

INELECTRONICS

magazine

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“ Inelec acquired a good reputation attracting the best students. ”

QUOTES

“ Twenty years from now you will be more disappointed by the things that you didn't do than by the ones you did do. ”

— Mark Twain

“ You can't fall if you don't climb. But there's no joy in living your whole life on the ground. ”

— Unknown

“ The question isn't who is going to let me; it's who is going to stop me. ”

— Ayn Rand





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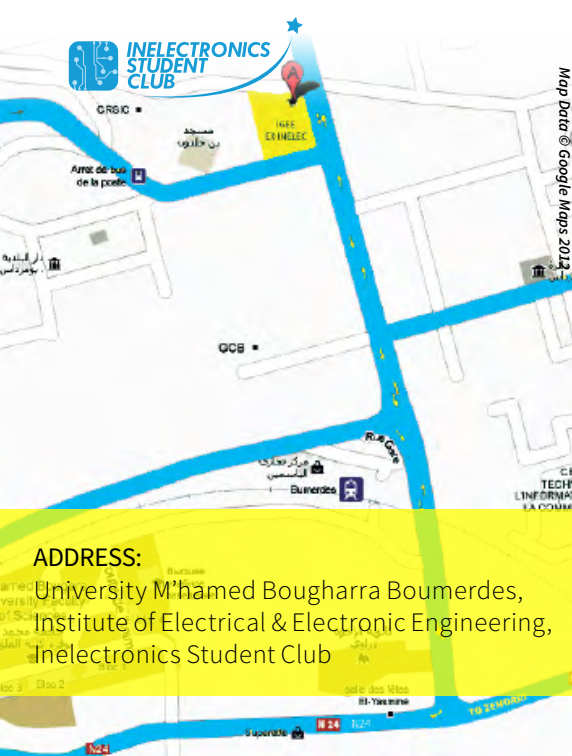
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INELECTRONICS Magazine is a non-profit students run magazine that is published bimonthly. The first issue was released in May 2010 followed by 7 other issues published over the last 4 years.

Our magazine is the fruit of the efforts made by the student-writers and editors of ISC who simply attempt to keep this learning exchange environment going and give you the space to express yourself.

In the midst of the information flood of the Media, students' initiatives and achievements are no longer highlighted or given enough recognition that is why the magazine offers them the opportunity to express and share their creativity, passion, and enthusiasm.

In this edition, we have tried to capture this month's excitement and activities. We hope that this issue encourages many more students to use it as a platform to share their stories with their peers.

This issue enhances our knowledge about the world's tech actualities in addition to the club activities and some INELECERS achievements. Tech, social, entertaining and more.

We sincerely hope that this month's edition makes for an interesting read.

We feel indebted to the people who helped us produce this issue including editors, designers, and photographers. We are proud that all of them are IGEE students.

Above all, thanks to our writers for throwing in with us—and to you, our readers, for making it all real, always remember our gratitude for your interests in IM Magazine.

IM Team

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KAMAL TOUMI AT INELEC

Mohammed Lamine ABDELLAOUI (L01)

Kamal Youcef TOUMI is the head of the Controls, Instrumentation and Robotics Area in the Mechanical Engineering Department at MIT.

Professor Youcef TOUMI, with his 2 or more pages profile, 200 publications and 30 patents, has been an invited lecturer at over 160 seminars at companies, research centers and universities throughout the world. The last one was for the International Conference in Electrical Engineering in I.G.E.E, Boumerdes. In this opportunity Professor TOUMI personally and exceptionally asked to deliver a presentation to INELEC students where he answered students' questions during the conference.

Professor TOUMI started his presentation with these words:

"I thank you for your time to stay with me. I planned before coming here to organize a meeting with you and try to answer your questions. When we were entering the institute, the chairman of the ICEE told me these are the students to whom you are going to deliver the presentation. I told him this is the wealth of Algeria. For me you are a true richness for this country. Even more expensive than the oil and the gas. Hopefully I will answer all your questions "



Q. Can you just tell us about your journey to MIT?

How much time do you have? (He and everybody laugh).

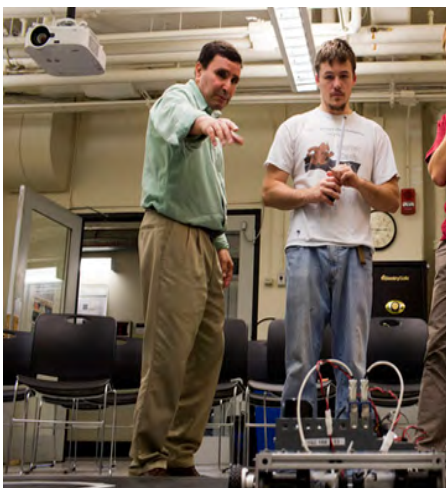
One of the anecdote I want to tell is when I was young I was very weak in Mathematics and I was always inferiorly compared to my genius brother until I finally determined to get over this and I won a Math prize in my school.

“ Every student should be away from politics as it is a waste of time ”

I believe you have better background in Mathematics than the one I used to have when I was your age. The second anecdote that I want to share is that I never planned to study in the US until I was proposed the scholarship to study in Boston University, when I was taking English courses in that university our teacher used to point to the MIT, which was a river further from our university, and tell us there, you can find the brilliant minds in the world and since then, I wanted to get there until I have become professor in MIT. I got offered jobs from very big companies and universities. I did not treat them in terms of money nor based on the place. The learning aspect was my most important criteria.

Q. Many emerging countries have grown economically, what is our role as students to help to develop our country?

Every student should be away from politics as it is a waste of time, If you want to be at a level that you can be heard you should focus on your field and science that helps you develop. It is not of your benefit to focus on bigger political issues.



Professor Youcef TOUMI at MIT



Professor Youcef TOUMI with INELEC Students

Q. Is the knowledge controlled or not? Suppose it is, who controls it? Is it done in the right way?

science is created to help, not to destroy. All the work we do in MIT is accessible from the students including all the equipment we have, and that is the case for every university in the US. However there are some confidential information that concern the government and it is up to it to disclose it or not. As you know nowadays, there is the exported knowledge from developed to developing countries and the US has a black list that they make sure they have less knowledge not to use it in the wrong way.

Q. The MIT has collaborations and programs in many countries, why it is not the case in Algeria?

I have been trying to do that for many years and I hope that one day this will happen. The problem is that MIT wants that both parts benefit and that won't work out in Algeria. We should emphasize on the learning aspect so we can have beneficial collaboration in researches and courses. We have many relations with governmental universities in KSA and Qatar and even with governmental institutions. From MIT's point of view it is not about being governmental or not governmental institutions, it is only about the benefits and getting people engaged from both sides.

Q. You gave us examples about successful countries like Singapore, what is the problem with Algeria?

The methods that are being used by countries that you mentioned are at high level which helps them succeed. After working with the governmental agencies of 40 countries I have concluded that these countries have people who dedicate themselves to work for their companies. People there are disciplined. The important thing in Algeria, is how to create this environment. These things have nothing to do with the technical field, it is about managing the resources, the human ones. ■



ICEE 2015

Baha Eddine OBEIDI (M03)

Dedicated to the late Professors of INELEC Larbi REFOUFI, Ahmed HAMDI, and Salim KHALED (God bless them.), the signals and system laboratory organized the 4th conference on Electrical engineering in I.G.E.E university of Boumerdes from December 13th to 15th 2015.

The conference gathered some of the competent researchers and scientists in the EE worldwide, where the aim was to exchange information, results of research and putting in phase the paper submissions of many prospective authors around the globe.

The opening ceremony of the conference started Sunday 13th of December. Professor Kamal Youcef-Toumi delivered a presentation on Competitiveness and Economic Advancement explaining some strategies done by the U.S. with examples and digits of the institutional and economic cooperation all over the world. During the same day, and after a coffee break, Bashar ZAHAWI, Professor of Electrical Power Engineering at Khalifa University, Abu Dhabi, UAE, gave a presentation on Distributed Generation and the Electric Smart Grid. This presentation was dedicated to power engineering. He managed to show the recent technologies used in power system analysis, protection and energy, and the problems engineers face in this domain. Later, after a lunch break, PhD and masters students from around the world started presenting their papers in front of chair professors and listeners.

At the same time, Mr. Kamal Toumi delivered a motivational presentation to student, where he answered their questions and gave some advice regarding studies and research.

The following day, a presentation titled "The application of FPGA in renewable energy systems: trends and future applications" was presented by Rachid BEGUENANE, associate professor in electrical and computer engineering, Royal Military College of Canada.

Saad MEKHILEF, Professor and director of the Power Electronics and Renewable Energy Research Laboratory, University of Malaya, Malaysia, took the opportunity to talk on the role of power electronics in providing a sustainable energy supply.

Later, participants presented their works in the poster session, this session's Chairs were Prof. H. Bentarzi and Dr. R. Tala Ighil.

At around 3pm, Dr. Wided Charif DEGAICHIA, EPFL, Geneva airport Switzerland, delivered a presentation on competitiveness and power conservation and also talked about a future possible cooperation between IGEE and the airport of Geneva.



The main topics of the submissions were about:

- Control Systems Engineering.
- Power Engineering.
- Telecommunications and Signal Processing.
- Computer Engineering and applications.

Tuesday, December 15th was the conference's last day. It started with a presentation on Exploring Dimensionality Reduction Techniques and Pattern Classification Paradigms by the Director of Research in CDTA, Algeria: Professor Djamel BOUCHAFFRA. This presentation was followed by the second papers presentation. At the end of the last day, a closing ceremony for the conference was held by the organizing committee, where keynote and guest speakers and other professors were honored. With about 150 papers registered and more than 90% presented, both attendance and participation were great. The conference at many levels was a success. ■



ACADEMIC EX-CHANGES PRESENTED BY THE US

Deadline: you can check the deadline of each program in the website
The Bureau of Educational and Cultural Affairs offers a range of programs, including youth-focused programs to empower the next generation and establish long-lasting ties between the United States and other countries. The Bureau also offers programs for undergraduates and graduates, as well as professional development opportunities.

TOTAL ENERGY SUMMER SCHOOL

Deadline April 15th 2016
The summer school will take place in France from 10 to 13 July 2016

MASTER ET SON IMPACT SUR LE DÉVELOPPEMENT DU PAYS

Deadline: 24 mars 2016
an innovation competition(application , film, prototype..) that is organized in USTHB the 4th May 2016

DZYOUTHOPPORTUNITY

A new Algerian facebook page that updates you about the current opportunities for Algerian students

ITALIAN GOVERNMENT SCHOLARSHIPS 2016 FOR FOREIGN CITIZENS

Deadline : April 15th 2016
to study in Italy for undergraduate, master and PHD degrees.

AIESEC EXCHANGE PROGRAMS

Deadline: Available all the year.
There is no special date for any of AIESEC exchange programs. Students have to pass an interview with their LC, create an account and find the suitable opportunity on AIESEC international platform then another interview with the hosting entity is to be done. In case the student got matched he will have to pay 6000DA, buy his ticket and start his adventure. You can go for both:
Professional internships
Volunteering Experiences

THE ANNUAL ONE YOUNG WORLD SUMMIT

Deadline: 25th April 2016
This event will bring young leaders from around the globe to Canada from 28th September to 1st October.

TSTART

A startup accelerator for young Algerian entrepreneurs. If you have an idea and you want to bring it to the Algerian market, then Tstart suits you the best.

GLOBAL YOUTH SUMMIT 2016, SWITZERLAND (FULLY FUNDED)

Deadline: March 31, 2016
This opportunity is for change-makers to meet with their peers around the world



Windows 10

Imad Eddine TOUBAL (M01)

Windows 10 was announced in the late of 2014, and I was excited to finally have it on my personal computer. Microsoft was doing a pretty good job marketing its product, showing off its most relevant features, some are innovative, and the others are just a step back to some familiar features from earlier versions of the well-known operating system. Yes, I am looking at you Start menu!

Later on Microsoft finally released a beta version Windows 10, available for free for the community, mainly for technical users. But what got everybody's attention is their other announcement that it will be free as an upgrade from Windows 8 and even Windows 7 for the first 12 months of its official release. That was the day everybody got twice as excited about Windows 10 final release.

Microsoft has been making newer builds of Windows, and they have been accessible to beta testers. Microsoft was doing a pretty good job, not only refining it by making it more flexible, stable, and less buggy, but also they have been introducing more features -and still doing- in terms of both functionality and user interface / experience.

At the start of June, Microsoft finally announced the release date of Windows 10 to be July 29th, 2015.

Though Windows 10 still carries the same July 29th release date, not everyone have gotten their hands on it at the end of the month. According to Microsoft, the roll-out of Windows 10 begins on its stated release date, though it might first be made available to those who have been helping Microsoft test the upcoming operating system as part of the Windows Insider program that began last October, 2014.

Those who were planning to make the jump to Windows 10 for free from Windows 7 and 8.1 have been asked to reserve their copy of the new OS, though it turns out that those reservations may not be filled on July 29th, with Microsoft's executive vice president Terry Myerson taking to a blog post to explain the plans for its roll-out. He said: "Starting on July 29, we will start rolling out Windows 10 to our Windows Insiders. From there, we will start notifying reserved systems in waves, slowly scaling up after July 29th."

This did not stop many Microsoft fans and geek individuals to go around this problem by downloading a tool from Microsoft website (Microsoft Update Tool). Which will then allow them to download and upgrade to Windows 10 without having to wait for the upgrade notification.

The reason behind everyone's excitement about Windows 10 in the first place was mainly Microsoft's marketing that was a killer at the time. Microsoft was mainly promoting top features of the operating system which are:

- The start menu: After the big hassle of Windows users who have been complaining of the "Start Screen" of Windows 8 and 8.1 that users found it very unfamiliar from the concept of Windows in general, Microsoft finally brought the all familiar "Start Menu" that we have all known and loved. "The Start menu is back—and it's more personal, more organized, and more fun than before." they declared in their website.
- The Windows Store: The store is not something new to Windows as they announced it on Windows 8 featuring "Metro Apps" that were running full screen on Windows 8 and 8.1, even not so many people found use to them, especially traditional users, since they were targeting Tablets and Touch devices.
- Cortana: "your personal assistant, is right on your desktop." The main point of Windows 10 that Microsoft focused on is



personal computing. This new personal assistant that runs on voice commands from the user, not only does it get basic tasks done in few seconds such as setting up meetings or sending an email to a friend. But she can even find your files for you and tell you jokes and learn more about you while you're using it.

- Microsoft Edge: this allegedly beast browser was doing a success when it first started as "Project Spartan" from Microsoft. "Microsoft Edge is the first browser that lets you take notes, write, doodle, and highlight directly on webpages" states the company. Not only that but Edge is known to be the one of the fastest browsers on Windows ever (Don't worry all you Google fans out there, Chrome is still on top).
- Windows Hello: the feature that lets you sign in in fraction of a second, unfortunately this does not work on any pc as it requires special hardware like a specific Intel webcam or a Finger Print Reader.
- Tablet mode: this feature is targeting people that have a Hybrid computer like Lenovo ThinkPad Yoga family and Microsoft Surface as you can switch between Tablet and Desktop mode to get a more powerful control on desktop and still have a nice touch friendly interface when using your device as a tablet, which basically means the best of both worlds
- Multitasking: This new OS from Microsoft is absolutely a beast in multitasking, fast search, the new snapping feature, alongside with multi desktop feature, gather to form a uniquely sweet experience while multitasking. And for Linux users, we know this is nothing new to you. But that still is a great decision from Microsoft to integrate new ideas to their software and help casual Windows users to make their life a bit easier.

But hold on a second, an OS like that has to be too perfect to be true.



Right? Well it's not perfect, not just yet. Although Microsoft was pushing updates continuously for over 8 months to beta testers. The final build (the RTM) was never "bug-free" and while lot of beta testers were happy of the final build performance a lot of users that immigrated to it directly from Windows 8 or 7, were not as happy as they found some problems with drivers and updates and such. Here is a list of frequently found problems for RTM users:

- Drivers: while some people had no issues when upgrading to this new operating system, many more had some difficulties finding the right drivers for their machines.
- Updates: Microsoft wanted once again to take a risk by limiting the user (again) this time, by omitting the option to decide whether or not to enable the automatic update. And again depending on individuals that could be a pro or con, some people like to be up to date 24/7 while some have slow internet. You decide.
- Slow performance: this frustrating problem that is contradicting to the whole idea of Windows 10, was a such a bummer to many Windows users, and it was mainly because of the two previous bugs.
- Battery usage: because of the heavy usage of the processor due to the "great features" that

Microsoft made available on Windows. Laptop users were suffering from the very fast draining of the battery that would last 2 hours instead of 4 and 3 instead of 8 and so on. Even though Windows 10 did have a battery saver, it didn't seem to do any better than normal usage on Windows 10.

As Microsoft stated, Windows 10 will be the last version of Windows. And the company will mainly provide continuous major updates of Windows 10 instead of releasing newer versions of Windows, and because of that, it's certain that Microsoft developers will be doing a great job in optimizing the operating system, and making it more flexible, stable and less buggy, as they already did in Windows 10 version 1511 (Fall update) that is its most recent major update.

Overall, Windows 10 was a major event to Microsoft, they did their best to bring all what the users have been asking for, from coming back to familiar Windows features, to introducing new features to the users that seem to come very handy.

I personally will be using Windows 10 with its pros and cons hoping to see more of what Microsoft is hiding for us of surprises while enjoying what's already there.■

INTO THE GRAPHICS LINE

Jalal CHACHOUA (M01)

Undoubtedly everyone has heard of the term “Graphics Card” before, but a few people can answer the following questions: what is a graphics card? Why do I need one? How is it going to boost my computer’s performance? What criteria should I base on, if I am to choose one? Through this article, we are going to discover the different aspects when it comes to selecting a graphics card by answering all the above questions in details.

For many years we have played games, watched videos, and some have even produced either of the previous ones, but have you ever asked yourself how a computer can draw these images? Well ladies and gentlemen, this is the job of the graphics card! From its name, we can deduce that it is a card that can do graphics. A graphics card, in a very basic definition, is a card that you can attach to your computer to enhance its visual capabilities. Some would say “why mentioning a laptop?” Now we come to more details about these cards. In order to accomplish its task, a graphics card contains a processor called GPU (Graphics Processing Unit) and a memory called VRAM (Video RAM not Volatile RAM since almost all RAMs are volatile). So, when it comes to a laptop these things are integrated or, to be specific, built-in within the mother board.

We should now know how it works to move further in our article. Many would say that when it comes to production (producing movies or games) you need to have a graphics card. I agree and disagree at the same time. Such an answer is too vague and does not tell us too much. Graphics cards and their GPUs are of two distinct types depending on the field of use. When

it comes to real-time rendering (or drawing) like playing video games, we need to get graphics cards like a NVidia’s GeForce or AMD’s Radeon, since these cards are loaded with GPUs that do calculations on floating point numbers and provide faster, but not too accurate, results. This makes them good for real-time rendering where all we need is to draw as fast as possible.

The reason behind that Real-time rendering is drawing the picture from a given data (numbers which are results of mathematical equations) while these data is being computed, this is why we need this with games. Since the interaction of each player with it is different, we need to calculate the scene every time the player makes an interaction with the game. Subsequently, we cannot pre-calculate it and then redraw it each time, and when it comes to this we need to do it through cheap and fast processors that is why we have GPUs which take all the drawing load from the main CPU, but for these processors to be cheap they shall do calculations on floats only (a Float is 32bit of data that represents real numbers based on the IEEE 754 SPFP notation).

On the other hand, if you want to get accurate results for physics, lighting ...etc while producing some movie for example, you need graphics cards that can do computations on double numbers (larger than the float ones). The most famous ones are NVidia’s Quadro and The AMD’s FirePro or as many call them workstation graphics cards.

To go a bit deeper, a movie when produced will remain the same no matter who is watching, as no interaction can be done with a movie. This is why we need to pre-calculate all the scenes and then put them in a sequence of 24



AMD Graphic Card



NVidia Graphic Card

frame or photo per second or 24 FPS, which gives us the ability to compute the scenes in more details to produce better results. This means that we need to do our calculations on doubles (64 bit of data that represents real numbers IEEE DPFP notation).

Cheap personal graphics cards would cost from 100\$ to 500\$, but the professional or workstation ones may cost almost 10 times, for the reason that the second one is used for specific companies like movies production VFX (Video effects), architecture, geological mapping, oil production ... etc. This makes graphic cards production a good industry and by now there are two leaders in this industry: NVidia and AMD (Advanced Micro Devices).

I finish my talking by saying that when it comes to which is better NVidia or AMD? You will find a big community of supporters for each, and each saying they are better, but when it comes to me even though I am an AMD supporter I would finish my talking by saying neither is good nor bad, just be sure that when it comes to picking one, this card will worth every Dinar spent on it. ■

WHY IS JAVASCRIPT A MUST LEARN LANGUAGE IN 2016

Tareq SI SALEM (M01)

There is really no right answer to “what’s the best programming language?” as the answer depends on your objective and what you want to achieve using code. Sometimes, even by setting your objective, you are required to learn more than one programming language.

Some people may argue that a new language means modern and easy, and so you should learn whatever is new, but in the other hand, new programming languages lack the solid foundation of the old ones, with rich and available APIs. Besides, in the new ones, most of the time you find a library that solves or eases your task.

Languages and their popular use:

Language	Popular Use
Java	Android apps, large websites, Large companies (Banks, e-commerce, Google, etc.)
C#	Windows apps, large websites (Unity games), Large companies (Microsoft, healthcare, etc.)
Swift	iPhone and Mac apps, iPhone developers
Python	Math scripts, websites, Academics, startups, Google
Ruby	Ruby on Rails websites, Startups (Airbnb, GitHub, Scribd, etc.)
JavaScript	Anything that runs in a browser (and beyond), All websites
PHP	Applications built on older scripts like Wordpress, Older companies, Facebook.

JavaScript can be an interesting language to learn in 2016. Obviously, when we mention it we also need to drag its best friends HTML/CSS. Being the language intended to make webpages more interactive and reduce server load, JavaScript managed the past few years to escape from the browser, now it can be used to make:

Desktop applications using technologies such as Electron project electron.atom.io, HTML, CSS, and JavaScript with Chromium and Node.js to build your cross platform desktop applications.

Mobile applications in either Hybrid or Cross Platform options, starting with hybrid, Ionic ionicframework.com is the best choice currently used to create mobile apps with the web technologies you love. Hybrid mobile apps tend to be slower than normal (native) ones. They can be installed just like normal apps, but it is hosted inside a native application that uses a mobile platform’s Web-View, which brings us to the second cross platform option using the app accelerator platform appcelerator.com. The difference with this option is that it has a cross-platform API for accessing native UI components such as navigation bars, menus, and dialog boxes and native device functionality,

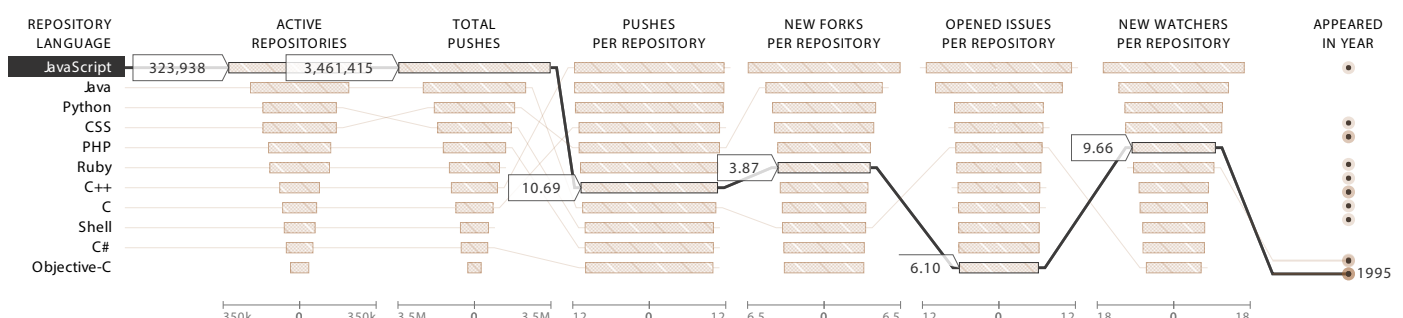
transparent access to native functionality not already covered by the API. This implies faster apps compared with the hybrid option that can compete with native ones.

Build an entire website end-to-end using the MEAN stack, MEAN is an acronym for MongoDB, ExpressJS, AngularJS and Node.js. From client to server to database.

It can be also used to make hardware projects. That is right, you can use JS to manipulate machines. From blinking lights to cool and practical IoT (internet of things) projects, using development platforms like tessell.io.

As a conclusion JavaScript can be considered the current rock star according to GitHub that derives programming languages statistics from GitHub public repositories. It shows JavaScript in the first place after java and python.

Even though it is not recommended to classify languages according to popularity, it is more important to learn all of the concepts, algorithms, data-structures...etc. that are common between all languages. Companies care more about these. Eventually, it doesn’t matter what programming language to start with nowadays, you are required to constantly learn new languages. ■



WELCOME TO THE 11TH DIMENSION

Mehieddine BOUDISSA (L01)
Manèle RAMOUM (L01)

Since the dawn of life, humans had been trying to understand the universe and to explain the tremendous phenomenon in it. The only way to do that was through physics. This experimental science came to life when first Isaac Newton made his law of gravitation.

Over the last few decades physics had been taking so many huge steps toward the unification of its laws, which would reveal the ultimate mystery of the universe and its interactions, which means zeroing on a theory that would explain everything and this just might be the M theory.

The first unification ever done was in the 1600s, started by an apple falling on the head of Isaac Newton which led him to discover the gravitation law that unified many phenomena that were thought to be different from each other. The force that keeps the moon orbiting earth and earth orbiting the sun and the force that pulls the physical objects to the ground were demonstrated to be nothing but one. Yet Newton had no idea concerning

the cause of this force nor the particles responsible of it.

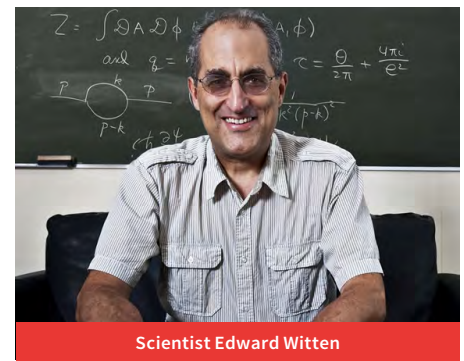
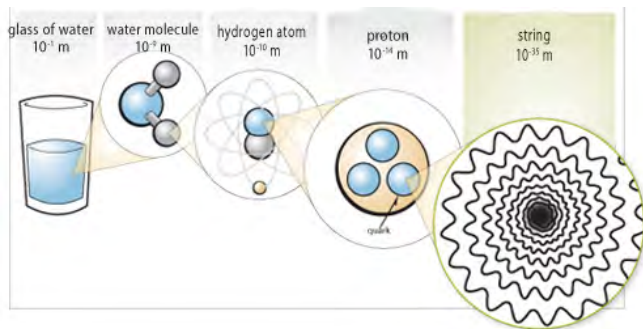
It was only until the 1920s, when Einstein stupefied his contemporaries with his relativity theory that suggested the existence of a space time continuum. This latter is said to be flexible and caused to be distorted by the physical objects, these distortions and curves gave all physical objects their gravitational properties. While Maxwell unified the two other forces that were known back then: magnetism and electricity into one force named the electromagnetism. Yet Einstein had failed to join the electromagnetism and the gravitational force in one law due to the difference in tension between them.

Today, a theory that will probably make the dream of Einstein of finding a link between the general relativity and the uncertainty principle that reigns quantum mechanics concrete. This theory is called the Strings theory that affirms that all matter is made up of tiny energy holders: the strings.

So how can this theory make the unification of the extreme big and the extreme small come true? And how did this revolution of our conception of the universe start?

In 1968, a young scientist Leonard Susskind noticed that Euler's Gamma Function: the formula explaining the strong interaction, which is the force that maintains the nucleus of each atom by linking the protons and the neutrons, has something strange within it. After passing two full months isolated in his attic, he discovered that the equation corresponds to a string, like a rubber band, in motion and oscillation. Susskind was convinced for a moment that he was the only person on Earth that deciphered this equation. He wanted to publish an article about his discovery before the rejection of his thesis by committee of experts.

In 1973, a bunch of physicists were still struggling with the equations of



the strings theory, among them John Schwarz who kept resolving those equations till he arrived to a massless object besides to a number of mathematical anomalies, this mass-less object has been defined after taking another perception of the equations, as a graviton which enables us to reduce and transmit the gravity to the quantum scale. Another scientist, Michael Green, joined Schwarz, and together they decided to get rid of these anomalies, the only way to do that was by calculations.

And here came the moment of glory, 496 in both sides, the strings theory doesn't contain mathematical anomalies. They also noticed that the equations do not only explain the gravity but the other forces too, realizing by this the dream of Einstein. The two scientists became famous for their work, lights had been projected on the theory and in less than one year, the number of scientists working on the theory increased relatively to attain many hundreds.

A theory was born then, a theory of everything that seemed to define the different characteristics of all particles like their mass and their charge due to the way the strings vibrate. The universe is no more than a beautiful cosmic symphony at the end. "Is it a theory in physics? Is it philosophy? I am asking you..." Sheldon Lee Glashow wonders.

What makes the theory still hard to prove, is the necessity to go far out of our borders, to sink in the complexity of equations that require many other settings which make it look more like science fiction, extra spatial dimensions.

In fact, the strings theory at that time existed in five versions, all agree on

the existence of strings and extra dimensions, but they disagree on few details, some talk about open strings, others about closed ones... While two of them, suggest the existence of 26 dimensions! Which one is correct then? Which one matches the most with our universe?

In 1995 during the international conference of the scientists dealing with the strings theory, Edward Witten presents a new approach of the theory in order to unify the five versions within only one. He affirmed that the five versions are the image of the same thing reflected on different non parallel mirrors. What Witten did was so incredible and one of a kind that the theory has been renamed in his honor: the M theory.

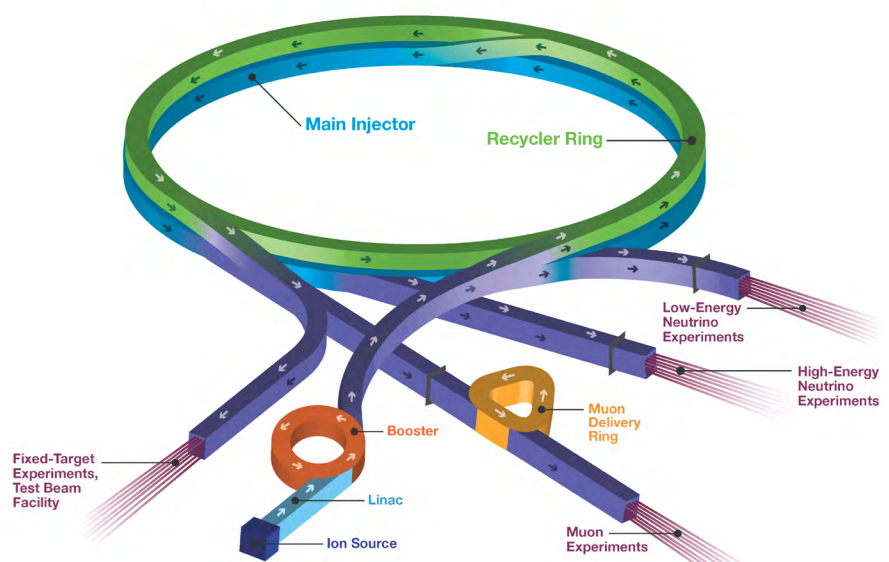
This new vision of the strings theory consists not only of the dimensions set by Einstein which are: Length, width, depth and time, but also 7 extra others, which make it 11 dimensions in total. And this allows the string to unfold and propagate forming a membrane that can even reach considerable

dimensions since it is full of energy. It will be able to be as huge as a universe maybe! Why not? Our universe can be a membrane within a much bigger tissue; we probably have neighbors in parallel worlds few millimeters far from us, dominated by other laws of physics probably.

Since physics is a purely experimental science, the absence of experimental and/or observational evidences makes the efficiency of the theory far from being evaluated and so the theory is not taken as completely correct. But such mathematical elegance and beauty, such sophisticated equations cannot miss the shot. In fact, very complicated and precise experiments are run in labs using developed accelerators in order to reveal some secrets of the theory. Fermilab is an example of that.

Will we arrive to do that? Nobody knows, but this does not prevent us from trying. Curiosity is the root of all discoveries, hopefully one day we will find our way in that maze we call: Universe. ■

Fermilab Accelerator Complex



WHY IS DEBATING IMPORTANT FOR STUDENTS

Amel CHELOUAH (M01)

These days, students in universities are not only following an academic program but they are also interested in extra-curricular activities like debates, organized by university clubs or other associations. The question is why is debating so important for students? And should students be involved in such an activity?

The debate offers lasting benefits for individuals, for society and for the global community as a whole.

In the process of debating students learn critical thinking, effective communication, research and team-work which serve in school, in the workplace and in fulfilling their responsibilities as citizens.

Perhaps the most important skill debaters learn is the ability to think rigorously and critically and it is more important now because we live in an age where information is a power, and debate is all about how to turn information into power by separating out the good from the bad and harness the information to a purpose.

Moreover, debate participation promotes problem-solving and innovative thinking, and helps students to build links between words and ideas that make concepts more meaningful. It helps students to exercise creativity which affects every aspect of a student's life.

Yet debaters improve their communication skills and social interactions. They are more understanding and their voices are heard. Debating also increases students' self-confidence by helping them to acquire the necessary skills to become competent adults.

“Honest disagreement is often a good sign of progress” — Mahatma Gandhi

Studies show that students excel in written and oral communication as a result of participation in competitive debates, and greatly improve their reading comprehension (sometimes 25% more than their peers).

Furthermore, students become comfortable with new concepts and unfamiliar language, gain access to a wide new information such as college-level philosophy, history and public policy. They also become self-directed learners which makes debates a particularly effective vehicle for talented education.

It is also known that Students who have a previous debate experience show more maturity in the face of adversity. They recognize how others think, which improves their ability to cooperate and resolve conflicts.

All of these skills ultimately lead student's debaters to notable academic achievement and receive impressive grades regardless of their level of academic achievement prior to joining the activity.

By the same token debaters are more often seen as leaders. Studies in USA show that those who communicate often and well, and give a balance of positive and negative comments, are seen as leaders.

It is not surprising that many students report that participation in competitive debate was the most educational and rewarding aspect of their careers.

The individual skills learned through debate have a huge impact on society as well, because debaters tend to become citizens in the real sense of the word, informed, active, participating, they possess a force that can be used in the good way.

Students who are engaged in debates learn to become citizens who know democracy principles. They can openly discuss many volatile issues and break taboos and free society from oppressive dictatorship.

Additionally, because it teaches the principles of tolerance, nonviolence and respect for different points of view, debate can close the gap between minority and majority cultures, and other groups divided by long-standing animosities.

Debaters have what it takes to foster international understanding, cooperation, and a free profound exchange of ideas as they show no ethnic and cultural boundaries in their discussions.

As a conclusion, we have a whole generation of people with a narrow knowledge and frail beliefs are consequently living in a very unstable and increasingly controlled society. Freedoms are evaporating because people do not have the necessary tools to keep their minds free but once students have learned how to debate, they are better able to make informed judgments about crucial issues. Obviously, students should be involved in debates for their best, as well as the impact that they can bring to their societies and the whole world. ■

THE BIGGEST MISCONCEPTIONS IN THE WORLD

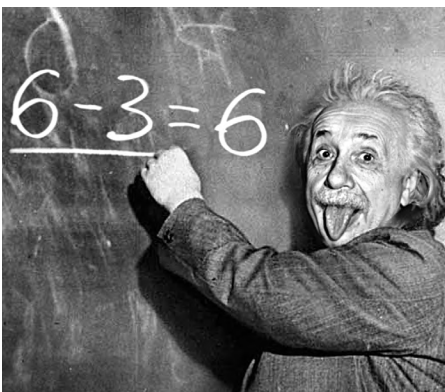
Akram LOUIFI (L05)

Bulls hate the red color, Napoleon was short, and Goldfish has a 3 seconds Memory. These are modern day 'facts' which we believe to be true, but experts have pointed out that they are just simple misconceptions.

Some of this wrongly-held assumptions are just myths that can be traced back for generations and have become part of our common folklore, but are often based on rumor or as a result of simple whispers.

These made up facts cover many fields such as science and History. Our mind can easily be manipulated. It tends to believe everything if presented as a fact even if it was unlikely or weird.

You might have heard that Albert Einstein failed his math exam three times. This might sound nice and boost students' confidence who find problems with mathematics, but actually that has never happened. In fact, Albert himself said once: "I never failed in mathematics... Before I was fifteen, I had mastered differential and integral calculus". The origin of this misconception is probably Einstein himself as he said: "Do not worry about your difficulties in Mathematics. I can assure you, mine are still greater".



Modern media and entertainment networks play a huge role in transforming a misconception into a fact. You might have seen a movie, series or even a documentary which pictures Vikings with horns attached to their helmets. Sure, it looks cool and intimidating, but actually these horns are useless. They add unnecessary weight and give the enemy a way to grab the Viking and knock him down. That is why there is no historical data that prove that these warriors did wear helmets with horns.



Another mistaken fact that has been used a lot in cinema these days is the 10% of brain usage (Lucy, limitless... etc.). It is true that science is still unable to define what every part in the brain does, but that doesn't necessarily mean it is inactive. Studies have shown that every part of your brain is active but if you really thought that you only use 10% of our mind abilities and then just sitting there doing nothing, you could actually be using just that percentage. This 10% estimation can be traced to a neuroscientist in the 60s a longtime before the invention of machines that are able to detect and measure brain activity.

Other myths are the result of Ads and Marketing campaigns. The Great Wall of China is good example of that. The myth states that this historical site is the only man-made object that can be seen from the space. This information is wrong in two levels, you cannot see the wall from the space, however, there are other man-made objects that can be seen from the space such as the night lights, and the palm tree island in Dubai.

The list of misconceptions is not limited to what was already mentioned, other examples are:

- Swallowed Chewing Gum Does Not Take 7 Years to Digest.
- Bats Are Not blind: Many do use sonar primarily, but all bats have eyes capable of sight.
- Dogs do not see in black and white.
- Your fingernails do not continue to grow after you die.
- Ostriches do not bury their heads in the sand when they are scared.
- Salty water does not boil quicker.

A spokesman said: "If you are told something enough times, you are sure to start believing it." So never take anything for granted and always check the sources of your sources. ■



TOEFL VS IELTS

Amine BOUDERHEM (M01)

In the recent years, Algerian students have become more interested in studying abroad rather than pursuing their studies in Algerian universities. Except the French destinations, Algerian students mainly choose universities that offer study programs that use English as a teaching language.

As a consequence the need for tests of English language ability has increased as these tests are required from the foreign universities. Consequently, Algerian students are intensively applying for these tests. In this article we are going through the most famous tests of that kind, 'TOEFL' and 'IELTS' and we will tell you how to apply to one of these tests, where to pass them, the cost and the difference between the two.

We start by "TOEFL" which is an acronym for 'Test of English as Foreign Language'. This test was made and designed by EDS (which stands for "Educational testing service"). Whereas "IELTS" stands for International English Language Testing System. The TOEFL test has many forms, however only one form is available in Algeria which is the IBT (Internet Based Test). Meanwhile, the IELTS exists in two types, the general training and academic. The two types are available in Algeria. However the most suitable type for Algerian students is the academic one as it is specific to people needing this test in academic procedures. Both TOEFL and IELTS contain four sections; Reading, Listening, Speaking and writing with an average test time of 2 hours and 45 minutes. The sections are not similar in both tests and many differences can be spotted.

other essay. You should note that the TOEFL writing is with keyboard which is not the case with the IELTS as you need to write it on a paper.

Listening will take you 60 mins in the TOEFL which is 2 times the period it takes you in the IELTS. However, students find the TOEFL listening easier as only the American accent is used in the different parts of it, not like the IELTS where many accents are integrated.

Reading is based on QCM in the TOEFL while it is an open question in the IELTS.

If you find one them easier and comfort you better, then this does not necessarily mean is the best for you as your choice should depend on where you want to go. Most universities accept both with the exception that UK universities do not recognize the TOEFL. You should note that there are some scholarships that oblige one of the two, in the other cases where you want to apply for the university directly then there are some websites that you can check to know whether the university accepts one of the two or not:

<http://bandscore.ielts.org/> for the IELTS.

https://www.ets.org/toefl/ibt/about/who_accepts_scores for the TOEFL.

In Algeria, the TOEFL TEST can be taken in four different regions which are Algiers (in-tuition school), Constantine, ORAN, and SETIF. The test costs 38000 DA (currently) or 180\$ if you can pay with the MasterCard.

The IELTS can be taken in LSA (Cheraga) and it costs 32000 DA (currently). Both tests are available in a monthly basis. ■

IELTS[™]

TOEFL[®]



Talking about the speaking, in the TOEFL you have 6 questions for 20 minutes meanwhile you have only got 3 questions for 15 minutes in the IELTS. Besides, in the TOEFL you will be speaking to a computer and not to real person as it is the case with IELTS which does not give you the chance to ask for the question another time. In the writing, you will hear a conversation in the TOEFL and then you will be asked a specific question about it besides another essay. In the IELTS you will analyze a graph or some picture then you will be asked about an-

INTERVIEW WITH THE FOUNDER OF INELEC

MR. A. BENAZZOUZ

I Nidhal LAMRAOUI (L05/06)

CAREER

I had got my Baccalaureate in Algeria. In 1960, I left to France where I have had license in physics, I have completed part in Toulouse part in Algiers and part in Nancy. Then I acquired my engineering diploma in the power field in ENSEM (Ecole Nationale Supérieure d'Electricité et de Mécanique de Nancy). After that, I have been teaching at this school for one year where I prepared a specialized diploma in my field (DEA).

The next stop in my journey in France was in Paris, where I was working at the University of Paris, filling in the position of a researcher for 3 years, in the Magneto Hydro Dynamic sector, teaching at the same

time at "Ecole Centrale de Paris" and "Institut Universitaire de Technologie de Cachan".

I went back to Algeria in 1971, to be recruited by ENITA, the Engineering school created by the ministry of defense with the cooperation with the French. I was the first Algerian joining this school in technical education. I have been teaching power, organizing the relationship with industry, managing the technology department then the engineering department. In 1973 I have been proposed to join the Ministry of Defense but I noticed that my person was a far cry from being a military man, and so I looked around to join one of the companies under the

supervision of the Ministry of Industry and Energy. SONELEC were in the mission of developing so many designed projects, INELEC was one of them, Which was accorded a tremendous part of importance.

I was put at the head of this project, the director of INELEC, from March 1976 until October 1991, when I have been called to take responsibility in the vocational training ministry as "Chef de Cabinet" of the Minister. Due to a change in the government late 1991, I left this position and retired.

During the course of these 16 years, things had picked up at a really quick pace, not always in the good direction.

INTERVIEW

Q. One of the details that caught our attention was the fact that you actually studied in France and did all of your higher education there, what was the reason you decided to come back to the country?

Indeed, I had done most of my studies abroad, and I tried to come back home three times.

1- at the year of 1962, which coincides with the independence of Algeria, I was still in "Toulouse" going after my higher education, but I have decided, and like any other good citizen would do, to return back home and pay my debt towards my home country that was in flagrant desperate need for all kinds and shapes of support! It was what so many of my colleagues students abroad had intended to do as well! But unfortunately, few of them did it really.. Where we found ourselves bounded to facing a lot of setbacks and troubles. We were filling into the positions of the French people, who dismissed their jobs and left, the night of the independence and to be quite franc, neither the situation nor the circumstances were gentle!

As I continued my license in physics I Was also volunteering to teach mathematics and physics in high schools, and go to suburbs and isolated rural areas like "Belcourt" in the evenings and just help the community get rid of the illiteracy that was getting on the rise, back then. While some people were doing their best to help the country many others were only interested in getting money, apartments and all kind of goods. I was disappointed by this situation and decided to come back to France to complete my studies for an engineering diploma.

2- I felt really inclined toward serving the country so I came back after that to Algeria in July 1966 to apply for a teaching job at the university of Algiers, the only one at this time in the country. I didn't get any answer because it was just impossible to meet any leader of the university who



From left to right: the head of university of uto, MR.BENAZZOZ, Professor MITRA and Doctor Bourdecene

was able to take such a decision.

Upon the request of my professor back in France I was offered the job expected in Algiers at ENSEM in Nancy.

3- Four years later and after a good experience in research and teaching in different engineering French-schools, I came back definitively to Algeria in 1971. I was convinced that this time will be the good one, because the general environment in the country has changed for the better.

Q. As students, we read and heard a lot of not necessarily similar stories about the founding of INELEC, students have been eager to finally be able to listen to the original story from you, as the founder of INELEC:

"In the sixties, Algeria had barely just come out of a long journey of battles, that had exhausted the country's potential, and stripped off the land of all source of prosperity.

The nationalization of petroleum and gas decided by president Houari Boumediene in 1971 changed this situation and provided all rights and means to take off with this country's dying economy to a way more flourished one.

We had the sources, we had the ambition, the tamed forces to achieve that, but we ran off to a wall! We had a severe lack in qualified labor force, of engineers and experts. Due to the weakness of the only one university of Algiers at this time,

that is how establishing institutions providing vocational/ educational trainings was the way to go in the quest of overcoming this obstacle. INH and INIL were developed with the Russian, IAP and INGM with the French and the last of all, INELEC with the Americans mainly because many projects in electronic industry were developed with American companies and because the USA are leaders in this sector.

The project initiated by the Ministry of Industry and Energy was initially discussed in 1974 with American universities we wanted to involve to establish the best possible institution which can meet the "American standards" The tender specifications done by the Ministry of industry were as follows:

- The institution will be designed for 2000 technicians and 1000 engineers in the first phase. This number will be multiplied by 2 in the second phase and by three in the third phase.
- The language of instruction will be English
- The institution will be located in Tlemcen and should start as soon as possible in temporary facilities.
- American Universities will provide the teaching staff while young Algerian will be trained to take over gradually.
- The graduate of the institution should be ready to feed the needs in Electricity and Electronics of the following national companies:

SONELEC, SONELGAZ, SNS, SONACOME, and SONATRACH.

In a nutshell, INELEC was the outcome of bringing together the curriculum of the top leading universities in the USA, which are:

For the Engineering side:

Case Western University, Cleveland University of Missouri, Rolla and Stevens Institute of Technology, Hoboken.

For the Technology side:

University of Houston, College of technology, Oklahoma state university, WENWORTH institute of technology, Boston.

For the design of the library:

University of Wisconsin Stout

For the industrial side:

General Telephone and Electric company with his department of training STO which was in charge of the language intensive program and RAYTHEON Corporation, which happened to be one of the major companies in the industry of military equipment production. All these institutions were coordinated by EDC (Education Development Center) Boston.

The project started really from these above indications late 1974. I built everything from scratch with the support of SONELEC and a loan signed with the World Bank (WASHINGTON) to cover the hard currency expenses of the building, the equipment and the technical assistance.

The contract between EDC and SONELEC was signed in march 1976 and the first students in technology and engineering were recruited at this date. We received the first teachers and started the implementation of the planned program in ...student dorms given by INIL and used as offices, classrooms, labs and of course housing for our students. We have been moving in Boumerdes in 4 different places until we ended up in the place we are talking now.

We were supposed to build the institute in Tlemcen, The Architecture Collaborative(TAC) in Cambridge designed the institute, and they did a good job. You can still find, exposed in their hall in Cambridge



MR. Benazzouz and the academic director MR. Hamdi

the Marquette of the buildings as one of its most important projects in history. When we were about to choose the service company to build the institute, laws at that time gave priority to local companies which obliged us to choose one of them. DNC was our choice and it was a very busy company which had caused an infinite delay until we never moved to Tlemcen.

“...INELEC was the outcome of bringing the curriculum of the top leading universities in the USA”

In 1988, the whole project was handed to the higher educational ministry as a governmental decision has been taken which stated that the higher education ministry should be the only responsible of the higher education institutions except for the defense and military education. In spite of the lack of space and comfort in Boumerdes, INELEC acquired a good reputation attracting the best students. The program implemented(Recruiting good faculty members from American universities ,having modern equipment for our labs ,providing textbooks to each student and good references in the library, managing the institution and the evaluation of the students with transparency and equity) have the effect of graduating probably at this time the best electronic engineers

and technicians in the country. All our graduates were able to get a job immediately at the end of their studies. Many of them were recruited by international companies like Philips or Schlumberger.

In parallel we intended to form and instruct a definite number of future teachers, who after receiving a well designed high quality theoretical and practical training, master and excel at the curriculum exported from the aforementioned universities, would help in the completion of what the Americans professors started to do as their contract was supposed to expire in 1979. Around 180 Algerian students who completed their first degree were to be sent in expeditions to the United States in two steps. The first goal was to get a Master degree and the second was to complete a PHD degree after few years teaching at INELEC.

Most of these Faculty members came back after the first step. As promised I sent them back to USA for their PHD; unfortunately we lost the majority of them. The main reason is that we have not been able to offer them any place to live, Even with this problem ,some of them are still here among you, like Mr Dahimene, Mr Harriche, Mr AitKaid and others who had recently left, like Mr Kribes.

It was amazing, because we were actually witnessing the dream coming true, building up from scratch; “I remember that, and

along the years, we had almost 60 American families here. After June 1979 about 15 American teachers accepted to continue their mission through a direct contract with INELEC. There comes a point when we took of the aid of Indians who although were practically less competent but they were very good in theory.

I even went to UK to bring some teachers from there, I failed to recruit British professors but I found a few Iraqis and Iranians who were very competent! all in all was for the best of this institution, they were equally professionals and competent “

Q. Can you tell us about the students at that time:

I Feel the urge to tell about the quality of students getting in, we were selectively picking up the best of elites nationally ! We were accepting no more than 50 freshmen each year, out of 1500 applicants we had thoroughly kept supervision on the students, via very detailed evaluation system of testing done on a regular basis. No lie, we had expelled few students by the first year, for not meeting the criteria their patch had set up , and according to students, they weren't “qualified enough “ to be an INELEC grad, it was an intense program , studies started in September and ended in August, that's 11 months of school !!!! Let me tell you, students COULDN'T BE MORE THRILLED!

Professors weren't excluded from the previously mentioned system, yes! We were giving equal powers to decision making, for both, students and professors as students were engaged in a survey about their professors and if they were not satisfied about one of them, I wouldn't sign his contract. We did so, for all foreign teachers .Unfortunately the Algerian regulations will not allow the use of this system for our own staff.

Q. We were curious on whether you had any thoughts in regards of the current situation of

the institute, and what about Inelectronics Students Club, we have here at the heart of the institute, the magazine is part of ?

I am actually So very proud, of the work you are doing. We, and I speak on my person here, have put so much heart into this, we planned for so many things to accomplish on the long run. We have thought of a magazine, a club, and other events related to the extracurricular activities ,interesting to students and youngsters in general, but it was not easy to start everything simultaneously back then. It comforts me knowing that we are passing this on to a passionate motivated generation that will keep up with the reputation and the high standards we have set on the first day we came here.

“ Find out what you love... work hard to get there... ”

Trying to keep an eye, and maybe an ear on what's happening around here, and I heard it was your 6th issue of the magazine? “After correcting the information that it was the 9th, a glimpse of joy and excitement lights up Mr. Benazzouz Abderrahmane's eyes, and he congratulates us on the great work we are doing, asking and

encouraging students to do their best.”

Q. A last word maybe? To the fresh grads? Who are occasionally bombed by the fact that there isn't always as many open positions or decent job offers waiting up at them, as they leave?

Things had definitely changed a lot, there is no point of denying or trying to sugar coat this! The world is going in a roller with a lot of consecutive fluctuations .

Guess what? Circumstances aren't optimal around here anymore either! INELEC had definitely lost some of that spark it had in its first years of creation, but we have you! An ambitious force of youth full of dreams and determination if I could give one piece of an advice that would basically be of 2 parts:

1 - Find out what you love, what you are fond of, and the thing that fuels you with drive to go wild!

2 – work hard to get there! Always be patient, great things require patience. We, I, are and am the living proof, we have dreamt so long about bringing to life such a project, and we have made it!

Has it been some ups and downs? Setbacks and moments of thrive? YES, definitely, but it is always a phase, an important element in the process of getting where you want to go! ■



Graduation day 1991



THE CONTRADICTOR

Kheyreddine HADRI (L03)



I am no different than anyone. I am split into two, and fruitfully divided inside. I am the biological entity affected by the numinous from within. I am the bounded, materially. I am the boundless, mentally. I am who transcends the senses, but past those senses transcends. I am whose mind breaks through physicality to dream. I am who rises above all that exists, but fails to rise against a single biological need. I am who is broader than the universe. I am who find the universe lamentably small, but shouts in awe as I know more. I am the imprisoned in a biological straightjacket surrounded by the bars of reality, but through my mind I exceed all the margins and burst inside as if I am an infinite being. I am the harmony. It is through my neurotransmitters and hormones that I exist. I feel the need to love and to be loved. I think of the transient, the unattainable, the mystical, and all of that what science could not explain. I behave cuffed by nature or swayed by norms, and I also behave peculiarly because I am the peculiar myself. I am the selfishly selfish, and I am the selfishly altruistic. I enjoy art, both the divine and the manmade. And if I disinterred art looking for the reason of joyfulness, I find more joyfulness but no reasons. I find beautiful consistency but fail to find what is causing that ecstasy when witnessing a work of art. In all what defines me —my feelings, my thoughts, and my behaviors, I do have a threshold. Beyond that threshold I sense a metaphysical dizziness. I love. I long for immortality. I sacrifice. I do not hesitate to defy my biology through which I exist. Who I

am is puzzling to thoroughly define. But one thing for sure, a part of me does not belong here. I am claiming harmony, while reducibly I am the chaos. Do not reduce the painting to its colors and shapes, because you will fail to see its beauty. Do not isolate my elements of chaos, because you will not feel my harmony. I swing between egocentrism and denying it. I fluctuate between belittling the human breed and superiorize it. It is true that I have extended my perceptions beyond my biological skin tissue. It is true that I am the dominant species. I staggeringly overrode evolution to the point I could not comprehend how it got me here. I have consciousness, and I have advanced cognitive skills, all because I have the most complex object in the universe, the brain. Those are the human fingerprints that may lead to misconceive my existence as significant. But I am not significant. The universe that I claimed that it's small compared to me. It is actually the other way around. I am a nothing. I am vulnerable to destruction by the microscopic, let alone by the macroscopic. And the knowledge I am proud of, it can be wiped from existence with a touch of illness. I am arrogant, because I am unaware of the unknown. And about that human peculiar entity I was poetizing about, maybe it was a byproduct of my evolutionary dominance once upon a time. Maybe I discounted my physiological needs, and I no longer felt endangered, and consequently I enslaved my biology to finish my hierarchy of needs so I could exist in luxury and seek beyond my threshold.

Within my kind, the human kind, I fool myself into objectivity. I think of empathy as absolute. I render the faculties of knowledge as reliable. I hold my mind trustworthy in deriving judgment and inference. Yet, I am who thought of solipsism. I am whose mind so obscure that it doubted itself. My mind is able to breach out and embrace the whole universe. And all of a sudden, that façade of objectivity becomes mere subjectivity. Empathy is selective and pertaining to humans only. The faculties of knowledge are all restrained to sensual data. I cannot conceive the nature of nature. I can only know that it does exist through its effects. I knew all this using the mind I doubt. Who am I? A contradictor. I am who seeks God among books and feels Him in thoughts written by mankind, but I lose Him as I observe mankind themselves. I am who loves the omniscience of God, appreciates His omnipotence, but questions His intimate interference. I am who knows that God is beyond the realm of reason, but falls into dispute about his intentions. I am who breathes in hardship as the tuning of existence strikes me, and breaks down in utter admiration when I comprehend how little I know when the biological life reveals a glimpse of its complexity. All that beauty I fail to call to mind in a moment of arrogance. All becomes dark, unworthy, suffocating, narrow, depressive, and vague as I wonder what teleology this existence has since it does not orbit me? I am a mess. I am chaos. I am the contradictor. I am the human. ■

Nabil Bouarroudj



Before leaving, **Nabil Bouarroudj** was one of the brightest people INELEC has ever given birth to. AIESEC, INJAZ EL-DJAZAIR and Inelectronics student club, three major stations in his 'adventurous' journey as a student at INELEC that have changed the perspective of his life.

As a member of the AIESEC organization since 2012, he was elected the Organizational Committee President for the project "Impact Wider"; this last was a project in which students from all over the world joined forces to reach one goal, opening up new definitions of life to the Algerian youth.

Impact wider was nothing but a perfect endeavor that boosted his motivation and encouraged him to write a new chapter this time with INJAZ EL-DJAZAIR, and in 2013, he was again elected the CEO of the junior enterprise named "SOLSTICE ENERGY" created by a group of IGEE students, the project aimed to build a product that serves directly the purpose of reducing human's dependence on conventional power sources by harnessing the sun instead. The project made it to the finals, and won the prize of "the most innovative idea" for INJAZ EL-DJAZAIR 2013 among 20 other projects.

Gaining more confidence and leadership skills during his past experiences, Nabil this time was elected president of IGEE's scientific club, Inelectronics Student Club (ISC), for the term 2013/2014 Where he unleashed his ropes of organizational skills and punctuality to make it one of the most successful years the club and I, as a member back then, ever witnessed.

[facebook.com/ Nabil Bouarroudj](https://www.facebook.com/NabilBouarroudj)

Seif Eddine EL-AHOUEL



Graphic design to him was more than just a hobby; graphic design was his passion, the only thing where he could set free his smart, innovative and sometimes funny ideas.

Seif Eddine EL-AHOUEL, and since he joined INELEC in the year 2011, spare no effort to make what he was best good at seen. In his first year, Seif Eddine joined ISC (inelectronics student club) and was charged of designing most of the posters and announcements that were needed by all its different sections.

In 2012, and after a successful past year, our designer was assigned this time the position of "external communications manager", where he, in addition to the help he offered to the Inelectronics Magazine team, managed to create and run the first ever official FACEBOOK page for the club, and therefore promoting for the club on different social media apps, giving Inelectronics student club the reputation it has today.

"I created that page because I used to post funny stuffs on my Facebook or twitter and my friends suggested it should go wider" Seif Eddine says about his own page on Facebook, in which he is working as a freelancer. Containing the best of his works, the page now has more than 2500 Likes and it's indeed going wider.

[behance.com/ Seifo El Alhoual](https://www.behance.com/SeifoElAlhoual)

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INELECERS SURVEY

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We have been walking around in the departments of M'hamed Bougara University, Boumerdes. We have visited INELEC, INH and INIM to elicit students' opinion in different university-related topics. Our survey included the points of view of 440 students: 234 guys and 206 girls.

The first question was: "At what level you plan to stop your studies?" 57% of the questioned girls of INELEC declared that they will stop their studies at PhD degree while the remaining 43% have chosen the Master degree which is considered an ultimate goal for almost 55% of INELEC boys, while the other 43% chose PhD. Only 2% said that they'll stop at Bachelor degree. That demonstrates the ambitious spirit of INELEC students.

In INIM, the boys who preferred the Bachelor degree 17%, justified by being hurried to pass the national service besides the lack of motivation to spend more years in university. 12% of girls said they are fed up of studies. Meanwhile, 58% of boys and 54%

of girls preferred the Master degree. For PhD there were 34% of girls and 25% of boys, unlike the others, they claimed: "in Algeria, without a high level diploma, you won't go anywhere", though "we are not motivated to study at all, but we don't have second choice", they said. In INH, it was the same reason, with different proportions.

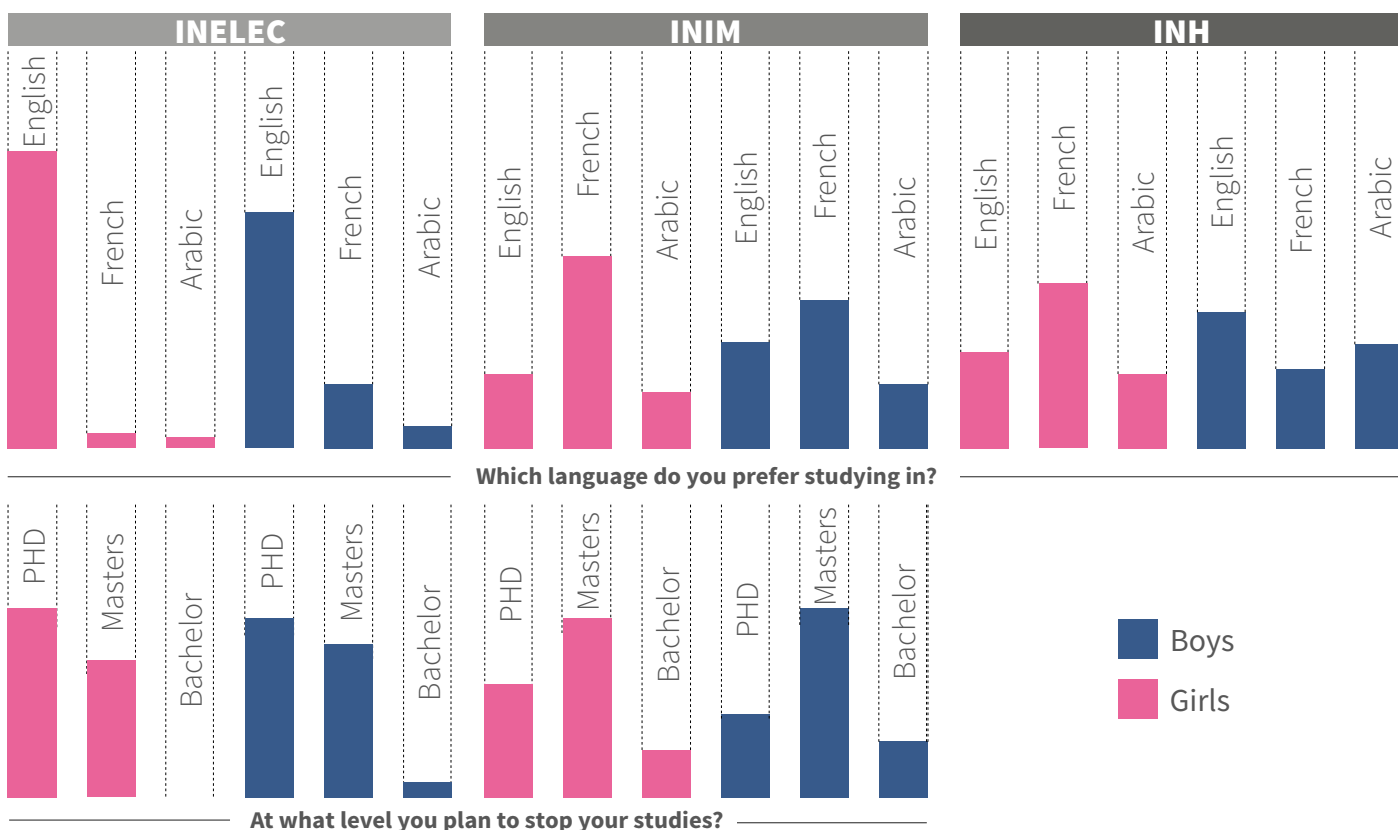
«Which language do you prefer studying in?» was our second question. The statistics have shown that the majority of INELEC students prefer studying in English with 84% for boys and 93% for girls. While French was in the second place with 10% for boys and only 4% for girls. Arabic was last, where only 6% of boys and 3% of girls were for this choice.

In INIM, it was quite different, French was the first with 46% for boys and 59% for girls, English was second with 33% for boys and 22% for girls, Arabic was at last with 21% for boys and 19% for girls. Those who chose Arabic claimed their inability to follow courses delivered in foreigner languages.

In INH, French was the first with 51% for girls, while second with boys with 25%, English was the second with 29% for girls and the first for boys with 42%. Arabic was last with 33% for boys and 23% for girls. This shows that girls are more interested in French while boys are more inclined toward English.

The third question was: "which system do you prefer studying with?" in all the institutions, most of the students have chosen the classic system, "We believe it is better for us. It was very successful before" claimed most of them, while the minority that chose LMD system was because, whether they don't know anything about the classic system or because LMD makes them somehow independent from university.

Our last question was: "How much do you enjoy the university life?" In the three institutions the majority for both genders has said that they are living in terrible conditions, while a few of them said that it is quite good. Except INELEC students who have some really good plan, the INIM and INH students who were suffering in every way that word could be, claimed that they are studying without any plan for the future which is really sorrowful for Algeria and all the students.



DID YOU
KNOW ?



The man known as the Father of Information Theory, **Claude Shannon**, invented the digital circuit – the foundation of the magic that provides us all access to the Internet today - during his master's degree program, when he was just 21 years



JavaScript was first created by Brendan Eich at Netscape in 1995; It was nicknamed Mocha during development, and ultimately named JavaScript to piggyback on the popularity of Java (another programming language).



HP, GOOGLE , MICROSOFT, and Amazon have something in common besides being an IT company. They all started in a **GARAGE !**



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