Hillel Academy High School For Boys

The Hillel Herald

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ISEF: An Enlightening Experience

By Michael Sohnen

Courtesy of bergen.org

This past Thursday, the Hillel Academy's Middle and High Schools were privileged to send 18 students to Intel's International Science and Engineering Fair (ISEF), an annual science and engineering exhibition for pre-college students. The ISEF program was facilitated by the Society for Science and the Public and sponsored by Intel. This year the event took place in Pittsburgh at the David L. Lawrence Convention Center, from May 10th to May 15th.

When we arrived, a tour guide met us at the door and quickly led us into the main amphitheater. We watched a brief video introduction, and then headed for one of two major showrooms. In the first showroom, we saw a variety of interesting presentations. We met twin boys who were using artificial intelligence to match artificial RNA with natural RNA for use in diagnosing and treating liver cancer. We also met a Hebrew-fluent Jewish contestant who modified a 3D printer to print artificial spinal discs that mimicked the tree-ring spiral pattern present in natural spinal discs. (He accomplished this by moving the Y-axis of the printer and configuring it to print on a cylindrical surface instead of a flat surface.) The sheer vastness of exhibits made it hard to cover

SOCIETY FOR SCIENCE & THE PUBLIC
Inform. Educate. Inspire.

Courtesy of guidestar.org

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Dvar Torah: Parshas Bamidbar

By Moshe Wasserman

The first instruction given to Moshe in Sefer BaMidbar is to count Bnei Yisrael. This is not the first time they were counted— in Parshas Ki Sisa, Moshe was told to do the same. There is, however, one major difference between how the counting was to be carried out in this Parsha and the previous one- this new counting was to take place in the presence of the representatives of the tribes. Hashem tells Moshe that among those taking the census there should be: אִישׁ אִישׁ לַמַּטֶּה "…one man from each tribe…" (Num. 1:4). Why was it necessary for there to be representatives in this situation, as opposed to the one in Ki Sisa, in which there were none?

The Malbim, a 19th-Century commentator on Tanach, deals with this question. He says the answer lies in the purpose of the census in this week's parsha. There, the exact number of members of each tribe had to be known. When the Jews were to enter into the Promised Land, the region was supposed to be divided between the tribes according to each one's population size. This count of the people was to determine how large a portion of the land was to be given to each tribe. Hence, it was necessary that there be delegates representing the tribes in order to prevent any grievances later regarding the accuracy of the division.

Nowadays, amidst frequent political turmoil, it is vital in every circumstance to bring about complete understanding and accuracy within international disputes. Every party must know the specific details so that order can be maintained.

The same goes for families. Often times, issues within families can be averted simply by following in the footsteps of our ancestors.

Have a Good Shabbos!

The Hillel Herald

- *Stay informed of changes in the High School*
- *Learn new Torah insights*
- *Important current events from a new perspective*

Candle Lighting Time for Friday, May 22nd/4 Sivan: 8:18 P.M.

Weather for the weekend:

Shabbat Kodesh, May 23/5 Sivan: 74° F, Sunny

Sunday, May 24/6 Sivan: 81° F, Partly Cloudy

Inside this issue:

INTERVIEW

An Interview With Mr. Mordechai Massart

By Daniel Nimchinsky

This week, I was privileged to interview Mr. Mordechai Massart. Mr. Massart is currently the Jewish History teacher in the Hillel Boys High School.

Where did you and your family live before you came to Pittsburgh?

From 2009 to 2014, we lived in Boise, ID, and from 2003 to 2009, we lived in Portland OR.

How are you enjoying Pittsburgh so far? How about Hillel Academy?

We love everything about Pittsburgh, but more importantly, the greater Jewish community has been for us a pure joy and a lot of fun for the kids. Our children (Noah, Elyara, and Chayim) never lived in a Jewish community of this size; they love it!

Do you have any hidden talents that you'd like to share?

During college and prior to moving to the United States in 2003, I taught Karate (Shotokan).

If you could travel to anywhere in the world, where would you go?

To Israel, of course. From 1994 to 1996, I volunteered in a kibbutz and worked first in the banana fields and then moved up the social ladder :) to clean the main dining room and, eventually, worked in the main office.

Would you ever have imagined yourself as a teacher when you were a child?

Not really. I loved French literature and history (no kidding) but hated math and chemistry which pretty much ruined school for me. I wish I could convince young kids like me that school really can be fun and exciting.

Cats or dogs?

Cats!!! We tried a dog for 24 hours once, but it did not go so well. We have a great cat named 'The Marquis de Lafayette' (as you may recall from your history class, one of the greatest French supporters of the early Republic) and he has been with us for the past 4 years.

Very cool. Have you managed to pick up on any of the BHS lingo yet?

No, not really.

Don't worry, most of us have not, either. Do you have any embarrassing stories that you'd like to share?

Ask me sometime about the 24 hours of having a dog :)

What is your favorite piece of Hillel gear?

I am still waiting for the Hillel "Father of the Year" sweatshirt from my children…

Would you rather fight 1 horse-sized duck or 100 duck-sized horses?

I fought 100 duck-sized horses once in Idaho at a rodeo, it was really scary, so maybe this time I would take on one horse-sized duck.

Sounds like an embarrassing story to me. If you could make any new club for Hillel Academy what would it be?

A Jewish history/Israel advocacy group. The goal would be to have a good overview of Jewish history with a focus on Israel through its history, politics, religion, and language.

Thank you very much for your time!

BUSINESS

VW Great Opposes Board, Quits

By Jacob Wiesenfeld

Courtesy of wikipedia.org

Ferdinand Piëch: Grandson of automotive Great Ferdinand Porsche, savior of Volkswagen Group, and, now, former Chairman of the German auto giant's Board of Management. Piëch recently removed himself from his position following a "boardroom battle" regarding Chief Executive Martin Winterkorn, said the media.

Mr. Piëch became Chairman of Volkswagen AG, parent company of Volkswagen Group, in 1993. He set the tone for the economically struggling auto maker, keeping the company away from their imminent bankruptcy while vehemently pushing it into world view. During his nine-year tenure, Piëch acquired luxury marques Lamborghini and Bentley, and successfully established Bugatti Automobiles SAS— moves that pushed VW & Audi into the same spotlight as Ferrari S.p.A.

Piëch is widely regarded as one of the greatest automotive personas of all time.

Martin Winterkorn, the current Chief Executive of Volkswagen AG, had been on good terms with VW all-powerful Piëch until just recently. In a recent issue of the German magazine Der Spiegel, Piëch told reporters that "[He was] at a distance to Winterkorn." This unanticipated remark from Piëch proved to be the final cracking point in Piëch's long-standing career with Audi/Volkswagen. However, VW's Supervisory Board fully supported Winterkorn, saying he is "the best possible CEO for VW," and even extended his contract. Piëch's extension, on the other hand, was not approved. It was clear the board had no intention of him staying.

"Mr. Piëch's departure represents a seismic shift in Volkswagen's power structure, and could foretell drastic changes in how one of the world's largest automakers operates," said Karl Brauer of automotive research group

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OPINION

Iran Nuclear Deal: Thumbs Up or Thumbs Down?

By Philip Stein

The US and five other countries—also known as the P5+1—have recently been negotiating with Iran regarding the country's nuclear program. The reason for these negotiations is that the P5+1 is worried about Iran having nuclear capabilities, due to its history with terrorism. These countries have created a framework in which to work, with the expectation that a final agreement will be in place by June 30th. It is important to note that according to the framework document, there is no deal until all of the outstanding terms have been agreed upon.

According to the framework of the deal, Iran would significantly reduce the number of centrifuges it uses to enrich uranium and will not create any new nuclear facilities. Existing centrifuges in excess of the agreed number will be put in storage to be used only for replacement parts and will be monitored by the International Atomic Energy Agency (IAEA). The reason for this is that the P5+1 is attempting to prevent Iran from obtaining the ability to produce nuclear bombs with the capabilities of reaching the US and Europe.

As part of the agreement, Iran would also convert their Fordow nuclear facility into a peaceful institution, such as a research center. The Fordow nuclear facility caused controversy because Iran didn't reveal they had built the facility until it was almost completed. This was in violation of a previous agreement they had made with the IAEA which required advance notice of such construction. The Fordow nuclear facility was a big deal because Iran had not yet announced it when US intelligence found it and discovered that Iran planned to have 3000 centrifuges there.

In addition to converting Fordow, Iran will agree to use only the Natanz facility for enrichment of uranium over the next 10 years. Moreover, UN inspectors will be able to see all of the uranium mines and centrifuges belonging to Iran.

If Iran complies with the terms of the agreement, certain sanctions will be lifted. Most of those sanctions programs will retain their existing architecture so that if at any time Iran falls out of compliance the sanctions can be snapped back into place. A dispute resolution process will be created which permits any party to the agreement to raise an issue independently. This process is important to the US, in the event that we believe compliance has been jeopardized but we are unable to get any of the other world powers to join in our concern. Finally, it is important to note that current sanctions against Iran regarding matters such as terrorism, human rights abuses and ballistic missiles will continue to be enforced under the new agreement.

One interesting turn of events is the US Congress' desire to have a say in the nuclear deal before President Obama executes the agreement. In a vote of 98-1, a bipartisan Senate approved a measure that would give Congress the power to approve or reject the deal, giving Congress 30 days to review the deal before the President can act. If Congress rejects the deal, the President can veto it, and thus Congress would need to have a ⅔ majority in order to override the veto.

In my opinion, the Iran nuclear deal is favorable because it prevents Iran from making nuclear weapons. Also, sanctions due to human rights abuses would still be in place. On the other hand, if Iran made a nuclear facility and the UN did not become aware of it, they might be able to create nuclear weapons during the time of the deal.

In addition, it is not clear that Iran will feel compelled to comply with the agreement. Already, their negotiators are saying that there can be no deal without the lifting of all sanctions, which the P5+1 has already said is not part of the deal. Another problem is that this deal will probably only delay Iran from getting nuclear weapons for 10-15 years, rather than stopping them from getting nuclear weapons at all. Until it shows a dramatic decrease in terrorism, preventing Iran from amassing nuclear weapons should be the main goal of the P5+1.

However, without any deal, it is not clear what the long term ramifications might be. Iran may pursue development of uranium and have nuclear capability in a matter of months. The US and Israel might be drawn into military action. Therefore, the deal seems to be the best option at the current time.

Courtesy of eaglerising.com

P5+1

Courtesy of rt.com

SPORTS

A New Age For The Steelers

By Avigdor Felder

Three players on the Pittsburgh Steelers recently retired after being key pieces in the team's two recent super bowl squads. All three players spent their entire career with the Steelers and will never be forgotten.

Cornerback Ike Taylor and safety Troy Polamalu entered the league out of the 2003 draft as 4th and 1st round picks, respectively. Twelve years later, after illustrious careers, they retired just as the Steelers are going in a new direction with their defense.

Troy Polamalu and Brett Keisel

Courtesy of steelersdepot.com

Another significant player that left is Brett Keisel. In 2002, Keisel was drafted in the 7th round. The player, known as "the Beard," started as a little used player but worked his way into the starting lineup as the right defensive end. His 2008 contract ran out in 2014, but he returned to the Steelers, what with their lack of depth in their defensive line. Keisel was released on March 9, 2015 and is not expected to return to football.

I believe that it is time for the Steelers franchise to move on into a new era and that it was a good move to let go of the veterans. This is after two straight years of a lack of defensive prowess in a team notorious for its defense.

Amidst the leave of so many crucial players, another Steelers great departed as well. Former Defensive Coordinator Dick Lebeau, after 21 years with the Steelers, was replaced by former Steelers linebacker coach Keith Butler. Lebeau was "arguably the best ever to coach defense," said ESPN analyst Ron Jaworski. According to various sources, Butler had been carefully groomed to take over the position over the course of several years.

In recent years, the Steelers' defense has been plagued with slowness and the inability to adapt to the speed of the modern NFL offense. They addressed these problems by getting rid of the declining veterans and bringing in young defensive playmakers. In particular, they have tried to add speed and athleticism to the by drafting two linebackers with their last two first round picks the past two years: Ohio State inside linebacker Ryan Shazier, and Kentucky outside linebacker Alvin Dupree. Both players are raw coming into the NFL, but are gifted with outstanding athleticism and speed; both linebackers can cover receivers, as well as rush the passer. I applaud the Steelers for embracing change in the defense, especially when it is so hard to let go of the greats with whom we have become so comfortable. As a result, I believe that this young squad will grow into a solid, well-oiled defense to match our new-and-improved explosive offense.

My predictions for this year?

Despite their dearth of game-tested players, I would not put it past the Steelers to come out on top in their conference.

Science Fair Enlightening Experience

Science Fair, from page 1

everything, but the presentations spanned various fields including biomedical science, chemistry, engineering, pure mathematics, physical science, astronomy, robotics, and much more.

Following the eye-opening experience of the first showroom, we transitioned to the second showroom with high expectations. I was not disappointed. I saw many more great projects, including a study on tesla coil circuit mathematics (reducing complex material dynamics into a simple ratio), a landing gear for planes made from superconducting quantum-lock systems, and a lab-grade-high-speed supercomputer made from a conventional laptop that could simulate galaxy collisions. The amount of work put into these projects was unfathomable, and the fact that they were done by pre-college students was amazing.

After visiting both showrooms, we participated in an activity. It was nice to be an active participant after spending so much time as an onlooker. We learned about invasive species, and did a mock experiment to see whether Lake Erie or the Pymatuning Reservoir needed more funding to eliminate the invasive species–specifically zebra and quagga mussels–and restore the balance to their water. We did experiments on biodiversity, plankton life, turbidity (particulate density), ph, and more. This activity was beneficial because it allowed the Hillel students to participate alongside students that did not share our culture, a unique opportunity.

The experience at ISEF was once-in-a-lifetime. Between interacting with brilliant students regarding high-level material and participating in a fascinating lab, I am sure that Hillel students were inspired to delve into science. I hope the trip was indicative of a growing trend in community participation in similar activities.

Fun Zone

A Classic Joke

By Jacob Wiesenfeld

Jack strode into John's stable looking to buy a horse.

"Listen here" said John, "I've got just the horse your looking for. The only thing is, he was trained by an interesting fellow. He doesn't go and stop the usual way. The way to get him to stop is to scream 'heyhey!' The way to get him to go is to scream 'Thank G-d!'"

Jim nodded his head. "Fine with me, can I take him for a test run?"

Jim was having the time of his life. *This horse sure can run* he thought to himself. Jim was speeding down the dirt road when he suddenly saw a cliff up ahead. "Stop!" he screamed, but the horse kept on going. No matter how much he tried he could not remember the words to get it to stop. It was 5 feet from the cliff when Jim suddenly remembered. "Heyhey!" Jim screamed. The horse skidded to a halt just 1 inch from the cliff. Jim could not believe his good fortune! He looked up to the sky, raised his hands in the air, breathed a deep sigh of relief and said with conviction "Thank G-d!"

Quotes

1. "I have six locks on my door all in a row. When I go out, I lock every other one. I figure no matter how long somebody stands there picking the locks, they are always locking three." -Elayne Boosler
2. "The scientific theory I like best is that the rings of Saturn are composed entirely of lost airline luggage." -Mark Russell
3. "Knowledge is knowing a tomato is a fruit; wisdom is not putting it in a fruit salad." -Miles Kington
4. "How is it that one careless match can start a forest fire, but it takes a whole box to start a campfire?" -Anonymous
5. "A mind is like a parachute— it doesn't work if it is not open." -Frank Zappa

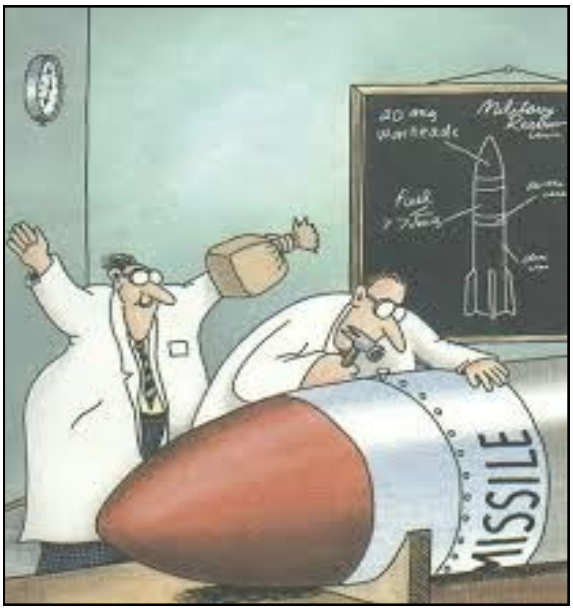
Ha-Ha Jokes

Q: How did the man become Thor?
A: He forgot to thtretch.

Did you hear about the paddle sale at the boat store?
It was quite an oar deal.

Q: What did the llama say when he got kicked off the farm?
A: Alpaca my bags.

Comic Corner



The Far Side— by Gary Larson Courtesy of mylespaul.com

INTEREST

Have Loom, Will Travel

Forgotten Inventions That changed the World

By Michael Sohnen

Since the dawn of man, people have been inventing in order to make life easier and/or better. They have gone from the simplest of lifestyles into an age of information, complexity, and creativity.

The Drip Coffee Pot

Coffee, a staple beverage in many cultures, has been brewed in many forms since ancient times, but it was France in 1710 that was responsible for the first type of infusion of coffee. Infusion means letting the coffee grounds' flavor seep into the hot water. They used a method similar to tea bags, placing coffee grounds in a mesh into a cup of hot water, so that it could be removed once the coffee was done infusing. Soon after, in 1780, the first drip coffee machine was invented. Dubbed the "biggin," it was similar to the coffee machines we use today, but the hot water had to be situated above the grounds so that gravity could make it drip down. This became very popular because people felt that the coffee tasted better when the hot water dripped gradually through the grounds instead of boiling the grounds all at once. The line of innovation deviated from the biggin and produced the percolator. The percolator worked by boiling water at the bottom letting it rise to the top and drip through the grounds. At the time, it was thought that it was a big improvement on the original drip system, but it lost popularity over time due to its nature of overheating the water and burning the coffee. Finally, in the early 20th century, the percolator was substituted for the electric drip coffee maker, also known as the dripolator. Although this technology existed in industrial brewers found in restaurants, it didn't reach homes until many years after it was invented. The main difference between the percolator and the dripolator is that the dripolator uses a one-way valve to manage the rise of the hot water upward, so that less extreme and more controlled temperatures could be used to raise the water the same distance. This form of coffee maker is widespread nowadays, and you can probably find one in your home or office.

The Punch Card Loom

The loom has been in use since the start of the industrial revolution. It uses a rack to space vertical threads evenly and then a warp to produce horizontal threads. At first this weaving would be done by hand, but it was in the late 19th century through the mid 20th century that the weaving process became automated. An innovative inventor, by the name of Joseph Marie Jacquard, incorporated the system of punch cards into the textile industry. Punch cards at the time were a popular means of storing data and patterns, but it was Jacquard who was the first to make a machine that could use them. His machine read the cards, and was able to render the pattern by hiding the warp thread behind the vertical threads when it did not appear in the pattern. As part of his legacy, Jacquard wrote a set of punch cards that weaved his portrait into a piece of cloth. Nowadays, his models have been improved upon by the use of computers, but he is still known today as one of the world's first programmers.

The Transistor

From the late 1700s through today we are still making advances in electronic technology. The study of electronics began with the chemical battery. Next, scientists discovered the relationship between electricity and magnetism. Inventors could now make simple circuits for uses including power lighting systems and motors for mechanical machines. However, it was the transistor that turned electronics from simple machines to logical computing circuits. The first transistor was invented by John Bardeen, Walter Brattain, and William Shockley. They discovered that when you connected diodes in opposite directions, a small current signal can control a larger circuit with the more powerful power source. The result is signal amplification using a separate power source. This was first used in transistor radios, which would need to amplify the weak radio signal so that the speaker could deliver sound. It was not long until this model was improved upon by condensing the drains of the two diodes into one and by using modern technology to shrink the size of a transistor. Some modern transistors have ditched the diode and use a variable channel that opens when it receives a separate positive voltage. These transistors can be combined to form latches, which can retain their state of "on" or "off" as long as there is still power being fed to it as a whole.

Some ideas are revolutionary, and others are just mundane, but one thing is clear: humans will never cease to invent.

Transistor Courtesy of zmescience.com

This Week's Hillel Herald is brought to you by:

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And be sure to check out the Herald Archive on Hillel Academy's website under the "Boy's High School" tab.

Questions, comments, feedback, contributions, suggestions, and letters to the editor are also welcomed and appreciated. Email us or contact Jacob Wiesenfeld.

VW Chair Quits Amid Boardroom Scuffle

VW, from page 2

Kelley Blue Book. In a desperate attempt to maintain dignity, Piëch asked Porsche CEO Matthias Müller to prepare for the job of VW Chief. Müller was not accepted with open arms.

The second board meeting at VW was aimed to appease both sides of the conflict; instead, it did just the opposite. The committee expressed their interests in Winterkorn as the Chief, causing Piëch to quit his position angrily.

To say that Piëch got the short end of the stick on the deal would be an understatement -- the ordeal was a win for Wolfgang Porsche, head of Porsche AG, who had botched a takeover of VW in 2009. Piëch benefitted greatly from the takeover, and the recent Piëch-Winterkorn struggle was Porsche's revenge.

Over the past few years, Volkswagen has established itself as one of the largest and most reliable car brands. However, the recent incidents will surely bring about major reforms likely to cause significant ripple effects in the car industry as we know it.

PITTSBURGH AIR IMPROVING

By Akiva Skaist

It is no secret that Pittsburgh used to be one of the most polluted cities in the world, mostly thanks to its large factories and steel mills. It would also seem to be common knowledge that Pittsburgh has fixed these pollution problems since then.

However, recent studies by the American Lung Association have said that the Pittsburgh air quality ranks in the bottom 25 out of 240 areas throughout the U.S. In addition, Pittsburgh has over 12 days per year with unhealthful ozone levels, a number more than four times higher than its neighboring counties. Said Philip Johnson, the director of the Heinz Endowments' Breathe Project-- a major air pollution monitor--, "…[Pittsburgh] has the highest levels of black carbon in the most intimate areas of human experience…." The black carbon mentioned is a key contributor to many recorded health problems.

All this begs one question: how polluted is Pittsburgh?

According to the Pittsburgh Post-Gazette, the 'City of Bridges' is the most polluted city east of California. The tests performed on cities were based on levels of PM2.5-- a major component of harmful pollution.

Despite disappointing results, the Heinz Endowments' Breathe Project is still "encouraging people to go outside, to recreate, play and enjoy parks."

Last year, the U.S. Environmental Protection Agency proposed stronger health-based controls for smog that it says would cost power plants and industry up to $15 billion a year, but save more than twice that in health care costs. This costly move is sure to pay dividends later on in the form of clean air-- and health.