

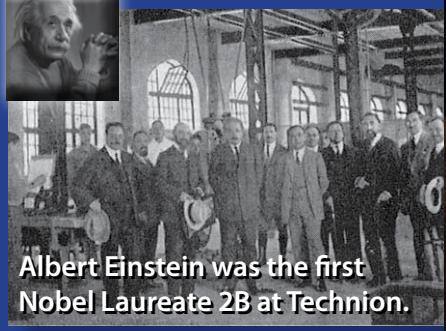


# TECHNIONEWS

Newsletter of the Canadian Technion Society  
Spring 2012

## Technion is The Past, The Present, And The Future of Israel

1912-2012  
Then → Now



Albert Einstein was the first Nobel Laureate 2B at Technion.



His support meant that in 2012, Technion is the proud home to 3 Nobel Prize winners



## Message from the National President Eddie Pal

*"The past is in the present, but the future is in our hands."*

Dr. Elie Wiesel



## Message from the National Chair Doreen Green

*"If you will it, it is no fairy tale."*

Theodore Herzl

**H**ow many times have we heard that we should be planning for tomorrow? Well at the Canadian Technion Society, we are building the future of CTS by preparing ourselves and our organization for the future.

**Generation NEXT is our plan for the future.** The initiative began in Toronto in late 2010 when the first Generation NEXT meeting was held. In March 2011, a very successful event "As Good as Gold" featuring Seymour Schulich was held in Toronto. In May 2011, Heenan Blaikie Montreal hosted a Generation NEXT luncheon. The Montreal Gala, in November 2011, honoured Stephan Ouaknine, a young successful start-up entrepreneur. The inaugural "annual" Generation NEXT Mission to Israel also took place at the end of November. In January 2012 Generation NEXT Toronto hosted Prof. Emeritus Shlomo Maital. **We are building the future of CTS!**

Both Toronto and Montreal now have a strong core group who are meeting regularly to plan and consider ways to heighten awareness of the Technion and the role its research plays in our lives.

It is my firm belief, that these participants in Generation NEXT will be reaching out to their colleagues and peers in all communities, social and professional. This outreach program will then grow and blossom into a Society that will continue to build upon the foundation established here almost 70 years ago.

I am looking forward to attending the June Board of Governors' meeting in Haifa as the President of the Canadian Technion Society. It will be an opportunity to personally congratulate the 2011 Nobel Prize Winner in Chemistry, Prof. Dan Shechtman and to celebrate the Cornerstone Centennial with the many Technion supporters from around the world.

**I**t might seem strange that I have chosen a message about the past when Eddie has chosen one about the future. But it is not strange at all. It is the past that has given us the opportunity to dream about the future.

On April 11, 1912, a group of about 20 people gathered on the slope of the Carmel Mountain in Haifa and laid the cornerstone of the first building that later became the Technion. This year marks the culmination of all of Technion's achievements in the first one hundred years.

A dream and the vision of a group of scientists, long before the establishment of the State of Israel, has become the foundation for educating three generations of men and women who have played a key role in building the country's infrastructure and establishing its crucial defence and high-tech industries.

Technion graduates currently head nearly half of the 121 Israeli companies on NASDAQ, which have a combined market value of over \$28 billion. More than 70 percent of the Technion graduates are employed in the high tech sector that drive Israel's economic growth. Israeli companies headed by the Technion graduates currently employ 85 percent of Israel's technical workforce.

This June we will be celebrating this special anniversary at the Board of Governors' Meetings in Haifa. Please consider joining us for this wonderful celebration.

What better opportunity to mark Technion's Cornerstone Centennial than to make a special donation in honour of this milestone.

Let's raise a glass to Technion's next 100!

### Welcome to the 2011-2012 Canadian Technion Board of Directors

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**CHAIR** Doreen Green

**VICE-PRESIDENT** Marvin Ostin

**TREASURER** Harold Garfinkle

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## Canadian Technion Society's 26th Montreal Gala



Stephan Ouaknine was the honouree of Montreal's 26th Gala. Premier Jean Charest, the evening's guest speaker, praised the contributions that Technion has made to the world, noting that three of its professors have won Nobel Prizes. Premier Charest said he'd like to see greater links with Technion and other Israeli institutions to share expertise. "Science and technology are an important motor for the creation of jobs and wealth," he said.

The focus of the Gala's fundraising was renewable energy research at Technion, where nine faculties are working in this area from a multidisciplinary approach.





# Generation NEXT

A new generation has come of age, Generation NEXT, the young adults who have grown up with personal computers, cell phones and the internet. The Canadian Technion Society welcomes Generation NEXT, future Canadian leaders, to get connected to Technion and Israel and the heart of its High-Tech Sector.

## Generation NEXT Mission to Israel and Technion

On November 20, 2011 the Canadian Technion Society's first Generation NEXT Mission to Israel and Technion involved sixteen participants who enjoyed seven days of education and inspiration touring the campus, meeting the faculty and students and gaining a deeper understanding of the technological development ecosystem that surrounds Technion. The trip has deepened the passion of the future leaders of the CTS.

One of the mission participants, Jack Bensimon, of Toronto observed that the Israel mission trip cemented the role of Technion to Israeli society, security, and its economy. With sixteen young professionals spanning various industries, the trip was a highly effective means to personally connect with the Technion in ways that could not be done remotely. By visiting various Technion-related companies, this enforced our sense of strength, pride, and achievement in the Technion and its contribution to economic prosperity and global humanity. For example, Technion advances in pure science and medical research are leading the path in developing solutions for diseases. This will help mankind well beyond Israel's borders. Technion's "Engineers without Borders" ("EwB") is unique in the world in developing low-cost, environmentally friendly solutions for developing countries. The

trip strengthened the view of Technion as a global leading engineering university for which its achievements could only be observed in-person.

The theme throughout the trip was the importance of the Technion in developing technology-based solutions to promote economic growth, technological innovation, and the betterment of mankind around the world. The visits to Israeli Aircraft Industries, Israel Aerospace Industries, and The Better Place Centre showed that Israel is on the cutting-edge of disruptive technologies aimed at improving our standard of living. These companies will lead the way in protecting and preserving Israeli security interests as well as providing jobs to its highly skilled workforce. With Israel having the highest Ph.D.'s per-capita ratio in the world, Technion R&D initiatives allow its high-tech workforce to maintain a sustainable competitive advantage in labour markets.

Montreal participant, Steve Bramson, stated that the mission exposed its Canadian based participants to the Technion and its dividends. With this firsthand experience, participants are now uniquely equipped to be ambassadors and advocates for Technion.

## Toronto's Generation NEXT and Prof. Shlomo Maital

In January, Toronto's Generation NEXT group hosted a dinner gathering with Professor Emeritus Shlomo Maital, Academic Director of TIM-Technion Institute of Management, as the guest speaker.

Professor Maital is an author, researcher and educator who also taught at Massachusetts Institute of Technology (MIT) for 20 years. He focused his talk on a book he co-authored with Technion Professor Amnon Frenkel called "Technion Nation: Technion's Contribution to Israel and to Humanity", that will be released in June.

He explained that it cost about \$1 billion to educate the 2010 undergraduate class, but their

contribution to Israel's economy is expected to be an estimated \$1.76 billion to nearly \$3 billion a year.

However, Maital stressed, the success of Technion graduates shouldn't be documented using statistics, facts and figures alone, but also by the contributions Technion graduates have made to Israeli society and the rest of the world.

This exciting event, organized by Toronto's Generation NEXT Chair, Jack Bensimon, and CTS President Eddie Pal, attracted 50 young professionals.



## Gary Goldberg to Receive an Honourary Doctorate

At Technion's Board of Governors' Meetings in June CTS Past President, Gary Goldberg will be conferred an Honourary Doctorate for his leadership and long-time loyalty to and support of numerous projects at Technion.

Gary has worked diligently to energize and rejuvenate the Canadian Technion Society. He has been a member of the Board of Directors of the Canadian Technion Society since 1983. He has served as National Treasurer from 1984 to 1986, National Chair from 2006 to 2007 and National President from 2007 to 2011. He has been the Chair of Toronto Technion Technology Fund (TTT Fund) from 1993 to date and is the Chair of the CTS's Endowment Committee. Gary received an

Honourary Fellowship from Technion in 2005. Gary has accompanied several Ministers of the Government of Canada, and of Ontario, as well as numerous Presidents of Canadian universities, on visits to Technion.

Gary serves as a director of the Gairdner Foundation, the Glenn Gould Foundation, the Barbara Turnbull Foundation for Spinal Cord Research and the Nature Conservancy of Canada (Ontario Region). He is Chair of the Ontario-Israel Research and Development Monitoring Committee which encourages and funds bilateral co-operative R&D projects between companies in Ontario and Israel.



## TTT Fund and T3 at Technion

TTT means Toronto-Technion Technology Fund of the Canadian Technion Society, established in 1989 to assist Technion to expand and enhance its technology transfer and commercialization activities.

T3 means Technion Technology Transfer, the technology transfer unit at Technion.

How do these two similarly named entities interact?

Technion strongly encourages the commercialization of University research, in a manner that generates return for the academic institution by the creation of commercial products. The TTT Fund has played and continues to play a useful role in supporting these activities at Technion.

Funds provided by the TTT Fund of CTS made

a significant contribution to the establishment of the Technion's first incubator in 1990. Several of the incubator projects were seeded with funds received from TTT. The TTT Fund continues to grow and make contributions to the commercialization related activities and entrepreneurial development at Technion.

T3 is a Technion operation that takes new ideas of the faculty and students in science and technology and tries to match them with investors and entrepreneurs to develop applications for the commercial market. This includes licensing intellectual property and the establishment of start-up companies. T3 has been described as "the private sector's gateway to Technion innovation".

As of 2011, 424 patents were granted to Technion innovations, with 845 patents pending.



## ReWalk™

Developed by Argo Medical Technologies Ltd, **ReWalk™** is an alternative mobility solution to the wheelchair for individuals with severe walking impairments, enabling them to stand, walk, and ascend/descend stairs.

Founded in 2001, Argo operated, until end of 2007, under the auspices of TechnionSeed

(formerly the Technion Incubator) when it established itself as an independent start-up.

**The TTT Fund of CTS** provided Technion with funding support that assisted the **ReWalk™** project. See [www.argomedtec.com](http://www.argomedtec.com)



## A Nobel Year For Technion

Distinguished Prof. Dan Shechtman of Technion's Faculty of Materials Engineering is the sole recipient of the 2011 Nobel Prize

Quasicrystals possess remarkable crystallographic and physical properties, embodying a novel kind of crystalline order. Shechtman discovered quasiperiodic crystals in April 1982, while he was a visiting scholar at the National Bureau of Standards in Maryland, USA.

At the time, most of his colleagues ridiculed Shechtman's discovery. In November 1984, Physical Review Letters published Shechtman's discovery in a scientific paper coauthored with three other scientists: Ilan Blech (Israel), Denis Gratias (France) and John Cahn (USA). Wider acclaim followed, mainly from physicists and mathematicians, and later from crystallographers.

More than 40 scientific books have since been dedicated to quasiperiodic crystals, and hundreds of materials are known to exist with the structure

discovered by Shechtman. Furthermore, the International Union of Crystallography changed its basic definition of a crystal in light of Shechtman's breakthrough.

Finally, nearly 30 years after his discovery and after numerous national and international prestigious accolades, Shechtman receives the ultimate scientific recognition for his work – the Nobel Prize.

*"His discovery was extremely controversial. In the course of defending his findings, he was asked to leave his research group... However, his battle eventually forced scientists to reconsider their conception of the very nature of matter..."*

*Scientists are currently experimenting with using quasicrystals in different products such as frying pans and diesel engines."*

The Nobel Committee at the Royal Swedish Academy of Sciences

## Let's all Celebrate Technion's Cornerstone Centennial

On April 11, 1912, 36 years before the State of Israel declared its independence, a ceremony was held on the barren slopes of Mount Carmel near the port of Haifa. None of the finely dressed participants could have imagined that the laying of the cornerstone for the "Technikum" would be a historic milestone in realizing the implausible vision of creating a world-class institute of scientific and technological education in this remote corner of the Ottoman Empire.

As it celebrates its cornerstone centennial in 2012, Technion is a thriving world center of scientific technological research and teaching, with more than 12,000 students and tens of thousands of alumni leading the hi-tech revolution that drives Israel's economy and so greatly benefits humanity.

Join in celebrating the Technion - make a special Cornerstone Centennial contribution, visit the Technion on your next visit to Israel, friend us on Facebook or connect on LinkedIn, drink a l'chayim or perhaps follow the lead of CTS National Executive Director, Cheryl Koperwas and make your own personal statement of celebration.



CTS National Executive Director, Cheryl Koperwas, is celebrating the Cornerstone Centennial with her new Ontario licence plate.

Together we have the power to make a difference and the world becomes a better place.

Just click onto the **DONATE NOW** icon on our website <http://www.cdntech.org/>





## Cornerstone Centennial

### The Story of How One Stone Changed a Nation

We began with a thought...

"Our technical inventors, who are the true benefactors of humanity... will discover things as marvelous as those we have already seen, or indeed more wonderful than these..."

Theodor Herzl, 1896, The Jewish State

In 1902, Theodor Herzl envisioned Haifa as "a great park....with an overhead electrical train.... a city of magnificent homes and public institutions all made possible by applied science, engineering and technology." (Altneuland)

The advance of science and technology; the creation of the State of Israel; the emergence of the global village connected by the information superhighway; discoveries in basic science that have fundamentally changed the way scientists think about the material world, and the tremendous applied advances taking place in every corner of Technion City are just some of the miracles witnessed in the past century.

It all began with an inspirational thought in the mind of one man, Binyamin Ze'ev Herzl. Prof. Albert Einstein later added his mind to the vision. Thousands of great thinkers have since added to the blaze of light which is Technion, creating an institute of technology that in the 3rd millennium is truly a light to the nations.

Join us for  
the Technion Board of Governors' Meeting  
June 8-13, 2012 in Haifa  
and celebrate the Cornerstone Centennial.

For more information  
please contact Cheryl Koperwas  
at 1-800-935-8864 or [cheryl@cdntech.org](mailto:cheryl@cdntech.org).

### Timeline of the Century

**1912:** The cornerstone is laid for Technion's building

**1913:** A battle continues over the language of Technion instruction: German or revitalized Hebrew? Hebrew wins.

**1923:** Albert Einstein makes his first visit to the Technion. Einstein did not think the dream of founding a technical university in the Middle East to be fantasy. As a great scientist, Einstein knew that what makes the impossible possible is the courage to follow an inspiration. He becomes president of the first Technion society, the German Technion Society.

**1924:** Technion officially enrolls 1st class of engineering students

**1928:** First class of 17 Technion engineers and architects graduates

**1954:** Technion founding father Prof. Albert Einstein is awarded a Technion honorary doctorate.

**1961:** Technion offers a flourishing graduate school and R&D foundation

**1993:** Technion students design and launch their own satellite: Gurwin Tech Sat.

**2006:** Technion is Israel's 1st university to receive the Nobel Prize for Science. Prof. Aaron Ciechanover and Prof. Avram Hershko jointly receive the Nobel Prize in Chemistry for their discovery, together with Irwin Rose, of the ubiquitin system within living cells.

**2011:** Technion Prof. Dan Shechtman receives the Nobel Prize in Chemistry for his discovery of quasicrystals.

**2012:** Technion partners with Cornell University to found the Technion Cornell Institute of Innovation (TCII), an international 'School of Genius' in the heart of New York City.



# The future of Israel is in high-technology and the future of high-technology in Israel is at Technion.

## TECHNION TRIUMPHS

### The Winning bid: Cornerstone of the future...



In 2012, Cornell and Technion will open the "game changing" applied science campus on Roosevelt Island in New York.

"Today will be remembered as a defining moment," said Mayor of New York Michael Bloomberg when he announced that the

Cornell-Technion partnership had won the city's tender for an applied science graduate school and research campus. The NYC Tech Campus on Roosevelt Island will combine the full spectrum of both institutions' academic strengths, entrepreneurial culture, and leadership in commercialization and technology transfer.

Over the next three decades some 600 spin-off companies are anticipated, Bloomberg predicted. Cornell President David J. Skorton outlined how technology is no longer just for the sake of technology but is technology in the service of business and industry. Technion President Peretz Lavie said that this undertaking is "something new that will energize the city."

According to Lavie, the Technion-Cornell Innovation Institute (TCII) will lend a new dimension to Israeli academia with faculty exchange through sabbaticals and PhD students. TCII will be organized into multidisciplinary hubs, Technion's concept based on the success of multidisciplinary centers such as the Russell Berrie Nanotechnology Institute, the Grand Technion Energy Program, and the Lorry I. Lokey Interdisciplinary Center for Life Sciences and Engineering.

### A Stamp Is Born



Commemorating Technion's cornerstone-laying 100 years ago, a special stamp has been issued. It will go on sale on February 7 - the Eve of Tu b'Shvat, the Jewish New Year for Trees. Interestingly, the official opening ceremony of Technion was also celebrated on Tu b'Shvat, which fell on February 9, 1925.

The cornerstone centennial stamp encompasses the past, present and future, not only of Technion, but of the State of Israel, which has become a world leader in science and technology. The stamp features the original rendering of the façade of the first Technion building, designed by the architect Alexander Baerwald who came from Germany and became a pioneer of modern Israeli architecture.

A "nano-parachute", developed by Technion professors Daniel Weihs, Alexander Yarin and Eyal Zussman, arises from the building.

The stamp tab features the invitation to the cornerstone-laying ceremony, held at 3 p.m. on April 11, 1912, in the "Technikum" courtyard.

The stamp and a first-day cover imprinted with a special cancellation can be purchased on February 7 at the Technion Post Office. The first-day cover features a photograph of the historic building after its completion, with hand-drawn renderings superimposed. Floating above it are icosahedrons, identified with the research of Distinguished Professor Dan Shechtman who was awarded the 2011 Nobel Prize in Chemistry.

### Book 'em Danno



Going public takes on a whole new meaning as researchers from Technion's Faculty of Architecture and Town Planning establish ad hoc micro lending libraries at local bus stops. Dr. Danny Shoshan, senior teaching associate at the Faculty, and Amit Matalon, final year architecture student, devised the public library as an art experiment in the urban landscape, to see how the city and its residents interact.

First, they placed two sets of bookshelves at bus shelters in the Ziv neighborhood of Haifa, near the Technion, stocked them with books and monitored what happened over a 3-week period. "After some time, a miracle took place," says Shoshan. "People took over the role of stocking and returning the books."

Next, the urban researchers expanded the project to six locations including the Technion campus. "We saw that Technion students began to put their theses and textbooks on the shelves for sharing," Shoshan explains. "In the ultra-Orthodox section of the neighborhood, the residents brought religious books and even CDs with religious content." Matalon says, "It's important to note that our motivation for the project was Art. Public space is the place to bring Art."

### German "Order of Merit" to Distinguished Prof. Yitzhak Apeloig



Distinguished Prof. Yitzhak Apeloig, Schulich Faculty of Chemistry, received the Order of Merit (First Degree) of the Federal Republic of Germany from Bundespräsident Christian Wulff, represented by H.E. Andreas Michaelis, Ambassador of Germany to Israel.

"We feel honored that you allow us to honor you," said the ambassador.

Prof. Apeloig received the Order of Merit for his important contributions towards building German-Israeli scientific relations. Apeloig said, "It is a great honor for me to stand here today and to receive the Order of Merit of the Federal Republic of Germany. I am excited, proud and humbled to receive this honor in recognition of my activities to promote and advance the scientific cooperation between Israelis and Germans. To be awarded the Order of Merit has a multitude of meanings and involves complex emotions which I believe touch on the essence of this recognition and I want to share some of my thoughts and feelings with you."

"Both Tzipi, my wife, and I come from families who are Holocaust survivors. During my youth I grew up with harsh feelings towards Germany and Germans. As you can imagine, this was not a promising beginning for my relations with Germans when I first visited Germany for a few months in 1974 as a postdoctoral fellow. And yet, with this difficult background, a tie between me and German scientists developed. These scientists showed me a different face of Germany. With time the connections became stronger and many of these scientists became friends, some of them became close personal friends – friends for life."