

ENGINEERING A BETTER WORLD

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A Playground Accessible to All!

Engineering with a Mission



Tina Gueta and Shiran Cohen

Students and developers of the accessible playground slide

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A first of its kind:



In a preliminary study conducted by the two and accompanied by their teacher, Lucy Miller Shemesh, they could not find anywhere in the world a slide designed specifically for people in wheelchairs. In fact, other than a carousel to which wheelchairs can be attached, public playground facilities cannot be used independently without an accompanying individual. Tina and Shiran decided to design a slide that would enable persons using a wheelchair to use it independently, without having to depend on someone to accompany them.

To learn more about the special needs of persons using a wheelchair, Guetta and Cohen visited playgrounds all over Israel: "We interviewed people who use

wheelchairs and visited parks defined as accessible, but didn't see any children in wheelchairs playing in them. To better understand the situation, we tried using the facilities ourselves while sitting in wheelchairs. We learned that a child in a wheelchair is all but unable to enjoy the different playground facilities".

The two designed a wide slide that is suitable for wheelchairs. Moreover, attached to the slide is a capsule (which goes up and down) with a place for a wheelchair and also fitted with a bench that seats two. A child in a wheelchair, or a disabled parent who wants to slide with their child, gets into the capsule. When the capsule reaches the top of the slide a gate closes behind them, preventing

An accessible slide



Tina Guetta and Shiran Cohen, Mechanical Engineering students, presented their unique final project at the Engineering Society conference: a slide for public playgrounds designed specifically for wheelchair users

other users from getting on the slide. Once they finish sliding the capsule goes back down automatically and waits for the next user. In addition, as part of the slide facility, users can move between five stations that include interactive elements designed to teach science in an interesting format through pictures.

“One of the issues that accompanied us throughout the planning process was the desire to give children independence”, recounted Tina and Shiran. “We saw that on many playground facilities children in a wheelchair had to have someone there to help them. Our slide enables children to enjoy the facilities without any help. They can get on and use it completely by themselves”.

“We were told that we were changing people’s lives”, the two students recounted. “We understood that through engineering we were creating a different and better reality, for example a parent in a wheelchair playing with their child. We believe that we will be able to raise the funds needed for further development and construction, and that within two years we will be able to introduce a fully functional facility into playgrounds throughout Israel. We know that this is a huge-scale project, in terms of both the process and the budget, but the results speak for themselves. At the end of the day, a child’s smile is worth everything”.

From the President’s Desk



The 2019/2020 academic year opens at the SCE with a growing number of BA and MA students. This increased student population is attributed to our approach – that of innovation, entrepreneurship and thinking outside the box.

We have many good reasons to be very proud of our graduates. This issue of the magazine opens with two SCE students that will contribute to a better world by making playgrounds accessible. There is also an article about our graduate, Hisham Abdulhalim, a product manager at PayPal who was included in the The Marker magazine list of 40 most promising young people for 2019 (read about this on pages 18-19).

We diligently continue to advance knowledge and cultivate excellence among diverse populations and to contribute to the flourishing of society through multi-disciplinary education, entrepreneurship and trailblazing applied research. As an academic institution, all this and more requires us to focus on continued growth and on developing academic excellence so that engineering will lead to a better world, and you, our students, will be at the forefront in your studies and in industry.

I wish success to all our continuing students, and to the new students joining us this year I wish you quick and easy integration in your studies and into the fabric of life at the SCE.

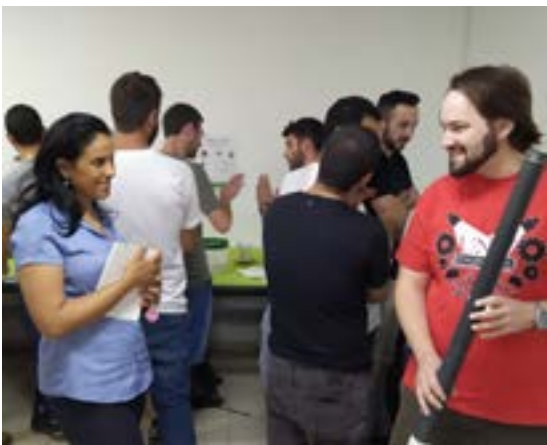
May this be a year of successful studies brimming with new ideas!

Warmly,

Prof. Jehuda Haddad
President

The technology for the operating room of the future will come from Ashdod

Developments made in collaboration with the Ashdod Assuta Medical Center and with the Ministry of Defense, focusing on creative solutions to real challenges, were presented at the project conference organized by the Entrepreneurship and Innovation Center (EIC) at the Ashdod campus



At the project conference organized by the Entrepreneurship and Innovation Center (EIC), students presented projects made in the past six months together with the Assuta Medical Center in Ashdod and with the Ministry of Defense.

In meetings held with medical and Ministry of Defense personnel in the beginning of the process, students and members of the academic staff heard about problems rising in every-day work, the common work practices and the professional requirements for the products used. The students were asked to think of solutions for the problems presented and to make a suitable prototype model.

Dr. Asaf Peretz, the head of the Internal Medicine Ward at Assuta, who also met with students in the beginning of the process, said that one of the greatest challenges facing the Medical Center, due to it being overcrowded, was dispensing drugs to patients. During the research they conducted, the students discovered that this was indeed a big

issue: every year, errors made when dispensing drugs caused almost twice as many deaths than car accidents!

The students thought of creative solutions and built models of the systems planned. One system automatically dispenses the drugs, according to the patient's name. Another system holds all the medicine doses given to all the patients in the ward in one room, and knows to dispense the right drug by scanning the patient's code. So, when the nurse enters the patient details, the system automatically dispenses the desired drugs, as determined by the treating physician, and serves them without any possible option of a mistake in identity (see also page 7)

The project with Assuta is part of the Challenge program, a unique program for the development of engineering ingenuity in organizations, which also includes other participating organizations and companies.

"All the projects presented at the

conference were focused on real-life problems in the industry" Said Dr. Neta Kela, the Head of the EIC at SCE. "The Assuta Medical Center presented professional problems and requirements, and our students were asked to do all the rest: "research the field, think of a solution and create an initial model demonstrating a practical ability to solve the problem.

"The Assuta representatives expressed their satisfaction with the students' performance, since they succeeded in creating a functional model within a few-months' time. I am certain that these collaborations will generate real products in the future. Our program was designed to educate students and to teach them to develop solutions for real-life challenges. To think creatively and in an innovative manner in order to use the engineering knowledge they gained into practical solution. The projects presented at the conference are testimony to their creativity and engineering capabilities".

How to easily close a heavy door

This is how you offer a solution to a very actual need: after a little girl living in the area surrounding the Gaza Strip complained it was too difficult for her to close the heavy door of the security room, students from the Department of Mechanical Engineering developed a mechanism which will enable anyone to close the door and feel safe

An interview with a little girl living near the Gaza Strip – That's all it took in order to get the creative juices flowing for Aviv Dadush, a graduate from the Department of Mechanical Engineering. The girl said that one of the greatest challenges she faced at times of emergency was the security room door: it was very heavy, and she found it very difficult to lock.

Dadush, who at the time was just about to start working on his final project, heard this and decided to develop a simple and easy locking mechanism for the security room door, one which would be compatible with the various door types currently available on the market. Another student, Taras Shapirko, an honors student in the Department, joined the project, and after working together for almost a year – together with their instructors, Dr. Zuk Turbovich and Dr. Yoav Biton – the two students presented their fully operational prototype at the Department's project conference.

"When I heard the interview with the little girl, it was clear to me that as a future mechanical engineer, I had to try to find a solution to a problem which other people were most probably experiencing as well", says Aviv Dadush, who has by now graduated from the college. "I contacted the Department Chair, Dr. Gedalya Mazor, who immediately allowed me to pursue this engineering idea as a final project. In order to carry-out such a large-scale project we had to seek the guidance of Dr. Yoav Biton and Dr. Zuk Turbovich, and together we started looking into the subject of security-room doors, the locking mechanism and the possible solutions. In conducting this research, we used a door we received as a gift from Palraz".

"During our research we discovered that the main difficulty in closing these doors was a result of the rubber bands sitting around the door", continue Dadush and Shapirko. "The seal has an important role in the prevention of the penetration of gas into the room, and in the protection against the blast from explosions. After examining dozens of doors, we found that the user must employ power equal to a weight of 30 Kgs in order to close the door.

"After examining several ideas, we reached a solution comprised of two mechanisms – one installed on the door and the other on the doorframe. Our solution allows the door to be easily closed, without preventing the achievement of the required level of sealing. The mechanisms we developed divides the locking process into two parts: once the door is closed, the first mechanism kicks in and locks the door using a latch, like the operation of the seatbelt mechanism in a vehicle. The second locking action is achieved by simply and easily lifting a handle, and is based on the principle of the application of torque generated by a gear and a rack. With this mechanism, even children, elderly people and all those finding the current mechanism difficult to use, can easily close the door, and naturally also open it".

Dadush and Shapirko are currently working on making their invention available for every home. "After checking the matter with the home front command and against the strictest manufacturing standards, we have recently received an approval to register our invention as a patent protected by copyrights. We are in touch with several investors, after several companies and associations saw this project and recognized its potential".

While marketing the product, the two continue working on other developments in the field: "We have a few more ideas for upgrading our patent. We envision a promising future for it, and believe that in the next few years, security rooms in new houses will be built with the unique mechanism we developed".



Don't worry: The bus will stop at the correct station

A project presented in the project conference held by the Electric Engineering Department offers one practical solution to two problems plaguing public transportation users: the fear that the bus will not stop at the station and the time wasted on unnecessary stops

During the projects conference held by the Electric Engineering Department, many projects were presented, in a variety of subjects, offering solutions to different challenges.

One of the most impressive projects focused on the field of public transportation. The students Mevorach Farjun and Evgeny Sverdlov, together with their instructor Dr. Moshe Zohar, offered a simple yet sophisticated solution to problems plaguing bus users.

The students conducted a research that revealed that on bus rides, a great deal of time is wasted on stops at stations where no passengers are waiting for that line. Another problem is busses failing to stop at required stations, when the driver fails to notice the waiting passengers.

The project presented by Farjun and Sverdlov included a device installed on the bus, which communicates with another device installed at the station. A passenger arriving at the station presses a button specifying the line number they wish to board. When the bus approaches the station, the device at the station signals to the driver that there are passengers waiting for the bus. This allows passengers to wait with peace of

mind, knowing that the bus will stop for them, and ensures that the driver will not waste time on unnecessary stops.

"Today, when the drivers sees passengers waiting at the station they stop, and if no one boards the bus, that is a waste of precious time for all the passengers on board the bus", according to the two students. "We conducted our research on the line from Jerusalem to Ashkelon. On a ride taking approx. 90 minutes, we measured an average delay of 12-18 minutes caused by unnecessary stops. Our system can solve this problem and reduce the total travel time. This will save precious time both for the bus company and the passengers".

Many other projects were presented in the

conference by the Department's fourth-year students. Prof. Victor Kagalovsky, the Chair of the Electric Engineering Department, says: "We saw very advanced projects, illustrating a deep understanding of this profession. The students implemented the knowledge they acquired during their studies in one comprehensive project, offering a solution to a problem or an improvement for an existing product – whether from a research or industrial point of view. We were very happy to see the high level displayed by the final projects, and are very proud of our students, many of whom will continue to graduate studies. I wish all of them success in their future professional endeavors in the field of engineering".



A Smart medicine cart – for preventing drug administration errors in hospitals

As part of a special collaboration with the Assuta Medical Center, SCE students developed an automated drug dispensing system, which could reduce the number of errors and save lives.



As part of a special collaboration between the Entrepreneurship and Innovation Center (EIC) at SCE and the Assuta Medical Center, outstanding students from the Department of Mechanical Engineering developed a project aimed at offering a solution to the problem of errors occurring when drugs are administered by medical staff at hospitals or nursing homes.

Current studies show that a person is more likely to die from a medical error than from a car accident, a stroke, diabetes, pneumonia or the flu. Every year, more than 250 thousand people die in the US due to a drug administration error or misdiagnosis. This is the third highest cause of death after heart disease and cancer.

In Israel, the medical system is seriously overburdened, due, among other things, to the high number of patients and hospitalized people in relation to the number of medical staff members. This burden has the potential of causing serious human error, for instance, when administering drugs.

Under the guidance of Dr. Neta Kela Madar, a personal medicine specialist, the students Inon Ohayon, Oron Kestenbaum, David Golan, Igor Magar and Roi Kachlon, all third-year students in the Department of Mechanical

Engineering, developed an automated drug dispensing system, which identifies the patient and administers the required drugs accordingly.

The current method in common practice is extremely outdated. The drugs are manually taken out of a plastic drawer, labeled with the room/bed number, by a member of the treating staff. The patient may sometimes move to a different room or bed, without the staff being informed, and in this situation errors in identification may occur. Automated drug sorting systems do exist, but there is no secure and easy way to operate system controlling the workflow from the receipt of the treating physician's instructions to the stage of the drug administration.

As part of the college's entrepreneurship course, this issue was introduced to the students as a challenge facing the healthcare system. The workers of the Assuta Medical Center presented their needs and guided the students through the development stage, until a prototype was constructed. The system they developed interfaces with most of the medical carts currently in use, and reduces the space used for storing drugs on the existing cart.

Dr. Neta Kela Madar, the Head of the EIC, says that the project was developed as part of a program aimed at providing solutions to actual real-world needs, and at creating a link between engineering and personal and digital medicine. The project provides a solution to the vital need for automation in the drug dispensing system.

Dr. Assaf Perez, The Head of the Internal Medicine Ward at the Assuta Medical Center, says: "We are looking for solutions that will allow us to provide patients with a safe and controlled treatment, even when the system is overburdened. We hope the project undergoes further development, until its full implementation at the hospital".

Yinon Ohayun, one of the students who worked on the project, notes that after the initial development and the construction of a prototype, the teams aspires to collaborate with Assuta on the creation of an interface for the existing system, and on raising the funds needed for the creation of a system that would be tested as a pilot in hospitals.



The Fourth Engineering Society Conference

Hundreds of students, academics, CEOs and representatives from tech and start-up companies from all over the country came to the Engineering Society conference, held at SCE for the fourth year now.

As the years pass, the Engineering Society Conference, held at SCE, grows in significance and prominence. The conference promotes the creation of new links between industrialists, entrepreneurs, academics and students, promoting innovative technologies and engineering projects, offering solutions to the needs of society and working together for a better future.

The 2019 Engineering Society conference was meant to create a completely new and unique discussion in the world of engineering – which connects between engineering capabilities and technological developments to the needs of society and humanity in general. The conference, which was held at SCE for the fourth year, was dedicated this time to innovation, engineering and society, all with the purpose of making the world a better place for all of us.

The conference opened with a presentation of social engineering projects developed by students from the college, designed to offer solutions to people with social needs, to change lifestyles and to promote processes of social change.

The projects presented focused on a wide variety of issues, all related to each and every person in Israeli society. So, for instance, Aviv Dadush and Taras Shapirko, two mechanical engineering students, presented a very practical product related to the rocket alarms near the Gaza border. Under the guidance of Dr. Yoav Biton and Dr. Zuk Turbovich, the two developed a mechanism designed to make it easier to close the doors of the security rooms. According to them, after several rounds of combat in the south, and after studying the matter, they found that elderly people, small children and people with special needs find it difficult to close the security room doors, an action which requires the application of 30 Kgs worth of force. The system they developed makes the whole process easier, and enables the security room door to be closed and locked with a single touch of a handle.

Another project presented as part of this exhibition was the Coffee-Face app – a restaurant menu activated through eye monitoring, thus enabling access to people suffering from motor disabilities. Another product presented was a self-testing kit, enabling rape victims to

decide whether they wanted to be examined by a doctor or to conduct the rape test themselves.

Special award to 6Degrees

This year was the first time that a special award was granted as part of the conference, in order to encourage the development of more technological initiatives offering solutions to social needs in Israel. The winning project for 2019 was 6Degrees, a unique bracelet allowing people unable to control their fingers, or with low fine motor skills, to operate tablets and smartphones. The bracelet is in its final stages of development. The founders are Ziv Shilon, a disabled IDF officer who lost his hand in the Gaza Strip six years ago, electric engineer Aryeh Katz and industrial designer Miri Berger.

Thanks to this project, people with disabilities in their upper torso can operate technological devices which are required for everyday activities. The bracelet is worn on the upper arm, connects to smart devices through Wi-Fi and translates the arms movement to a command sent to the device. In fact, this is exactly how the device simulates the movement of a finger on a touchscreen, a joystick, a keyboard or a mouse. It is operated by a “learning” algorithm: the more the device is used, the more it is capable of better adjusting itself to each user’s unique range of motion.

Shilon, who has undergone more than 14 surgeries and intensive rehabilitation, and has since successfully completed many physical challenges, told conference goers of his injury in Gaza



and of the link between the world of entrepreneurship and the need to set objectives which are difficult to reach, all as part of his integration in the field of entrepreneurship and the in the start-up industry.

Hackathon final and lectures

Earlier at the Ashdod Campus, a hackathon focusing on life-saving engineering on the road was held in collaboration with Mobileye, with the purpose of finding creative and innovative solutions to minimize the number of road accident casualties. Approx. 100 students from various academic institutions from all over the country were required to find a solution to two main issues: distractions on the road and a smart helmet in a smart space.

The participants were provided with the aid of professional and academic mentors, with a project presentation workshop, with any support they needed in order to present their project to the audience, and many other treats of course. The mentors were extremely satisfied with the level of seriousness, originality and passion displayed by the students during their work on the projects. The hackathon referee team graded each group based on parameters of originality and innovation, practicality, realization and cost, and based on the presentation of the project.

The three finalist teams presented their products to the conference goers, who were asked to rank the teams. First place, and a prize of NIS 10,000, were won by the Safetify team, which was comprised of six students from the Ashdod campus. The team developed a system alerting bicycle riders on inter-city highways to dangers, such as other vehicles, approaching them from the rear.



The conference also included inspirational lectures, which introduced the listeners to a new meeting point of technology and society. Adi Zamir, the founder and CEO of Pink of View, spoke about her important technological project, which successfully places women and their health in their rightful place. The project she developed involves the early detection of breast cancer using pictures taken on a smartphone. Another fascinating lecture was presented by Dr. Yael Villa, who has been serving in recent years as VP and head of the Ciscso and EMC development centers in Israel, and who came to speak about entrepreneurship and innovation that are everywhere around us. The conference ended with a demonstration provided by Yossi Lieber, the head of field operations in Orcom Israel, who showed the audience how the artificial sight revolution was empowering users and making the world more accessible.

Mr. Moshe Karuchi, the Dean of Students and conference organizer, offered these closing remarks: "We have been working on the relationship between engineering and society for more than five years now. In the beginning, many eyebrows were raised when we presented the issue of social entrepreneurship. But today, we can see a shift in perception, as more and more partners understand that this is the best way to create a better world – that this is, in fact, technology's role. The Engineering Society conference is a unique framework for creating a joint dialogue, which helps create new knowledge and a smart reality that enhance our ability to look at technology. I firmly believe that the entrepreneurs who choose to take part in this dialogue will find themselves at the heart of the social works and engineering creations which have the power to make our world a better place".

Engineering saving lives on the road

More than one hundred students, from various academic institutions in Israel, participated in the hackathon held by the college, in collaboration with Mobileye * The hackathon focused on road safety, and was held as part of the "Engineering Society" conference



Engineering students from all over the country arrived at the national SCE hackathon, which was held at the Ashdod campus in collaboration with Mobileye – the driver-assistance system manufacturer. The students, who came from SCE, Ben Gurion University of the Negev, the Technion, Achva College, Bar Ilan University, the Academic College of Ashkelon and more, were divided into 18 teams and spent 24 consecutive hours working on various engineering projects related to the field of road safety.

The purpose of the hackathon was to invent, develop and build an initial model of a product designed to reduce injuries caused as a result of road accidents, to sound an alarm before accidents happen and to protect human lives on the road.

The students developed applications, devices and other technological means while focusing on two main issues: first, a smart helmet which would minimize injuries to users for two-wheel vehicles, and second, distractions on the roads. So, for instance, a team of students developed a camera system which attaches to the Mobileye system already existing on board the vehicle. The cameras follow the driver's eyes and alert when sensing they are no longer watching the road. A different project focused on collecting trip data such as speed, terrain, steering wheel angle, driver condition and so on, and analyzing

them in a device like the black box in an airplane.

In relation to minimizing injuries to users of two-wheel vehicles, students developed projects designed to protect them and increase their safety. So, for instance, a team of students developed a helmet with a rear-view camera, which provides the driver with information about the cars driving behind them. The information is relayed through small vibrations felt on different parts of the body, in accordance with the location of the other vehicles. A second team, which chose to focus on the problem of "hit and run" accidents, developed a system which can be fitted on rider helmets, to alert law enforcement and emergency response forces of any change in the wearing person's condition, if no one has contacted them upon the occurrence of an accident.

At the end of the hackathon, students presented their products. The three groups that advanced to the second stage presented their projects on the central stage at the "Engineering Society" conference, held at the college for the fourth year now. First place, with a prize of NIS 10,000, was won by the "Safetify" group – six students from the Ashdod campus who developed a driver-assist system for bicycle riders in inter-city highways.

The college president, Prof. Jehuda Haddad, welcomed the contestants and said: "We, at the college, believe in educating engineers for a better world. The best way to describe our students is through the link between technology and society. This makes our collaboration, as members of the

academy, with Mobileye, a company engaged in saving human lives, very natural and mutually beneficial. We are happy to see this collaboration and hope to promote further collaborations with other companies. This is a competition, but I am sure that all the students here are winners. Even if you do not reach the top places, you have received the added value of developing an idea to an almost finished product. I wish the best of luck to all the participants and hope to see some of your developments reaching fruition in the future".

Roi Shtang, a project manager in Mobileye, spoke about the company's activities and addressed the purpose of the hackathon: "As a company engaged in driver-assistance and the development of smart safety devices for vehicles, we must be able to foresee the challenges we will have to deal with in the near future. All of us must try to deal with the current problems, and already start examining the problems of the future and their possible solutions.

Gilad Oppenheimer, an entrepreneur and the CEO of Intovision, participated in last year's hackathon as a referee, and since then has lost his 9-year old son, Oz, in a car accident. This led him to decide to attend it this year as well with his family and to serve again as a referee in the competition. Gilad and his family thanked the students for participating in the conference and said: "The hackathon is an opportunity to create a new, safer reality in the public sphere. This is the best stage for the best and most creative sides of Israeli society. We hope and believe that this will help prevent the next tragedy".

A new research laboratory was opened in the Physics Unit

The laboratory will be used for advance radiation physics and dosimetry research



A new research laboratory for radiation physics and dosimetry (the measurement of radiation levels and quality) was opened at the Physics Unit, headed by the unit Chair, Prof. Leonid Oster. The laboratory will serve research done in the field of radioactive (ionizing) radiation.

In the new laboratory, researchers are developing innovative work methods in the field of dosimetry, while utilizing modern technological and physical practices. These practices will be used to evaluate the level of risk to which workers in hospitals (nuclear medicine), nuclear reactors, research institutions and more are exposed to. They will permit the evaluation of the level of the risk possible and will allow us to gain an understanding of the effects of various types of radiation on the human body.

Prof. Leonid Oster, together with his colleagues at the Soreq Nuclear Research Center and the Ben Gurion University, has won recently two very significant research grants from the Pazy Foundation (the Israel Atomic Energy Commission) and the Ministry of Science and Technology.

The first study focused on reading the radiation dose to which a dosimetric material was exposed to, while separating between a radiation dose obtained from an exposure to radiation with a high level of ionization density,

such as neutrinos and alfa particles, and an exposure to a radiation dose with a low level of ionization density, such as gamma radiation and electrons. The practical importance of independent detection of exposure to various forms of radiation doses, which have a drastically different biological calculation, is clear. There is no doubt that the ability to obtain isolated information from the same crystal (or personal radiation tag) which is carried by an employee in a mixed-radiation environment, is a breakthrough in the field of personal dosimetry, which will greatly improve the ability to achieve a more precise assessment of the total radiation dose the employee was exposed to.

The second study focuses on achieving a precise determination of the radiation dose in clinical/medical applications. The radiation dose absorbed by the biological tissue has a crucial effect on the ability to optimize radiation treatments, and it is crucial that it is determined with a high degree of precision and repeatability. Having exact information concerning the radiation dose is also essential for determining the radiation risks the body is exposed to as part of imagery or scanning procedures (CT).

Harmful effects could emanate both from known and well-defined processes

and from random processes. If one assumes that there is no threshold dose of radiation (the ALARA principle), even small radiation doses could cause damage, and the exposure to radiation must be measured exactly in order to minimize said damage.

Even though many dosimetry methods can be used, dosimeters based on a solid state in general, and specifically on thermoluminescent materials, play a crucially important role in these applications, due to the significant benefits they provide. At the same time, there are two primary potential issues related to the use of these materials in exact measurements of radiation doses. The first is related to their non-linear response to radiation exceeding a certain dose. The second is related to recent discoveries regarding the lack of experiments (in support of the assumption that the rate of exposure to the radiation has no effect on the damage caused by the radiation). Both issues will be addressed as part of the proposed study.

Improved methods will be developed for describing radiation rate and dose level ranges, in which dose rates are undiagnosed. Furthermore, a new technique will be developed, employing optical excitement after the exposure to radiation. This technique is expected to increase the linear range of the thermoluminescent response to radiation doses.

These activities will significantly contribute to the use of ionizing radiation for the diagnosis and treatment of a wide variety of diagnostic and clinical processes.

What's more important?



On the relative importance of the various criteria comprising the teaching satisfaction surveys, from the point of view of both the students and the academic staff

Teaching satisfaction surveys are a common tool for measuring student satisfaction in higher education institutions. They usually include several criteria, all of which carry an equal weight.

A study conducted by Prof. Yossi Hadad, Prof. Baruch Keren and Dr. Gali Naveh from the Department of Industrial Engineering and Management at the Beer Sheva campus, examined whether there was indeed room to allocate an equal weight to each one of the criteria, or whether each should receive a different weight, in accordance with its relative importance in the eyes of students and lecturers.

The study, which was conducted at SCE, examined the relative importance of the five criteria appearing in the SCE teaching satisfaction surveys – both from the point of view of the students

The findings show that there are differences between the students and the lecturers in relation to the ranking of the various criteria.

Moreover, the ranking offered by lecturers is the exact opposite than that offered by students

and of the academic staff. The relative importance was examined based on AHP – a scientific methodology which allows different weights to be assigned to different criteria and enables inconsistent responders to be rejected.

As part of the study, a survey was submitted to the students of the

Department of Industrial Engineering and Management and those studying in the preparatory program, as well as to lecturers in the college. The responders were asked to compare between pairs of criteria appearing as part of the teaching satisfaction survey. In total, 370 students and 71 lecturers answered the survey.

The criteria comprising SCE's teaching satisfaction survey are: 1) lesson and course organization; 2) are the lectures interesting and dynamic; 3) is the material taught in a clear manner; 4) lecturer attitude towards students; 5) lecturer availability to answer student queries and questions.

After analyzing the surveys and rejecting inconsistent responders, it was found that there were no statistically significant differences between the answers provided by the preparatory students and those studying in the Department of

Table 1: What is important? Depends who you ask

Criterion	Student ranking		Lecturer ranking	
	Avg. weight	Rank	Avg. weight	Rank
Course organization	0.1043	5	0.3522	1
Interesting and dynamic	0.1171	4	0.1765	3
Clarity	0.1858	3	0.2142	2
Lecturer attitude	0.2349	2	0.1501	4
Lecturer availability	0.3579	1	0.107	5

Industrial Engineering and Management (all years) regarding the level of importance of each criteria, and that there were no differences between the answers provided by men and women. The following table presents the rank and weight attributed by the students and the lecturers to the different criteria, when 1 represents a high level of importance and 5 represents a low level of importance. The findings show that there are differences between the students and the lecturers in relation to the ranking of the various criteria. Moreover, the ranking offered by lecturers is the exact opposite than that offered by students. For instance, the fifth criterion (lecturer availability to student queries and questions) is the “most”

The second part of the study included and analysis of more than 1,400 teaching satisfaction surveys, filled in the 2017-2018 academic year by the students of the preparatory program and the students in the Department of Industrial Engineering and Management. The average score given to the lecturers in each of the criteria is presented in the following table (the score ranges between 1 and 6).

The data show that despite the findings of the first part of the study (students attribute different levels of importance to different criteria), there is very little variance in the scores students give lecturers for the different criteria. Furthermore, the scores given to lecturers in those criteria most important

It was found that there were no statistically significant differences between the answers provided by the preparatory students and those studying in the Department of Industrial Engineering and Management (all years) regarding the level of importance of each criteria, and that there were no differences between the answers provided by men and women.

Table 2: High scores on criteria important to student

	Course organization	Interesting and dynamic	Clarity	Lecturer attitude	Lecturer availability
Lecturer avg. score	4.7820	4.5585	4.6873	5.2611	5.1825
Standard deviation	1.4935	1.6131	1.5601	1.3085	1.3268

important one for students and the “least” important one for lecturers. On the other hand, the first criteria (lesson organization and clarity), was found to be the most important for lecturers but the least important for students. These findings were consistent for men and for women, and for students from different years of study (preparatory program to fourth year).

to students (lecturer attitude and availability) were the highest.

This study presents several practical conclusions. First, there is room to consider reducing the number of questions students are asked a part of teaching satisfaction surveys, since they tend to give a specific lecturer in a specific course a similar score across

all criteria. Another conclusion is that in order to raise the level of satisfaction from the quality of teaching, lecturers can be taught which criteria are most important to students and guided on how to act on those criteria.

The study was accepted for publication by the prestigious journal “Assessment and Evaluation in Higher Education”.

The system that will minimize “sabotage” attempts

A system developed by the Department of Industrial Engineering and Management offers optional compensation as a tool against mutual “sabotage” in competitions

Competitions are common events, whether in sports, in politics (such as election campaigns), in the workplace, between R&D teams and more.

In a competition, all parties are required to invest an “effort” (an investment in publicity, appearing in conferences, training and so on) in order to win. Any effort invested also entails a financial cost.

The efforts invested are not always productive by nature. Sometimes, those participating in a competition invest efforts, in addition to or instead of their productive efforts, in order to sabotage other participants’ winning chances.

Sabotage attempts can be easily identified in a wide variety of competitions. For instance, the effort invested in illegal fouls in a football match or in mutual smear campaigns as part of an election (a negative campaign). In a negative campaign, the contestants invest efforts in exposing their opponents’ negative attributes, and even in manufacturing false information.

Sabotage attempts may damage the competition organizers (for instance, the football association, the central election committee or the general public) and social wellbeing.

There are various methods for preventing



or minimizing sabotage attempts. The most common systems involve increasing the number of participants in the competition (if possible) or employing regulatory measures, so that the cost of sabotage efforts would be too great for anyone attempting to employ them. Regulation requires an investment of funds (for instance, supervising over the activities of the competitors) which are not always available.

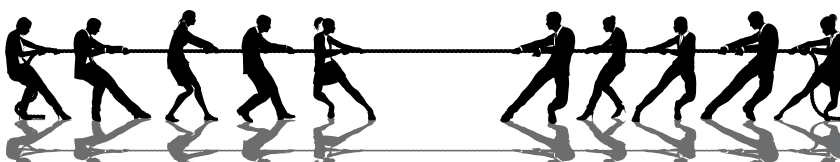
Dr. Yizhaq Minchuk, of the Department of Industrial engineering and Management, has developed a system for preventing or minimizing “sabotage attempts” by changing the competition mechanism and adding optional compensation to those participating in it. The system suggested increases the profit gained by the competition organizers and reduces the scope of the efforts invested in sabotage. If optimally implemented, it could completely prevent any sabotage attempts.

The system is based on the common competition model “Tullock Contest”, which is suitable for sporting, workplace and political competitions. The basic assumption of the model is that the party making the highest investment in the competition will also have the highest odds of winning – even though their victory is not certain. It should be noted that there are other models, in which the party investing the most efforts is guaranteed to win.

The model developed by Dr. Minchuk uses tools taken from game theory. The competition organizer provides contestants with a certain refund for the cost of their productive efforts, in relation to their total success in the competition. Dr. Minchuk has proven that this method of compensation significantly reduces the efforts invested in sabotage, increases the productive efforts and the profitability for the organizer and contributes to social wellbeing.

The model offers another tool, which does not require a high expenditure or special supervision efforts, to obtain a fairer competition. It is hoped that this tool will be implemented in real competitions and will contribute to social wellbeing.

Dr. Minchuk’s paper, presenting the new model, was sent to a scientific peer-reviewed journal and is currently under review.



Will SCE students help the Beer Sheva Municipality prepare for earthquakes and treating casualties?

As part of a new course taught at SCE, students of the Civil Engineering Department went to map residential buildings all over Beer Sheva, in accordance with the earthquake scenario provided to them * The analysis of the damage magnitude and potential casualty forecast prepared by the students will help the municipality prepare for such scenarios.

As part of the hackathon held at the college, students of the Civil Engineering Department went to study buildings in the streets of Beer Sheva. The hackathon was intended for fourth-year students studying in a new and unique SCE course called "Mapping and Analysis of Structure Resiliency to Earthquakes", taught by Dr. Eddie Leibovich and Eng. Alon Orleans. The course is taught as part of the SCE specialty program in civil engineering and earthquakes.

The students were asked to examine residential buildings throughout the city and prepare a detailed report of the damage magnitude with the potential casualty forecast, considering an earthquake scenario provided to them. The students analyzed the data collected in accordance with the earthquake magnitude and considering the types of soil and building methods employed in the area.

Their findings were then taken to be professionally examined by the teaching staff and were forwarded to the relevant parties at the Municipality of Beer Sheva. The college believes that the data collected as part of the hackathon, together with future conclusions presented in the course, will improve the functioning of both the municipality and the emergency forces – before the occurrence of an earthquake and even after buildings suffer damage.



Thus, for instance, the students can point to buildings which require strengthening, and recommend how this should be carried out, in order to ensure they can withstand an earthquake. Furthermore, following their analysis, students can map where the most severe damage and highest casualties might occur. In case buildings collapse, the municipality will be able to send first responders and emergency units to those areas already known to be susceptible to the largest degree of damage.

"There is a real and significant need", stresses Dr. Dagan Bakun Mazor, chair of the Civil Engineering Department at SCE. "We contacted the Municipality of

Beer Sheva and suggested this course as a professional platform, where students could create damage forecast maps for each area. Other than the required fortifications, these maps can also provide a pretty accurate image of the preparations required for the scenario of an earthquake.

"We are, of course, only in the first stages of the process. This is the first time the course is taking place in this format, as part of a unique specialization program, but the municipality has already expressed its interest in it. Ultimately, the materials produced by the students will serve both aspects – the academic one and the practical one."

Adama Agan Awarded scholarships to outstanding SCE students

The scholarships were awarded to students from the Chemical Engineering Department, in honor and in memory of the company's founders

The Adama-Agan scholarships for academic excellence award ceremony was held at the Ashdod campus. The scholarships were awarded to students of the Chemical Engineering Department and were dedicated in honor and in memory of the founders of Adama Agan, who, at the time, were four groundbreaking entrepreneurs: Tzvi Tzur (Z"l), Micha Piekarski (Z"l), Eliyahu Teomim (Z"l) and Israel Tamir.

Other than academic achievements, the criteria for receiving the scholarships include full service in the IDF or national service and living in the city of Ashdod.

The scholarships were awarded to the students Ariel Majbein, Yael Tsrer and Idan Nae. A fourth scholarship was awarded to Alexandra Griebner, whose

excellence was expressed by her tenacity, investment and constant improvement.

Dr. Michal Goldenberg, the Chair of the Chemical Engineering Department, opened the ceremony and welcomed those in attendance: "We have gathered here today to honor the Adama-Agan Company, which has been supporting our Department's students for many years now, out of the strong belief that the path to success and growth starts with small, measured and determined baby steps. In the name of our Department, I wish to thank the company for its support and for our long-time collaboration on the path to excellence".

Zvi Manor, Israel COO of Adama Agan, welcomed those in attendance and noted: "In a conference held in memory



of the Company's founders, it was said that people leave after them roots and wings. And indeed, the company's founders are the deep roots Adama has in the industrial sector in Israel, and you – our outstanding graduates – are the wings which will carry our founders' vision across new boundaries".

The company's local market agronomist, Andy Resnick, presented plant protection solutions and spoke about the company and its activities.

SCE students awarded the Hammer Scholarship for the 2019-2020 academic year

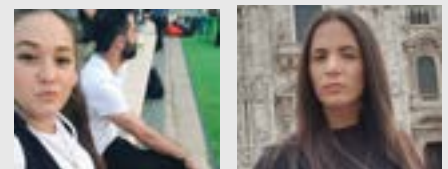
The scholarship is awarded to outstanding students, intending on starting their graduate studies in one of the universities in Israel

Two SCE students, Yarden Tzabari of the Electrical and Electronic Engineering Department at the Beer Sheva campus and Noa Blitman of the Mechanical Engineering Department at the Ashdod Campus, were awarded the Hammer scholarship for the 2019-2020 academic year.

The scholarship is awarded to students who have completed their studies with honors at recognized institutes of higher education in Israel,

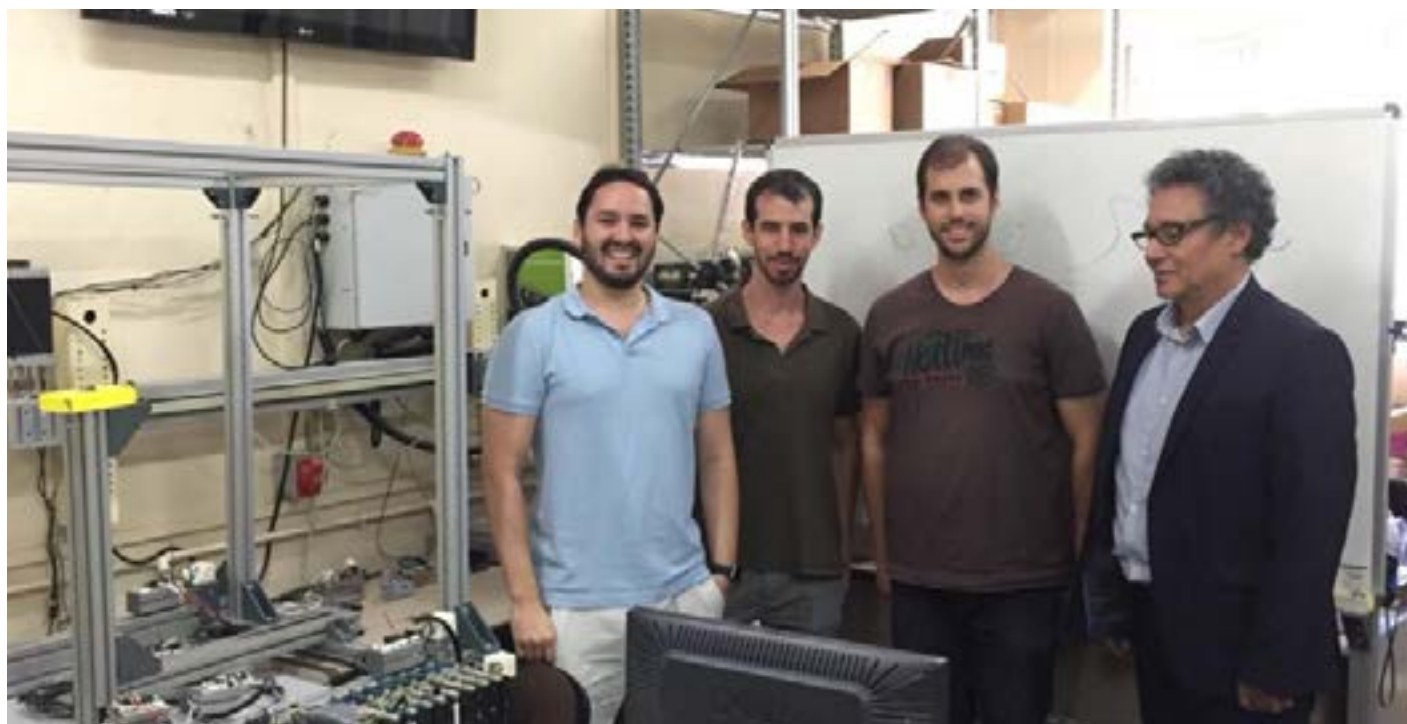
other than universities, and intend on starting their graduate studies in one of the universities in Israel.

The scholarship – awarded in memory of Zevulun Hammer Z"l, who served as the Minister of Education and Culture up to the time of his passing in 1998 – is awarded by the Council of Higher Education. The students awarded the scholarships are chosen based on criteria including research and academic achievements and their odds of being



accepted to second- and third-degree studies. It would seem then, that both Yarden and Noa have a bright future ahead of them.

We at SCE are very proud of them and wish them luck in their future academic and personal endeavors.



Victorious return from Spain: An SCE student was named one of the seven winners in an international chemical engineering conference

More than 60 studies were presented in the conference which was held in Spain. The poster presented by Stas Shaklein, a graduate student in green engineering at SCE, was named as one of the leading seven

Four SCE students represented Israel in an international conference for chemical engineering students – Anque ICCE 3 – which was held at the University of Cantabria in Spain. More than 60 posters, dedicated to research done by students, were presented in the conference. The judging committee, which was comprised of members of the industry and the academy from around the world, chose seven leading studies, including that conducted by Stas Shaklin, a graduate student in green engineering at SCE.

Stas presented research he conducted under the guidance of Dr. Oshrat Ontman, Dr. Eyal Tzur and Prof. Adi

Wolfson, focusing on heterogenous polysaccharide-based catalysts – a field which has not been examined in-depth to date. Stas examined chemical responses in materials in different states of matter in order to manufacture new materials with applications in the food and the pharma industries and also in heavy industries.

He says that dozens of undergraduate and graduate students from all over the world participated in the conference. “All of them presented very interesting studies in the field of chemistry, which may have a significant effect on the fields of healthcare, industry and chemical manufacturing. I was happy

to see the referees also selected my project as having the potential to have an immediate effect on the industry and on products related to all our lives”.

“My study had the advantage of not dealing with toxic materials, so they could be used in industries manufacturing products coming into contact with humans. Furthermore, they can be relatively simply manufactured in a laboratory and their manufacturing costs are relatively low. The prize I received is proof that we are on the right track. We will continue conducting the research at the college, in order to obtain reliable results for the green engineering community in the future”.

Your launchpad to a professional career

In the 2018-2019 academic year, the college offered an industry specialization program for the first time.

The program was operated by the Career Development Center at the Dean of Students Office, in collaboration with the Aluma Association, based on the understanding that the scope of studies makes it very difficult for students to find work in the industry, which could contribute to their swift and optimal integration in the workforce once they graduate.

The program, in an expanded capacity, was operated together with the Council of Higher Education and the Teaching Promotion Center, and it combines practical experience with the participation in a credit awarding academic course.

In the 2018-2019 academic year, approx. 40 students from both campuses participated in the program. They



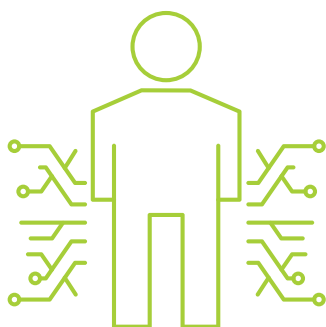
worked in large companies and industrial plants such as DBmotion, SodaStream, Eltel, Osem, Electra, Tara, Ormat, Omen, E. Taib Engineering, Tadiran and more. Approx. 20% of the students participating in the program were later hired in the companies where they worked as interns, and more students are in the process of being accepted for work.

The companies participating in the program expressed a great deal of satisfaction, when many of them spoke

about students who demonstrated a great deal of excellence, motivation and high capabilities, and also expressed a desire to hire them in a full-time capacity in the future. The students appreciated the unique opportunity they were granted.

The program will also operate in the 2019-2020 academic year. For details and registration please contact the program coordinator, Zohar Zalik Kreitzer at: zoharza@sce.ac.il

Program goals:



A

Providing students with an opportunity to gain real professional experience while still studying, to gain a significant advantage down the road.

B

Adding an important line to the students' CV, which could help open doors for them in the future.

C

Allowing students to foster relationships with organizations and colleagues from relevant content worlds.

D

Providing an occupational horizon – many students are later recruited as permanent employees of the organizations in which they worked as students.

E

Strengthening the students' self confidence in future job searching processes.



"A disaster like the one happened in Chernobyl cannot happen in Israel"

According to Prof. Leonid Oster, the Department of Physics Chair, who studies the physics of radiation and is an avid viewer of the TV series "Chernobyl"

Lately, it seems as though everywhere you look you will find Chernobyl. Wherever you look, you will hear about the incident dubbed as the worst ecological disaster of the 20th century, or, to put it more correctly, about the new drama series from HBO and SKY, depicting the events behind the disaster that occurred in April 1986 in the nuclear reactor operated by the USSR in the Ukraine.

Our small contribution to the discussion on Chernobyl will be provided by one of the series' most avid viewers – Prof. Leonid Oster, the Chair of the Physics Department in SCE, who for 35 years now has been conducting research in the field of experimental physics of the solid state and in the field of the physics of radiation, aimed also at the practical goal of achieving maximal success in issues related to the measurement of radioactive/ionizing radiation (Dosimetry).

If you are looking for other good reasons to hear what Prof. Oster has to say about the Chernobyl disaster (and its Israeli angle), let us just tell you that he has published more than 100 articles in leading international scientific journals, and participates regularly in international conferences. His researches are funded by prominent external funds, and he serves as a member of the International Solid State Dosimetry Organization (ISSDO) and as a member of the review committee of the international journal "Radiation Protection Dosimetry" (Oxford).

Let's start with a calming message regarding the question on all our minds

as Israelis: According to Prof. Oster, there is no scenario in which a disaster like the one occurred in Chernobyl could happen in Israel, due to several main reasons: first, the reactor that operated in Chernobyl was a power reactor, meaning a reactor used for generating electricity, while the reactors in Israel are research reactors. The nuclear output generated in our reactors is lower by 2-3 magnitudes, meaning 100-1000 times lower than reactors like the one in Chernobyl. Second, the Chernobyl reactor had various safety failures – the use of outdated technologies in all the reactor's systems; a failure to construct a shielding dome for the reactor, to contain the nuclear fission products upon the occurrence of a malfunction; and a workforce comprised of workers who were unskilled and ill-suited for the functions and tasks they were required to perform. Third, in any scenario involving a radiation malfunction or accident, including also malicious actions, the damage caused to the reactors in Israel will be only minor and local.

We asked Prof. Oster whether the age of the reactor in Israel (the "oldest" in the world, according to foreign sources) has any effect on its function. Prof. Oster had a correction to offer: "The reactor in Israel is not the oldest in the world; there are reactors that are more than 60 years old. In the past, it was common knowledge that reactors had a service life of 40-50 years. However, since then, the service life of some of the older reactors was extended through proper maintenance. Accordingly, if any 'old' reactor is properly maintained, and it and its systems are properly monitored, the

reactor could function safely. Especially, as I said before, when dealing with a low output research reactor".

Prof. Oster has no information regarding the dangers, if any, which Israel could face following the poor maintenance of reactors in other countries in the Middle East. However, regarding the area of Chernobyl, he says: "There were environmental changes in a significant area around the reactor, both at the time of the disaster and many years after it. This required large areas to be closed for people. However, no global environmental-climate changes were caused".

In conclusion, we asked Prof. Oster about the lessons we should learn from the Chernobyl disaster as engineers and scientists. He suggested that we should avoid shortcuts, in any process we are involved in, as part of the planning and construction of systems and buildings. In other words, we must meticulously plan everything and refrain from cutting corners and costs; we must use the most advance systems when planning nuclear systems, meaning technologies which have been proven and tested; We must introduce proper requirements in relation to the safety aspects in any system we build and any experiment we plan; and finally, we must train a skilled workforce, who will be responsible for operating systems and conducting experiments planned for those systems.

Now, after we've told you all this, you can go back to enjoy viewing the series, and no less important – to enjoy talking about it.

20 generations of engineers: 541 new engineers in the Beer Sheva campus graduation ceremony

In a ceremony attended by the president of the college, the mayor of Beer Sheva and friends and family members, first and second degrees were awarded to the graduates of the 20th class of SCE's Beer Sheva campus* "Always dream big", said the president of the college, Prof. Jehuda Haddad, to the new graduates

541 new engineers, graduates of the 20th class, took part in the degree award ceremony held at the Beer Sheva campus. Together with the 340 college students graduating from the Ashdod campus, 881 new engineers will be leaving the college this year and entering the workforce.

The president of the college, Prof. Jehuda Haddad, said in his ceremony speech that SCE graduates currently comprise 15% of all the engineers in the state of Israel (in general, or each new graduating class?). Prof. Haddad congratulated the graduates and their families and implored them: "Don't settle for small dreams – always dream the biggest dreams you can imagine and bring your vision to Israeli society". "Our graduates are highly sought after in all

engineering professions in the Israeli market", added Prof. Haddad.

As an example, Prof. Haddad spoke about one of the highlights of the "Engineering Society" conference, in which two graduates presented an innovative and unique development: a slide intended for children in wheelchairs. "Think of the great contribution such developments have for the lives of these children, for society and for humanity in general".

The mayor of Beer Sheva, Mr. Ruvik Danilovich, congratulated the graduates and called them "to let their imaginations run free and create a better world". "Your parents gave you the values, while the college provided you with the best professional tools", said Mr. Danilovich.



Hisham Abdulhalim (30), a graduate of our BA and MA software engineering programs and currently a product manager at PayPal and a PhD student studying ethics in software engineering, is included in the list of the 40 most promising young people for 2019 by The Marker magazine.

Hisham's research focuses on professional ethics in software engineering, among other things how to ensure that new developments will benefit humanity and will not harm it. For example, how to develop artificial intelligence that does not discriminate against or ignore minorities? Whether we can rely on robots to make better decisions that we do? And how will an autonomous car decide which pedestrian to hit if it must swerve off the road during an accident?

"I believe that technology is a source of good," says Hisham. "During my

Among the Promising Young People

Hisham Abdulhalim, an SCE graduate and currently a PhD student in software engineering ethics and a product manager at PayPal, was included in the list of the 40 most promising young people for 2019 by The Marker magazine

ten years in the technology industry I was exposed to different companies and to different kinds of work, and I understood the extent of the impact and the power. In the past software engineers focused on finding the best technological solution and less on negative aspects such as harming privacy or software that performs manipulations on the brain. The large technology companies are changing reality. I wonder if they take into account additional aspects besides breakthrough technology, such as how to make the world a better place”.

Hisham was born in the US and grew up in England and Scotland. Up until recently he lived in the Jewish-Arab village Neve Shalom, and he now lives in Haifa. He was exposed to the world of technology in his childhood by his father who is a physics professor.

Congratulations: 340 new engineers received their degrees in the award ceremony held at the Ashdod campus

The graduates of the 13th class from the various engineering departments took the stage at the degree award ceremony held at the Ashdod campus

The 340 graduates of the 13th class of the Ashdod campus took part in the degree award ceremony held at the Ashdod campus. After the traditional pictures were taken and the student hats were tossed in the air, the main ceremony began and was attended by Prof. Jehuda Haddad, the president of the college, Dr. Yechiel Lasri, the mayor of Ashdod and Prof. Eli Abrahamov, the chairperson of the SCE board of directors. After the main ceremony, the graduates went to their departmental ceremonies, accompanied by their friends and family members.

“SCE has grown to be the largest college of engineering in Israel, with about 5,500 students in two campuses studying towards their first and graduate degrees, and with almost 10,000 alumni working as engineers in the market”, said Prof. Jehuda Haddad in the opening of the ceremony. “The ‘Engineering Society’ conference took place just two weeks ago at the college, and included a hackathon dedicated to life-saving engineering solutions on the road. The products

created by our students are inspiring, and include a rear-view alarm system for bicycle riders and a smart helmet component, which can detect when an accident occurs and independently call the emergency and rescue forces. Think of the immense contribution of such life-saving developments to society, to humanity in general and indeed to each and every one of us. This is exactly what we aim for, what we educate for and why we teach.

“We send you, our graduates, on your way in life with a precious cargo of knowledge and values which will make you excellent engineers who will contribute, each in their own way, to the development of a healthy and strong society, both from a human and from a technological aspect. Along the way you will face complex personal and professional challenges. I am certain you will be able to face them with maximal success, on your way to new heights and peaks leading us all towards a better world”.



SCE Summer Academy



In the SCE Summer Academy, that was launched last summer, children starting 7th and 8th grades took part in experiential and fun activities in the fields of engineering and science * The goal: raising interest and encouraging future engineering studies

SCE launched this year, for the first time, the summer engineering camp for teenagers – The SCE Summer Academy.

For two and a half weeks, students starting 7th and 8th grade came to the college every day and experienced engineering studies through experiments and demonstrations at the various department laboratories. The activities, which included lectures, workshops and experiments in the fields of nanotechnology, civil engineering, chemical engineering, mechanical

engineering, software engineering, electrical engineering, industrial engineering and management and physics, were carefully tailored to the participants' young age.

Many lecturers and students from the various departments of the college took part in the activities, in order to show the world of engineering to the children, so they can dream of being engineers in the future.

This program was initiated by Hagit Segev, an administrative assistant at the

Electrical and Electronics Engineering Department. She says "The college sees great importance in making education more accessible and encouraging the younger generation to study engineering. The summer academy exposes the children to a wide variety of engineering issues, with challenging experiential and fun activities. The children enjoyed a wide variety of activities, and we hope to see them again in the future as students, leading academic researchers and as senior executives in the industry".



“From theory to practice”: Hundreds of families took part in the “Scientist Night” events at SCE

SCE opens the gates to both its campuses to the general public, for an afternoon of special events and a wide variety of scientific activities

Scientist Night is an event that is open to the general public, free of charge, which is held once a year in research and scientific institutions and science museums all over Israel. The event is organized and funded by the European Union, with the support of the Ministry of Science and Technology and managed by MadaTech. It is designed to allow the general public to meet different scientists through workshops, lectures, demonstrations, activities, tours and more. This is meant to allow the general public to get a closer look at the activities taking place in the research and science institutions, and to offer access to scientific activities to a wide variety of populations.



This year, the Scientist Night focused on the theme of “From Theory to Practice”. A wide variety of activities took place in the college’s campuses in Beer Sheva and Ashdod, including escape rooms, scientific experiments, building Lego robots, electric car races, general knowledge lectures, technology demonstrations and more.

The “Scientific Leadership” organization and the Carasso Science Park took part in the activities at the Beer Sheva campus, and organized fun and enriching activities.

Dr. Oshra Sapir, a senior lecturer at the Department of Chemical Engineering, says: “Scientist Night is a fascinating

event which provides an excellent opportunity to discover the world of science and enjoy a special experience. Our goal is to make science more accessible for families and teenagers, through a thought-provoking and a hands-on experience”.

