Cell Facility at the Hospital for Sick Children Research Institute, deriving iPS cells from patients with genetic disease.

Dr. Woltjen moved to Kyoto, Japan in 2010 to join the newly established **Center for iPS Cell Research and Application (CiRA)** at Kyoto University. Knut was a member of CiRA and the Team under the direction of Nobel Laureate Dr. Shinya Yamanaka who was awarded the **Nobel Prize for Medicine in 2012.**

In April 2013, Knut was appointed to Kyoto University's Hakubi Center for Advanced Research as an Associate Professor (hosted by CiRA), and continues research using human iPS cells to study the role of natural genetic variation in development and disease.

Dr.Woltjen began his presentation by describing the basic role of genetics and DNA. DNA provides the blueprint of life and consists of a helical chain of chemically encoded data (genes). Cells are the basic structural and functional units of the human body and there are many types of cells; muscle, nerve, blood and so on. The DNA is in the centre of the cell and there are three trillion cells in the human body. Mutation in genes can cause evolution or disease.

Modern medicine has embraced the use of drugs, surgery(repair), implants and artificial limbs (not really part of the body) and organ transplants. There has been a revolution in human health with the discovery of the role of stem cells. The **Fathers of Stem Cell Science** are **James Till** and **Ernest McCullough** (both Canadians). They demonstrated the existence of multipotent stem cells while studying

the effect of radiation on the bone marrow of mice at the Ontario Cancer Institute in 1961.

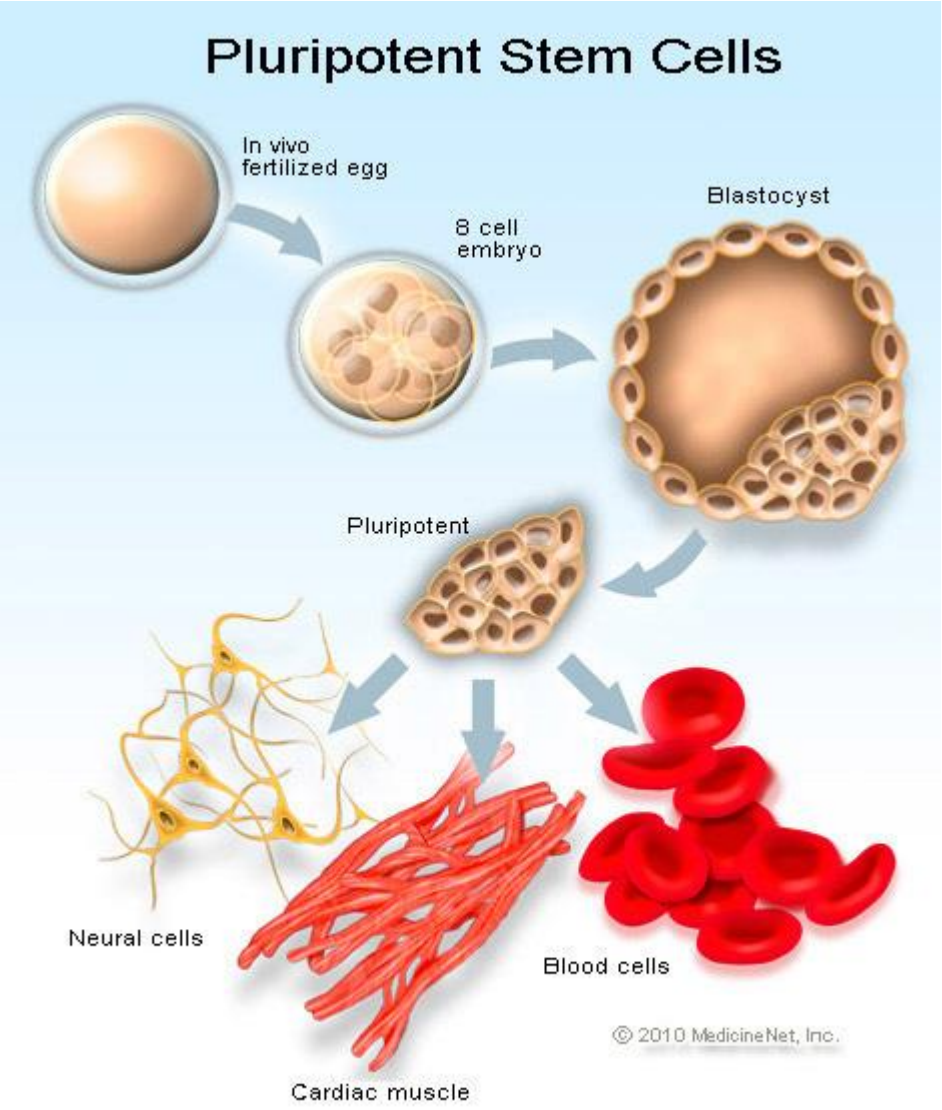
Stem cells are primal cells found in all multi-cellular organisms. They retain the ability to renew themselves through mitotic cell division and can differentiate into a diverse range of specialized cell types. The three broad categories of stem cells are: **embryonic stem cells**, derived from blastocysts; **adult stem cells**, which are found in adult tissues and **cord blood stem cells**, which are found in the umbilical cord. In a developing embryo, stem cells can differentiate into all of the specialized embryonic tissues.

In adult organisms, stem cells and progenitor cells act as a repair system for the body, replenishing specialized cells. As stem cells can be grown and transformed into specialized cells with characteristics consistent with cells of various tissues such as muscles or nerves through cell culture, their use in medical therapies has been proposed.

Embryonic Stem Cells (ESC's) are pluripotent(not fixed as to potential development) stem cells derived from an early-stage embryo. Generating ESC's results in destruction of a fertilized egg which raises ethical issues.

The Nobel Prize in Physiology or Medicine 2012 was jointly awarded to **John B. Gurdon** and **Shinya Yamanaka** **for the discovery that mature cells can be reprogrammed to become pluripotent.**

John B. Gurdon of England discovered in 1962 that the specialization of cells is reversible. In a classic experiment, he replaced the immature cell nucleus in an egg cell of a frog with the nucleus from a mature intestinal cell. This modified egg cell developed into a normal tadpole. The DNA of the mature cell still had all the information needed to develop all cells in the frog.



Shinya Yamanaka discovered more than 40 years later, in 2006, how intact mature cells in mice could be reprogrammed to become immature stem cells. Surprisingly, by introducing only a few genes, he could reprogram mature cells to become pluripotent stem cells.

Induced pluripotent stem cells (iPSC's) can be generated from somatic cells such as skin cells through the introduction of genes, proteins, or chemical compounds and are able to give rise to cells of any type in the body and proliferate indefinitely in culture.

In 2010, the **Center for iPS Cell Research and Application (CiRA)** was established at the Kyoto University in Japan. Dr. Yamanaka's goals for the first 10 years were:

1. Establish basic iPS cell technology and secure the associated intellectual property rights.
2. Build a stock of iPS cells for use in regenerative medicine.
3. Carry out preclinical studies and work toward clinical studies.
4. Contribute to the development of therapeutic drugs using patient-derived iPS cells.

CiRA has four research departments: Reprogramming Science, Cell Growth and Differentiation, Clinical Application and Fundamental Cell Technology.

Knut Woltjen is an Assistant Professor and Principle Investigator at CiRA in the Department of Reprogramming Science. His research mission is:

- Human genome engineering to understand how aberrant gene regulation leads to disease
- iPS cell analysis to reveal the effects of reprogramming factor expression on cell fate decisions

Knut spoke of the potential iPS cell applications to address ALS (Lou Gehrig's Disease), cellular therapies for Parkinson's and eye diseases, treatment for blood shortages and diseases and the generation of complex tissues such as the gut. Making tissues will be extremely difficult!

In conclusion Dr. Woltjen indicated that basic science enables advances in human health, iPS cells will allow the development of personal stem cells and perfect genetic matches and gene correction.

For more information on stem cell research see **Stem Cell Network** **www.stemcellnetwork.ca** or **Center for iPS Cell Research and Application (CiRA)** **www.cira.kyoto-u.ac.jp**

Dick Moskalyk thanked our speaker for a very encouraging presentation that will help us all.
The winner of the free lunch draw was **Jack Brown.**
Thanks to **Sam Gruden, Dick Moskalyk** and **Jim Lochhead** for organizing this very important presentation.

President Sam Gruden welcomed 34 Gyros and our guest speaker to the November 19th luncheon meeting held at the Royal Mayfair Golf Club. **Larry Dobson** led the group in the singing of Cheerio and **David Burnett** presented the Grace.

Gary Campbell introduced our speaker, **Amelia Kaminski,** a professional musician and instructor for over 35 years. She has toured extensively with various groups across Canada, the U.S.A. and Europe. Amelia was the founder and director of The Celtic Fiddlers of Edmonton for 10 years, an assemble taught entirely by ear. Her recording **Bonnie Lasses**, was inducted into the Whighton Heritage Library in Dundee, Scotland. As well, Amelia has represented Canada at both Expo 86 in Vancouver and Expo 92 in Seville, Spain.

Amelia started her presentation by playing a tune on her violin/fiddle. Traditional fiddle music was designed to move people on the dance floor. You can't help tapping your feet or clapping your hands when fiddle music is played. All of her siblings learned to play the violin at an early age. Amelia protested to her mother at age seven that she didn't want to play the violin and her mother responded by giving her piano lessons as well. Amelia studied classical music at the University of Alberta and at age 19 she was advised that the best fiddlers were in Halifax, Nova Scotia. She was awarded a six week bursary to study fiddle music at St. Anne's University and the rest is history.

The violin and fiddle are the same instrument; what is played on the instrument makes the difference. Fiddle music represents our "humanity" and it has been used for centuries for weddings, funerals and going to war. For 300 years, the fiddle was the only instrument in a band. Amelia has modified the bridge on her violin and added a power pickup to allow her to play fiddle music with groups and orchestra's.

She then played **MacPherson's Lament** which was written in the 1700's to commemorate a highwayman named MacPherson who was also a fiddler. MacPherson was sentenced to death and at the gallows' he heard the local villagers arguing about who would get his fiddle. He destroyed his fiddle at the gallows and vowed that "no one else is going to play my fiddle".

St. Anne's Reel was played differently depending on the climate in Scotland and even the century it was played in. Scottish fiddle tunes were "cleaned up" when the English took control. The words were changed to meet English standards. Bagpipes and fiddles were burned with the Clearances of Scotland. The MacCrimmon Clan hid in caves and continued to sing their fiddle music to preserve their culture. Many other Scot's emigrated to our Maritimes and continued to advance their fiddle music heritage.

Amelia spoke about her passion for playing fiddle music by ear. It is a way to wake up parts of ourselves that have become numb or dormant. She also spoke about quantum physics and how we understand the workings of the universe. The implications of light and sound can have profound effects on our lives. We are all musical beings and every note counts. We need the sound of music to heal and to create. Her presentation ended with a rousing French-Canadian foot-tapping tune.

Gary Campbell thanked Amelia for her phenomenal presentation. The Free Lunch draw was won by **Andy Friderichsen.**

Dick Nichols reports on the results of the **Hockey Pool**.

Game 1 October 24			Winners First Period	Second Period	Final
Oilers vs. Capitals					
First	**0**	**1**	Mike Palichuk	Tess Keddie	**Marty Larson**
Second	**0**	**2**	**Bill Taylor**	**Bill Taylor**	**Cliff Revell**
Final	**1**	**4**	Gyro	**Carol Dobson**	Gyro

Game 2 November 2			Winners First Period	Second Period	Final
Oilers vs. Red Wings					
First	**0**	**2**	**Walter Yakimets**	**Walter Yakimets**	**Walter Yakimets**
Second	**0**	**3**	**Robert McLeod**	**Cliff French**	**Barbara Walker**
Final	**0**	**5**	Bill MacLean	**Eric Spink**	Gyro

Game 3 November 15			Winners First Period	Second Period	Final
Oilers vs. Sharks					
First	**0**	**2**	Cole Keddie	Michael Jacobson	Michael Jacobson
Second	**1**	**3**	Sandra Foy	Austin Power	Austin Power
Final	**1**	**3**	Gyro	Gyro	Gyro

UPCOMING EVENTS

Gyro/Gyrette Christmas Party, Riverview Room, Shaw Conference Centre, Tuesday Evening, December 3rd
Champagne and socializing: 6:00 pm
Carved Roast Turkey Dinner: 6:30
Cost: $78 with wine $68 without
Guests welcome!
Contacts: Fred Schulte and Sam Gruden

GYRETTE Meeting, Royal Mayfair Golf Club, December 10th
Time: 6:00 pm Cocktails, Dinner 6:30, Cost $28
Speaker: Jane Ross, author of the centennial publication, "Government House: A Vice-Regal Residence".
Topic: Alberta's Government House, celebrating its 100th Anniversary and its designation as a National Historic Site.

Designated Charity: The program Committee has selected **E4C** as the designated charity for voluntary contributions from Gyrette members. The mission of E4C is to limit, alleviate and ultimately eliminate poverty. The School Lunch Program which runs in 10 schools (Public and Private) is responsible for feeding 2,200 children from kindergarten to Grade 6. A contribution of $4 provides one meal, $100 provides 25 meals. All contributions are tax deductible. Cheques should be made out to E4C School Lunch Program.
Contact: Jo-Anne Lubin.

Regular Tuesday Luncheon Meeting, Royal Mayfair Golf Club, December 17th
Speaker; Doug Kelly
Topic: 30 year history of Land Development in the Edmonton Region.
Contacts: Hugh Moncrieff and Cliff Revell

Regular Tuesday Luncheon Meeting, Royal Mayfair Golf Club, January 7th
Speaker: Bruce Hogle
Topic: 50 years of broadcasting history.
Contacts: Jack Little and Tracy DesLaurier

GYRETTE Meeting, Royal Mayfair Golf Club, January 14th
Time: 6:00 pm Cocktails, Dinner 6:30
Speaker: Dr. Margaret-Ann Armour, Associate Dean of Science, U. of A
Topic: "Women in Science, how far have we come?"
Contact: Elaine Douglas

Regular Tuesday Luncheon Meeting, Royal Mayfair Golf Club, January 21st
Speaker: Patrick LaForge, President and Chief Operating Officer, Edmonton Oilers.
Contacts: Allan Warrack and Roy Bennett

GYRO International Interim Meeting, Double Tree Inn, Tempe, Arizona, January 26-30, 2014

GYRO International and District VIII Convention, Wallace, Idaho, June 15-22, 2014