

JCT Perspective

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REACHING OUT

JCT OPENS NEW HORIZONS FOR
THE HAREDI COMMUNITY





JCT Perspective



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COMMENTARY



Shalom!

From its beginnings, the Jerusalem College of Technology has been involved in helping Israel society. This Perspective's

cover article "Reaching Out – JCT opens New Horizons for the Haredi Community" testifies to what JCT is doing with regard to Israel's Haredi population. One reads how we have taken a leading role in providing various opportunities for members of the Haredi community to receive academic degrees and enter Israel's workforce, benefiting their families, their communities and Israel in general.

This involvement for the betterment of Israeli society has been a hallmark of JCT since its inception. The values permeating from our philosophy of *Torah im Derech Eretz* (Torah with a gainful occupation) naturally call for us to help in seeking answers to some of Israel's social issues.

JCT was, and remains the sole institution of higher education to establish a special pioneer program for students from the Ethiopian community. This academic year we have 97 students in the program and to date, 41 students have graduated, many of them serving in their professions as officers in the IDF.

A few years ago, Machon Tal, JCT's Women's Institute for Engineering and Management, was established, enabling women to study these former "male dominated" professions in an environment conducive to their religious life-styles. This present academic year, there are over 650 young women studying at Machon Tal, and one can find Machon Tal graduates in many of the leading high-tech companies throughout Israel.

One has only to look at JCT's role during the second Lebanon war this past summer when we provided over 350 people from Israel's northern cities and settlements with housing, food and activities to see how JCT's educational values are put into practice in every sphere.

As we celebrate the Pesach holiday reflecting on where we are as a People, we can all be grateful for the opportunities given to the Jerusalem College of Technology to establish programs benefiting various sectors of our People; may we be granted many more such challenges.

I want to take this opportunity to wish all our friends and supporters throughout the world a Happy and Kosher Pesach.

Reuven Surkis
Reuven Surkis

Vice President for Development
and External Affairs

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PRESIDENT'S MESSAGE

A Formative Period, a Striking Contribution

Dear Friends,

Over 3,300 years have passed since our ancestors came out of Egypt, an event which we celebrate annually on Pesach.

The time from Exodus to entry into the Land of Canaan extended over a period of forty years, during which the Children of Israel were forged and formed into a unique people; a nation which, if we look throughout history, has clearly made a striking contribution to the entire world. Thus, these initial four decades were a key period of greatest significance.

As we, at the Jerusalem College of Technology, approach the conclusion of our fourth decade, we are giving much thought to this special anniversary. It is not merely a time for planning how to appropriately celebrate JCT's milestone. It is much more than that.

It is a time for retrospection – where have we succeeded in fulfilling our task, and where could we have done even better. It is a time for re-evaluating JCT's mission – how can we continue to develop the vision of Prof. Lev, Founder and first President of JCT, forty years later, in a world which has changed radically during that period. It is a time to plan ahead for the next 40 years, setting ourselves goals that are even more visionary than those which have already been fulfilled – and indeed surpassed – over the 40 years that have elapsed. It is time to define an updated mission statement, while remaining faithful to the initial track set by JCT's founders.

Those founders created an innovative educational symbiosis of traditional Jewish values with modern professional training. Accordingly, JCT has produced over the years thousands of top quality graduates who form a cadre of value-motivated leaders for Israel's defense, industry and economy. Our alumni are valued as much for their interpersonal conduct and moral ethics as for their professional excellence in cutting-edge fields. They build bridges between the various sectors of Israel's melting pot, while providing sophisticated technological solutions for some of Israel's most difficult and complex problems.

Let us dare to gaze bravely into the future, and conceive new ideas, new challenges and new horizons that will make a striking contribution to Jerusalem, to Israel and to Judaism. I hope to share our thinking with you, our friends and supporters, as our ideas gel into strategic plans for the coming decades.

Joseph Bodenheimer
President of JCT

In Merit of Righteous Women



By Rabbi Chaim Levik

Although the Children of Israel might have come out of Egypt by natural means, G-d decided to take them out Himself “with a strong hand and an outstretched arm”. However, the whole process of the liberation of the People of Israel from Egypt is in the merit of the righteous women of Israel. It is in the merit of Shifra and Puah, Yocheved and Miriam, Tziphora and Batya, and in the merit of all the wives of the Israelites who were enslaved in Egypt.

With his harsh decrees and oppressive slavery, Pharaoh had succeeded in not only breaking the People of Israel physically but also spiritually, even bringing their elders to complete despair. It was the Bina Yetera – the wisdom and foresight of these righteous women that helped the People of Israel overcome this hopelessness.

The Gemara in Sota, (ch.12) explains Shemot, ch.2:1 as follows: “and a man (Amram) went from the house of Levi and took the daughter of Levi”. The Gemara asks where did he go. Rabbi Yehuda bar Zabina says that he followed the advice of his daughter, Miriam. Pharaoh had ordered all male babies that were born to be thrown into the Nile. To avoid this decree, Amram, who was one of the leaders and a role model, had divorced his wife Yocheved and everyone else had followed suit.

What a tragedy! The power of reality was prevailing over the power of faith. Pharaoh succeeds in overcoming the most powerful weapon that has protected the People of Israel throughout the generations – “*Netzakh Yisrael Lo Yishaker*” – the Glory (or Eternity) of Israel will not lie. How did Pharaoh do this? By trying to break the eternal chain that connects the People of Israel to G-d.

How does G-d, who is Eternal and Infinite, exist in this world that is limited and bounded? The Glory of Israel is the manner in which G-d reveals himself in this world. G-d reveals His Glory in a manner that is also eternal in this world – the mitzvah of being fruitful and multiplying. In this mitzvah the People of Israel creates the eternal chain that connects man to G-d. This is what Pharaoh understood. The reproduction of the People of Israel is not a demographic issue but the vessel that allows the appearance of G-d in this world so that He will bring the whole world to a complete redemption and destroy all other ideologies and thoughts that dare to reign.

After Amram and all the other men divorced their wives, Miriam, Amram’s daughter stands up and says: “Father, your

decree is harsher than Pharaoh’s decree because Pharaoh does not allow boys to survive but you are also not allowing girls to live. Pharaoh’s decree affects this world and your decree affects this world and the world to come. It is questionable whether Pharaoh who is wicked will have his decree fulfilled but you who are a *tzaddik* – everyone will listen to you and do you as do. Then Amram reunited with his wife and so did all the other men.” (Sota, Ch. 12)

Miriam’s words are amazingly powerful. That is the power of the women of Israel, to see the Eternity. Miriam says that even when faced with the reality of this world, we are not allowed to succumb to it – we have the Eternity of the world to come. However correct and logical your (Amram) reaction is in today’s reality, it is not acceptable in the total view of Eternity and the world to come because in every generation someone tries to destroy us and in spite of everything G-d always saves us from them. Miriam is aware that the fate of Israel is not a function of reality but a function of our faith in Eternity.

The spirit of Eternity is what drives the midwives, Shifra and Puah, to refuse to fulfill Pharaoh’s decree and in answer to Pharaoh’s question; “Why did you let these children live?” – they may be compared to animals of the field who do not require midwives when giving birth. The Children of Israel are not dependent on the reality of mankind but on G-d alone and “*Netzakh Yisrael Lo Yishaker*” – the Glory of Israel will not lie. So they let the boys live in order to establish the *Am Hanetzach* – the Eternal People.

Similarly Yocheved, the wife of Amram, who places her son in a cradle before placing him in the river Nile. The reality of this world is that the child will die – either he will be killed by the Egyptians or he will drown in the river. But the Jewish mother, who believes in the Glory of G-d, trusts in G-d and does not worry.

Then there is Tziphora, the wife of Moshe, who saves his life by insisting on the *brit mila* – the circumcisions of Moshe and her sons, circumcision being the sign of God’s eternal covenant with the People of Israel.

From here we are able to understand why it is said that in the merit of the righteous women of that generation, the Children of Israel were redeemed from Egypt.

Rabbi Chaim Levik, age 47, was born in Belgium. He came on Aliyah following high school and yeshiva studies in Brussels, and enrolled at Bar Ilan University. Following graduation, he studied 7 years at Yeshivat Merkaz Harav. Rabbi Levik is married, father of 6, and served in the IDF Tank Corps. Much of Rabbi Levik’s personal philosophy was gained through many years of devoted study with Rabbi Yehuda Ashkenazy zt”l. Rabbi Levik’s numerous trips abroad throughout the years have brought hundreds of students, many from France and the former Soviet Union, to programs in Israel. With the opening of Machon Tal 8 years ago, Rabbi Levik was appointed Educational Director and subsequently established Midreshet Ma’amakim, its Institute for Torah Studies, serving as the Head of the Institute. Rabbi Levik continues to offer many classes on a variety of subjects, both in Israel and abroad, as well as author numerous educational booklets on Halachic and Torah issues, and a booklet on the Laws of Settling the Land of Israel. In his spare time, Rabbi Levik serves as a tour guide in the Tunnels of the Old City of Jerusalem.

Alumni Profile

JCT graduate, **Dr. Avi Caspi**, has his eye on the future. Avi is part of the scientific research team at Second Sight Medical Products, Inc. The goal of Second Sight is to develop a novel implantable technology that will restore vision to blind patients, i.e. create the bionic eye. The idea is to directly stimulate the retina with an electrical current in order



Avi Caspi

to create a perception of image in the brain, using technology referred to as “retinal prosthesis”. Second Sight, located in Sylmar, California, has already implanted the first generation of the device in six patients and recently received FDA approval to conduct a clinical study with the second generation.

Today we are all aware of the term “pixels” and count the number of mega pixels in our digital cameras. Try to imagine a camera with sixteen pixels, yes sixteen. Sixteen is the number of pixels in Second Sight’s first generation retinal prosthesis. Avi’s research deals with different techniques to provide useful and meaningful images from a device with such crude resolution. It is enough to hear a blind subject share the story of how he used our device to see the silhouette of his son after many years of total darkness. Then the value of a bionic eye even with sixteen pixels becomes obvious.

“We, the engineers and physicists, deal with complex systems. But, when I looked for a subject for my Doctorate, I found that many of us were ignoring a system with a totally different scale of complexity –

the human body. In fact, this system isn’t so modern; it was created almost six thousand years ago. In my Ph.D. research at The Weizmann Institute of Science, we used classical statistical physics theory to explain a novel experimental finding in cell biology. I never changed my discipline; I only changed the system that I am working on.”

Avi went on to carry out post-doctoral research at the University of California at Santa Barbara where he worked on a joint project with NASA. In this research he addressed the fundamental question, “When do humans accumulate visual information for guiding eye movements?” He demonstrated that eye movements are not discreet, isolated events, but, rather, need to be understood as a sequence of events, which results from parallel visual processing in the brain.

“I could have started my academic education at a different institute than JCT and gained an equivalent technical education, but I cannot imagine another place that will draw me back every Rosh Hashana for 13 years. For a long time I was delighted to start each year at JCT. But unfortunately now I have to spend too much time on the other side of the world. What about the future? Currently, I am happy that I got the opportunity to be part of an excellent group of people here in Second Sight and the psychophysics of the bionic eye is not solved yet. I would never have guessed that life would direct me to the amazing field of visual prosthesis development. Hence, it is hard to say what next. For sure, it will be an exciting future, hopefully closer to home and one that I will love as I love this project. And if we mention what I like, I also like to ride my mountain bike but what I love the most are my three dearest kids, Reut, Moshi and Shira.”

Student Profile

Growing up in Yavne, under the shadow of the Nuclear Research Center at Nahal Soreq, **Nurit Shirit** often wondered what mysteries lay behind those heavily-guarded walls. Thanks to her studies at Machon Tal, Nurit has been given the opportunity to see them for herself and even to help unravel those secrets!

After completing high school in Yavne, Nurit, the youngest of four children, volunteered for a year of National Service as a tour guide in the Golan Heights. Here she had the opportunity to spend time fulfilling one of her favorite pastimes – going for long treks in the rugged Israeli countryside. Nurit went on to study Electro-optic engineering at Machon Tal where her outstanding capabilities were quickly recognized, coming top of the class in all her studies.

“At Machon Tal, I got to know wonderful people. The personal attention and care that I received really helped me. The faculty and staff combine professional excellence with care and concern for others. The girls I study with are bright and full of life. All in all – it’s great fun!”

Chaim Rosenfeld, who is responsible for Career Placement and Industrial Ties at JCT, arranged for Nurit to carry out her final year academic project at the Nahal Soreq Nuclear Research Center (NRC). Chaim spends much time helping students to find final year projects and subsequently to get jobs in their professional fields. “Nurit’s scholastic performance made her an ideal candidate to recommend to the NRC. She had to go through a rigorous selection process by their R&D team before she was accepted. Next year another four JCT students

will be conducting academic projects at Nahal Soreq.”

Nurit is working on a project called *Hollow Waveguides for Nonlinear Optics* that aims to develop a method to fabricate hollow waveguides in the infrared and to fill them with gas in order to obtain Raman conversion. Nurit goes on to explain, “Hollow waveguides filled with a nonlinear gas can drastically reduce the problems of beam quality and problems of crystal frequency-converters with poor transmission in the infrared. Conversion of light in the infrared is very important for medical and industrial applications.” Nurit is performing the project under the supervision of Dr. Bruno Sfez and Dr. Ariel Bruner of the NRC, and Dr. Shlomo Goldin, a lecturer at JCT.



Nurit Shirit

The Nahal Soreq NRC is so satisfied with Nurit’s contribution to the project that they have hired her as an employee. Nurit is currently working three days a week at Nahal Soreq and studying two days a week at Machon Tal, where she hopes to finish her Bachelor of Science studies this summer. Upon graduation, Nurit will continue to work at Nahal Soreq whilst following a M.A. program and writing a thesis on her work.

“I enjoy working in research and applying my studies at work. It is a great challenge and it is very gratifying to know that I am helping to develop this innovative technology. I am especially grateful to Prof. Abba Engelberg, the Director of Machon Tal who encouraged me to take on this project.”

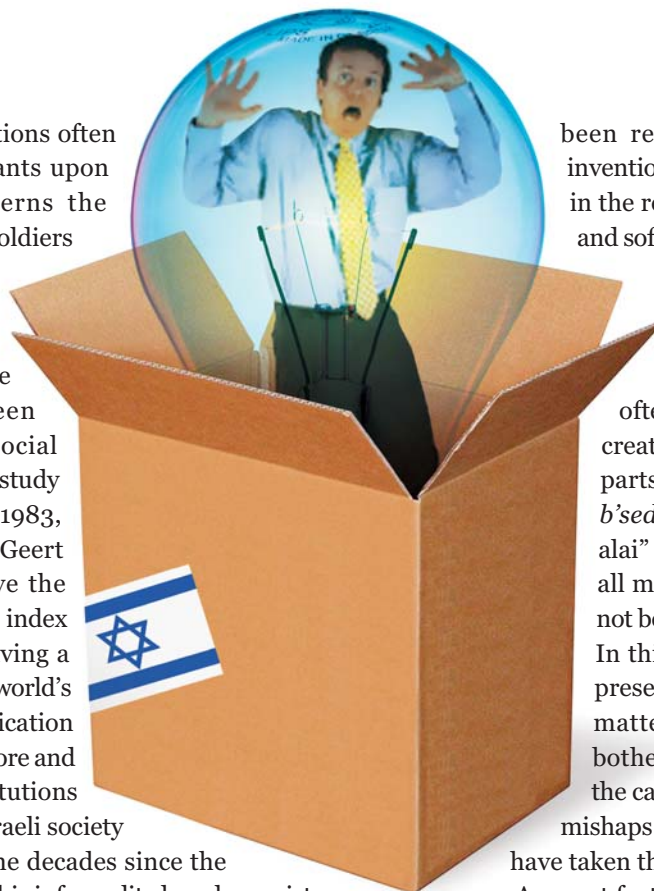
TRUST ME.

Combining Technological Creativity with Sound Management Practices

By Dr. Brian Polin

One of the first observations often made by new immigrants upon their arrival in Israel concerns the informality of Israeli society. Soldiers refer to their commanders, and schoolchildren call their teachers by their first names. These casual observations are well founded and have been documented extensively in social science research literature. In a study analyzing seventy countries in 1983, the Dutch social psychologist Geert Hofstede¹ found Israel to have the second lowest “power-distance” index with ironically only Austria having a lower index score among all the world’s nations. This measure is an indication of the social distance between more and less powerful members of institutions and organizations. Although Israeli society has changed substantially in the decades since the initial research was conducted, this informality largely persists.

This general lack of formality extends well beyond calling authority figures by their first names and encompasses an unconstrained “out-of-the-box” attitude when it comes to problem solving and planning. Whether it stems from a melting pot ingathering of the exiles attitude that we are all newcomers, or from the need to improvise in the military, the creative thinking facilitated by the informality of Israeli society has



been responsible for a large number of inventions and much of the country’s success in the realm of hi-tech. Computer hardware and software, innovative drugs and advanced weapons systems are just a few of the areas in which Israeli creativity has proven to be world class.

Unfortunately, as Israelis we are often victimized by the evil twin of this creativity, namely, “winging it”. In many parts of society one often hears “*y’hiyeh b’seder*” – “it will be alright” or “smoch alai” – “trust me”, when the reality is that all may not be OK, or perhaps we should not be so trusting of a particular individual. In this case, the Israeli informality often presents itself as a disdain for procedural matters deemed to be superfluous and bothersome. This very attitude has been the cause of engineering disasters, military mishaps and business failures, many of which have taken their toll in the form of lost lives.

A recent feature in *Globes*, the Israeli equivalent of the Wall Street Journal, discussed these cultural differences as they manifest themselves in Israeli branches of major US corporations. The article entitled “Instead of giving me a medal, they fired me” presents the cases of two Israeli managers, one working for Boston Scientific, the other for Hewlett Packard. Both were performing quite well when they were unexpectedly fired for various procedural infractions. An Israeli labor lawyer

offered the following explanation for their being fired:

This is simply a matter of cultural differences. The average Israeli manager feels pressured by the US corporate mindset... Israelis don't expect an employer to fire someone who generated millions of shekels in revenue because of this (improperly filling out forms - B.P.). You find yourself committing an offence whereas in an Israeli company you would get a medal. (Globes, Sep. 21, 2006, Shlomit Lan)

The challenges of reconciling the fruits of Israeli creativity and Israeli disdain for formality are deepened when one considers the number of research and development facilities in Israel belonging to major foreign corporations. Do American CEOs expect Israeli scientists and engineers in their employ to behave like Israelis or to behave like Americans? The answer to this question is not a simple one, yet it addresses a matter in which we at the Jerusalem College of Technology may have a great impact. Obviously, foreign firms do not set up facilities in Israeli to find carbon copies of the employees available to them in their home countries. Similarly, foreign firms don't come to Israel to find cheap labor; Indian and Chinese scientists and engineers receive a fraction of the wages customarily paid to these professionals in Israel. (Apropos, a senior vice president at IBM was recently quoted as saying that in Israel, as opposed to China and India, there is innovation- not imitation.²) Yet, while these Israelis are expected to be innovative like Israelis, they are fired for not crossing their "T"s and dotting their "I"s, as would be expected of Americans.

Recently, JCT's Department of Technology Management & Marketing (TMM) began to address this challenge. In the fall semester this year, senior students studying Computer Science and Computer Engineering in the Computer Science Department were offered the course *Engineer in a Business Environment*. The course, taught by TMM faculty, introduced these students to the business concepts they must know prior to assuming positions with leading hi-tech firms in Israel, both



those under local ownership and those under foreign ownership. The course addressed the essentials of planning, business culture, global management and leadership in technological innovation. If the results of this pilot course prove to be successful, it will be expanded and offered to students in other technological and applied science disciplines as well. In the short to medium term, the knowledge gained by these JCT students may provide them with a competitive advantage over graduates of other institutions in finding jobs, as well as an asset, as these future JCT alumni advance to positions of junior and middle-level management. In the long-term it is certainly not unrealistic to expect that many JCT graduates will go on to become captains of industry in Israel. As senior managers armed with the high moral standards imparted in their Torah studies, the cutting-edge knowledge gained in their academic studies and their exposure to the formalities of planning and decision making in their business course, our graduates may go on to change the face of Israeli society and eradicate the "*y'hiyeh b'seder*" attitude that has plagued us for generations.

¹ The Cultural Relativity of Organizational Practices and Theories. Hofstede, Geert. Journal of International Business Studies. Washington, Fall 1983 Vol.14, Iss.2; p.75

² The Marker, 4 December 2005

Dr. Brian Polin, a native of Chicago holds a BA in Mathematics and Physics, MS degrees in Transportation Engineering and Operations Research and a Ph.D. in Management with specialization in Strategic Management and International Business. Dr. Polin grew up in a home that stressed the values of religious Zionism and after making *aliyah* on his own in the wake of yeshiva studies, he served as a combat soldier in the Golani Brigade of the IDF. He has worked as an engineer on many of the major traffic, transportation and urban development projects in Israel and for a major business consulting firm in the United States, where he consulted for world class organizations such as Ford, General Motors, Whirlpool and the US Department of Defense. Dr. Polin is a lecturer in JCT's Department of Technology Management & Marketing and has published his research in book chapters and in some of the leading publications in management, strategy and international business. Brian lives with his wife Gal and six children in Jerusalem.





REAC

The Haredi (Ultra Orthodox) community is the fastest growing sector of the Israeli population. Nowadays, 12% of Israeli adults identify themselves as “Haredi,” and below the age of 8, the figure could be above 30%, since their birthrate is 2.5 times that of the Israeli average.

This sector is widely stereotyped as a parasitic element of Israeli society, receiving a disproportionate amount of Israel’s welfare, having a negative attitude to the State of Israel, and avoiding military service in the IDF. But it is also true that the Haredi population volunteers disproportionately to charitable activities and organizations that benefit the entire Israeli society, such as soup kitchens, ambulance squads, hospital night shifts, medical emergency assistance, and much more. The only other comparable sector in terms of high childbirth and low standard of living is the Israeli Arab population. In terms of income per capita and other economic factors, the two poorest cities in Israel are Bnei Brak and Jerusalem. This is unequivocally due to the large Haredi population in both cities.

A circumstance where an increasingly large sector of Israel’s population does not contribute to the GNP, is welfare dependent, and does not serve in the IDF, is an untenable situation. Furthermore, it has created a chasm in Israeli society which is a source of constant social and political friction and aggravation. At a time when the depth and dimensions of this problem were evident only to a few farsighted individuals, Professor Lev intended the institution that he founded in 1969, to be accessible and acceptable to the Haredi public. He envisioned JCT as a center of integration between the orthodox and ultra-orthodox students who would study Torah together, and bridge the gap towards Israel’s largely secular society. He spoke about this often, but it took many years before this vision began to mature to reality.

It has been the consistent policy of Israeli Governments, at least over the last 12 years, to attempt to integrate the Haredi sector into Israel’s workforce, to increase their enrollment in the IDF and to encourage their participation in the Israeli economy. As a project of national priority, Israel’s governments have made

GOING OUT

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great efforts to achieve these goals. This policy has been implemented in various ways by Israel's Ministry of Defense, the Ministry of Labor, the JDC ("Joint"), the National Institute for Technological Training (MAHAT), the Ministry of Education, and the Council of Higher Education (MALAG). Ten years ago, under the leadership of Prof. Nehemia Levzion z"l, MALAG declared a policy of increasing the participation of Haredim in higher education. Among a series of measures was a decision to approve separate campuses for Haredim, enabling existing universities to open special programs on these designated campuses. This and other decisions related specifically to JCT's positive involvement in this national effort, which has gained our institution many accolades.

Leading Haredi rabbis, recognizing the poverty among their followers, are increasingly giving quiet approval and silent support to those who wish to go out and earn a living. However recent research points to severely increased poverty among the Haredi population even though a greater number of Haredim are entering the workforce.

According to a study conducted by the Economic and Social Program at the Van Leer Jerusalem Institute in 2006, the lack of appropriate education, large families and the cut-backs in child allocations by the National Insurance Institute (NII) have combined to create a near-crisis situation among Haredim, despite increased work-force participation. Dr. Daniel Gottlieb, a senior official at the Bank of Israel and lecturer in the economics of poverty at Ben-Gurion University explains, "What we found is that Haredi men who have received vocational training will be able to work, but it does not mean they will earn a high salary, because their skills are very low... not because they are not capable, but rather because their lack of knowledge prevents them from being able to study a profession in which they will be well-paid. They are doomed to low-income jobs."

Ever attentive to the developing needs of Israel society, the Jerusalem College of Technology has taken up the challenge and established academic programs for the Haredi community with

the encouragement of Israel's Council of Higher Education. As an institution that has always had respect for Torah studies and Jewish values, the traditional atmosphere at the College is consistent with the special requirements of the Haredi community. In addition, JCT focuses its academic curriculum on those subjects that lead to professional career development.

In 1999, JCT opened Machon Naveh an evening college program offering Haredi men the best of both worlds ... continuing their daytime Yeshiva learning, while studying for an academic degree in the evening. Due to their many years of Talmudic study which focuses on logic and independent thinking, the Haredi community is particularly suited to hi-tech work despite gaps in their early education. Talmud is also a solid preparation for computer programming.

Before making Haredi academic education a reality, JCT had to overcome a number of obstacles, the main one being that Haredi boys and men have little secular high-school education which would give them the basis for advancing their academic education. A special Pre-Academic Preparatory Course was devised to allow these young men to earn high-school equivalency matriculation and thus qualify entrance into a degree course. Some eighty Haredi men are currently studying in this academic preparatory program with an additional 180 students enrolled in academic degree programs at JCT.

Chaim is a 36 year old Bobover Chassid, living in Jerusalem and married with six children. He had no secular education before starting in the pre-academic preparatory program which he completed with full marks. Chaim is in his third year of studying Managerial Accounting and Information Systems. He also continues to study full-time in a Kollel and his wife teaches in a Seminar for women. "My years in Yeshiva trained me in analytical thinking. Learning at JCT allows me to utilize my abilities without compromising my religious beliefs."

JCT is also meeting the needs of young women in the Haredi community. Most Haredi girls initially attend Beit Yaakov schools, which again focus on Torah studies. They are taught that their

highest ideal should be to marry and support a Torah scholar, and raise a large family. Translated, this often means being the sole breadwinner for the family, which may have eight or more children, placing a heavy burden on the wife to economically support and raise the family.

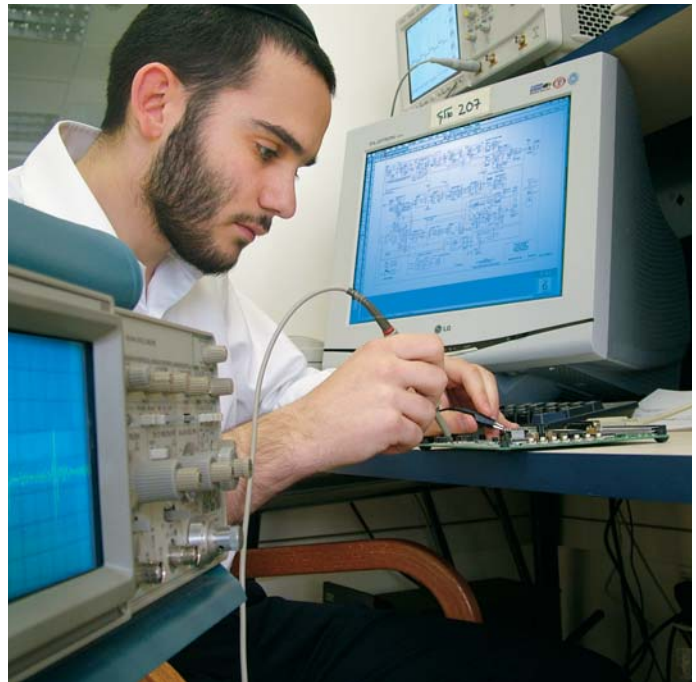
JCT opened Machon Lustig in Ramat Gan with the aim of helping these young Haredi women. Since the first graduating class in 2003, some 300 Haredi young women have earned bachelor degrees at Machon Lustig. Numerous companies made it possible for the students to work on their final-year academic projects in their offices and laboratories and many graduates have gone on to find employment in these companies. In the meantime JCT has introduced additional special programs for women in the Haredi community in the Jerusalem area at Machon Tal, JCT'S Women's School of Engineering and Management. The opportunities afforded by Machon Lustig and for the Haredi young women at Machon Tal, equip them with skills needed to acquire productive, well-paid jobs, both before and after marriage.

Due to its growing experience in this area, JCT has become involved in assisting another innovation - the Haredi Center for Technological Studies. Currently there are over 1000 students at four different locations throughout the country, who are studying a wide choice of non-academic professional studies running from between three months to three or more years. Over one thousand Haredim have graduated these courses and are now employed in many of Israel's leading hi-tech companies.

With the entry of employees from the Haredi community into hi-tech and managerial positions, many companies are making an effort to accommodate themselves to the specific religious needs of the Haredim. When one visits the modern offices of Israel's Matrix software company, there is a significant difference. There are separate male and female kitchens, and a breast-feeding room set aside for new mothers. Matrix formed this development center in 2004, and utilizes ultra-Orthodox labor, including graduates from JCT and the Haredi Center, in an environment conducive to their needs. This unit named Talpilot – meaning “an elite force”, offers serious competition to foreign off-shore centers. Their clients come from the banking, telecommunications and hi-tech industries. The Talpilot unit is situated in Modi'in Illit, a settlement housing many young Haredi families. The Talpilot work-force has grown from 200 to 1,000 in under 3 years.

Moshe is 31 years old, lives in Jerusalem and is married with three children. He studied at a top Lithuanian yeshiva before going on to learn full-time in Kollel which he continues to do whilst studying towards a degree in Computer Science at Machon Naveh. Moshe was very hesitant about starting to study at Machon Naveh but once he was convinced to do so, he immersed himself in his studies and is very pleased with his decision, finishing his first year with an average grade of 85%. Chaya, his wife, works at Matrix Talpilot as a computer programmer.

Some Haredim have started their own companies. Shlomo Unger, a former teacher at the Haredi Center, founded Machshava Technologies Ltd. together with Shlomo Waldmann, former General Manager of Indigo. The company absorbs experienced and highly skilled programmers from these programs for Haredim and



amongst its many achievements is the Hevre website which, since its launching in 2000, has caused a revolution in the Israeli Internet scene.

The disapproval within the Yeshiva world of Haredi men working has eroded significantly in recent years with the realization that the majority of them could not meet the basic needs of their family, and their wives were unable to shoulder the full financial burden.

The new opportunities that have been created for students from the Haredi community at JCT are having a far-reaching effect. By their going out into the workplace as highly-skilled professionals, there is a boost to economic growth as well as an interaction between them and the general work force that increases understanding and respect in both sectors. Poverty, along with the social problems it creates, is eased.

Many secular, liberal leaders have praised JCT for its proactive and pioneering role in initiating programs that give Haredi students a productive profession. These personas include Prof. Amnon Rubinstein, Shulamit Aloni, and Yossi Sarid, all of whom served as Ministers of Education.

The Jerusalem College of Technology is offering opportunities undreamed of even a decade ago, enabling men and women from the Haredi community to support themselves, their families and their communities and actively participate in Israeli society and its economy.

Without compromising its position as a top notch nationally oriented pro-Israel academic institution, JCT has positioned itself as a leader in addressing the problem of Haredi professional education, for the benefit of the State of Israel.

Written by Rosalind Elbaum and Dvora Waysman

JCT GLOBAL

Jerusalem

JCT has been invited by the Jerusalem Municipality to take part in the 40th anniversary celebrations of the reunification of Jerusalem in the upcoming year. As JCT itself approaches its 40th anniversary, this participation is in recognition of JCT's contribution to the development of Israel's capital city.

United States

■ In September, JCT kicked off a nationwide mail & email campaign designed to attract new supporters. One of the goals of the campaign was to enlighten and inform recipients of how important JCT is to the State of Israel, the Israel Defense Force, Israel's economy and to the city of Jerusalem. The mailing garnered significant interest and hundreds of recipients have become new JCT supporters.

■ **Prof. Joseph S. Bodenheimer**, President of JCT, has recently been invited as Scholar-in-Residence in Fair Lawn and Teaneck, New Jersey and the South Florida Jewish community of Boca Raton. Prof. Bodenheimer delivered a number of talks on the subjects of Talmud, Torah, and Science.

■ At the recently held finals of the **Jerusalem Science Quiz** in Chicago sponsored by **Integrated DNA Technologies**, Inc and JCT, Adam Ariel, a pupil at the Louis and Sarah Block Yeshiva High School of St. Louis, Missouri came in first place. and Yair Saperstein of DRS Yeshiva High School in Woodmere, New York came in second place. This year 19 students took part in the contest from 8 high schools throughout the United States. **Dr. Joseph Walder**, President and CEO of IDT and **Rabbi Moshe Kinderlehrer**, Executive Vice President of the U.S. Friends of JCT presented the prizes. Adam won a scholarship to study at JCT and along with six runners-up, will be spending a week touring Israel as guests of JCT. **Rabbi Heschel Weiner**, Director of Educational Outreach at IDT organizes the annual Jerusalem Science Quiz and accompanies the group on their visit to Israel in May.



Dr. Joseph Walder, Rabbi Moshe Kinderlehrer and Rabbi Heschel Weiner with the finalists of the Jerusalem Science Quiz

■ Presentations were made recently at Friends of the JCT Board meetings by Prof. Joseph Bodenheimer, IDF Major & JCT Alumnus **Adir Movshowitz**, the current IDF Inspector General (based in the US), and **Dov Rubin** – General Manager, NDS North America & JCT Alumnus.

■ Under the leadership of Friends of JCT board member, **Dana Haddad**, the JCT New Leadership group has taken its first steps to establishing itself. Its goals are to raise awareness for JCT, run innovative events and programs, and garner support for JCT.

Australia

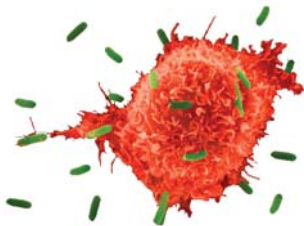
■ **Supreme Court Justice Elyakim Rubinstein** was guest lecturer at the **Hans Bachrach Memorial Oration** held at the Werdiger Family Hall in Melbourne Australia in February. This annual event is jointly sponsored by JCT and the Australia/Israel Jewish Affairs Council. Over 400 people attended the lecture and heard Justice Rubinstein speak on *Israel – Current Challenges for a Jewish and Democratic State*. **Mr. Reuven Surkis**, JCT's Vice President for Development & External Affairs spoke on behalf of the College and expressed his appreciation to the **Bachrach Family** for their many years of support for the Jerusalem College of Technology.



Left to right: Ben Slonim, Reuven Surkis, Justice Elyakim Rubinstein, Justice Alan Henry Goldberg, Colin Rubenstein, Prof. Louis Waller

U.K.

■ The British Friends of JCT – Young Committee held its second function in December (after their first successful and enjoyable Purim Event in March 2006) at Kinloss Suite in London. Over 300 people enjoyed a Chanukah Party with supper buffet and entertainment. **Daniel Baum**, the Honorary Treasurer of the BFJCT welcomed the public and gave a very informative and enjoyable talk. The new JCT PR film was shown.



The Key to Unlocking the Immune System

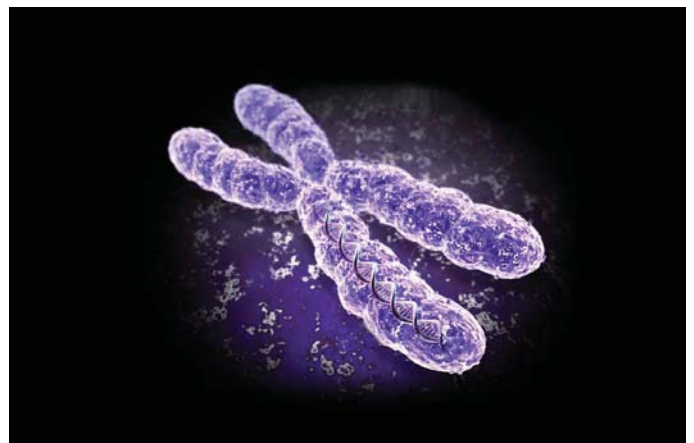
**Greater specificity and
effectiveness while reducing
adverse effects**

The global market for cancer therapies is a \$26 billion industry and growing strongly. Intensifying prevention and accelerating research are, more than ever, topical issues for Pharmaceutical and Bio-Technologic companies.

Breast cancer is a significant health problem in the industrialized western world being the most common form of cancer amongst women in North America and almost all of Europe. To date, there is no single effective treatment for breast cancer although four types of treatment are used in various combinations: Surgery, Radiation Therapy, Chemotherapy and Hormone Therapy. Several of the world's leading pharmaceutical companies are marketing drugs for the treatment of breast cancer but clinical trials continue in order to achieve better performance in the treatment of this disease.

One of the cancers with the highest rate of morbidity today is lung cancer which is the uncontrolled growth of abnormal cells in one or both of the lungs. While normal lung tissue cells reproduce and develop into healthy lung tissue, these abnormal cells reproduce rapidly and never grow into normal lung tissue. Lumps of cancer cells (tumors) then form and disrupt the lung, making it difficult to function properly. The available treatments can prolong the patient's life but complete cures are very rare. Options include surgery, radiation (including radiofrequency ablation), chemotherapy, or a combination of treatments.

Radiotherapy and chemotherapy are the two most widely used treatments for cancer. However they have serious disadvantages including causing severe side effects and not being able to specifically treat the cancerous area (non-specificity). As a promising alternative, a third strategy is being developed; a biological strategy which is hopefully more specific and limits the side effects as biological anti-cancer agents are relatively weaker than other anti-cancer treatments.



In June 2005, a Jerusalem-based company, Immune System Key (ISK) Ltd., was founded by Dr. Yoram Devary, Chairman of the Biochemistry Department and Prof. Uziel Sandler of the Department of Applied Mathematics at the Jerusalem College of Technology. Dr. Devary, Chairman and Director of R&D at ISK

is an expert in the molecular mechanism by which physical and chemical agents transform cells and Prof. Sandler, Vice-Chairman and CEO of ISK is one of the founders of the advanced mathematical discipline called “Fuzzy Dynamics” which describes evolution of complex systems with uncertainty in their dynamic laws.

ISK’s objective is to develop a new therapeutic drug that can distinguish between cancer cells and healthy cells, and induce programmed cell death in cancer cells only, a process known as Apoptosis. Apoptosis is a genetically directed process of cell self-destruction that is marked by the fragmentation of nuclear DNA, activated either by the presence of a stimulus or removal of a suppressing agent or stimulus, and is a normal physiological process eliminating DNA-damaged, superfluous, or unwanted cells. The strategy of developing such a drug promises greater specificity and effectiveness while reducing adverse effects.

ISK has succeeded in isolating and cloning a novel protein, Nerofe in the human thymus. Nerofe plays a pivotal role in the natural constitutively active apoptosis process. The thymus is a glandular structure of largely lymphoid tissue that mainly functions in the development of the body’s immune system. Nerofe, this apoptosis-inducing protein, is selectively expressed in the human thymus in Hassal’s Corpuscles where negative selection of cells takes place.

ISK researchers have found that Nerofe has the ability to accelerate the rate of apoptosis in negatively selected cells in the thymus of mice. An interesting observation done with Nerofe is its ability to selectively induce apoptosis processes in cancer cells, and not to harm healthy cells.

ISK is currently carrying out pre-clinical trials to establish initial safety and pharmacological profiles of Nerofe. The company hopes to develop a drug candidate for the treatment of breast and lung cancers. In addition Nerofe shows promise as a treatment for Crohn’s Disease and Ulcerative Colitis, disorders of the intestinal system that cause inflammation of the small and large intestines, and are collectively known as Inflammatory Bowel Disorder (IBD). Both Crohn’s Disease and Ulcerative Colitis are chronic and affect men and women approximately equally. It is most common in northern Europe and North America although the precise cause of Crohn’s Disease remains unknown.

With the numbers of people succumbing to these illnesses increasing annually, researchers continue to search for cures. Dr. Devary and Professor Sandler are optimistic as to the outcome of their research. Hopefully, it is only a matter of time until Immune System Key Ltd. unlocks the mysteries of these diseases and is able to introduce new effective treatments for them.

For additional information regarding Immune System Key Ltd. and its ongoing research, contact Dr. Yoram Devary at development@jct.ac.il or +972-2-675-1269.

Written by Chaim Katz



Dr. Yoram Devary



Lung Cancer Cells

Facts & Figures

- Cancer is one of the leading causes of death worldwide. From a total of 58 million deaths in 2005, cancer accounted for 7.6 million (13%). Each year, more than 11 million people worldwide are diagnosed with cancer and it is estimated that by the year 2020, this number will reach 16 million!
- Each year over one million women worldwide are diagnosed with breast cancer, causing 40,000 deaths annually.
- The incidence of the disease is increasing in both industrialized and developing countries. There are over 212,000 cases of breast cancer diagnosed in the USA alone each year. In Canada, the figure is over 20,000, Australia 13,000, and in the UK the figure is 41,000. Overall, one woman in every nine will get breast cancer at some time in her life.
- Lung cancer is the most common cancer worldwide with an estimated 1.2 million new cases annually and is the leading cause of deaths from cancer in the world. Approximately \$9.6 billion is spent each year on the treatment of lung cancer in the United States where it accounts for 28% of all cancer deaths.
- Approximately 2 million men & women in North America and northern Europe (around 1 in 300) are afflicted with Crohn’s Disease and Ulcerative Colitis (IBD). Recent studies suggest that up to 30% of all newly diagnosed cases are in children and teens under the age of 18. Some 20% of individuals with Crohn’s Disease have a blood relative with some form of IBD. Some ethnic groups (such as Ashkenazi Jews) are known to have a significantly higher rate of prevalence than others.



www.vd.jct.ac.il

VIRTUAL DINNER

The Department for Development & External Affairs has come up with an original fundraising event – a Virtual Dinner to raise funds for the Student Center Dining Hall.

Some 500 students on JCT's Givat Mordechai campus depend on its dining facilities and subsidized meals. For many, including immigrants without family in Israel and others from development towns, JCT is their home 365 days a year. JCT had rented dining hall and kitchen facilities from an adjacent institution but due to their expanding activities, we have been asked to vacate the premises by June 2007. Our students will have no place to eat so we have commenced building a Student Center Dining Hall without delay.

Just as the Dining Hall is currently "Virtual", so too is the Dinner "Virtual" to raise funds for this project. All you need to do is log in to the Virtual Dinner website at www.vd.jct.ac.il and you will find a full Virtual Dinner menu – there is a choice of 3 courses and 3 different types of entertainment to amuse during the Virtual Dinner.

We hope that if the Virtual Dinner meets or even exceeds your expectations you will also leave a tip by making a donation on-line through the website or mailing the accompanying pledge card with your donation to your local Friends' office.

ON CAMPUS

Atidim Chalamish

- Machon Naveh, JCT's Institute for male Haredi students, continues to broaden its horizons by offering new and innovative opportunities. Atidim Chalamish is a unique program jointly sponsored by JCT and the Ministry of Industry, Trade and Labor, under the leadership of **MK Eli Yishai**. Atidim was created six years ago by **Mr. Avner Barazani**. Its primary focus was to offer educational opportunities and incentives to students from various communities in Israel who have displayed a potential for academic excellence. Qualifying students, who satisfy both geographic and scholastic requirements, are offered full tuition and monthly living expenses throughout the duration of their academic studies.

Until recently, this program was offered to residents of various peripheral areas and development towns. Now, this program, also supported through the generous philanthropy of industrialist **Mr. Eitan Wertheimer**, is opening its doors to young men in the Haredi community. Students in this program will be able to pursue careers in the various faculties of Machon Lev while not foregoing their regular daytime Yeshiva studies.

At an inaugural ceremony held at the JCT Machon Lev campus on January 14, 2007, the first 120 Haredi students received a warm welcome to this program. Among the dignitaries offering greetings at this historic event were **Chief Rabbi Yonah Metzger**, Minister of Industry and Trade, **MK Eli Yishai**, Prof. Joseph Bodenheimer, President of JCT, Mr. Eitan Wertheimer, Chairman of Atidim and Mr. Avner Barazani, founder of Atidim.



Mr. Eitan Wertheimer with JCT students at the Atidim Chalamish inaugural ceremony

Annual Conference on Torah, Derech Eretz, and Science

- Espousing the JCT philosophy of *Torah im Derech Eretz* – Torah combined with gainful employment, the Beit Midrash of JCT recently sponsored a conference focusing on these concepts with an emphasis on Marketing and Work Relations.

The conference, coordinated by **Dr. Yaacov HaCohen-Kerner** of JCT's Computer Department, featured a variety of learned speakers from JCT's Beit Midrash, Academic Departments and the Business Ethics Center at JCT who examined the central topic in a variety of aspects ranging from proper business relations as defined in Jewish

law through modern business ethics, marketing and use of Torah computer software.

JCT Board Member becomes Member of Knesset

Due to the untimely passing of **MK Yuri Stern z"l**, Yisrael Beiteinu party member **David Rotem** has become the newest member of Israel's Knesset. A prominent Jerusalem attorney, Mr. Rotem, 55, is also a member of JCT's Board of Governors. Mr. Rotem and his wife are active in a number of charitable causes. Mr. Rotem also serves on the Executive Committee of Shaarei Zedek Hospital. JCT wishes Mr. Rotem much success in his new position as Member of Knesset.

Microsoft shows interest in JCT Solution for the Campuses in Israel

Microsoft Israel has expressed its interest in cooperation with JCT to promote use of programs developed & applied at JCT for Academic Administration within other institutes of Higher Education in Israel.

Education Sales manager at Microsoft Israel, **Mr. Ofer Daliot**, has expressed his interest as our programs are apparently the most advanced systems in the High Education institutes in Israel. Our program consists of self development of academic administrative programs using Microsoft developing tools together with the incorporation of Microsoft information systems (Exchange, SharePoint, and Dynamics CRM) and Learning Gateway for the Academia. This technique answers Microsoft's vision in the assimilation its products.

Students Assisting the Non-Profit Sector

- Project Nova, instituted by Tel Aviv University, is a unique program designed to pair students from business managerial faculties with non-profit organizations. Students offer business advice while receiving instruction from senior professionals in the non-profit sector. JCT is the second academic institution invited to participate in Project Nova.
- Students from the Faculty of Accounting and Information Systems are offering assistance to the organization "A Computer for Every Child." The organization was founded in 1996 with a goal to make computers and relevant instruction readily available to children from various social classes with limited resources. Machon Lev's students are working with management of the organization to update and streamline procedures.

Let the Construction Begin!

Visitors to the JCT campus can be treated to the rumble of tractors, the noise of jackhammers, and piles of rubble as construction has begun on the new **Sohacheski Student Center** which will include a Dining Hall, Lecture Halls, Computer Center and Tutorial Classrooms. The project is progressing according to schedule and the ground floor of the complex is targeted to be completed in time for the coming academic year.



Construction begins on the Sohacheski Student Center

Students Recommend JCT

In a survey conducted recently by the Israel Council of Higher Education amongst students of all higher education institutes in Israel, 83% of the students studying at JCT would recommend others to study at the Machon. Among the 62 institutes of higher education in Israel (Colleges and Universities), JCT ranked in 6th place for student recommendations.



The Friends of JCT have moved to new offices on 5th Avenue (around the corner from their former premises.) Please note their new address below

Canadian Friends of JCT

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Email: raizy@cfjct.org

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JERUSALEM

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- Deluxe motorcoach transportation;
- Daily briefings, meetings, trips, advisory sessions, interviews, and networking opportunities
- Meetings with political leaders, public figures and captains of industry
- Reception at City Hall hosted by the Mayor of Jerusalem

For reservations or more information, please contact:

U.S.A.: Friends of JCT Tel: 212-563-5620 or email: mk@friendsofjct.org

U.K.: British Friends of JCT Tel: 020 8349 5129 or email: info@bfjct.co.uk

Israel: Department of Development & Ext. Affairs Tel: 02-6751269
or email: development@jct.ac.il