iCAN 2017

OFFICIAL CATALOGUE

- EVENT DIRECTORY -

THE ORGANIZER

TISIAS
TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS

TISIAS is the representative inventors' organization in Canada for promoting North American innovations around the world through international invention shows, fairs, and student competitions in Asia and Europe. Established in 2013, TISIAS has been participating in more than 30 international exhibition of inventions in 16 different countries to support creative works of students, individuals, and corporate inventors, entrepreneurs, and researchers from mainly Canada, USA and Korea – promoting their ideas to various global platforms for grasping worldwide opportunities for sales and marketing, scientific workshops, and award winning achievements. We continue to encourage everyone to create and succeed through innovation and creativity.

THE EVENT

The 2nd annual iCAN 2017 is to once again provide an invention exhibition platform in Canada for both local and overseas inventors, allowing them to showcase their inventions, innovative products, and scientific research projects. iCAN 2017 provides all-around program including the exhibition of inventions, informative seminars by IP experts and the awarding ceremony.

International Invention Innovation Competition in Canada
iCAN-TORONTO, CANADA

The Preliminaries

Applications: January 1 – July 30
Announcement of Winners: July 1 – Aug 1

"Finalists Selected & Confirmed"

International Invention Innovation Competition in Canada
iCAN-TORONTO, CANADA

The Finals

Date: August 26, 2017

Final Round Exhibition, Seminar & Award Ceremony

International Invention Innovation Competition in Canada
iCAN-TORONTO, CANADA

PATRONAGE BY

IFIA INTERNATIONAL FEDERATION OF INVENTORS' ASSOCIATIONS

WIIPA

ORGANIZED BY

TISIAS TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS

MONITORED BY

INVENTOR SOUND

LOCALLY SUPPORTED BY

InventorsCircle.org

innovation initiative
A non-profit forum supporting innovative business

INTERNATIONAL DELEGATIONS & CONTRIBUTORS

ATIP

HOW CREATIVE We Design Businesses

INVENTHELP'S INPEX AMERICA'S LARGEST INVENTION SHOW

OFEED

Visions in Green ...the place you want to be

BAM BLACK AFRICAN MUSEUM

In The Now, LLC

AGRIGREEN Producing Water From Humidity

INDIAN INNOVATORS ASSOCIATION Voice of Indian Innovators

HIUF Highly Innovative Unique Foundation

EGYPTIAN INVENTORS SYNDICATE

Nu Innovations Inc. Canada

INNOPA Indonesian Invention and Innovation Promotion Association

IRAQI FORUM OF INVENTORS

Eurobusiness – Haller

International Invention Innovation Competition in Canada
iCAN-TORONTO, CANADA

LIST OF PARTICIPATING COUNTRIES

33 COUNTRIES

ANGOLA	INDIA	MOLDOVA	TAIWAN
BULGARIA	INDONESIA	MOROCCO	THAILAND
CANADA	IRAN	PHILIPPINES	TURKEY
CHILE	IRAQ	POLAND	UAE
CHINA	KENYA	PORTUGAL	USA
CROATIA	KOREA	QATAR	VIETNAM
EGYPT	LEBANON	ROMANIA	
GERMANY	MACEDONIA	SAUDI ARABIA	
HONG KONG	MALAYSIA	SUDAN	

ACKNOWLEDGEMENTS

It is a great pleasure and honour to once again invite you all to the 2nd annual iCAN 2017 in Toronto. Over the past 8 months since the start of the Preliminaries Open, the organizing committee received more than 350 applications from 33 countries around the world. As the organizer of iCAN, I would like to express my heartfelt gratitude to all participants, delegations and partners, friends and colleagues for making the event into a one big scrapbook.

Through the Preliminaries, it was clear to see that different environments and cultures have tremendous influence on the birth and growth of ideas around the world. In that aspect, I believe there can be a way that can allow all these ideas to gain limitless opportunities and maximize all potentials globally.

Through iCAN, I hope to continually build the global culture connecting many pieces of the puzzle together for worldwide inventors.

Moonsuk Chang
President of TISIAS / Organizing Chairman of iCAN 2017

Inventors, welcome to iCAN's 2nd Annual International Invention Innovation Competition in Canada. I would like to express my gratitude to everyone in attendance. Most people ask themselves, "Why doesn't somebody do something about this?" but the inventors in all of you ask, "Why don't I do something?"

Today, we are here to celebrate and acknowledge your courage for asking that question. Your pervasive optimism, your unrelenting commitment to success, your risk-taking, shapes and inspires the world we live in. you are the creators that unveil the future.

iCAN believes in the possibilities of a napkin idea. iCAN believes in the possibilities of inventors. iCAN believes in you.

Welcome to iCAN.

Howard A. Lim
President of HOW Creative / Co-Chairman of the iCAN 2017 Jury

Dear iCAN Participants,

When Moonsuk told me last year that he will host the first Canadian iCAN in Toronto and he will have a lot of inventors come to the competition from all over the world, I was a little skeptical. But, when the event took place, I was so pleasantly impressed with the quality and quantity of the participants! I also had the opportunity to speak with a great number of enthusiastic innovators, because I was one of the judges. This year, I am looking forward to help Moonsuk organize, because I want iCAN to be one of the events of choice for all inventors globally! See you all there… and remember, where would we be without inventors?

Bob Huybrechts
Founder of Innovation Initiative Co-operative Inc. / Co-Chairman of iCAN 2017 Jury

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Welcome, (Bienvenue, Hwangyong-hamnida, Ahlan Wa Sahlan, Welkom, Witam Cie, Selamat Datang, Laskavo Prosymo, Maligoyong Pagdating, Dobrodosli)

Your attendance whether from near or far is a demonstration of your creativeness and positive outlook on the future. Your desire to apply your efforts to build a brighter world is commendable. Please appreciate you are in special group of like-minded Inventors and Innovators from around the world who went beyond dreaming to taking action. We in Canada's Inventor community, and in particular, Inventor's Circle in Toronto, applaud your efforts and we look forward to learning from you, sharing and developing lasting collaborative friendships.

It is my personal, Aim as ICAN, Master of Ceremony to bestow award winners' individual projects their well-deserved trophies and medals, with pride. With the sincere hope that your ideas will flourish and grow alongside future iCAN Finals in years to come. Please take this time in Toronto and ICAN to reach out to others, to learn and to expand your friendships and possibilities.

Mike McFarthing
Director of Education at Innovation Initative Co-operative Inc. /
Chief Jury Member of iCAN 2017 Jury

TISIAS
TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS

Welcoming All Finalists and Guests!

International Invention Innovation Competition in Canada

iCAN - TORONTO, CANADA

BECAUSE WE CAN

THE FINALS

EXHIBITION • SEMINAR • AWARD CEREMONY

AUGUST 26 | 10AM - 6PM

EXHIBITORS SET UP STARTS AT 9:30AM

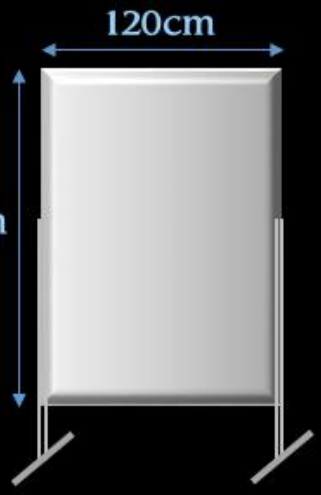
North York Memorial Community Hall

5110 Yonge St, North York - Toronto, CANADA

CONTACT US: www.tisias.org/ican-2017 ican@tisias.org

FOR EXHIBITORS

* set-up starts from 9:30am
* check-in at reception table
* prepare invention poster < poster board
* includes 1 table and 2 chairs
* display spots are assigned upon check-in
* larger posters/exhibits are assigned for wall displays



SEMINAR

* co-currently held with the exhibition in the afternoon

HOWARD A. LIM

Founder of HOW Creative
Fortune 500 Branding Expert
Co-Chairman of the Jury - INPEX, America

"How to Transform
Your Invention Into a World-Class Brand"

MARCOT SANDY

Founder of In the Now, LLC
Inventorz Network Expert

If You Build It, LIFE Will Come:
"The New Product Development Process"

BOB HUYBRECHTS

Founder & Chairman of Business Development
Innovation Initiative Co-operative Inc.

"Where would we be Without Inventors?!"

MIKE MCFARTHING

Director of Education
Innovation Initiative Co-operative Inc.

Global Collaboration
"The Benefits and Challenges of Global Partnering"

The 2nd International Invention Innovation Competition in Canada, iCAN 2017

EVENT OUTLINE

TITLE OF EVENT

The 2nd International Invention Innovation Competition in Canada, iCAN 2017

ORGANIZED BY

Toronto International Society of Innovation and Advanced Skills (TISIAS)

INTERNATIONALLY SUPPORTED BY

International Federation of Inventors' Associations (IFIA)
World Invention Intellectual Property Associations (WIIPA)

LOCALLY SUPPORTED BY

Innovation Initiative Co-operative (IIC) "The Inventor's Circle"

THE ORGANIZING COMMITTEE & SUPPORTING ORGANIZATIONS

First Institute of Inventors and Researchers of I.R. Iran (FIRI)
Turkish Inventors Association (TÜMMÎAD)
Lebanese Innovators Society (LIS)
Association of Thai Innovation Promotion (ATIP)
Korea Invention Academy (KIA)
INVENTARIUM-SRD SCIENCE RESEARCH & DEVELOPMENT – Portugal
Korea Invention News (KINEWS)
Romanian Inventors Forum (FIR)
Uncle Bugs Inventor Academy – Malaysia
Asia Invention Association (AIA)
How CREATIVE (Los Angeles, CA)
InventHelp – "The INPEX Show" Pittsburgh, USA
OFEED – Morocco
Visions in Green | Black African Museum
In the Now, LLC
The First Institute of Canadian Inventors (FICI)
Indian Innovators Association (IIA)
Highly Innovative Unique Foundation (HIUF) – Saudi Arabia
Egyptian Inventors Syndicate – Egypt
NU INNOVATIONS INC. – CANADA
Indonesian Invention and Innovation Promotion Association (INNOPA)

INTERNATIONAL JURY

CO-CHAIRMAN OF THE JURY

Bob HUYBRECHTS, RDT
President of the Innovation Initiative Co-operative Inc. (IIC) – Toronto, CANADA

Howard A. LIM
Co-Chairman of the Jury at America's Largest Invention Show – INPEX, USA

MEMBERS OF THE JURY

Mike MCFARTHING
Innovation Initiative Co-operative Inc. (IIC)

Masoud SHAFAGHI
International Federation of Inventors' Associations (IFIA)

Babak KHODAPARAST
First Institute of Canadian Inventors (FICI)

Amedeo POZZEBON
Innovation Initiative Co-operative Inc. (IIC)

Ayhan S. DADASHZADEH
Turkish Inventors and Inventions Association (TÜMMÎAD)

Adam RYLSKI
Lodz University of Technology, POLAND

Majid EL BOUAZZAOUI
OFEED – MOROCCO

Jerzy MADUZIA
Director of John III Sobieski Secondary School – Jastrzebie-Zdroj, POLAND

Nidham JAMALLUDEEN
University of Basrah – IRAQ

Ihsan Edan ALSAIMARY
University of Basrah – IRAQ

Mohammadreza MEYMANAT
Zanjan University of Medical Sciences – IRAN

Najia AL-ZANBAGI
Highly Innovative Unqiue Foundation (HIUF) – Saudi Arabia

LIST OF AWARDS

THE FINALS TOP AWARDS

iCAN 2017 GRAND PRIX AWARD
iCAN 2017 SEMI-GRAND AWARD
Best Female Inventor Award
Best Youth Inventor Award

BEST INVENTION AWARDS (Top 4 Continental)

Best Invention of North America
Best Invention of Europe
Best Invention of Asia
Best Invention of Africa

BEST INVENTION AWARDS (Top 10 National)

Best Invention of Canada
Best Invention of Malaysia
Best Invention of the Islamic Republic of Iran
Best Invention of Morocco
Best Invention of Poland
Best Invention of Turkey
Best Invention of the Philippines
Best Invention of the United Arab Emirates
Best Invention of Egypt
Best Invention of Iraq

SPECIAL AWARDS

iCAN 2017 Special Inventor Award
International Federation of Inventors' Associations (IFIA) Special Award
World Invention Intellectual Property Associations (WIIPA) Special Award
FIRI – Iranian Delegation's Special Award
TÜMMÎAD – Turkish Delegation's Special Award
ATIP – Thai Delegation's Special Award
INNOPA – Indonesian Delegation's Special Award
FIR – Romanian Delegation's Special Award
KINEWS – Korean Delegation's Special Award
OFEED – Moroccan Delegation's Special Award

** The list above is subject to change on August 26th depending on attending delegations*

THE PRELIMINARIES

GOLD / SILVER / BRONZE AWARDS

iCAN 2017

LIST OF EXHIBITS

- Alphabetically by Country -

ANGOLA

APPLICATION No.	ANG-01
AUTHOR(S)	**JOÃO ROCHA MISIDI NETO, WABELADIO PAYI DAVID, BITOMBOKELE LEI GOMES LUNGUANI**
ORGANIZATION	Angolan Association of Inventores and Inovatores – A@ii
TITLE OF INVENTION	**APPLIED KIMBANGULA**

Applied Kimbangula is a new logic of design of technical schemes based on combinatorial symmetry whose results are interpreted to produce industrial utility drawings. It is a judicious pedagogical and philosophical instrument that allows to develop the mental and intellectual capacities in the process of conception and production of technical knowledge in several technological areas (Bio-mechanics Mechanics, Architecture, Electronics, etc).

BULGARIA

APPLICATION No.	BUL-01
AUTHOR(S)	**Veronika Ivanova, Andriana Surleva**
ORGANIZATION	University of Chemical Technology and Metallurgy
TITLE OF INVENTION	**Validation of an Ion Chromatographic method for determination of anions in Bulgarian water**

An Ion chromatographic method for determination of anions in Bulgarian natural waters is proposed. The method is validated according to the national and international regulations. The proposed method allows determination of low concentration of targeted anions in Bulgarian natural waters. Ion chromatography with conductivity detection after gradient elution and with/without chemical suppression is applied. Analytical characteristics of the method are determined. The method showed a lower LOD, repeatability, measurement accuracy and measurement with uncertainty less than 10 %.

CANADA

APPLICATION No.	CAN-01
AUTHOR(S)	**Ali Rashedi Gazari, Mohammad Fadaie**
ORGANIZATION	National Organization for Development of Exceptional Talents, Langley Fundamental Secondary School
TITLE OF INVENTION	**The role of hopping energy of electrons in graphene on the band-gap of a periodic graphene-dielectric structure**

The effect of hopping energy on the electromagnetic wave propagation of 1D photonic structure which is formed by embedding alternative graphene layers, a 2D carbonic material with a honeycomb lattice, into a dielectric background is investigated. By using the complete expression of the tight-binding Hamiltonian of graphene layer, we numerically show that the hopping parameter can significantly affect the corresponding bandgap of the structure. Our study could be extending to different frequency regions of the electromagnetic spectrum. Noticeable effects are also due to changing the amount of doping which in turn leads to changing the amount of chemical potential obtained in the numerical part. It is clear that increasing the amount of chemical potential leads to creating a wider bandgap. The other aspect of our research is finding out the effect of enhancing hopping energy (which gives wider bandgap) is by shrinking the layers of SiO_{2} as a dielectric background, the location of the bandgap will be in the upper part on the spectrum range of light. One can notice the feasibility of various graphene applications in high-frequency range devices. Furthermore, the lack of acceptably performed research on the optical conductivity of the abovementioned type of photonic crystal beyond the Dirac approximation in graphene motivate us to take a step in this way.

APPLICATION No.	CAN-02
AUTHOR(S)	**Ray Tang**
ORGANIZATION	Opti-fold Cosmetics
TITLE OF INVENTION	**Permanent Eyelid Crease Restoring Tape**

The permanent eyelid crease restoring tapes are used to permanently treat people with uneven eyelids. This is done by a system of 2 separate tape members that perturb the eyelid skin by reinforcing an already existing weak eyelid crease, or restoring an original double eyelid crease that have become uneven/asymmetric. The tapes are worn at night while the user sleeps. Permanent result that treat uneven eyelids happen at approximately 6 months of wearing the tapes at night.

APPLICATION No.	CAN-03
AUTHOR(S)	**Mohammadreza Nourdanesh**
ORGANIZATION	University of Waterloo
TITLE OF INVENTION	**Smart Oxygen Device**

Currently, some patients are using medical Oxygen cylinders. Manual adjustment of the Oxygen flow, without taking into consideration of the patient's blood Oxygen level is an important drawback of the commonly used Oxygen devices. Smart Oxygen device can automatically adjust the Oxygen flow rate based on the precise measurement of the level of Oxygen in blood. Therefore, problems that are stemming from the inappropriate adjustment of the Oxygen flow rate such as lung burn, suffocation, and poisoning will be solved. Additionally, the need for experienced staff and nurses will be decreased.

APPLICATION No.	CAN-04
AUTHOR(S)	**Helya Bahavar**
ORGANIZATION	FARZANEGAN1 Junior High School
TITLE OF INVENTION	**WIPER OF SIDE WINDOWS**

There has been problems with many of the inventions in our history that has improved and has gotten better as time went on through new inventors. Cars and vehicles are changing almost daily. A windshield wiper is one of the most vital pieces of any vehicle. One of the issues with vehicles is having a dirty side mirror that are worsen during rainy days and with the addition of steam and foggy windows. The goal of this project is design and preparation of a new windshield wiper for the side windows. This will help keep the windows clean without having to roll the windows up and down and without having the driver having to do it manually. Our method of research and our findings for this project is browsing through the internet, inquiring from conversant people, experienced people, and observing researchers' results.

APPLICATION No.	CAN-05
AUTHOR(S)	**Behrouz Rahimi**
ORGANIZATION	NU INNOVATIONS INC
TITLE OF INVENTION	**No Bears Allowed**

No Bears Allowed – Security system using ultrasonic waves prevents wild animals from entering a home; helps to keep occupants safe while safely and easily deterring an animal away from the home; could also be used to thwart intruders.

APPLICATION No.	CAN-06
AUTHOR(S)	**Behrouz Rahimi**
ORGANIZATION	NU INNOVATIONS INC
TITLE OF INVENTION	**Automatic adjustable Screw less Wrench**

“Automatic Adjustable Screw Less Wrench.” This is a special tool with an auto set-up function. This product helps to make a construction job easier and accelerate the process. The tool can be used by both commercial construction companies and do-ityourselfers at home. The inventor came up with this idea because he wanted to make using a wrench easier. “I thought this tool would help assist people on the jobsite,”

APPLICATION No.	CAN-07
AUTHOR(S)	**Behrouz Rahimi**
ORGANIZATION	NU INNOVATIONS INC
TITLE OF INVENTION	**Safety For Car Rim**

The "Safety for Car Rim" helps to keep a car and driver safe in the event that a tire is punctured or is blown. This device is replaced instead of a tire, making it safe for the driver to continue on their journey. According to the inventor, this idea could save individuals time and money from having to replace a tire for a small puncture. Rahimi designed this because he wanted to keep drivers safe. "I thought that this idea would help to keep both a driver and car safe in the event of a flat tire," said the inventor. "I wanted to make sure that people don't have or cause an accident due to a punctured tire."

APPLICATION No.	CAN-08
AUTHOR(S)	**Nu Innovations Inc.**
ORGANIZATION	NU INNOVATIONS INC
TITLE OF INVENTION	**New compound formula without silicate zirconium for ceramic industry**

You just save your money up to 50% because we can provide you special glaze formula for each ceramic company individually. We will be received your sampling of your raw material and then you will get our saved formula. As you are aware, the silicate zirconium is the most expensive component in the glaze compound for ceramic and tile companies, so we have found a new formula which the Zirconium is deleted and also we could save amount of the rest material for the processing too. Also in our formula, the length of common formula is shorted, it means that' the number of components is limited or deleted so we have found next saving again. Any way, we absolutely did not add any additional components or new materials into new formula and the original concerned raw materials were used without changing of the product quality. By using of new formula, you are not only save lot of money but also you find last quality and properties same as before.

APPLICATION No.	CAN-09
AUTHOR(S)	**Mohammadreza Meymanat, Hojatollah Vali, Angineh Parsadanians, Kian Zobeiry, Pedram Aghamirkarimi**
ORGANIZATION	McGill University, Zanjan University of Medical Science
TITLE OF INVENTION	**A method for targeted visualization, controllable debilitation, damage and destroy biologic Targets**

In this method, a functionalized ferromagnetic nano-particle (FFNP) is designed capable of selectively attaching to the target. By exposing the affected tissue loaded with FFNPs to a remote high frequency alternating magnetic field produced by an external electromagnetic inductor, induced electric, magnetic and thermal properties will appear in FFNPs. This field is created by an external high frequency electromagnetic inductor invented by our team. The inducted electric, magnetic and thermal properties results in physical and ionic disarray in a certain radius surrounding FFNPs, which collectively will influence the targets and cause controlled damages and if needed destruction.

APPLICATION No.	CAN-10
AUTHOR(S)	**Behrouz Rahimi**
ORGANIZATION	NU INNOVATIONS INC
TITLE OF INVENTION	**Global Water Watcher**

The GWW can monitor condition of water such as sea, pond, lake, river, pool… and others also it will be transfer all concerned data to user automatically. The GWW makes it easy for you to monitor your water condition and protect your environment. The GWW System also can guard fish from the devastating effects of ammonia poisoning, as well as harmful swings in pH and temperature. The Intelligent Software automatically monitors the pond day and night, alerting you before there is a problem.

Monitors: Temperature, Ammonia (NH3), pH, Water level, Oxygen, Offline every second, Online every second, Webserver stored a year, email warnings, and device warning

APPLICATION No.	CAN-11
AUTHOR(S)	**Behrouz Rahimi**
ORGANIZATION	NU INNOVATIONS INC
TITLE OF INVENTION	**Safe Queen Bee**

The honey production will be done by honey bees and the queen bee is top most important element for reproduction of the bees but we lose it at lot of case during the inoculation accordingly. The safe queen bee device can be safe queen life when it is in anesthesia condition at the time of inoculation with monitoring of vital signs. By using of this devise, we not only safe queen bee lift but also we save money and time as well.

APPLICATION No.	CAN-12
AUTHOR(S)	**Luis M. Duarte**
ORGANIZATION	Humber College – Toronto
TITLE OF INVENTION	**ROCKIT SINGLE FOOT SKATE**

Active transportation, powered by human energy. Uniquely designed to wear over shoes with footrest on back to place pushing foot, once desired speed is achieved. Low to gravity, compact and ambidextrous, the Rockit Single Foot Skate is easy to learn to ride. Gets you from point A to B faster. Versatile uses. Ideal for urban settings. No batteries required.

APPLICATION No.	CAN-13
AUTHOR(S)	**Larry Erb**
ORGANIZATION	Monumental Display Inc.
TITLE OF INVENTION	**Printonics**

Remote controlled Digital Video Print for Advertising Alerts and community Messaging wrapped on buildings and retail store fronts. Controlled by Internet remotely or with an app. Functional 24/7

APPLICATION No.	CAN-14
AUTHOR(S)	**Amedeo Pozzebon**
ORGANIZATION	Inventors Circle
TITLE OF INVENTION	**3 Plumbing Innovations**

1. The P-Trap with Double Clean-out will reduce the time of labour to unplug a P-trap and pipe and therefore reduce labour costs. Further, it will improve homeowners' ability to do the work themselves, resulting in cost savings of both installation and follow up service.

2. New Dishwasher T-Wye: a combination plumbing piece that simplifies the installation of the undersink dishwasher hook-up, not only saving on time and labour, but also reducing the cost from normally having to purchase 7 pieces, down to only 2 pieces.

3. New Deburr Power Reamer fits on a power drill and will deburr 1/2 inch to 2 inches pipe, whether ABS, PVC or Copper pipe in seconds, inside and outside diameter.

APPLICATION No.	CAN-15
AUTHOR(S)	**DESPINA FILIPPIDIS**
ORGANIZATION	Inventors Circle
TITLE OF INVENTION	**The anti-ultra-violet Sombrero**

The **anti- ultraviolet Sombrero i**s: Effective head wear that covers all head of damaging ultra-violet from sun-rays. Accessory for all convalescences of face dermatological treatments. Protector for chronic or acute diseases of face skin. Prevent against aging skin and eyes. Replace the harmful sun oils, sun creams, etc. Replace sunglasses. Replace ineffective short sun hats. Replace umbrella.

APPLICATION No.	CAN-16
AUTHOR(S)	**DOUBLEREED TEAM**
ORGANIZATION	DOUBLEREED TEAM
TITLE OF INVENTION	**The woodwinds (musical instrument) made using 3D design simulation program**

In order to maximize optimization of woodwind instruments having different optimization efficiencies depending on specific environmental and humidity conditions, the innovation was found and established to produce woodwinds through S/W (clarinet and oboe) which then would enable instruments to dramatically lower its margin of error that is auto-generated throughout its production process.

APPLICATION No.	CAN-17
AUTHOR(S)	**Scott Petrie**
ORGANIZATION	Inventors Circle / Innovation Initiative Co-operative
TITLE OF INVENTION	**TecDeck – Laptop computer and tablet stands**

My product is an innovative new design in laptop computer and tablet stands that is portable, and very affordable. The desk version laptop stand solves the 3 most prevalent problems that laptop users face better than any other competing product by far. And the model for use directly on a lap solves all of the problems faced by users who use them while sitting or reclining, while adding a host of other features that make using their portable devices more convenient.

CHILE

APPLICATION No.	CHI-01
AUTHOR(S)	**CARLOS RODRIGO RUZ CAMPOS**
ORGANIZATION	FREELANCER
TITLE OF INVENTION	**ELLIPTICAL URBAN BICYCLE**

Elliptical urban bicycle, safe, comfortable, and easy maneuverability, with speed system variation can be used by children and adults of all the ages due to his safe mechanism and simple design.

CHINA

APPLICATION No.	CHN-01
AUTHOR(S)	**Lin Facheng**
ORGANIZATION	Fuzhou Jin'an District Teacher's Training School
TITLE OF INVENTION	**Tracking Horns Camera**

This Tracking Horns Camera could locate the position of the car horn sound accurately and shooting the appearance of the car automatically, especially the license plate number. It could be the effective evidence for publishing the citizens who press the horn optionally. Besides, it could figure out the voice position accurately through sound localization. The image pickup system will activate immediately and send photos to data center when Tracking Horns Camera obtains signal. It also could provide valuable reference for a military strike and target reconnaissance.

APPLICATION No.	CHN-02
AUTHOR(S)	**Lin Facheng**
ORGANIZATION	Fuzhou Jin'an District Teacher's Training School
TITLE OF INVENTION	**Emergency Urial in Car**

This Emergency Urial in Car is a set of urial device for the drivers and passengers (men and women) to uriate in it in emergency whenever they are in the driving cas on the way and cannot find any toilet. It's also very confinient for the patients to use in bed. This product constructed by three parts is a complete unit with a urine receiver, a mini vacuum pump and a urine bag connecting with rubber tubes. It has got the innovation patent number from State Patent Office of the People's Republic of China.

APPLICATION No.	CHN-03
AUTHOR(S)	**Assoc. Prof. Wai-kit Ming, Jiayi Shen, Xiaoling Wang, Jiebin Chen, Minggang Sui, Zherui Liu, Sum-yi Wong**
ORGANIZATION	Jinan University – Gwangzhou, China
TITLE OF INVENTION	**Care-2-you (安心孕)**

We aim to invent a mobile app that could use machine learning (artificial intelligence algorithm) based on real clinical data to interact with pregnant women and offer pregnant mothers individually tailored and precise suggestions daily according to their health condition. By utilizing the smartphone, the app monitors the health status of pregnant women. The artificial intelligence would give the most suitable advice to the user after analysis. By using deep learning and machine learning, the app provides reliable information to the users. Moreover, users can contact doctors from the obstetrics and gynecology department and ask for further advice from physicians.

CROATIA

APPLICATION No.	CRO-01
AUTHOR(S)	**Biljana Gaš mag.prim.educ, Martina Miljak, mag.prim.educ, Ivanka Šikić, mag.prim.educ, Ivana Sauha, prof., school principal, 30 pupils**
ORGANIZATION	Primary school August Šenoa
TITLE OF INVENTION	**ZAGREBAČKA SLOVARICA/ SPELLING BOOK OF ZAGREB (WALL SPELLING BOOK)**

30 letters of the Croatian alphabet are an art work of first grade students (age 7). Each letter represents a landmark, location, sport, domestic product, street, park or a facility of the capital city ZAGREB, and trus the student 1st grade on each new batch of letters also adopts knowledge about their town, their experiences of the city, is developing relationships with other students, develops self-exposure.
This is a boost for other students in the major cities of the Republic of Croatia and wider for making Wall spelling books of their home town.

APPLICATION No.	CRO-02
AUTHOR(S)	**Mirjana Vlašić**
ORGANIZATION	Independent researcher
TITLE OF INVENTION	**Cake BatatKA® (Sweet potato cake)**

Cake for the prevention of pancreatitis, diabetes and other gastroenterological diseases, made of orange sweet potato. The latest recipe from the product group of the same name. The main ingredients are high quality healthy foods: orange sweet potato, coconut, carob, oranges. It has the proportion of refined sugars, fat and eggs decreased. Cake's slow release of energy does not burden the pancreas. It does not increase the stomach acid. It is rich in fiber which stimulates digestion. It avoids life-threatening conditions such as malabsorption and maldigestion. This is a boost for other students in the major cities of the Republic of Croatia and wider for making Wall spelling books of their home town.

EGYPT

APPLICATION No.	EGY-01
AUTHOR(S)	**Nader Khalil GHATTAS**
ORGANIZATION	Egyptian Atomic Energy Authority (EAEA)
TITLE OF INVENTION	**Mobile Unit for Concentrated Solar Desalination**

The proposed innovation is a simple compact mobile unit for desalination of saline water using concentrated solar energy. Specially designed evaporation/condensation system composed of an evaporator located at the focus of a parabolic dish in direct contact with a condenser allowing efficient collection of water vapor. The system operates at reduced pressure using solar suction pump. Recycling of solar heat energy is achieved by using the salt water, to be evaporated, as cooling medium to condense the resulting vapors acquiring the latent heat of condensation. The system is cost effective using locally available and/or recycled raw materials.

APPLICATION No.	EGY-02
AUTHOR(S)	**Sara Saad Saad Sadek**
ORGANIZATION	STEM School
TITLE OF INVENTION	**WST POWER PLANT**

A lot of countries are the world‘s richest nations in the sun, wind energies and other sources which are renewable energies in the world that will be drained from oil and natural gas by the end of the 22th century, and the main source of carbon dioxide which is primarily responsible for global warming. The International energy agency (IEA) has stated that renewable energy penetration should reach 10% by 2020, with wind power growing to 50% of the renewable share by 2020. So I combined Solar and Wind energies because they are the best solution for Egypt's and other countries problem in electricity shortage which is an important Egypt grand challenge. I have selected my design requirements, which are: high Efficiency, low Cost, Safety, and environmentally friendly to be met within my solution.

APPLICATION No.	EGY-03
AUTHOR(S)	**Nada zain El abden ahmed**
ORGANIZATION	Kassam Amin secondary school
TITLE OF INVENTION	**CANCER STOP**

In all types of cancer, some of the body’s cells begin to divide without stopping and spread into surrounding tissues. Cancer cases reached to 8.2 million in 2012, therefore the study assumed that the mpt extract strengthens the immune response and may kill cancer cells and has no detectable side effect as compared to Chemotherapy. The aim of the study was to compare the anti-tumor effect and any associated side effects of this extract and conventional anticancer therapies such as cis-platin, 5-fu in vivo on. We calculated the rate of antioxidants, then we extracted the methyl extract and the water extract then we performed our experiments on different cell lines (prostate-colon-skin-breast-liver) and mice.

APPLICATION No.	EGY-04
AUTHOR(S)	**AYA Hussam-eldin Sayed Mohamed Mostafa**
ORGANIZATION	Nabwia Mousa school for girls
TITLE OF INVENTION	**Device that helps paralyzed to move by through brain signals**

The idea of invention is when the paralytic wearing the sensor and installed it in his head the sensors receive the electrical signals of the brain when the paralytics think about walking and the sensors and supported device enlarge these signals into commands are converted to the installer when the paralytics feet then device will move this process and be in a few second and if you ask me if the paralytics think about anything except movement example :sleep or eating or anything like this example when converting these electrical signals to computer it will be rejected and prevented from connecting to the device because of the electrical signals like a computer code that will be saved on the computer and when the brain send any electrical signals unsaved on the computer the computer will rejected it And l adding sensors to heat in the device as when any liquid or is something hot or the paralytics temperature rise that will be the supervisor news of the whereabouts of a liquid in any area of the body in order to be processed in order not to evolve and reach burns and tumors to affect patient’s skin and also add sensors of blood pressure where the patient’s paralyzed when it’s the same for a long time it affects blood pressure but this sensors when high blood pressure somewhere in the patient’s body.

APPLICATION No.	EGY-06
AUTHOR(S)	**AMAL ELSAYED MOHAMED ELSAEDY**
ORGANIZATION	STEM
TITLE OF INVENTION	**Solar cell in new vision**

The development of solar cells by making efficiency 38% instead of 21% by replacing the semiconductor material with the higher efficiency one that is not affected by the heat till 85 degrees While the efficiency of the silicon decrease when the heat become 45 degree and by converting the shape of the ordinary panel to three dimensional.

APPLICATION No.	EGY-07
AUTHOR(S)	**Ahmed Osama Mohamed Mandor**
ORGANIZATION	-
TITLE OF INVENTION	**Varicos vein multi-treatment function device**

My invention is a device that sucks the clotting blood from the diseased veins to getting rid of it outside the body. And then a cannula is inserted inside saphenous vain. This cannula is provided with different temperatures to ensure that saphenous vain is locked and prevents the returning back of varicose veins again. Then the affected part (diseased area) will inject locally with vitamin(C) ،vitamin(E) and vitamin(A) which maintain the inner wall of the vein healthy. Level injection of collagen at selective point at root of selective valves to partially return normal function. Then an elastic band is rolled around the place where the affected part (diseased area) from the knee to above it and removes after (2-3) hours at least. This elastic band compresses the veins and helps them to push the blood back to its normal paths until reaches the heart.

APPLICATION No.	EGY-08
AUTHOR(S)	**Mohamed Atef Mohamed Rashad Mohamed Bebars**
ORGANIZATION	Al-Ahmadyah Secondary School
TITLE OF INVENTION	**METAL DETECTOR USING GROUND PENETRATING RADAR SYSTEM**

Land mines left behind from wars worldwide are one of the century's main unsolved problems of war and remain the focus of humanitarian mine detection primarily in all Continents. Metal Detector uses the latest ground penetrating technology to provide critical information on utilities, concrete, metals, landmines, and other potential problem areas within existing structures or underground. Specifically, Metal Detector will plot the location of subsurface obstructions directly onto the surface, giving the contractor a clear indication of where it is safe to drill, cut, or dig and where extra caution is necessary. Additionally, using Metal Detector will make it safe and cost-effective.

APPLICATION No.	EGY-09
AUTHOR(S)	**Nehal Ashraf Abd Allah Fooda, Engy Reda El Sayed Derbala**
ORGANIZATION	Kafr El Sheikh STEM School
TITLE OF INVENTION	**Algae BioFuel**

As known Over 96% of the energy Egypt uses comes from fossil fuels. But these fossil fuels will finish by about 25:50 years later. And about 98% of CO2 emissions resulted from fossil fuel combustion. So we worked on solving those problems by producing the biofuel (from the algae oil) as an alternative source of fossil fuel. The algae will solve the problem of the emission of CO2 because they are plants and they use it in the photosynthesis process. In addition, the growth of algae helps in the wastewater purification because they feed on organic materials which are the main problem in this water. And we work also on modification the growth media to obtain high lipids amounts in the algae.

APPLICATION No.	EGY-10
AUTHOR(S)	**Mohamed Ayman Mohamed Mohamed**
ORGANIZATION	STEM
TITLE OF INVENTION	**Irrigate and grow cassava**

Water contamination and inefficient irrigation are main factors affecting the agricultural yield. Water quality and efficiency are chosen to be the design requirements for the project. Cassava is the cultivated Crop. Tissue culture is used to improve production yield of cassava. As it utilizes mother tissue for producing new clones. Wastewater was treated for being irrigated and the alum used in disinfection was replaced by an effective additive. An irrigation management system was developed for supplying crop water needs accurately .Improved Drip emitter design used to increase efficiency. Cassava is processed to remove cyanide and produce flour.

APPLICATION No.	EGY-11
AUTHOR(S)	**Mohamed Ahmed Ali Ahmed Dein**
ORGANIZATION	The Top Students High School at Ain Shams
TITLE OF INVENTION	**UCROSS - Use Comets to Reach Outside our Solar System**

We need to reach interstellar space with a very high speed. Voyager 1 was the fastest spacecraft, its speed is 61164 KM/H. In our project our idea depends on taking assist to spacecraft, it will be attached to the comet while taking its orbit by metal axe made from maraging steel to give assist to spacecraft by giving its speed to our spacecraft. And it is very good speed compared to other space crafts. It will be great jump in space travels technology and will give us clearer and faster overview of our solar system and our universe to search for solve of challenges that face modern human now.

APPLICATION No.	EGY-12
AUTHOR(S)	**Shorouk Abdelfattah Aziz Alalem, Alaa Tarek Abbas**
ORGANIZATION	Kafr Elsheikh STEM school
TITLE OF INVENTION	**Microbial fuel cell for energy production**

MFC is a device that generates electricity from waste water by the bacteria which catalyze the reaction between the water and the organic matter (redox reaction). The products of the reaction are electrons which move through the wires producing current and protons which go through membrane or salt bridge to the cathode combine with oxygen producing water and CO2 which is collected in a container to benefit from it. We used graphite blades as an anode and a cathode because of its good machinability, its wear resistance and its low cost. We developed MFC to increase production and decrease cost.

APPLICATION No.	EGY-13
AUTHOR(S)	**Maryam Mohamed El-Fdaly, Alaa Khaled Doghim**
ORGANIZATION	STEM School
TITLE OF INVENTION	**R.I.P "Relax In Peace"**

After searching for the most recent industry problems we found that they are energy and water but we have made 2 projects before that could solve these problems and we found also that Laptops are the future. They are found in schools, homes, factories…etc. laptops have 2 major problems which are laptop batteries and radiation emitted from it. So we decided to solve these 2 problems. So we made small modification that increased the efficiency of batteries with 92.51%. Also our project is low cost I doesn't exceed 30 LE. So it is ecofriendly, high efficiency and low cost.

APPLICATION No.	EGY-14
AUTHOR(S)	**ABDELRAHMAN MOHAMED OMRAN**
ORGANIZATION	Tareq ebn zead
TITLE OF INVENTION	**Smart wheel chair**

The invention discloses a new design of wheelchair that fits patients with quadriplegia, the spectrum control the electric chair by movement head or sound or brain signals and provide a means of safety for the patient to avoid the risk of collision and the use of sensors to measure the patient's vital signs to alert the person responsible for him in case of any increase or decrease on life processes can locate it for him by GPS. The device works by sending signals from the brain via Bluetooth using EEG sensor to microcontrollers, which in turn recognize the signal and controls the movement of the Holy circle through H-bridge which control the direction and speed of motors through commands sent to it microcontrollers. This is to protect the patient from the risk of collision by measuring the distance between him and any steel object by the ultrasonic sensor, a sensitive ultrasound is used to measure the distance from which to protect the patient from the crash by measuring the distance between him and any steel object nearby is shut wheelchair in If there is a solid body in front of him and has therefore been providing safety element in the product in the event of any malfunction. This is also a measurement of vital signs (Heartbeat, stress and oxygen saturation in the blood) and in the event of a rise or fall in vital signs not respond to the orders of the chair and the patient is sent a message to the person in charge, alerting him to the situation and health positioned the patient to take him.

APPLICATION No.	EGY-15
AUTHOR(S)	**SHERIF NAJI SHERIF HASHEM**
ORGANIZATION	Refaa El Tahtawy Secondary Boys
TITLE OF INVENTION	**3D space (Shparfu3D)**

MIS' Tactical 3D Printer (Shparfu3D) mobile manufacturing device represents a unique capability of supplying on-demand parts and components without the traditionally required logistics chain. (Shparfu3D) utilizes a wide variety of materials, including aerospace grade polymers and composites. The power required is an order of magnitude below current commercial machines with the same capability and occupies a fraction of the volume, enabling easy deployment. (Shparfu3D) can be deployed on vehicles and ships and operate while on the move in theater. Where the system of movement has been changed in terms of the absence of such a device in the world where two degrees of the first movement allowed to allow the head of the printer Milan(X) 90 degrees between the second degree of movement to the base rotation(Y) 360 degrees Add the two degrees of movement to build the layers of The material is horizontal without the need for temporary support material under it.

APPLICATION No.	EGY-16
AUTHOR(S)	**Fady Mostafa Ibrahim omar, Amro Mostafa Ibrahim omar**
ORGANIZATION	Abo baker el-sadik secondary school
TITLE OF INVENTION	**Magical Series: Getting area of curves ships accurately better than calculus such as circles, ellipse and sectors)**

In this research, a new vision to find the area of the circle and circumference by using any chord and this law is more general than its predecessor $A = \pi r ^ 2$ this is because it can deals with all chords, Diameters and radius in the circle. We depend in this research many Hypothesis , notably the hypothesis we called it (Golden chord) That is because it has special properties in all circles where that square this chord equal the area of a circle directly without using pi and it draw from fixed angle in all circles

APPLICATION No.	EGY-17
AUTHOR(S)	**Mahmoud Haroun Abouelfadl**
ORGANIZATION	The Red Sea STEM High School
TITLE OF INVENTION	**One Answer to Cancer: NEW OBSERVATIONAL APPROACH FIGHTING STAGE I AND II CANCER CELLS FROM OTHER SIDE VIEW**

Although cancer has historically been viewed as a chromosomal DNA damage or a disorder of proliferation, Our research proves ideas of how growing tumors rewire their metabolic programs to meet and even exceed the bioenergetics and biosynthetic demands of continuous cell growth. In a bilateral approach, It was dealt with a polymorphic bacteria blocks the production of ATP in glycolysis; in a vivo effect of SOD enzyme and anti-polymorphism on murine colon and breast carcinogenesis studies were performed. Furthermore, the findings of glucose fermentation was translated into a treatment. Data is analyzed in terms of Postern Emission Tomography and has showed a decrease in both colon and breast tumor spread.

APPLICATION No.	EGY-18
AUTHOR(S)	**Hadir Aly Ibrahim Abouelsoud, Ahmed Gamal Mattar**
ORGANIZATION	STEM
TITLE OF INVENTION	**T-DAM The day after melanoma**

Because of the seriousness of melanoma cancer Since more than 75% of the Victims of melanoma have been subjected to death And Melanoma is the most dangerous skin cancer which cause cancer in other regions That's why we will treat this dangerous type of cancer dependent on the natural frequency of Cytoskeleton in cancer cell Through the use of radio waves (VHF) to provide a frequency equal to the natural frequency of Cytoskeleton in cancer cell depending on the constructive interference of the waves the Cytoskeleton of cell will Being destroyed and This means damage of the whole cell.

APPLICATION No.	EGY-19
AUTHOR(S)	**Ebrahim Lotfy Saade**
ORGANIZATION	-
TITLE OF INVENTION	**Sports Energy Generator**

This invention relates to a kit comprised of energy generator connected to sports machines, a gear set and an oscillator to be applied on all sports machines Which produce clean and renewable energy in all playgrounds, sports clubs, gym, etc.

APPLICATION No.	EGY-20
AUTHOR(S)	**Amira Ali Ali Mustafa El- Gendy**
ORGANIZATION	Dakahlia STEM School
TITLE OF INVENTION	**Zeolite & Moringa Power (Z.M.P)**

I designed a system has an ability to purify any type of water and turn it into a mineral water. In addition, contribute solving energy problem as it provides an electric energy, biodiesel and glycerol. It can *produce* natural gas as well, but I put it in my future plan. My project achieve the design requirements I put as the cost effective, energy efficient, eco-friendly as it has no effect on the environment. I increased MFC efficiency and membrane life time by using zeolite. In addition, I increased membrane efficiency by mixing moringa seeds with it and put Nano silica as a layer on it. I testing water before and after my processes to be accurate in determining the purification ratio based on some analysis in the water. In addition, I made the prototype based on Arduino program to work automatically when we enter the water in it, it produce energy and mineral water.

APPLICATION No.	EGY-21
AUTHOR(S)	**Mohammed Hesham Riad,Nadeen Hesham Ibrahim, Tasnem Adel Saeed**
ORGANIZATION	The Red Sea STEM School
TITLE OF INVENTION	**EGH – Eco Green House**

Our problem which we solve is how to make a house in arid areas which attracts people from urban congestions because there are too many arid areas and on the other hand urban congestion areas so we solve this problem by making a house which built from special materials have a low cost and ecofriendly and strong which is reinforced concrete and we make a renewable resource of energy for generating a cheap and ecofriendly electricity with high efficiency which is the vertical wind turbine and we make a way to pure the water to this house .

APPLICATION No.	EGY-22
AUTHOR(S)	**Mohamed Maher Kotb Bayoumi, Abdulrahman Kamal, Youssef Mohamed**
ORGANIZATION	STEM Ismailia Egypt
TITLE OF INVENTION	**Bacterial Conversion Of CO2 & Urine Into Liquid Fuel BACO2 (Where BA stands for Bacteria and CO2 for carbon dioxide)**

A project that works on recycling useless and cost-less urine & CO2 to give out a final product of liquid fuel through using a genetically modified cheap soil bacterium. This green renewable liquid fuel could work as an alternative for today's nonrenewable and non-green gasoline!

APPLICATION No.	EGY-23
AUTHOR(S)	**Hebatalrahman Ahmed**
ORGANIZATION	Egyptian Inventors Syndicate
TITLE OF INVENTION	**MANUFACTURING SANDWICH PANEL COMPOSITES**

Automatic Unit for manufacturing of sandwich panel composites, The Unit fabricates all sizes and complicated shapes. The unit controls feeding rate, setting rate and thickness of the manufactured layers. The Unit deals with liquid polymers and metals to control its manufacturing conditions and setting rate. The unit deals with different types of reinforcement such as long fibers, woven roven, and micro additives regardless of its type, size, and density, synthetic or natural base.

APPLICATION No.	EGY-24
AUTHOR(S)	**Azza Abd El- Moneim Ali Hassan El- Segai**
ORGANIZATION	-
TITLE OF INVENTION	**Fine Perforated Shield for automobiles**

One drawback of the cars' windows is that on closing, limited aeration causes suffocation or death of the driver, especially when he takes breaks or sleep for refreshment during the long travels. If windows are left opened for aeration driver would be subjected to insect bites leading to infectious diseases. Moreover the snakes and scorpions would enter especially in the desert areas. Furthermore the cars would be attacked by thieves. Children would extrude their hands or heads out; they would set on the car windows that would cause accident. Concentrated air during driving would cause inflammation of facial nerve that would cause Bell's pals y and concentrated dust during winds could predispose to bronchial asthma. This new idea includes adding fine perforated shield with a reinforcing frame having the same original windows dimension allows movement without causing any harm and protection from the previous drawbacks, and causes scattering of the air and dust protecting from Bell's Palsy and bronchial asthma.

APPLICATION No.	EGY-25
AUTHOR(S)	**Ahmed Mohamed Ahmed Abd Elhady, Yossef Ahmed Ezzat Ahmed**
ORGANIZATION	El Noqrashi prepartory school
TITLE OF INVENTION	**Advanced diving device**

Now divers allowed to dive using a small instrument which pick oxygen from the water by electric analyzing of water, the process of water analyzing by using a battery connected to an inverter which takes the electric direct current from the battery and convert it to alternating current with high voltage and also take a conductor from the inverter at the battery to recharge again and also fixing a valves to avoid the return of the gases, so gases moving in the right directions. Also there are three tanks which contains the gas stored before the diving operation. The second also for storing gas and the third to adjust the volume of gases from the other tanks. Probably as any device it may be down so there is an additional small tank with oxygen compressed in it connected with the ducts. When the device down in any moment diver just open the tank valve so can get oxygen Enough to go up from the water. There's three sensors, the first for tank pressure, the second for depth to 25 meter that to avoid some dangerous, the third for the battery alarms in level 15%.

APPLICATION No.	EGY-26
AUTHOR(S)	**Abdullah Jamal Mohammed Matar**
ORGANIZATION	El Shaheed Aly Abou El Khair Preparatory School For Boys
TITLE OF INVENTION	**Benefit From Gas Flare**

There are companies refining oil when the process of separation between gasoline and diesel and oil are separated some impurities called light gases and these gases are toxic gases cannot be fired so that the air does not poison people get rid of them self-ignition (burning) and certainly we all note when we pass in front of the companies Bnrl burned This is a great fire burning poisonous gases. At the same time, electric power companies cost the state billions to generate electricity by heating and evaporation. I decided to take advantage of these wasted gases (light gases) that do not benefit any person and wasted every day and every hour by taking advantage of this flame, which is about 600 degrees temperature by heating and evaporation of water and entering the turbines to generate electricity but on the way to enter the steam From the reservoir to the turbines, I will use the equation of continuity, which is to narrow the steam path to increase its speed. This is a physical equation and will help me in a larger output of electricity. Then the steam enters the turbine. Electricity is generated and the state is given billions of dollars spent on electricity generation companies. As the light gases rising in the ignition of carbon monoxide rise the air carbon dioxide resulting from the burning of carbon monoxide will use a substance called to withdraw carbon dioxide from the atmosphere and retain it can be used from carbon dioxide in the work of fire extinguishers or any other business. This is a huge economic project that provides the state with billions of dollars spent to generate electricity through the use of toxic gases.

GERMANY

APPLICATION No.	GER-01
AUTHOR(S)	**Omid Yaghoubi Shendi, Sohila Tahmasebi**
ORGANIZATION	-
TITLE OF INVENTION	**Ultra light concrete composition smart elastic polymer production**

This concrete resists against below zero degree cold and higher than ninety degrees heat and is an excellent insulator against extreme heat and cold. This polymer concrete keeps its resistance qualities against any natural or unnatural accident such as earthquakes, crashes or explosions and if cracked or broken, it can be completely mended using a layer of specific resin on the concrete and exposing it to Ultraviolet ray with a specific wave frequency.

APPLICATION No.	GER-02
AUTHOR(S)	**Farzad Sheikhi Ghalesardi**
ORGANIZATION	-
TITLE OF INVENTION	**Natural cathode by the Use of pigment of Acorn for Lithium Ion Batteries**

Present invention has been conducted with the target of finding an appropriate replacement and compatible with the environment for the cathode of lithium Ion Batteries LICoO2, the organic molecules have been analyzed, and such materials have been examined with respect to better efficiency, among which, the peel of Acorn have the best conditions with this respect, and such a matter is because of existence of carbonyl and carboxyl groups in the molecules which play a role in electrons motion.

HONG KONG

APPLICATION No.	HKG-01
AUTHOR(S)	**Chaofan Zhang, Chun Hoi Yan, Aimin Xu, Kwong Yuen Chiu**
ORGANIZATION	The University of Hong Kong
TITLE OF INVENTION	**Fatty Acid Binding Protein 4 (FABP4) As Biomarker for Osteoarthritis**

Osteoarthritis (OA) is a common joint disorder. However, the etiology is still poorly understood. We aimed to explore the potential role of FABP4 in OA. We performed both clinical and animal study. For clinical study, we included patients with/without knee OA and determined their plasma FABP4 level. For the animal study, we included FABP4 knock-out mice and normal mice, and evaluated knee OA. We also treated mice with FABP4 inhibitor BMS309403. We found that FABP4 was strongly correlated with OA severity. Knocking out or pharmaceutical inhibition of FABP4 could alleviate OA. FABP4 may be a potential biomarker for knee OA.

APPLICATION No.	HKG-02
AUTHOR(S)	**Do Ka Yui, Tong Ka Yan**
ORGANIZATION	City University of Hong Kong
TITLE OF INVENTION	**Figano**

In the 21st century, people become less endurable of getting bored. Considering the increasing number of people who play a musical instrument and music is the expression of emotions. It should not be bounded by space and time, so that people can record their emotion anytime by translate it into music. Therefore, Figano, which people can play music anytime, anywhere without carrying any clumsy musical instruments, or disturbing others, is another way to help killing boredom and present music disregarding time and space.

APPLICATION No.	HKG-03
AUTHOR(S)	**Do Ka Yui, Tong Ka Yan**
ORGANIZATION	The University of Hong Kong
TITLE OF INVENTION	**Veinian**

In view of rapid digitalization and electronization in this information age, data security has become crucial. Concerning data security, various authentication methods have been developed to restrict access to it. However, authentication such as password-based authentication and fingerprint authentication, are of gradually decreasing degree of security as they can be cracked by using known technology. The information age demands authentication method with higher degree of security, as well as adaptability. Hence, this authenticator is introduced to satisfy the needs. The main reason is that finger vein authentication is difficult to be cracked due to the uniqueness of vein patterns.

APPLICATION No.	HKG-04
AUTHOR(S)	**Yau Yuen YEUNG, Wing KONG**
ORGANIZATION	The Education University of Hong Kong
TITLE OF INVENTION	**Low-cost mobile logger for effective learning and teaching of science and environmental studies**

This is a piece of multi-purpose and low-cost (around USD30) apparatus to support students' effective learning of science and environmental studies. We designed and developed an innovative datalogging system as built upon the Arduino open-source microcontroller platform and bundled with various kinds of sensors for enabling children to conduct many kinds of scientific experiments or field trip activities within or outside the schools. Besides, an Android app called SESLogger was specifically programmed for seamless integration with smart phones or tablets to facilitate students' collection, recording and analysis of experimental data and sharing their findings between learners located in distant places.

INDIA

APPLICATION No.	IND-01
AUTHOR(S)	**M/s Cygni Energy Private Limited**
ORGANIZATION	-
TITLE OF INVENTION	**Inverterless**

The Solar-DC Inverterless technology conceptualized and ideated by IIT Madras uses complete DC solutions to remove AC to DC and DC to AC conversions. This solution also works as a power back-up solution which replaces the existing Inverters used in domestic homes, this innovative technology results in significant reduction of power back-up cost, with almost 40-50% lower investment than the available solutions in the market. CYGNI on-grid DC solutions are available in various models like ERA, DASH which caters the power needs of domestic, corporate and institutional customers with various advantages like low cost solution, saves money, occupies less space, safety, energy saving, reliability etc. The DC solution seamlessly integrates Solar, so that additional solar power can be added incrementally based on the customer need and due to Energy Efficient DC equipments, the customer monthly power bills also gets reduced up to 60%, which unlike in inverters, increases the cost of power bill.

INDONESIA

APPLICATION No.	INA-01
AUTHOR(S)	**Wahyuningyan Arini, Reza Kemal Firdaus, Rizhaf Setyo Hartono**
ORGANIZATION	Brawijaya University
TITLE OF INVENTION	**TROPICAL SMART PLANTATION SYSTEM**

Sengon (*Paraserianthes falcataria* L.) is one of the featured plants in Indonesia. Sengon plant is one type of woody plants are very beneficial. The purpose of this paper are to optimize plant utilization sengon (*Paraserianthes falcataria* L.) and processing plant parts sengon (*Paraserianthes falcataria* L.) before and after harvest. Plants sengon (*Paraserianthes falcataria* L.) has enormous benefits for society, namely the stem can produce solid wood, sturdy and lightweight, bark, branches and twigs can be used as raw material for medicine diabetes mellitus, and its leaves can be used as a flour and tea can neutralize free radicals in the body. The bark, twigs and leaves are extracted to obtain flavonoids, saponins and triterpenoid potentially lowering the glycemic load. To obtain maximum yields sengon, treatments done by fertilizing and watering taste regularly.

APPLICATION No.	INA-02
AUTHOR(S)	**KOMANG BAGUS KATYAYANA BHARATA, PUTU PRADNYA SHITA AMBHIKA**
ORGANIZATION	SMA NEGERI 4 DENPASAR
TITLE OF INVENTION	**SNAKE FRUIT (*Salacca zalacca*) SEED ASH AS A HEAVY METAL LEAD (Pb) ADSORBENT**

The purpose of this research is to know the decrease of level and percentage of heavy metal of lead (Pb) by using snake fruit seed ash. This research uses experimental method. The design of the research was Completely Randomized Design with three treatments, ie P0 (10 ml Pb solution with a content of 26 g / L). P1 (snake fruit seed ash + 10 ml Pb solution with content 26 gr / L). P2 (snake fruit bark ash + Pb solution as much as 10 ml with content of 26 gr / L). Each treatment was repeated 4 times so that there were 12 samples and tested on atomic absorpsion 7000. In conclusion, decreased levels of 21.91 g / L and the percentage decrease in heavy metal of lead (Pb) by utilizing snake fruit seed ash amounts to 83%.

APPLICATION No.	INA-03
AUTHOR(S)	**Vira Niyatasya Shiva Duarsa & I Nyoman Surya Merta Yasa**
ORGANIZATION	Denpasar 3rd State Senior High School
TITLE OF INVENTION	**2 in 1 ARPOW : Anti Radiation Pillow**

The purpose of this research is to make anti-radiation pillows that can reduce electromagnetic radiation on laptops. This study uses a simple experimental method by testing anti-radiation pillows to reduce electromagnetic radiation on laptops. The anti-radiation pillows are tested on 3 laptops, using the Ultimate EMF Detector application that automatically shows the amount of electromagnetic radiation with the Tesla and Gauss units, when close to the source of radiation. In conclusion, anti-radiation pillows can reduce electromagnetic radiation with an average of ±103 micro tesla.

IRAQ

APPLICATION No.	IRQ-01
AUTHOR(S)	**Qassim mohammed awad**
ORGANIZATION	-
TITLE OF INVENTION	**Treatment of psoriasis and eczema**

An extract was prepared from the medicinal plants containing some plant compounds, including glycoside. The treatment was tested on a large number of patients in Iraqi hospitals (Clinical studies). The extract was confirmed without toxins without side effects

APPLICATION No.	IRQ-02
AUTHOR(S)	**PROF.DR.IHSAN EDAN ABDULKAREEM ALSAIMARY**
ORGANIZATION	UNIVERSITY OF BASRAH
TITLE OF INVENTION	**Recovery , extraction and characterization of *Staphylococcus aureus* superantigens (Staphylogen) as a cause and vaccine for Atopic Dermatitis/ Eczema Syndrome In Human**

*- A new technique of five steps were used to isolate, purify, identify and characterize the *Staph .aureus* exotoxin (staphylogen / or staphylogenic protein as a superantigen), where its purity and molecular weight were evaluated by using Polyacrylamide gel electrophoresis (PAGE 7.5%).
*- A high purified single band protein of *Staph .aureus* exotoxin has a molecular weight of 9 47.315) Kd, and eight purified bands of all *Staph.aureus* antigens have a molecular weight ranged from (13.567 – 549.540) Kd.
*- *In vivo* results successed to induce eczematous - like lesions on mice (BALB/C) skin after its experimental infection with staphylogen, all bacterial antigens and two doses of viable cells and OMPs of *Staph.aureus*, by using a various infection methods: intradermal , spot and prick technique of injection .b- Typical well known histopathological changes of eczematous lesions of AD patients were seen in our study and the same histopathological features were shown in histological examination of slices from eczematous like lesions of mice skin. * A successful therapy of eczematous lesions in all ages of human by superantigen vaccine.

APPLICATION No.	IRQ-03
AUTHOR(S)	**PROF.DR.IHSAN EDAN ABDULKAREEM ALSAIMARY**
ORGANIZATION	UNIVERSITY OF BASRAH
TITLE OF INVENTION	**Synthesis, creation and evaluation of antibacterial, antiparasitic and antitumour activity of some pyrimidine nucleosides as antitumor and antimicrobial agents**

The patent in concerned the synthesis of some new novel nucleosides namely 1-(2-acetamido-3,4,6-tri-O-acetyl-B-D-glucopyranosyl) derivatives of uracil, thymine, trifluormethyluracil, fluorouracil, bromouracil and and iodouracil(8,10,12,14,16 and 18), respectively, from condensation of the bases, uracil, thymine, trifluormethyluracil, fluorouracil, bromouracil and iodouracil with 2-acetamido-1,3,4,6-tetra-O-acetyl-2-deoxy-D-glucose), in the presence of trimethylsilyltrifluoromethansulphonate catalyst. Deblocking of the acetyl groups at 8, 10, 12, 14, 16 and 18 by treatment with methoxide ione afforded the free nucleosides (9, 11, 13, 15, 17 and 19), respectively. The antibacterial activity of the free nucleosides 9, 11, 13, 15, 17 and 19 against ten types of bacteria have been studied and evaluated by measurement of the growth inhibition zones and the minimumal inhibitory concentrations (MICs), and the protoscolicidal activity against protoscolices of *Echinococus granulosus* by using vability methode has been also determined. We used a cheapest technique to synthesis new pyrimidine nucleoside that has effective antibacterial and antitumor activity. Currently we made commercial antibiotic as a cream and or injection supplied by company and its internationally distributed in most of world counters,

APPLICATION No.	IRQ-04
AUTHOR(S)	**ASSISTANT PROF. Dr. Noori Mohammed Luaibi Al-Sudani, DR. IHSAN EDAN ABDULKAREEM ALSAIMARY, Dr. Falah Maarof Mutlak, Dr. Adil Edan Alsaimary**
ORGANIZATION	AL-MUSTANSIRYIA UNIVERSITY
TITLE OF INVENTION	**RECOVERY AND EXTRACTION OF A NEW AGENTS HAVE BIOLOGICAL ACTIVITY FROM SOME MARINE INVERTEBRATES**

Biological extracts (hydrolysis, alcohol extracts, total protein extracts, total alkaloids extract) were extracted from a number of marine invertebrates: Astropecten polyacanthus polyacanthus, sea urchin Ecinometra mathaei, Portunus plagicus, shrimp Metapenaeus affinis. Some of the above extracts are effective against germs Gram - positive bacteria more than Gram - negative and some of them are effective against gram - negative bacteria greater than its effectiveness against gram positive isolated from burns. In the course of the applied clinical study it was found that the period of healing of external burns for patients whose wounds were purified using the invertebrate extract was (7-13) days for different marine invertebrates compared to 8-15 days by using different chemical disinfectants. Based on the results mentioned above, we suggest that the invertebrates studied in the present study should be used as antibacterial agents to cleanse and sterilize the infection in general and to burn the burns, especially due to their effective effective efficacy against Gram negative and gram positive groups and their effective effect on these germs, which helps to heal burns.

APPLICATION No.	IRQ-05
AUTHOR(S)	**Wafaa Saadoon Shani, Nisreen Waleed Mustafa, Ihsan Edan Abdulkareem Al-Samary**
ORGANIZATION	University of Basrah
TITLE OF INVENTION	**EXTRACTION AND PURIFICATION OF SPESIFIC ANTIGENS USING IN THE DIAGNOSIS OF HYDATID DISEASE**

This study aimed to prepare different antigens for detecting their efficiency in hydatodosis diagnosis in human which caused by larval stage of *Echinococcus granulosus* as following:
a- Antigen B (AgB) was purified from hydatid fluid by anion exchange chromatography technique then treated electrophoretically to isolate its bands (8 kDa, 16 kDa and 24 kDaAgB) using them as an antigens.
b- Another antigen from protoscoleces, (protoscoleces soluble somatic antigen PSSA) also prepared.
c- According to the DPV the 8kDa subunit of AgB and IgG4 is the best and a result was of ROC curve showed that 8 kDa subunit was recorded a highest diagnostic accuracy when tested with IgG4 and IgG1. Most important application for this work is using of antigen which prepared from a local strain of *Echinococcus granulosus* for diagnosis of hydatodosis.

APPLICATION No.	IRQ-06
AUTHOR(S)	**Prof. Nadham Kadham Mahdi Al-Adday**
ORGANIZATION	University of Basrah.
TITLE OF INVENTION	**Synthesis, creation and evaluation of antibacterial and antiparasitic activity of some pyrimidine nucleosides as antimicrobial agents**

The patent in concerned the synthesis of some new novel nucleosides namely 1-(2-acetamido-3,4,6-tri-O-acetyl-B-D-glucopyranosyl) derivatives of uracil, thymine, trifluormethyluracil, fluorouracil, bromouracil and and iodouracil(8,10,12,14,16 and 18), respectively, from condensation of the bases, uracil, thymine, trifluormethyluracil, fluorouracil, bromouracil and iodouracil with 2-acetamido-1,3,4,6-tetra-O-acetyl-2-deoxy-D-glucose), in the presence of trimethylsilyltrifluoromethansulphonate catalyst. Deblocking of the acetyl groups at 8, 10, 12, 14, 16 and 18 by treatment with methoxide ione afforded the free nucleosides (9, 11, 13, 15, 17 and 19), respectively. The antibacterial activity of the free nucleosides 9, 11, 13, 15, 17 and 19 against ten types of bacteria have been studied and evaluated by measurement of the growth inhibition zones and the minimumal inhibitory concentrations (MICs), and the protoscolicidal activity against protoscolices of *Echinococus granulosus* by using vability methode has been also determined. We used a cheapest technique to synthesis new pyrimidine nucleoside that has effective antibacterial and antitumor activity.

APPLICATION No.	IRQ-07
AUTHOR(S)	**MAHA K.IBRAHIM, MAHDI M. THWAINY, IHSAN EDAN AL SAIMARY**
ORGANIZATION	University of Basrah.
TITLE OF INVENTION	**Using of advanced drugs in treating pulmonary fibrosis**

1-In this patent pulmonary fibrosis (PF) was induced in experimental rats *(Rattus norvegicus*) by bleomycin drug (BLM) with adose 15mg/kg of body weight.
2-The activity and efficiacy of dexamethason, losartan and alteplase were established in this study against (PF) induced by (BLM), the findings identified these drugs as inhibitory agents on scar and fibrous tissue formation.
3-Administration of dexamethason, losartan and alteplase caused significance increased with oxidative enzymes (SOD,GSHpx) in blood serum of rat when used in combination with (BLM) drug ,also level of hydroxyl prolin(HYP) increased significantly in serum of (PF)group while conversely.

APPLICATION No.	IRQ-08
AUTHOR(S)	**Nadia Nayyef Abed Al-Hajo, Sunil Doley, Michael Yeater, Wesley N. Osburn**
ORGANIZATION	University of Baghdad
TITLE OF INVENTION	**EVALUATING THE QUALITY AND SHELF LIFE ATTRIBUTES OF A MULTICOMPONENT MEAT PRODUCT(Part1&2)**

Nutrition and energy bars that use meat as the major protein source combined with fruits, nuts, vitamins, minerals or other functional ingredients are considered intermediate moisture meat products since their water activity (a_w) is lowered by either processing or ingredients or both. These products may provide a reasonably priced nutrient dense food for populations with less than desirable food security (lack of refrigeration). The objectives of (Part 1) were to evaluate the shelf life quality attributes of a shelf stable multicomponent meat product exposed to high temperature storage conditions. Objectives of (Part 2) were to evaluate the sensory evaluation and shelf stable multicomponent meat product exposed to room temperature (in Iraq) storage conditions (42-52° C).

APPLICATION No.	IRQ-09
AUTHOR(S)	**Zainab Yaseen Mohammed Hasan**
ORGANIZATION	AL-Nahrain University-Biotechnology research center
TITLE OF INVENTION	**Purification of Therapeutic Substance 'Resveratrol' From The Skin of Iraqi Black Grape by Simple quick and Economic steps**

The world health organization and Food and Drug Administration committee decided at 2002 that: Resveratrol is a new drug especially in treating cardio- vascular disorders. In this research resveratrol was obtained as pure crystals when extracted from the skin of black grapes. Different analysis procedures were held to insure the purity of the extracted crystals among them: CHO Analysis, HPLC, and FTIR assay. The process for extraction included two steps only: cold maceration using (Ethyl acetate), then washing step with distilled water to get a pure crystals at the end. Results for all above assays improved that the crystals were very pure as resveratrol in corresponding to resveratrol standard.

APPLICATION No.	IRQ-10
AUTHOR(S)	**PROF.DR.IHSAN EDAN ABDULKAREEM ALSAIMARY, Dr. Falah maarouf mutlak, Dr.adil edan abdulkareem alsaimary, Dr. Bassam yassien kudhier, Dr.zahraa kadhum, Dr. Khalid almosaed, Dr.sundis s.bakr, Dr.najah abbod**
ORGANIZATION	UNIVERSITY OF BASRAH
TITLE OF INVENTION	**A novel biological agents extracted from Iraqi aquatic plants for treating burn and post operative wound infections**

Altered and developed many chemical methods for the purpose of extracting Mwadmat effective against bacterial namely, (water extracts, extracts alcoholic, total protein extracts, total alkaloids extracts) from a number of Iraqi aquatic plants - which uses some in some medical treatments in folk and traditional - medicine which plants Saad Cyperus longous L. and Alsalvenia Salvinia natans L. and Albotamojetun Potamogeton pectinatus L. and Alkhuysh Vallisneria spiralis L. wild Albrbin Bacopa monniera L. and Achammblan Ceratophyllum demersum L. collected from the river Karma coastal area and the Shatt al-Arab, against pathogenic microbial species and facilities For typhoid post surgical wounds (postoperative Wound infections), which is considered a serious health problem due to delayed healing and healing of these wounds.

APPLICATION No.	IRQ-11
AUTHOR(S)	**PROF.DR.IHSAN EDAN ABDULKAREEM ALSAIMARY**
ORGANIZATION	UNIVERSITY OF BASRAH
TITLE OF INVENTION	**A NEW international Techniques for treating hydatid disease**

In this invention anew technique used for radiotherapy of hydatidosis by gamma radiation diing between 2 to 20 Gray by fractional discontious dose anf local irradiation directly to hydatid cust. This technique was found successful to treating human hydatidosis.

APPLICATION No.	IRQ-12
AUTHOR(S)	**PROF.DR.IHSAN EDAN ABDULKAREEM ALSAIMARY, PROF DR. JASSIM ALDHIAB, MR. JASSIM M.ABDULNBI, PROF DR. SUNDIS S.BAKR**
ORGANIZATION	UNIVERSITY OF BASRAH
TITLE OF INVENTION	**SYNTHESIS OF A NEW INTERNATIONAL MOUNTING AGENTS**

SYNTHESIS AND recovery of a new internationally mounting agents for preparation and preservation of histopathological and microbiological slides. Five new mounting agents were recovered and named: BASMED 1 ،BASMED 2 ،BASMED 3 ،BASMED 4 ،BASMED 5. The load efficiency of these five circles was compared with the commonly used industrial loading media - Canada balsam, DPX and Hardner - and studied its important and formative properties after a long period of time (more than 100 days) by the specialist in this field. Distinct and similar to the efficiency of loading the industrial media while others have shown relatively good efficiency can be adopted in the future to overcome their disadvantages and disadvantages limited.

IRAN

APPLICATION No.	IRN-1
AUTHOR(S)	**Arman Yousefian, Shahriar Tavousitafreshi, GholamrezaYousefian, Masoud Shafaghi**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**The nano filter installed on the bottle of mineral water orifice and physical filtration**

In this invention, a nano filter which is screwed on the bottle of mineral water orifice blocks the water. This filter avoids the passing of any minerals and pollution and changes the polluted water into the drinking water. The filter will be dissolved into the water after the essential minerals are filtered. The similar filters have been made but the distinguishing feature of this product is this low volume filter can be accessible for the public everywhere and any time to provide healthy drinking water.

APPLICATION No.	IRN-2
AUTHOR(S)	**Melika Delafrouz Gavgani**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Smart Wallet**

The existence of plentiful thefts and the lack of security or sufficient information about the bank accounts or the limited access (due to the necessity of internet connection) to them has caused several problems. Moreover, the loss of wallet and cash multiplies these problems. Sometimes the mismanagement of expenditure or not being aware of cash amount adds to the problems. In this invention, we aim to increase the security and facilitate the access to the management of bank information and cash through the intelligent monitor existing on the wallet.

APPLICATION No.	IRN-3
AUTHOR(S)	**Sajjad Hoseinzade**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Car Security System (Jack Roof)**

All passenger cars have security weakness for passengers in cases of capsizing or heavy objects falling on the car roof. The strike is transferred to the passenger's head and neck, which is most cases, lead to serious harm or even death. This scheme senses the danger of overturning and heavy objects hitting car roof utilizing inclinometer and shock sensors. It commands the jacks situated in the front seat of the car mats to quickly open, preventing injury to head and neck of passengers.

APPLICATION No.	IRN-4
AUTHOR(S)	**Hamidreza Hadi, Mohammadreza Shahriari**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Modular Hand Launched UAV (Unmanned Aerial Vehicle)**

The main goal of inventing the modular hand launched UAV (Unmanned Aerial Vehicle) is to have an UAV that is able to perform different missions by changing the modules and no change is required in the UAV. Design of this UAV is in such manner that it will be able to fly by hand without need of a runway. Moreover, using the VTOL module, the aforesaid UAV is able to have a vertical flight by using a VTOL module like a multi rotor. Three different states have been concerned for landing the said UAV. From among the unique and distinguished features of this UAV, one may point out design of its components and fittings in such a manner that its parts are separated and can be positioned in a portable bag and that the said UAV becomes ready to take a flight within the shortest time. Different modules have been concerned for this type of UAV for different missions namely imaging, agricultural purpose, aerial topography, firefighting, identifying fire centers, rescue, inspection of electricity, oil and gas lines. These modules can be easily and quickly replaced. Furthermore, simultaneous use of several modules is possible as well. VTOL state has been considered in form of one module that can be used by the user as the case may require.

APPLICATION No.	IRN-5
AUTHOR(S)	**Gholamreza Zandesh, Mina Ghoorchian, Ali Gheibi, Mohammad Sajad Sorayani Bafghi, Roohollah Bagherzadeh, Masoud Latifi**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Flexible integrated piezo-triboelectric panel mounted on breakwaters for electrical energy generation**

Mechanical energy produced from hitting waves to breakwaters is a huge potential which is wasted. In this invention tried to use this potential to harvest electric energy from underwater flows next to breakwaters by means of flexible fibrous piezoelectric modules designed and put them together as a grid. It is of interest to note that although water can pass through these panels with the least possible damage, the waves force transfer to modules. This designed panels are capable of converting the waves force to electrical energy which is boosted and saved in the embedded circuits. This invention have been tested and installed under real conditions on wall of ANZALI breakwater in Iran and desired results were obtained.

APPLICATION No.	IRN-6
AUTHOR(S)	**Mahta Amirbeygi, Ghazaleh Mirzaei**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Intelligent Window**

Considering the amount of solar and wind energy in different parts of the world, an invention is developed to provide light for the houses through the frame of window and the design of its shape and profile. The window opens and shuts intelligently and prevents the entrance of flies and waste of energy.

APPLICATION No.	IRN-7
AUTHOR(S)	**Sajjad Baei Lashaki, Hossein Baei Lashaki, Jafar Jahandar Lashaki, Rahman Baei Lashaki – Karamoozan University of Applied Sciences**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**The wind of tires by chemicals times of emergency**

When motorcycle or car gets a flat tire somewhere away from facilities, after fixing punctured tire a pump and wind device are needed, if not this product can be used for inflating the tire. This plan includes some of chemicals materials that after fixing punctured tires. It is poured inside the fire from entrance of tire and then a special needle which includes a detonator is closed on the needle. The materials inside tire is reacted after combustion of detonator and the result of this reaction is inflation of tire.

APPLICATION No.	IRN-8
AUTHOR(S)	**Saeid Azad, Sajjad Baei Lashaki**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Smart Wiper**

So far all the wipers that has been designed with a lot of objections. For example the can't wipe the glass upper corners or that do not have the power to avulsion snow etc. the wiper is designed to remove all the glass surface and comes with additional features such as the use of several types of liquid for different situations.

APPLICATION No.	IRN-9
AUTHOR(S)	**Sana Kialashaki, Maryam Kiakojouri**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Asphalt Analyzer**

Asphalt paved streets before pouring some of the asphalt after making it to clinical laboratories use to analyze it. In doing so much time taken for laboratory because there are many different devices and need to be employed. By making these systems can be analyzed by shooting magnetic all the material and determine what the quality.

APPLICATION No.	IRN-10
AUTHOR(S)	**Seyed Masoud Nikdel – nik gas CO. LTD**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Smart Production and Distribution of Odorless and Normal Liquefied Gas (Liquefied Petroleum Gas "LPG") Equipped with Smart Loading System**

This system is applied for liquid gas sweetening by absorbing mercaptan and sulfur compounds using catalyst absorbents method and revival of saturated catalysts by thermal method and also liquefied gas evaporator smart machine in cold seasons by specific EX elements and smart sensors; that these three technologies are offered in a comprehensive and integrated system.

APPLICATION No.	IRN-11
AUTHOR(S)	**Amirreza Allahgholipour Komleh**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**System of removing surplus iron and manganese from drinking water based on aeration method and using rice husk**

This system has been invented to remove excess iron and manganese from drinking water. It has ability to remove 99.6% of iron and 99.7% of manganese as well as reducing indicators of color, smell and tarnish to the standard level.

APPLICATION No.	IRN-12
AUTHOR(S)	**Mohammadreza Nejatimoghaddam, Hossein Nejatimoghaddam, Hananeh Mahdavi**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Multi-purpose smart station with unique features**

People can use the features of this bench that can be directly connected to it, and in addition to the health control and a socket with a socket that is stored with solar panel power. One of the features of this chair is wireless, according to the network system design.

APPLICATION No.	IRN-13
AUTHOR(S)	**Melika Mohammadsalehi**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Intelligent Eyeglasses**

Some people suffer from farsighted, nearsighted and astigmatism problems simultaneously. They need to carry different eyeglasses while their eye grade may change during the time. Therefore, they are annually required to determine the grade of their eyes. The present invention acts very precisely and quickly and adjusts the glass in accordance with the grade of sight which facilitates the estimation of eyeglass grade and avoids the waste of time and money for buying new pairs of glasses.

APPLICATION No.	IRN-14
AUTHOR(S)	**Ielia Shahmohammadi**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Smart programmable cooking pot**

This means the lid instead of cooking binds and food destroys that would not be affected and the base is animated and the whole pot is connected with a timer to set the device to automatically stop and the vehicle is smart. This helps by cooking fried foods and cooking.

APPLICATION No.	IRN-15
AUTHOR(S)	**Amirreza Piri**
ORGANIZATION	The First Institute Inventors and Researchers in I.R.IRAN (FIRI)
TITLE OF INVENTION	**Design and prototyping one-time use (Disposable) power banks using in portable electronic devices**

Giving increase in utilizing portable electronic gadgets such as mobile phones, tablets and etc., on one side. Likewise, the restriction in capacitive capabilities on the other side leads to a need for using power banks. The power banks themselves have a glaring issues, for instance: charging, the amount of charge storage and in One- time use power banks for portable electronic devices this issue has been solved and you can achieve the solution through purchasing in supermarkets and charge your device as easy as possible.

KENYA

APPLICATION No.	KEN-01
AUTHOR(S)	**Umit AYDIN, Talip Ozdemir, Saadet Ozdemir, Ahmet Kerem Bektas, Hytham Shariff**
ORGANIZATION	Qubaa Muslim School – Mombasa/Kenya
TITLE OF INVENTION	**FIBOPELLER – A REDISGNED PROPELLER OF HELICOPTERS**

Did you know that the helicopters consume lots of fuel?

For instance; Sikorsky UH-60 Black Hawk consumes approximately 3015 litres of fuel to cover a range of approximately 2220 km. We can reduce the usage of the fuel up to 1242 litres which is approximately 60% for the same range; in the other words we can increase the range up to 3552 km which is approximately 60% for the same usage of the fuel. `Fibopeller` is a re-designed propeller for the helicopters which is designed by using of Golden Ratio and Fibonacci number series.

KOREA

APPLICATION No.	KOR-01
AUTHOR(S)	**KIM CHAI RIN**
ORGANIZATION	Korea Invention News (KINEWS)
TITLE OF INVENTION	**Multi-functional Outdoor Cooking Utensils**

Considering of inefficiency from cooking hours's long duration because of low heat conductivity and under the big influence of temperature, and fire danger when cooking, I punch the hole under the cooking assistance board and make a oxygen supply easy to boost up the efficiency of fuel so that it become economical and all weather providing cooking comfort.

APPLICATION No.	KOR-02
AUTHOR(S)	**YUN, BYEONG DEOK**
ORGANIZATION	Agricultural Corporation, SARAMINJAYEON
TITLE OF INVENTION	**Method of manufacturing maggot feed containing ginseng saponin**

This invention make it possible to grow larva with stamina by feeding it with tiny-sized genseng which mixed with saw dust and edible fiber, and amino acid, vitamine and this kind of genseng is available to improve liver disease and cardiovascular disease case by providing high level of protein. So when growing larva (maggot) sawdust is added with genseng powder so that to give heat to cooled larva to bear the sapponin contained maggot in order to maximizing the effect and efficiency.

APPLICATION No.	KOR-03
AUTHOR(S)	**KIM, KYUNG JIN & GWON, YONG IK**
ORGANIZATION	WOORI EYE
TITLE OF INVENTION	**Safety System for Students taking Buses to and from School**

The tag for children's possession based on the smart key technology for the vehicle utilizes smart key technology for vehicles as a real-time location indicator and status check of the vehicle, as well as the real time solution of the student's status with the transportation as well as the proximity of the vehicle, It is composed of the function to recognize the band for children and to link their status/positions with the app.

APPLICATION No.	KOR-04
AUTHOR(S)	**KIM, DO HUN**
ORGANIZATION	CHUNGDO DAEWON SCHOOL
TITLE OF INVENTION	**Sensor attached ringer hanger**

The tag for children's possession based on the smart key technology for the vehicle utilizes smart key technology for vehicles as a real-time location indicator and status check of the vehicle, as well as the real time solution of the student's status with the transportation as well as the proximity of the vehicle, It is composed of the function to recognize the band for children and to link their status/positions with the app.

APPLICATION No.	KOR-05
AUTHOR(S)	**HONG, JAE SUK**
ORGANIZATION	ASIA INVENTION ASSOCIATION (AIA)
TITLE OF INVENTION	**Safety Support for Surgical Tools**

The surgical tool is made in a size that can be worn over the body of the patient, and a soft pad formed on the upper surface of the middle region of the seating area where the surgical tool is seated; And barrier ribs formed on the periphery of the seating area, wherein the flexible pad and the barrier rib are made of a soft resin. The surgical tool according to the present invention can be put to practical use, the surgical tool of the standard can be stably mounted conveniently, and the wire attached to the surgical tool can be prevented from being twisted or hanged, It is advantageous that the structure of the surgical tool holder can be changed in various ways.

APPLICATION No.	KOR-06
AUTHOR(S)	**LEE, HYEON JI**
ORGANIZATION	Kyeonghwa Girls' Middle School
TITLE OF INVENTION	**Easy Cutter Knife Blade Replacer**

Any student or business person will have a knife. Then, I think that the end of the blade was blunted and everyone had one at a time. Cutting the dull blade is done with a tool that is provided separately behind the cutter knife. When cutting such a blade, there is a danger that the blade may be splashed, and there are people who are somewhat afraid because of fear of getting hurt. Therefore, I drilled a hole in a tool to cut the cutter knife and embodied a blade recovering member composed of a magnet piece, so that it is possible to quickly and easily recover the separated blade when the blunt blade is removed, And safety can be ensured.

APPLICATION No.	KOR-07
AUTHOR(S)	**BYUN, YOUNG SUN**
ORGANIZATION	Myungjin High School
TITLE OF INVENTION	**Parking Block System using Solar Energy**

When parked in the parking lot, it is difficult to recognize the parking line when it is backward, so parking is not possible. Is a parking block device. Therefore, this idea is about setting a parking block device that can light up when approached by car, and can prevent damage to walls and other obstacles around the car's movement. It is useful for parking at night by illuminating the parking space by using the function of recognizing the vehicle in the parking block and the lighting function. It does not need separate power supply by using the solar battery, It is possible to park at night and backlighting can be precisely parked with the lighting function, so it can prevent accidental contact with other vehicles.

APPLICATION No.	KOR-08
AUTHOR(S)	**JI, SEUNG JOO**
ORGANIZATION	ONUL COMPANY
TITLE OF INVENTION	**Schedule Management System**

Weddings, birthday parties, various ceremonies and relevant letters and mobile invitations are shared through SMS, IM, social media, etc. However, if you do not know what you are doing on a specific day, the app will automatically notify you about a certain schedule, and when you scan an image, it automatically recognizes the jpg file and text contents about the sending function, meeting and event schedule, etc through text, messenger, SNS and uses pop-up notification service (PUSH) to notify the schedule and location automatically.

APPLICATION No.	KOR-9
AUTHOR(S)	**YOON, HAEUN**
ORGANIZATION	Myungjin High School
TITLE OF INVENTION	**System that generates electricity by foot pressing**

The idea of making a stairway that illuminates itself when it is night or when and if a sudden power failure happens and if the room is dark, and the stairway that illuminates the surroundings brightly, so it can develop itself without energy supply from the outside, It is a self-generating device for light. It is installed in a lively place and is used for various devices such as interior lighting, emergency lighting, ventilator, CCTV, street lights, traffic lights, traffic information boards, etc. At night when there is no people or traffic, the automatic LED lights are used for various heating devices, and danger warning lights and guidance for guiding roads prevent safety accidents and also save energy, giving economical effect at the same time.

APPLICATION No.	KOR-10
AUTHOR(S)	**PARK, SANG PIL**
ORGANIZATION	Kyeonghwa Girls' Middle School
TITLE OF INVENTION	**Moisture supply device taking advantage of drainage**

This invention is related to water supplies using sewage pipes, especially punching the hole in part of sewage pipe and this connect with septic pipe which supply clean moisture by the filter so that without human's involvement supplying the moisture by sewage pipe. Conventional flow pot consumes many manpower as the artificial spraying water is required, and the more, if negligence added, it causes plants to be dry death, and furthermore cause overuse of water resource. So this issue can be solved by water pressure making possible supply water to flower pot by connecting sewage pipe with elbow and then fill out the water tank and this water pressure automatically supply water to flower pot by filter. Ultimately reducing the overuse of water resources. These are the characteristics of this invention.

APPLICATION No.	KOR-11
AUTHOR(S)	**PARK, YE RIM & PARK, HO JUN**
ORGANIZATION	Gangnam University & Joongang University
TITLE OF INVENTION	**Beverage bottle preserving taste and coolness with CO_2 gas**

The invention is about the plastic bottle for preserving the beverage's own coolness when stored in refrigerator and out to air; and for prevention of drop forming at the outer circle of the main body, and its being sliding off hands; dramatically downsizing the volume of vacant bottle after using it for beverage and at the same time recycling so that protection of nature and creation of economic value. By the characteristics of this invention, it is possible to enjoy the original taste of beverage for a long time by keeping the coolness for a long time by injecting CO2 gas into the space by forming a plastic bottle into a double space and combining it with a silicone material capable of shrinking and expanding. Essentially cutting off moisture formation on the outer surface of the beverage bottle, it is a feature of a beverage bottle that keeps the insulated CO2 gas cooler with improved cooling function that solves the inconvenience when storing or carrying it in a bag.

APPLICATION No.	KOR-12
AUTHOR(S)	**YUN, AH-REUM & YUN, DA-UN**
ORGANIZATION	Gwangnam High School
TITLE OF INVENTION	**Spiral Dissecting Method of Easy Plastic Wrap**

We have developed a "spiral plastic wrapping paper" to increase the recycling of beverage container resources and to protect the environment by making oblique perforations on plastic bottles or glass bottles. The invention makes it possible to easily remove labels wrapped around any existing beverage bottles. Unlike a straight perforated line, it will be cut in the direction of the perforated line because it can apply force to the fiber direction vector. Therefore, it will be faster and easier to remove compared to conventional cut labels. And the label can be removed without being separated into small pieces, which makes it easy to throw away the trash.

APPLICATION No.	KOR-13
AUTHOR(S)	**CHANG, HYUN WOO**
ORGANIZATION	Seoul Sehwa High School
TITLE OF INVENTION	**Spinning Traffic Light for the Safety of School Zone**

The signal lamp is a stop lamp, which is a flickering operation in which the walking signal and the traffic signal are blinked from the controller for a predetermined time, so that the driver and the pedestrian can easily check the inconvenience at any position by the rotation signal lamp. The board is arranged along the periphery and the person who hangs a plurality of LEDs that emit red light is arranged as a person walking. The motor rotation shaft is fixed through the green lamp and the human shape is rotatable by the bearing installed on the lower support panel at the end It can recognize the green signal in any direction. The infrared sensor, ultrasound sensor and proximity sensor are equipped with CCTV, which detects the sensor of the vehicle and the vehicle by means of control and control, and records the vehicle passing through the crosswalk. And it is possible to do physical damage and prevention at the accident site.

APPLICATION No.	KOR-14
AUTHOR(S)	**CHOI, YEON WOO**
ORGANIZATION	Jeodong Middle School
TITLE OF INVENTION	**Easily Replaceable LED Bulb using Spring Elasticity**

The light bulb used in our homes, offices, factories, etc, can be installed in two ways: by installing a groove with a built-in spring in the socket for turning the light bulb, or by installing a ball with a spring in the bulb, And the light bulb is pushed into the socket so that it can be replaced more easily and safely. It is innovative method that makes it more convenient for anyone to replace the bulb. By making a groove into the bulb socket, the spring and the ball of the socket are connected to the semicircle groove of the socket so that the bulb is seated in the semicircle groove and the spring or the bulb can be safely and easily replaced.

LEBANON

APPLICATION No.	LBN-01
AUTHOR(S)	**Nour Eid Lattouf, Joy Lattouf**
ORGANIZATION	Lebanese Innovators Society (LIS)
TITLE OF INVENTION	**Cure Or Disease? J.A.N.E Application**

Cure or Disease is a project that aims to protect people from the danger of fake medicines. 10% of the medicines in the world are fake and this percentage is getting bigger and bigger every year. These fake medicines are a cause of the death of millions of people every year. So, we created J.A.N.E Application to keep us aware from these medicines. It's an application used by the persons who want to buy medicines from the pharmacy and helps them see if the medicine they are buying is fake or not.

APPLICATION No.	LBN-02
AUTHOR(S)	**Nour Eid Lattouf, Jad Hamawi, Omar Bahi, Lynn Kari, Ghassan Sleiman**
ORGANIZATION	Lebanese Innovators Society (LIS)
TITLE OF INVENTION	**Smart Agriculture**

It is an installation that measures continuously temperature, pH, nature of soil, humidity, CO2, NH3 and luminosity via sensors connected to a PC. This technique helps to reduce the usage of pesticides. It's affordable and it limits the usage of water and increases productivity.

MACEDONIA

APPLICATION No.	MAC-01
AUTHOR(S)	**Angela Petreska, Stefan Damchevski**
ORGANIZATION	Yahya Kemal College
TITLE OF INVENTION	**Saving the endemic species in Ohrid Lake and cleaning up the heavy metals from their habitat by using natural waste products**

Ohrid Lake is one of the oldest lakes in Europe. It is a lake consisting fauna that cannot be found anywhere else, but in Ohrid Lake. The lake is situated near the city of Ohrid and Struga and is shared between Macedonia and Albania. The airport "St. Apostol Pavle" is located near the lake. *Firstly the aim of my project was to show how the aero fuel of the airplanes affect the animal world in the lake and see the difference between the water near the highlands, the water from the lake in the center of the city and the water near the airport, then find a way to clean up the polluted water near the airport in order to make it just like the water near the highlands*. Not to harm the environment I used just natural waste product, i.e. the peels from different fruits, such as: apple, orange, tangerine, kiwi, and banana. I decided to use the peels because they contain heteropolysaccharide called pectin which attracts the heavy metals. First of all, the existence of the heavy metals in the part of the lake near the airport was proven by me and I succeed in decreasing its amount. The gradual loss of the endemic fish inspired me to prepare this project and save them as well.

MALAYSIA

APPLICATION No.	MAL-01
AUTHOR(S)	**Mazin Abed Mohammed, Mohd Khanapi Abd Ghani, Dheyaa Ahmed Ibrahim**
ORGANIZATION	Universiti Teknikal Malaysia Melaka, University of Anbar
TITLE OF INVENTION	**An Intelligent Diagnosis and Optimizer for Nasopharyngeal Carcinoma**

This work is to implements a novel unsupervised system for an Intelligent Diagnosis and Optimizer for Nasopharyngeal Carcinoma that can help a physician in decision making. The system improves the speed and accuracy in diagnosis and treatment, reduces costs, improves design and implementation of clinical guidelines and helps to create a novel software that improves the process of identifying Nasopharyngeal Carcinoma biomarkers based on fractal geometry. The main objective of the system is to provide a quick and precise expert guidance to Nasopharyngeal Carcinoma diagnosis. Additionally, for training purposes, it helps in reducing the knowledge gap between different individuals in Nasopharyngeal Carcinoma diagnosis.

APPLICATION No.	MAL-02
AUTHOR(S)	**AVINESH JAY KENNY**
ORGANIZATION	MAZ INTERNATIONAL SCHOOL
TITLE OF INVENTION	**SMART WEATHER ALERT NOTIFIER "SWAN"**

SMART WEATHER ALERT NOTIFIER "SWAN", IS AN INTEGRATED ELECTRONIC SYSTEM THAT SENSE THE CHANGES IN AMBIENT ENVIRONMENTAL CONDITION AND PREDICT THE RISK TO HEALTH BY NOTIFYING AS AN ALERT STATUS ON LED MATRIX DISPLAY.

APPLICATION No.	MAL-03
AUTHOR(S)	**AJENDRA RAJAMANICKAM**
ORGANIZATION	MAZ INTERNATIONAL SCHOOL
TITLE OF INVENTION	**MOS-EX**

MOS-EX mosquito extinguisher is an eco-friendly device to eliminate mosquitoes from the environment. With the help of MOS-EX, we can avoid fogging, use of chemicals, and other remedies that can be injurious for human health or nature and live in a mosquito free environment.

APPLICATION No.	MAL-04
AUTHOR(S)	**PROFESSOR DR. ABDURAHMAN HAMID NOUR**
ORGANIZATION	UNIVERSITY MALAYSIA PAHANG, UMP
TITLE OF INVENTION	**An Integrated Ultrasonic – Membrane Anaerobic System (IUMAS) for Palm Oil Mill Effluent (POME) Treatment**

With the increasing energy prices and the drive to reduce CO_2 emissions, universities and industries are challenged to find new technologies in order to reduce energy consumption, to meet legal requirements on emissions, and for cost reduction and increased quality. The direct discharge of palm oil mill effluent, POME wastewater causes serious environmental pollution due to its high chemical oxygen demand (COD) and biochemical oxygen demand (BOD). Traditional ways for POME wastewater treatment have both economic and environmental disadvantages. In this invention, an integrated ultrasonic membrane anaerobic system (IUMAS) was designed and used as an alternative, and cost effective method for treating POME wastewater (to avoid membrane fouling) and environmental pollution.

APPLICATION No.	MAL-05
AUTHOR(S)	**Khalil Salah, Nazri Kama**
ORGANIZATION	Universiti Teknologi Malaysia
TITLE OF INVENTION	**Inter-Service Provider Charing Protocol (ISPCP)**

In electric vehicle (EV) industry when the users want to charge their EV at public harging stations, they need to get authorized. Since networks of charging tations only provide charging services to their registered users, possibility of ending up in a place without the station of the network in which the user has registered will lead to dissatisfaction for EV users. This product provides crossnetwork charging facilities for EV users by registering at only one charging network.

APPLICATION No.	MAL-06
AUTHOR(S)	**Tuan Suhaimi bin Salleh (P. Eng, PhD), Mohd Izzanee bin Mohd Ishak, Abdul Rashid bin Bukari**
ORGANIZATION	MALAYSIAN PUBLIC WORKS DEPARTMENT
TITLE OF INVENTION	**An Apparatus To Support A Mechanical Device**

The present invention relates to a base for an air handling unit which is typically mounted on a concrete base. The concrete base for the air handling unit is, in many instances, built on site depending on the characteristics of the place where it is going to be mounted. The need for a base that can be utilized by the air handling unit which is compatible with the constrained site requirements where this device is placed is quite apparent. This apparatus is configured to be adjustable upward and downward to enable levelling of air handling unit and acts as absorber to the building structure due to air handling unit vibration while in operation.

APPLICATION No.	MAL-07
AUTHOR(S)	**HADY HAMIDYAN**
ORGANIZATION	SHAR WWTP SDN. BHD.
TITLE OF INVENTION	**Aerobic Wastewater Treatment Package with Extended Aeration Activated Sludge**

The water management systems throughout the world employ and depend heavily on water supply management approach to cater the demand. It requires an effective approach like building water retaining structures; dams, canals etc., along with an effective management plan to sustain future needs. A more proper management of water is needed to sustain any adverse conflicts of water supply. The objective of this work is the development of an aeration wastewater treatment package which includes a well-equipped system that enables a sustainable management in the field of wastewater treatment, low energy consumption, and last but not least low investment and operation costs. The treatment package works by Extended Aeration Method. Performance of these packages is based on the continuous aeration including injection of oxygen gas or air into the aeration chamber via tube aeration diffuser through very small apertures for providing the required oxygen for aerobic bacteria.

APPLICATION No.	MAL-08
AUTHOR(S)	**NAVEED AHMED KHAN, TIMOTHY YU, ABDUL MANNAN BAIG, RUQAIYYAH SIDDIQUI**
ORGANIZATION	Sunway University
TITLE OF INVENTION	**Novel therapeutic strategy against Acanthamoeba infections**

For the first time, we employed nanotechnology in targeting Acanthamoeba. We conjugated gold nanoparticles with chlorhexidine and demonstrated their anti-Acanthamoebic effects. Gold-conjugated chlorhexidine nanoparticles but not silver exhibited significant effects against the parasite.

APPLICATION No.	MAL-09
AUTHOR(S)	**RUQAIYYAH SIDDIQUI, SHARENI JEYAMOGAN, SAGATHEVAN K, PETER HEARD, NAVEED AHMED KHAN**
ORGANIZATION	Sunway University
TITLE OF INVENTION	**Novel anticancer molecule(s) from crocodiles and alligators**

Crocodiles live in unsanitary conditions, feed on rotten meat, are exposed to heavy metals such as arsenic, cadmium, cobalt, chromium, mercury, nickel, lead, selenium, endure high levels of radiation, are among the very few species to survive the catastrophic Cretaceous-Tertiary extinction event, and yet live up to a 100 years. Based on this, we developed the hypothesis that they possess antitumor activities. After several years of work, our findings suggest crocodile blood kill cancer cells (prostate cancer cells, PC3, and liver cancer cells HepG2) without affecting the viability of normal human cells. Work is in progress to identify novel molecules for potential use in treatment against cancer.

APPLICATION No.	MAL-10
AUTHOR(S)	**AIMAN FIKRI MAT ASIS, AHMAD DANIAL MOHD ZAKI, EMIR SYAZWAN SAKERI, MADIHA MOHD ASRI, FATINI MD ALI**
ORGANIZATION	MARA JUNIOR SCIENCE COLLEGE BALIK PULAU
TITLE OF INVENTION	**HERITAGE POWER**

As we know, the manufacturing of AA batteries causes environmental pollution such as acid rain. Therefore, green alternative is much desirable nowadays. Our research concludes that Calophyllum inophyllum fruit has potential to become an alternative energy. This research is to enhance the ability of Calophyllum inophyllum extracts to generate electricity. They were grounded into powder before adding water to produce the electrolyte. It produces a promising 1.7 volts. In addition, when connected in series, the voltage increases. 2 electrolytic cell successfully lighted various bright coloured LED. The extract's lifespan is yet to be identified.

APPLICATION No.	MAL-11
AUTHOR(S)	**Muhammad Hazim Izzuddin Bin Fawzi, Mohamad Nabil Bin Mohd Rusli, Nur Athirah Bt Md Yusuf, Muhammad Danish Bin Abdul Aziz, Syed Muaz Bin Syed Burhanuddin Zulkarnain**
ORGANIZATION	MARA JUNIOR SCIENCE COLLEGE BALIK PULAU
TITLE OF INVENTION	**bioElastic Rubber with Calcium Carbonate(CaCO3)**

Eggshell of an egg is non edible and largely disposed of a waste. Thus, it is necessary to transform the eggshell into valuable item. So, this research is conducted to study the potential of eggshell to improve the elasticity and tensile strength of rubber. The mixing was prepared by mix the natural rubber(NR) with eggshell. The rubber strip was tested by hanging a weight of 1,2,3,4,5 kg. One of the best result recorded by using NR mix with 20g of eggshell powder, the 5kg load remain hanging at fifth trial. A better result recorded when the amount of eggshell's powder increase.

APPLICATION No.	MAL-12
AUTHOR(S)	**THINAGARAN VALLIATHOM, SHARUMATHI B.SANDIRASAGARAN, NORSAKINAH MOHAMAD ALI, TENESH KUMAR RAMESH, GUHAN RAJ KRISHNA KUMAR**
ORGANIZATION	SJK (TAMIL) LADANG BULOH AKAR
TITLE OF INVENTION	**BEst Ecowash (2in 1 Automatic Solar Powered Hand Soap Dispenser and Hand Dryer**

This is an eco-friendly invention invented by a group of primary school children for the sake of healthy world. Hand soap dispenser and hand dryer compactly fitted into a boxed unit and have sensory units to trigger automatically to hands and it's safely powered by solar energy.

APPLICATION No.	MAL-13
AUTHOR(S)	**Muhammad Iftikhar, Siamak Sarrafan, Laith N Al-Saigh & Shariq Baber**
ORGANIZATION	IMS-MSU, Malaysia
TITLE OF INVENTION	**PokeMed Educational Tool (PET)**

PokeMed is an educational tool for medical students based on Augmented Reality, a popular concept used by PokeMon & PokeLand. This game will feature 5 stages (easy to difficult), 10 floors of the Champion Tower (Clinical features, Pathophysiology, Investigation through Rehab) to climb, and 100 different PokeMed characters each tagged with one MCQ to discover. Each PokeMed character will have different color to symbolize the different specialty (medicine, surgery, gynae & ortho). Students have to locate PokeMed in a designated time & delineated area (to avoid accidental injuries) followed by appearance of MCQ, s which will be captured by PokeBalls to get Rewards/Penalties. This educational tool will increase the physical as well as mental capabilities by rapid interaction.

APPLICATION No.	MAL-14
AUTHOR(S)	**Ahmad Hadi bin Mohamed Rashidi, Ir. Hj. Mohd Radzi bin Abd Hamid, Datuk Ir. Dr. Azuhan bin Mohamed, Siti Salihah binti Mohd Sendek**
ORGANIZATION	National Hydraulic Research Institute of Malaysia (NAHRIM), Ministry of Natural Resources and Environment (NRE)
TITLE OF INVENTION	**NEXC BLOCK – NAHRIM Coastal Protection Erosion and Beach Expansion Block**

NEXC Block is an innovative coastal protection structure. It has two main functions; firstly is to protect the shore from erosion especially during high tide and strong waves. Secondly, it also functions as a beach expansion mechanism via natural sediment accumulation during lower tide and calmer period. The compact and heavy block is essential as protection against big waves. The hollow surface with slanting cone shape not only reduces wave impact, it also allows water to penetrate to, and however sediments are trapped at leeside. Hollow sections is important for lesser fabrication and completion time, which also easier to handle.

APPLICATION No.	MAL-15
AUTHOR(S)	**Hj ABDUL RAHIM BIN MD TAHIR, SAIFUL DIN BIN SABDIN, SAIFUL BAHRIN BIN MOHD SAID, ASZIMAN BIN SUKRAN, AZRUL HISAM BIN ABDUL AZIZ**
ORGANIZATION	ADVANCE TECHNOLOGY TRAINING INSTITUTE
TITLE OF INVENTION	**METHOD AND APPARATUS FOR OPENING A DURIAN AND THE LIKE**

THE PRESENT INVENTION DISCLOSES THE METHOD AND APPARATUS FOR OPENING A DURIAN ORTHE LIKE. THE PRESENT METHOD USES THE TECHNIQUE OF COMPRESSING A DURIAN AT TWO OPPOSITE POSITION THAT IS BETWEEN THE STALK AND THE BOTTOM OF THE DURIAN. THIS TECHNIQUE IS PERFORMED EITHER BY THE TABLE (2) WITH DURIAN MOVE UPWARD TOWARDS THE SPIKES' SHAFT (4) WHICH IS STATIONARY OR,THE SPIKES' SHAFT (4) MOVES VERTICALLY DOWNWARDS TO TABLE (2) WITH DURIAN WHICH IS STATIONARY OR THE TABLE (2) WITH DURIAN MOVE UPWARD TOWARDS THE SPIKES' SHAFT (4) AND SPIKES' SHAFT (4) MOVES VERTICALLY DOWNWARDS SIMULTANEOUSLY. DURING THE COMPRESSION STAGES, THE INTERACTION OF SPIKES' SHAFT (4) PENETRATION INTO THE DURIAN AND SPIKES' SHAFT (4) ROTATION SERVES TO SPLIT OPEN THE HUSK OF DURIAN INTO SEVERAL SECTIONS SIMULTANEOUSLY.

APPLICATION No.	MAL-16
AUTHOR(S)	**Zawawi Ibrahim, Astimar Abdul Aziz, Anis Mokhtar, Rosmazi Omar, Ahmad Sirajuddin Tabari**
ORGANIZATION	Malaysian Palm Oil Board
TITLE OF INVENTION	**Production of Medium Density Fibreboard (MDF) from Oil Palm Biomass**

MDF industry in Malaysia use rubberwood as main raw material for their production. Currently, the industry is having problem with the supply. Oil palm trunk, waste from oil palm industry can be alternative material in substituting RW for MDF production due to abundant supply and economically viable beside its fibre characteristics similar to normal wood. Collaboration R&D has been carried out between MPOB and Korean company (Dongwha) to use OPT for MDF. It was found that MDF from OPT meets the international standard requirements. The technology have been transferred and commercialized by Dongwha Fibreboard in 2011.

APPLICATION No.	MAL-17
AUTHOR(S)	**MR. ZUHERLY BIN ZOLKAPALI, MISS LEE XIN YUN, MISS LAI SIN XIAN, MISS LIM ZHI NING**
ORGANIZATION	SMJK SIN MIN
TITLE OF INVENTION	**AUTONOMOUS GREEN SOAP VENDING MACHINE**

AUTONOMOUS GREEN SOAP VENDING MACHINE IS A VENDING MACHINE WHICH USES WASTE COOKING OIL TO GENERATE INSTEAD OF USING TOKENS. THIS PROJECT IS INNOVATED TO PRODUCE SOAP FROM THE MIXTURE OF USED COOKING OIL, SODIUM HYDROXIDE AND FRAGRANCE. CONSEQUENTLY, THE PROJECT PROVIDES AN IDEAL WAY FOR PEOPLE TO DISCARD WASTE COOKING OIL INSTEAD OF JUST POURING THEM INTO DRAIN. MOREOVER, IT CAN PREVENT WATER POLLUTION DUE TO IMPROPER DUMPING OF WASTE COOKING OIL AND EASE THE BURDEN OF PEOPLE WHO NEED CLEANING KIT ESPECIALLY FOR THOSE IN POVERTY.

APPLICATION No.	MAL-18
AUTHOR(S)	**Dr. Chew Heng Hai, Dr. Yu Chye Wah**
ORGANIZATION	AIMST University
TITLE OF INVENTION	**Bowel Aid: Solution for Mesh Surgery Complication**

Bowel aid is a special toilet seat with an additional support mean (HPS) to support pelvic floor during defecation. It is clinically proven to benefit multiple medical conditions associated with constipation like hemorrhoid and anal fissure. Recent published medical evidence shows it effectively managed pain associated with sling surgery complication. For patient with pelvic mesh or sling implant, it serve as supplementary support to the surgically reconstructed support with mesh or sling. Similar to crutches for patient after lower limp surgery, it is promising to significantly benefit pelvic mesh implant patient and end the largest surgical complication in history.

APPLICATION No.	MAL-19
AUTHOR(S)	**Prof. Dr.Fouad Hussain AL-Bayaty, Prof. Dr. Mahmood Ameen Abdulla, Prof. Dr. Mohamed Ibrahim Abu Hassan, Dr.Lauy Thanoon Younis, Dr.Tommy Julianto Bustami**
ORGANIZATION	Faculty of Dentistry Universiti Teknologi MARA
TITLE OF INVENTION	**Novel Oral Care gel from Andrographis Paniculata (Hempedu Bumi) Extract**

Andrographis Paniculata extract was selected as the base of the oral gel. Acute toxicity test LD50 in rats and toxicity test on human periodontal fibroblast were done. The gels were formulated in the range of 1-5%w/w of pectin and 2-4%w/w of hydroxypropylmethyl cellulose. Characterization of the gels was done using rheomete. Effects of topical application of A. paniculata gel on tooth socket and rate of wound enclosure were histology assessed in rats. A. paniculata extracts significantly enhancing osteoblast formation and accelerating bone formation in tooth socket and enhanced acceleration rate of wound enclosure. The newly formulated oral gel is suitable to relieve oral ulceration. It also provides an occlusive on the oral surface to seal, moisture to the oral mucosa. The new topical oral gel can offer a good prospect of oral care product line in Malaysia.

APPLICATION No.	MAL-20
AUTHOR(S)	**Assoc.Prof. Dr. Vijayaletchumy Subramaniam (Project Leader) Thiviyah Manicam (Co-Researcher) Thinagaran Moga Dass (Co-Researcher) Govin Perumal (Co-Researcher) Sivaneswary Sivaratanam (Co-Researcher)**
ORGANIZATION	University Putra Malaysia
TITLE OF INVENTION	**Malay Language Enlightenment Program (MLEP)**

The program aims to provide exposure specifically related to teaching and mastery of Malay grammar to subject teachers. Malay language mastery is essential and issues of mastery Malay language should be taken seriously into consideration to produce a smart generation in BM. Thus, the first step has been taken brilliantly run 'Program Murid Cendekia Bahasa Kebangsaan' to monitor the level of mastery and excellence of students in Malay language. As a result of the programs, it was found that grammatical knowledge among the students was at a minimal level and their performance were not appreciable. As such, the same knowledge was tested among teachers to assess their level of proficiency. Results showed that the level of their grammatical knowledge at a minimal level as students. So, through this study 'Malay Language Enlightenment Program (MLEP)' was introduced which includes six components of Malay language: 1. Grammar, 2. T&L via Google, 3. IsSam Method (effective way of essay writing), 4. Introduction to sentences, 5. DBP and 6. Information transferring. 'MLEP' is run by several key slots including pre-tests, post-tests, slot knowledge and teaching innovation. In addition, each program will include some language enhancement slot in improving teachers' knowledge in subjects including mastery of Malay grammar, morphology, syntax, and others. During the transformation of knowledge, at the end of this sharing it allows teachers to use, deploy, and teach Malay language to students with more efficient and confident with various techniques.

APPLICATION No.	MAL-21
AUTHOR(S)	**DR. JAMIL BIN ABD BASER, SAIFUL HADI BIN MASRAN, ISMAIL HASNI BIN HAIM, DR. NOORAZMAN BIN ABD SAMAD**
ORGANIZATION	FACULTY OF TECHNICAL AND VOCATIONAL EDUCATION, UNIVERSITI TUN HUSSEIN ONN MALAYSIA
TITLE OF INVENTION	**EZ ECS – ENGINE COOLING SYSTEM LEARNING AID**

Technical and Vocational Education and Training (TVET) nowadays played major roles in developing human capital to feed various industry requirements. Thus, learning process should be strengthening with latest techniques and teaching aids to provide sufficient theoretical knowledge to trainees as a preparation before their hands-on practical training. As for that, this invention has been developed to support theoretical input for Automotive Technology trainees to understand engine cooling system. This Engine Cooling System Learning Aid (EZ ECS) was developed carefully to support student-centered learning process and aimed to boost student's theoretical understandings about this topic. EZ ECS's compacted and mobile size provides extra benefits to the trainers as well, as it give visual appearance to aids teaching and learning process.

APPLICATION No.	MAL-22
AUTHOR(S)	**Laveneishyan s/o B Mogan**
ORGANIZATION	Nanyang Polytechnic
TITLE OF INVENTION	**MS Space Rover**

Manned mini space vehicle to monitor air- quality and presence of water. The novelty about this rover is that, unlike other rovers, there is a solar panel attached to the rover to charge the battery. Those rovers which are made for educational purposes by universities and private companies do not have the ability to monitor the air quality and to detect the presence of water in a specific location. This space rover could detect the presence of water on a surface and monitor the air quality. The data collected will be send to the server via XBee communication and this will be helpful to conduct experiments in Earth in order to determine whether the Red Planet would be a safe home for Homo-Sapiens.

APPLICATION No.	MAL-23
AUTHOR(S)	**AQILAH NADIAH MD SAHIQ, SHAFINAR ISMAIL, NUR HAFIDZAH IDRIS, NOR SHAHRINA MOHD RAFIEN, SHAHRUL NIZA SAMSUDIN**
ORGANIZATION	UNIVERSITI TEKNOLOGI MARA (UiTM)
TITLE OF INVENTION	**HOME FINANCING CALCULATOR V2.0**

Home Financing Calculator [v2.0] is develop to tackle the home ownership conundrum. This calculator is very useful in providing information to the prospective home buyers on the price of a house that a buyer can afford. This calculator is equipped with detailed features such as occupation sector, loan details, financial commitments and upfront costs. These will give benefits to the user, where user can identify the real eligibility of housing loans that they can obtain from the bank. This calculator could also assist user in making quick and informed decision in determining selection of house prices according to their qualifications.

APPLICATION No.	MAL-24
AUTHOR(S)	**NASRIN KHODAPANAH**
ORGANIZATION	UNIVERSITI MALAYSIA PAHANG
TITLE OF INVENTION	**VALORIZATION OF JATROPHA WASTE FOR APPLICATION IN WATER TREATMENT**

In this research, Jatropha press cake, residual after oil extraction, was used as a renewable resource to produce natural coagulant for application in water treatment. Jatropha seed is made up of about 30–35% oil and 30-40 % protein. Jatropha press cake active agent for coagulation was extracted and purified under the best ionic strength condition and acidification to isoelectric point. The powder product after freeze drying was applied to treat river water. The results of treated water were 96% turbidity removal, 93 % color removal and no change in treated water pH.

APPLICATION No.	MAL-25
AUTHOR(S)	**Prof. Dr Abdul Latiff bin Mohamed**
ORGANIZATION	Cyberjaya University College of Medical Sciences
TITLE OF INVENTION	**DESIGN AND DEVELOPMENT OF A CLOUD BASED, WEARABLE, CONTACTLESS, WIRELESS SINGLE-LEAD ELECTROCARDIOGRAM (ECG) FOR CLINICAL USAGE.**

The electrocardiogram (ECG) has been used as an important diagnostic tool in cardiac diseases for decades. The ability of the ECG signals to detect ischaemic and infarct changes in the myocardium has significantly improved the management of Acute Coronary Syndrome and early interventions have helped save many lives. The other significant role of the ECG is to reliably identify abnormalities in cardiac rhytm (arrhythmias). We have succesfully designed and developed a “user friendly” device which is simple and wearable mainly for the purpose of “out of hospital” ECG monitoring which utilises a wireless system which will be able to be read on a smartphone and uploaded immediately to a web based application. This will allow long distance access of the data by experts to interpret the condition and advice appropriate immediate intervention and management of the condition.

APPLICATION No.	MAL-26
AUTHOR(S)	**Dr. Mohammadamin Azimi (Main Inventor), Prof. Ir. Dr. Mahmood Md. Tahir, Assoc. Prof. Dr. Abdul Rahman Bin Mohd Sam, Dr. Nor Hasanah Abdul Shukor Lim, Assoc. Prof. Dr. F. Tehrani, Assistant Prof. M. Nazari, Dr. Abdullah Zawawi Bin Awang, Dr. Mehdi Moeinaddini, Asma Bagherpourhamedani, Dr. Mostafa Samadi, Dr. Nur Hafizah Abd Khalid**
ORGANIZATION	Universiti Teknologi Malaysia
TITLE OF INVENTION	**LOCKBLOCK (Multi-Functional Green Interlocking Mortar-less Concrete Block)**

LOCKBLOCK, is a multi-functional green interlocking mortar-less concrete block which design through finite element simulation, shape optimization process with the aims of increase of construction productivity, reduction in construction duration and labour and reduced construction cost. LOCKBLOCK's special design provide it, self-alignment facilitated by the interlocking features in both vertical and horizontal directions. Application of Green material in LOCKBLOCK makes it able to reduce cement up to 80% and keeps LOCKBLOCK environmental friendliness by reducing CO2 footprint. Additional engineering features with damping function also make LOCKBLOCK more performable, ductile and multi-functional.

APPLICATION No.	MAL-27
AUTHOR(S)	**SUGUNESWARY RAMUSAMY (ADVISOR), JAYASHRI SELVENDRAN J.THANAPAL (ADVISOR), YUVENDRAN MANIMARAN, THARANI RENGGTHURAI, KIRTHI VARTHANA SRI GANASAN**
ORGANIZATION	SJK(TAMIL)MENTAKAB
TITLE OF INVENTION	**NATURAL E-HERBS CLEANING LIQUID**

Research made to produce the natural E- Herbs cleaning liquid for households usage based on eco-friendly and free from chemical influential. Several medication natural herbals flowers or leaves such as lavender, neem, basil, lemon and lemon grass extract blend with beneficial bacteria liquid been produced the natural E-Herbs Cleaning Liquid. This Liquid utmost suitable for cleaning household's things such as stain and remove odors. The main motive is to recycle our own kitchen foods waste changed to natural enzymes to save our environment & save some of our household detergents.

APPLICATION No.	MAL-28
AUTHOR(S)	**VAISHNAVI NARAYANAN, AADYA JHA**
ORGANIZATION	MAZ INTERNATIONAL SCHOOL
TITLE OF INVENTION	**ECO FILTRATION UNIT FOR INTENSIVE AQUACULTURE SYSTEMS**

FILTRATION SYSTEM FOR FISH TO IMPROVE FISH HEALTH, REDUCE POLLUTION EFFECTS OF AQUACULTURE EFFLUENTS AND IMPROVE QUALITY OF FISH CONSUMED. FILTERS MADE WITH BIOLOGICAL MATERIAL WHICH HAS FILTERING CAPACITY COMPLETED.

APPLICATION No.	MAL-29
AUTHOR(S)	**Ong Paul Sherng**
ORGANIZATION	Chung Ling Private High School
TITLE OF INVENTION	**Economical Humanoid Remote Sensing for Fire Fighting [ECON FF]**

The developed system is a dual tasking invention whereby the robot performs continuous monitoring for flame through self-patrolling within the pre-defined path. Secondly, the designated intelligent multi sensor based robot has the ability to detect fires as well as extinguish the fire autonomously in the shortest time without any human intervention. This ECON FF incorporates many of the features and makes it into a single holistic device in order to reduce the damage caused by natural or human made fire disaster. This invention has the function to communicate with the user, and sending warning message to nearby fire station upon detecting fire with the help of GSM Communication.

MOLDOVA

APPLICATION No.	MDV-01
AUTHOR(S)	**Tanese Daniel**
ORGANIZATION	Junior Achievement Organization MD / Lyceum ''Universul'
TITLE OF INVENTION	**Invent –Light**

We have analyzed several bulbs from the RM, we have found that quality is not acceptable for health and sight. I have been trying to create a new light bulb with optical radiation specific to the environment in which it works. I also used recyclable pipes which I gave them a second life. This is a bulb that can be admitted to health is not a bulb unhealthy with allowable optical radiation health, is made by parts that they are meant as recyclable, LED healthy eye.

APPLICATION No.	MDV-02
AUTHOR(S)	**Neghin Mihail, Puscasu Dorin, Anghel Elena, Tonu Alexandru**
ORGANIZATION	Junior Achievement Organization MD / Lyceum ''Universul'
TITLE OF INVENTION	**TreeLib**

Platform that interconnects all libraries in Moldova for easy access and barrowing of all books available in the libraries. The scope of this innovation is to save people's time, to make the management of books easier for librarians and to make from multiple libraries, one big library.

MOROCCO

APPLICATION No.	MCO-01
AUTHOR(S)	**Samir Bouftass**
ORGANIZATION	Union des inventeurs marocains
TITLE OF INVENTION	**An electrical machine with a new excitation system**

An electrical machine composed by a static component and a mobil component with a new excitation system composed by highly porous conductive materials insulated , fixed on the body of the mobil component and in electrical contact with one of the terminals of an electricaly charged supercapacitor fixed too on the mobil component . The static componenent contain coiled magnetic circuits. If the mobil component is in a motion, an emf is induced in said coiled magnetic circuits.

APPLICATION No.	MCO-02
AUTHOR(S)	**Lamine LAGSAIAR, Ahmed MOUHSEN**
ORGANIZATION	Faculty of Sciences and technologies - Settat
TITLE OF INVENTION	**Smart connected Power switch**

Smart connected Power switch is portable gadget that is used between alimentation source and the charger or any electrical cable, controlled by application installed in phone or in laptop, to protect us from the explosion of smartphone battery or charger, it cuts the power when your phone, tablet, laptop battery reach the level that you choose by default is 100% ,or when your charger or the battery reach the temperature of 40 C .When you smartphone received a call phone it automatically cut the power and establish it when the call ends. And it may also be used with the other equipment like TV, fridge to control it via WIFI.

APPLICATION No.	MCO-03
AUTHOR(S)	**Lamine LAGSAIAR, Ahmed MOUHSEN**
ORGANIZATION	Faculty of Sciences and technologies - Settat
TITLE OF INVENTION	**Smart head system**

Smart head system is a system that is designed for people who live without hands, it contains two gadgets. The first is a head-gadget to control the computer using the movement of the head and second is a small gadget that vibrates and shows the message sent by the person who wears the head-gadget, the second gadget is taken by the person who takes care of the disabled person.

APPLICATION No.	MCO-04
AUTHOR(S)	**H. Griguer, Manos M. Tentzris, A. Nauroze, M. Drissi**
ORGANIZATION	SMARTiLab EMSI
TITLE OF INVENTION	**Electromagnetic Field Metamaterial Absorber (EFMA)**

With the development of wireless energy transfer and communication systems, especially in wearable and IoT configurations, the ambient ElectroMagnetic (EM) radiation sources might be extremely disruptive to the human environment. Then, the use of an absorbent material for the human body protection seems urgent. Our Invention is an ultra-thin flexible absorber based on a novel metamaterial unit cell designed for human body protection from EM field Hazard and EM Thermal Impact. The simulation results show that the proposed Flexible Metamaterial Absorber features high absorption peak at the most common ambient EM radiations.

APPLICATION No.	MCO-05
AUTHOR(S)	**Dr. H. Griguer, M. Benlazaar, Y. Aiboud, M. El Missaoui, M. Rhouni**
ORGANIZATION	SMARTiLab EMSI
TITLE OF INVENTION	**Senstenna**

Already 20 billion IoT devices in 2016 and 50 billion by 2020, sensing the nearby environment and collecting data while improving our life's comfort. In front of this great growth, IoT industry is facing challenges in terms of high production cost and high-energy consumption. Thus, to meet these challenges, we present Senstenna IoT, the SENSORLESS IoT, that uses only RF energy harvesting system for environment sensing. Then low production cost, high battery autonomy, and a greater time to market. Senstenna IoT has many applications, such as Smart parking, indoor positioning, geofencing, branding, urban traffic management, etc.

PHILIPPINES

APPLICATION No.	PHI-01
AUTHOR(S)	**ROLYN LABASAN PEDUHAN**
ORGANIZATION	WEST VISAYAS UNIVERSITY-HIMAMAYLAN CITY
TITLE OF INVENTION	**WORLD CLOCK-PEDUHAN**

My invention is quite simple but very useful and became the first world clock in the world. It actually operated by a single round clock that corresponds next two other circles with specifications (world appearance and horizon), those two circles is a gear type and touches to one another for harmonious movement. By the means of simple machines I created the wholly clock that indicates the time all over the world.

APPLICATION No.	PHI-02
AUTHOR(S)	**Andrea Jamille C. Tubigan, Ronald D. Bautista, Arlene R. Cereno, Alexander G. Acopio, Aquilino Valentino A. Tubigan**
ORGANIZATION	Inventors School of the Philippines (ISP)
TITLE OF INVENTION	**shUSB**

The utility model merges two categories: apparel and electronics. A power bank is embedded within the soles of shoes. This allows charging (via USB) of electronic devices. This utility model allows the user to charge electronic devices to power banks which are embedded in the user's shoes. It is innovative because one does not need to include the power bank among other items in his/her bag.

APPLICATION No.	PHI-03
AUTHOR(S)	**Ma. Chat Donna V. Ofilas, James Benedict G. Cuesta, Nathan Aishely C. Garcia, Jemar V. Tan**
ORGANIZATION	Manila Young Inventors Association
TITLE OF INVENTION	**ECO-TorGi: Waterproof EcoBag from Etlingera elatoir Fibers**

ECO-TorGi is waterproof reusable eco-bag from Torch Ginger stem fibers. This aims to help reduce wastes by extracting stem fibers, making into something useful and eco-friendly. Warp of fabric is made up of Torch Ginger fiber while weft is made of polyester thread. Warp has tensile strength of 613.70 Newtons while its weft has tensile strength of 528.35 Newtons. Torch Ginger fibers has higher tensile strength than polyester. The bag can hold maximum average weight of 50 kilos. ECO-TorGi is biodegradable, reusable, durable, waterproof and unisex bag which can be used and washed repeatedly. Be eco-friendly use ECO-TorGi!

APPLICATION No.	PHI-04
AUTHOR(S)	**Ma. Chat Donna V. Ofilas, Chem Beaver P. Valenzuela, James Benedict G. Cuesta, Jenssah Maxine T. Panganiban**
ORGANIZATION	Manila Young Inventors Association
TITLE OF INVENTION	**JatroBatt: Green Battery Using Jatropha curcas Water-based Extract**

JatroBatt is a green batter that relates to a device in generating alternative, cheap and renewable power source using Jatropha curcas Linn. fruit water-based extract. The prototype battery generates 20 to 26 volts. This device is applicable to power 10 to 13 LEDs connected in series circuit and can charge a cellphone by converting the voltage to 5 volts using the designed charger circuitry. Moreover, this device is applicable to power microelectronic systems such as calculators, digital clocks, musical cards and other gadgets. The battery can generate electricity up to 10 hours.

APPLICATION No.	PHI-05
AUTHOR(S)	**Sonny D. Valenzuela, Brenda C. Caranto**
ORGANIZATION	Manila Young Inventors Association
TITLE OF INVENTION	**Du30 Alcohol Sensing Crab Composite Helmet**

This invention uses of crab shells as filler and reinforcing material in the production of cheap and impact resistant alcohol sensing helmet. The novel safety protection helmet has tensile strength of 60.83 N/mm2 at 3.00mm thickness and 25.00 using ASTM D638 standard method and has passed the Standard Impact Test for safe helmet. This prototype product is invaluable for motorcycle users to avoid alcohol related road accidents. This high value product is drawn from the idea that inedible part of the crab shells must be utilized and recycled into something useful to minimize wastes generated from it.

APPLICATION No.	PHI-06
AUTHOR(S)	**Abigail Mary Claire F. Ablang**
ORGANIZATION	Philippine Science High School – Central Luzon Campus
TITLE OF INVENTION	**Poly(vinyl alcohol) hydrogels prepared through γ-irradiation for possible soft contact lens material**

Radiation crosslinking of hydrogels is apt for biomedical applications because crosslinking is completed without a potentially toxic reagent. A 30% w/v poly(vinyl alcohol)-dimethylsulfoxide hydrogel was prepared through irradiation at a total dose of 40 kGy. When compared to a commercial contact lens, the hydrogel exhibited very high mechanical strength, making it more durable and more appropriate for long-term use. However, it exhibited low transparency due to high PVA content, and weak swelling because of low PVA. The prepared hydrogel may be sold commercially given improvements on swelling and light transmittance, as well as investigation of oxygen permeability and protein adsorption.

APPLICATION No.	PHI-07
AUTHOR(S)	**Bernice Genevieve Santos Baron, Gladwin Bryan Tanhueco Labrague**
ORGANIZATION	Philippine Science High School - Central Luzon Campus
TITLE OF INVENTION	**Release Profile of Poly(vinyl alcohol)-Cellulose-Ampicillin Composites**

A drug delivery system of poly(vinyl alcohol) (PVA) and corn husk derived cellulose was solution casted in 4:0, 4:0.5, 4:1, and 4:1.5 w/w ratios. FTIR Analyses depicted no chemical reactions. UTM tests showed elongation at break significantly increased at the 4:0.5 ratio. SEM showed aggregates of cellulose formed on the PVA surface especially as cellulose content increased. TG Analysis determined cellulose decreased the thermal stability of the PVA. 4:1 and 4:1.5 ratios had less abruptly released ampicillin than the 4:0 and 4:0.5.

APPLICATION No.	PHI-08
AUTHOR(S)	**Raver John S. De Guzman David Nathaniel N. Niro**
ORGANIZATION	Philippine Science High School - Central Luzon Campus
TITLE OF INVENTION	**Pork Quality Assessment through Image Segmentation and Support Vector Machine Implementation**

Given the high demand for pork in the Philippines, the research aims to construct a rapid mechanism of pork freshness assessment through digital methods. Thirty-five meat samples were simultaneously collected and their images were acquired across six two-hour intervals, followed by segmentation in ImageJ. SVM classification on the segmented images yielded an accuracy rate of 93.33 %. An additional meat sample was then collected to create a microbial profile under similar intervals. Given the SVM's performance in differentiating meat samples across time intervals, a feature further supplemented by the microbial profile, a rapid mechanism of pork quality assessment was created.

APPLICATION No.	PHI-09
AUTHOR(S)	**Dexter A. Lopez, Jemimah M. Dizon, Emerson John L. Ramos, Lani M. Suyom (Research Adviser)**
ORGANIZATION	Philippine Science High School - Central Luzon Campus
TITLE OF INVENTION	**Isolation and Identification of Lactic Acid Bacteria from the Nectar of *Ixora sp.***

One lactic acid bacteria (LAB) strain was successfully isolated from the extracted nectar of Ixora sp. collected from Clark, Pampanga. The biochemical, cultural, and morphological characteristics of the culture highly suggested that the isolate could be considered as LAB. Through the phylogenetic analysis of the 16S rRNA gene sequence, the isolate was identified as a species under the genus Weissella. However, the specific epithet of the strain was not identified, given that the formed subcluster with W. oryzae is just reasonably supported (83%). Further studies are necessary in order to confirm if the isolated strain belongs to a novel species.

APPLICATION No.	PHI-10
AUTHOR(S)	**Galen Noel Galan Nifas, John Emmanuel Samaniego Santos, Mark Xavier Bailon (Research Adviser)**
ORGANIZATION	Philippine Science High School - Central Luzon Campus
TITLE OF INVENTION	**Adsorption of Ammonia in Aqueous Solution Using Rice Hull-Derived Activated Carbon/Chitosan Composites**

Activated carbon made out of rice hulls was successfully coated with chitosan. FTIR analysis showed the presence of various functional groups such as aldehyde and silicone. SEM showed that the composite possessed a porous texture with elliptical-shaped voids that can provide adsorption sites for aqueous ammonia. The adsorption experiment showed an increase in adsorption percentages due to the coating of chitosan on the activated carbon and as the w/w ratios of activated carbon and chitosan get close to each other; the adsorption percentages of activated carbon/chitosan 1:1, 2:1, and 5:1 w/w are 68.92±3.13%, 55.05±7.60%, and 37.88±6.36% respectively.

APPLICATION No.	PHI-11
AUTHOR(S)	**Alessandria Maeve M. Ocampo, Lee Romney S. Santos, Sam A. Julian, Mark Xavier E. Bailon (Research Adviser)**
ORGANIZATION	Philippine Science High School - Central Luzon Campus
TITLE OF INVENTION	**Polyaniline Based Cadaverine Sensor Through Digital Image Colorimetry**

Cadaverine is a basic volatile biogenic amine produced during pork meat spoilage, thus its concentration is recommended as an index for meat acceptability. This study aims to utilize polyaniline as a sensor for cadaverine. Polyaniline, having three oxidation states, is capable of changing color depending on the acid-base reactions it has undergone. Polyaniline was fabricated and used to coat nylon cloths as a tentative sensing material. The coated cloths were exposed to different amounts of cadaverine in a fixed reaction time of 5 minutes. A calibration curve with an equation of %yellow=-6.3978ln[cad]+57.263 and an R_2=0.9991 was derived from the results.

APPLICATION No.	PHI-12
AUTHOR(S)	**MARK XAVIER E. BAILON (Research Adviser), JOHN MATTHEW C. MARQUEZ, MARIA JANINE L. JUACHON, JUSTINE GRACE E. REGALA**
ORGANIZATION	Philippine Science High School - Central Luzon Campus
TITLE OF INVENTION	**TCPO-Rubrene-H2O2 chemiluminescent detection of pesticide methamidophos using DSLR and smartphone camera systems**

There is a need to develop a simple and cost-effective method of detecting pesticides, such as methamidophos, due to their serious health risk. This research utilized the quenching of the TCPO-Rubrene-H_2O_2 chemiluminescence system when reacted with pesticides as a means of detection. Using two cameras and a light-proof box, luminescing solutions that were spiked with varying concentrations of pesticide were taken pictures of. Pictures were then analyzed using ImageJ software. Results showed that methamidophos concentration is inversely related with the CL system's light output. Analyses for both cameras showed good linearity, with calibration curves of y=175.12x+410639 (DSLR) and y=280.58x+1460402 (smartphone).

APPLICATION No.	PHI-13
AUTHOR(S)	**Bautista, Joel T., Enriquez, Raphael Christen K., Marco, Leonard, Antonio M., Wong, Jansen Roel E.**
ORGANIZATION	Philippine Science High School - Central Luzon Campus
TITLE OF INVENTION	**Development of a Smart Parking System using Raspberry Pi-based ultrasonic sensor system**

Approximately 40% of the total traffic during rush hour are generated by vehicles searching for free parking spaces. This study developed a Smart Parking System that enables motorists to locate free parking spaces in an innovative manner, reducing driver's search time for parking space. This study fabricating a miniature parking lot with sensors for simulation. Raspberry Pi was utilized as the central processing units in analyzing readings from ultrasonic sensors. The system was successful in determining parking space availability. It was then connected to Flask, a micro web framework, to make the readings of the system accessible via internet server.

APPLICATION No.	PHI-14
AUTHOR(S)	**Gregory Simon dL. Besande, Arianna Francesca P. Dumlao, Kyla Noelle B. Mallare, Mark Xavier E. Bailon**
ORGANIZATION	Philippine Science High School - Central Luzon Campus
TITLE OF INVENTION	**Methyl-Orange Zeolite Tablets as Copper Concentration Level Detector through Digital Imaging Colorimetry**

Since copper detection methods are costly and inaccessible, an alternative detection process has been devised with the use of a phone camera and methyl orange-incorporated zeolite tablets. The amount of copper absorbed, results from Flame AAS, plotted in relation to the red to green color value ratio, results from the Digital Imaging Colorimetry, obtained a linear equation $red/green = -0.0001\ Cu!! + 2.0831$ with an r2 value of 0.992. The FTIR results showed the interaction between the methyl orange and the copper ion and the difference in the concentration absorbed by tablets exposed to 0 M and 1 M of copper sulfate.

APPLICATION No.	PHI-15
AUTHOR(S)	**Carlos Bryan M. Tecson, Mark Xavier E. Bailon (Research Adviser)**
ORGANIZATION	Philippine Science High School – Central Luzon Campus
TITLE OF INVENTION	**Physically Crosslinked Alginate – Chitosan Hydrogel Beads**

Polymers are being used as biomaterials because of their favorable characteristics which can enhance the properties of biomaterials for more efficient way of doing their purpose. Alginate and chitosan are examples of polymers frequently used as biomaterials. In this study, these two polymers are mixed to form hydrogel beads as possible drug delivery matrices for ampicillin. The study assessed the effects of the increasing concentrations chitosan on the swelling properties of the alginate Hydrogels hydrogels and the release profile of the ampicillin. Hydrogel beads were formed by dropping mixed solution with varying concentrations of alginate and chitosan (T=3:0; 2.75:0.25; 2.5:0.5; and 2.25:0.75 of % alginate: % chitosan) with 1% (w/v) of ampicillin into 0.2M CaCl2 solution. FT-IR spectroscopy confirms that crosslinking happened. The swelling properties of the hydrogels show that the addition of chitosan decreases the mobility resistance of the hydrogels, enhancing swelling properties. Although a trend was observed in the assessment of kinetic models of the drug release, where the addition of chitosan slows down the release rate of ampicillin, further tests are encouraged to draw a more accurate conclusion.

APPLICATION No.	PHI-16
AUTHOR(S)	**Roy Emmanuel A. Pineda, Olyn D. Desabelle, Mark Xavier E. Bailon (Research Adviser)**
ORGANIZATION	Philippine Science High School – Central Luzon Campus
TITLE OF INVENTION	**Poly (vinyl alcohol)-Calcium Alginate-Honey Hydrogels**

Hydrogels were prepared from poly (vinyl alcohol) and sodium alginate (60/40 ratio), added with different honey amounts (0%, 5%, 10%, and 15% honey w/w), and crosslinked through freeze-thawing, calcification, and 40 kGy gamma irradiation for potential wound dressing application. FTIR spectroscopy confirmed the presence of semi-interpenetrating polymeric networks of PVA and AG, and chain scission in irradiated samples, which exhibited poorer swelling and mechanical properties compared to those non-irradiated. Honey concentration was found to have no effect on the hydrogels' swelling and mechanical properties, and did not give antibacterial activity against *S. aureus*. An *in vivo* test was not performed.

APPLICATION No.	PHI-17
AUTHOR(S)	**John Henrieson R. Aromin, Ina Cheska U. Dizon, Aila Marie B. Estanislao,, Josephine Joy V. Tolentino**
ORGANIZATION	Philippine Science High School – Central Luzon Campus
TITLE OF INVENTION	**Isolation, Characterization, and Partial Identification of Seed – Borne Fungi in three mung bean varieties in the Philippines**

Mung bean is one of the cheapest yet major sources of protein that is propagated from seed and is the most widely distributed species among the six Asiatic wild Vigna accessions. The presence of seed-borne fungi in seeds greatly affects the crop yield of mung beans. This research targeted at isolating and characterizing seed-borne fungi in mung beans, specifically in V. radiata (Variety 1), V. radiata (Variety 2), and V. angularis (Variety 3). This research is limited to identifying the seed-borne fungi present in the three varieties aforementioned using morphological and cultural characterization as well as microscopic analyses of spores.

APPLICATION No.	PHI-18
AUTHOR(S)	**Christopher DS. Mordeno, Josephine Joy V. Tolentino**
ORGANIZATION	Philippine Science High School – Central Luzon Campus
TITLE OF INVENTION	**Evaluation of the Embryo-toxicity and Teratogenicity of Selected Chemical Hair Relaxer against zebrafish (Danio rerio) embryos**

Chemical relaxers or hair straighteners are used to manage hair coarseness and straightness which can pose health risks and possible toxic effects to humans. This study focused in assessing and evaluating embryo-toxic and teratogenic effects of hair relaxers on developing zebrafish embryos. The Fish Embryo Toxicity (FET) test was utilized to determine the toxicity and teratogenicity of zebrafish embryos. Percent mortality and percent hatchability were recorded after 12 and 24 hours post-treatment application (hpta). Results of the study showed significant embryotoxic and teratogenic effects on zebrafish embryos when treated with chemical hair relaxers of 1% concentration or higher.

APPLICATION No.	PHI-19
AUTHOR(S)	**MARIA YZABELL ANGEL V. PALMA**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**AirDisc Air Conditioning Technology**

Existing air conditioning units are based on a less efficient closed air conditioning system that use piston or rotary compressors, high pressure and low volume, dependent on harmful HFCs that are being phased out through the amended Montreal Protocol as agreed upon by nations. AirDisc Air Conditioning Technology offers a disc-shaped compressor based on low compression pressure and high volume of air molecules as refrigerant at very low energy consumption with all molecules, after heat removal, fully discharged into the room. This technology is based on a scientific fact that when a gas, including air, is compressed, it generates heat.

APPLICATION No.	PHI-20
AUTHOR(S)	**Shaira Marie Batalla, Dominic Casio, Julius Caezar Damo II, Martin Dohn Miranda, Martin Judd Puerto**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**Raspberry Pi-Controlled Mosquito Counter**

Government agencies and institutions are obligated to warn citizens of possible outbreak of mosquito-borne diseases in order to secure a healthy general public. Mosquito Counter is an automated warning device that aims to determine the possibility of an epidemic. Raspberry Pi is utilized to control the automation of the system. Meanwhile, MatLab, an image processing software, is used to count captured mosquitoes in the trap. By executing series of processes with the help of the hardware and software mentioned prior, the objectives were done.

APPLICATION No.	PHI-21
AUTHOR(S)	**Bruce Brandon C. Imperial, Cee Jay Z. Regala, Hannah Fenina Estrella, Kim M. Lo, Christian Nico B. Pilapil**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**POROUS ALUMINA-ZEOLITE EXHAUST FILTER**

The emission of carbon monoxide and hydrocarbons from automobiles is a growing problem not just for the environment but for public health as well. To address this issue, porous ceramic filters were created by incorporating alumina and zeolite slurry into polyurethane sponges. After testing using an automotive emission analyzer, results showed that the filters reduced CO emissions by 46% and HC emissions by 40%. Additionally, the filter is cheaper and easy to produce compared to other commercial filters. This innovation allows for a simpler and more effective method in reducing the emission of greenhouse gases in the atmosphere

APPLICATION No.	PHI-22
AUTHOR(S)	**Frances Dominique O. Caparanga, ReneeMarianne P. Bajamunde, Jethro V. Villafuerte**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**Preservation of Mature Coconut Water Using Zinc Oxide Nanoparticles**

Incorporating ZnO nanoparticles in MCW significantly extends its shelf life. Addition of 2.0 mg/L of ZnO nanoparticles was proven to be most effective in inhibiting microbial spoilage and in minimizing changes in pH and acidity. Shelf life of MCW was prolonged for up to 4 weeks of refrigerated storage. Meanwhile, 1.2 mg/L of ZnO nanoparticles was most effective in inhibiting browning. Addition of ZnO did not alter the sensory characteristics of MCW, resulting to acceptable scores in terms of taste, color, aroma, and over-all acceptability. ZnO nanoparticle can be an effective additive for the preservation of MCW.

APPLICATION No.	PHI-23
AUTHOR(S)	**Adrian Luis Sarmiento Alba, Rupert Ibarrientos Estor, Mikaela A. San Ramon**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**Methanolic Extracts of Unfermented Queen Pineapple Peels (Ananas comosus) as Potential Alpha-amylase Inhibitor for Type II Diabetes**

Commercial drug inhibitors, such as acarbose, are common remedy for Type II Diabetes, through the inhibition of α-amylase enzyme. However, commercial inhibitors cause dizziness, vomiting, and diarrhea. To counter this, researchers used queen pineapple peel methanolic extracts, containing phenolic compounds, as natural alpha-amylase inhibitor in place of acarbose. Various concentrations of extracts and acarbose were prepared in triplicates and were screened for absorbance. Statistical treatment of the data showed no significant difference between all of the samples, except concentrations of 2 mg acarbose and 0.5 mg extract. Therefore, queen pineapple peel extracts could serve as an alternative to commercial inhibitors.

APPLICATION No.	PHI-24
AUTHOR(S)	**Faye D. Espalmado, Zhaevi Isabel S. Mago, Martina Joanna A. Manuel**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**Synthesis of Graphene-Cuprous Oxide Conductive Film via Spray Pyrolysis**

As an event providing a platform for promising researches with economic potential, the competition opens opportunities for innovative ideas to be recognized. The study aimed to identify the best concentration ratios of the precursors for Graphene-Cuprous oxide (G-Cu2O), graphite oxide (GO) and copper acetate (Cu(Ac)2), in terms of the resistance of a synthesized conductive film, and deposit the G-Cu2O solution using a modified automated nebulizer spray pyrolysis system. The fabricated films contained the precursors in 3:5, 1:1, and 5:3 weight ratios of GO: Cu(Ac)2 respectively, wherein the films containing 3:5 and 1:1 weight ratios yielded the best conductive characteristics.

APPLICATION No.	PHI-25
AUTHOR(S)	**Glenn Paolo Morales, Jan Ailen Murillo, Ma Rojemicah Peralta**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**Oxidative Decolorization of Methyl Orange-Contaminated Water via Photo-Fenton Process**

Methyl orange is an azo dye used in the textile industry. However, its bulk use causes adverse effects on the environment. In this study, photo-Fenton process was used as preliminary step in treating methyl orange-contaminated water. It utilizes Fenton's reagent, a mixture of H2O2 and Fe2+ that generate hydroxyl radicals which degrades contaminants. Results showed that pH and [FeSO4] have significant effects in %DE. However, there's no significant relationship between [H2O2] and %DE. Additionally, interactions between pH, [FeSO4] and [H2O2] have significant effect on %DE. The decolorization of methyl orange treated using photo-Fenton demonstrates its efficiencies in treating contaminated wastewater.

APPLICATION No.	PHI-26
AUTHOR(S)	**Andrei Fryle I. Jaluague, Wanda Li An J. Narido, Edrian M. Octavo, Kent Benedict V. Pelonio, Ana Karina S. Tirao**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**Automated Coco Coir Insulated Egg Incubator**

Egg incubation is necessary to produce viable egg and bird meat products. Backyard poultry farmers, however, improvise egg incubators that yield low hatchability rates for bird eggs. An incubator was constructed to effectively incubate eggs using inexpensive materials. The performance of the fabricated and the commercial incubators was compared in terms of energy consumption, temperature fluctuation, and humidity maintenance. Results show that the shift in humidity inside the incubator and the temperature fluctuation is insignificant. The incubator simulates optimum incubation conditions in terms of temperature, and the energy consumption is significantly lesser than commercially proven incubators.

APPLICATION No.	PHI-27
AUTHOR(S)	**Marc Angelo Aquino Balce, Edrian Negrete Divinaflor, Doña Aurora Calvendra Leyretana, Alea Rezelle Paclibar Salting, Juchele Mhyene Balmaceda Sta. Isabel**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**GENI: Smart Solar-Powered and Piezoelectric Energy Harvester and Field Irrigator**

Conventional water pumps are essential in agricultural areas as they aid in the irrigation of rice fields. However, these require fuel and electricity which are costly materials especially for typical farmers. To address this problem, the researchers developed an ergonomic device that pumps water for rice fields using piezoelectricity and solar energy. It is comprised of several piezoelectric transducers, a solar panel, water pump, and PVC flaps all enclosed in a 95-Liter storage box. The results gathered from a field testing showed that the device produces a sufficient amount of energy to transport water to a higher elevation.

APPLICATION No.	PHI-28
AUTHOR(S)	**Cesar D. Alamil Jr., Paul Aldrin R. Curioso, Ramon Baltazar C. Herrera**
ORGANIZATION	PHILIPPINE SCIENCE HIGH SCHOOL – BICOL REGION CAMPUS
TITLE OF INVENTION	**Hypoglycemic Activity of *Canarium ovatum* Pulp Ethanolic Crude Extracts on Alloxan-induced Hyperglycemic Sprague Dawley rats**

The hypoglycemic activity of crude *Canarium ovatum* pulp was investigated in Alloxan-induced Sprague Dawley rats. Ethanolic crude extracts of pili pulp in 5%, 10%, and 20% concentrations were used. P-values showed significant differences in the rats' reduced blood glucose level treated with 5%, 10%, and 20% concentration. Unpaired t-test showed that there is a significant differences at 5% statistical level. Concluding that *Canarium ovatum* pulp has hypoglycemic effects on rats and is comparable to the commercially-produced medication, Glinbenclamide. Data obtained in this study can provide baseline information about the potential of pili pulp in pharmaceutical industry for anti -diabetic drug formulation.

POLAND

APPLICATION No.	PLN-01
AUTHOR(S)	**Jacek Sawicki, Robert Olbrycht, Paulina Byczkowska, Antoni Rzepkowski**
ORGANIZATION	Lodz University of Technology, Institute of Materials Science and Engineering
TITLE OF INVENTION	**Optomechatronic method for continuous inspection of abrasive blasting quality**

The previously conducted inspections consisted in evaluation of abrasive-blasted surface quality. Existing inspections take place after the surface treatment process has been completed, and furthermore they use contact measurements, which limits the applicability of the location and the environment conditions. The optomechatronic method of ongoing control of abrasive blasting that has been elaborated employs the innovative method of processed surface topography digitization. The method enabling quick and simple control over the quality of surface cleaning for subsequent stages of processing. The registration of results and location of the measuring point is also performed. The device has been fitted with audible and visual signal informing about incorrectly processed surface.

APPLICATION No.	PLN-02
AUTHOR(S)	**Sławomir Falkowicz, Renata Cicha-Szot, Anna Leginowicz, Krzysztof Labus, Maja Mroczkowska-Szerszeń**
ORGANIZATION	Oil and Gas Institute – National Research Institute
TITLE OF INVENTION	**Method of forming horizontal insulating barriers in water bearing zones**

The aim of the invention is forming environmentally friendly horizontal isolating barrier in the shallow aquifers using trenchless technology. In one run, using single tool, colloidal sodium silicate solution and below carbon dioxide as a gelling agent are injected into aquifer. Lifted by buoyancy forces CO2 encountering silicate solution decrease its pH triggering gelation process. As a result impermeable barrier of expected shape is formed. Moreover, the time of barrier forming is in 100% controlled by the operator and shape of the barrier is achieved by the pulse injection system.

APPLICATION No.	PLN-03
AUTHOR(S)	**Sławomir Błaż, Małgorzata Uliasz, Grzegorz Zima, Witold Leński, Grzegorz Szubra**
ORGANIZATION	Oil and Gas Institute – National Research Institute
TITLE OF INVENTION	**Invert drilling fluid**

The subject of the invention is the invert drilling fluid for application in borehole drilling in difficult geological conditions and particularly drilling through argillaceous and shale rock formations, salt rock and deposits with acid gas where it is not necessary to add calcium compounds or carboxylic acid to the water phase to maintain stability. Outstanding lubricating properties of the invert drilling fluid enable directional and horizontal drilling, permitting reduced torque and friction resistance. The invert drilling fluid facilitates drilling at higher speeds, extends the drill`s lifespan and reduces the adhesion of the drill string to the filter cake on the borehole walls.

APPLICATION No.	PLN-04
AUTHOR(S)	**Barbara Gaździk, Leszek Ziemiański, Michał Pajda, Stefan Ptak, Wojciech Mazela**
ORGANIZATION	Oil and Gas Institute – National Research Institute
TITLE OF INVENTION	**Paraffin inhibitor for crude oil**

The invention relates to paraffin inhibitor, which introduced into the crude oil containing high molecular weight paraffins and asphaltenes, effectively prevents paraffin sediments on the machinery working in wellbores, transmission pipelines and reservoirs, securing their trouble-free operation. Paraffin inhibitor according to the invention, additionally lower the viscosity, pour point and cloud point of the crude oil, and also shows the anticorrosion properties, protecting pipes against corrosive agents. It is clear, high flash-point and low viscosity liquid in a wide range of temperatures from –30°C to +55°C. It can be dosed continually into machinery working in wellbores and transmission pipelines in the amount of 125-750 ppm (by weight)

APPLICATION No.	PLN-05
AUTHOR(S)	**Wojciech Krasodomski, Wojciech Mazela, Leszek Ziemiański, Grażyna Żak, Michał Pajda**
ORGANIZATION	Oil and Gas Institute – National Research Institute
TITLE OF INVENTION	**A process of waste sulfuric acid purification**

The present invention relates to the process of waste sulfuric acid purification and is characterized in that, that the waste sulfuric acid, which is a waste product of the process of esterification of aliphatic alcohols and / or polyalcohols by nitric acid, carried out in the presence of sulfuric acid, are contacted in a continuous process with an oxidizing agent fed into a stream of superheated steam counter-current, directed to the waste sulfuric acid and after the purification process is obtained the purified sulfuric acid and the reaction residue in the form of the waste gas.

APPLICATION No.	PLN-06
AUTHOR(S)	**Katarzyna Rusek, Maciej Rys, Szymon Skarzynski, Przemyslaw Bujna, Dawid Jasiczek** **Tutors: Barbara Halska, Jerzy Maduzia**
ORGANIZATION	THE JOHN III SOBIESKI SECONDARY SCHOOL NO 6 IN JASTRZEBIE-ZDROJ
TITLE OF INVENTION	**SAFE RAIL SYSTEM (SRS)**

Safe Rail System (SRS) is the platform created with combination of internet site (HTML 5.0, CSS, Bootstrap, PHP 5, JavaScript and MySql) and application (Android - Java, IOS - Swift). This project is created on request and with cooperation of Jastrzębska Spółka Kolejowa(JSK- the biggest coal company in Poland) and the main goal for this project is to improvement safety and simplify work to all workers in Railway Company. This is possible because of failure report system and checking all statistics open database, so that will improve work of all staff members. This system also has fully features admin panel that can announce technicians right to a failure place. In future will be added a system of rails monitoring and all 16 modules. Additional features of SRS are mobility and collaborating with Android and IOS systems. Technology used in this project are HTML 5, CSS, Bootstrap to front-end, JavaScript, PHP and MySql to back-end , Java to create an application for Android and also Swift which is use to make application for IOS system.

APPLICATION No.	PLN-07
AUTHOR(S)	**Szymon Wojakowski, Piotr Miroslaw, Krzysztof Olszok, Franciszek Jaskulski Tutors: Ewa Maduzia, Lidia Gajdzik**
ORGANIZATION	THE JOHN III SOBIESKI SECONDARY SCHOOL NO 6 IN JASTRZEBIE-ZDROJ
TITLE OF INVENTION	**CubeR - Rehab Cube supporting rheumatoid diseases**

CubeR - project for people with rheumatoid diseases, who need hand rehabilitation. In addition, cube could contribute to better stimulation of the brain cells by learning and repeating logical sequences of moves and colors. CubeR consists of two elements. The first is the cube modeled on the Rubik's cube. However, it is slightly larger, so that it engage whole hand while solving, not just a single fingers. Specially designed massage cushions are intended to improve blood circulation. Further our cube is filled with flax seeds, so that after heating it on a radiator or microwave the cube will remain warm for some time, which is additional support for the receptors stimulation. The second element of the project is an Android app, which in a simple, visual way, step by step learns how to solve the cube. It is adapted both for the elderly and the very young users. Intuitive user interface and simple instructor's commands will make your learning process easier and pleasant. All CubeR's elements have been designed from scratch in the 3D graphics program, and then printed using a 3D printer. The app has been also created by us, and it is available to download for free from Google Play Store.

APPLICATION No.	PLN-08
AUTHOR(S)	**Piotr Bujna, Jakub Kaj, Agata Wajda, Krzysztof Olszok, Szymon Wojakowski, Damian Osiak Tutors: Marcin Lasak, Krzysztof Smyczek**
ORGANIZATION	THE JOHN III SOBIESKI SECONDARY SCHOOL NO 6 IN JASTRZEBIE-ZDROJ
TITLE OF INVENTION	**ISEPT- Innovative System for Education and Phobias Treatment**

ISEPT platform is an innovative two-module design. It is based on the technology of virtual reality. It is a rapidly growing technology that allows minimally invasive transfer into the virtual world by using a correspondingly adapted goggles. "Morpheus" is the first element of this project. It is very advanced, giving the incredible opportunities in the fight against human weaknesses. This product was built from scratches, based on a high performance graphics engine that cooperates with VR technology, providing the possibility of a high emotional relationship which is crucial in the fight against a certain fear. Its aim is to help in taming some of the most common varieties of phobias by user's interaction with the virtual world. "Get to know the energy" is another element of the ISEPT. It supports learning issues in the field of electrical engineering. This is a series of animations in the virtual world which in an easy way shows difficult to imagine knowledge and allows a closer look at what you cannot see with the naked eye. Thanks to that, one can easily revise the material, which is presented by the "Elektronek" - a character who accompanies us throughout the entire journey through the microscopic world. The surround sound introduces an appropiate atmosphere and it allows us easily to locate "Elektronek" who helps us to move into the virtual reality.

APPLICATION No.	PLN-09
AUTHOR(S)	**Fire and Research Centre for Fire Protection**
ORGANIZATION	-
TITLE OF INVENTION	**"RAT-if" - Risk Assessment Toolbox at Hazardous Industrial Facilities Posing a Threat Outside their Area**

"RAT-if" is an advanced TI-tool operating on the basis of so called "computing cloud" using the models with practical application in planning of land development, in the context of maintaining so called "safe distance" form industrial facilities to neighboring facilities and areas. RAT-if will perform full risk analysis and assessment, in terms of occurrence of emergency event, including input and output data, components and data base. Geographic features and other information related to numerical map play a key role in the system. The RAT-if software is implemented with selected numeric methods of soil contamination spreading, contamination impact in water environment, threshold conditions for pollution of water environment and created data bases, allowing for maximum enhancement of the process of conducting risk analysis.

APPLICATION No.	PLN-10
AUTHOR(S)	**bryg. dr hab. inż. Dariusz Wróblewski**
ORGANIZATION	Centrum Naukowo-Badawcze Ochrony Przeciwpożarowej im. Józefa Tuliszkowskiego Państwowy Instytut Badawczy
TITLE OF INVENTION	**The concept of the rescue system in the long term**

Monograph is the identification, analyse and assess key factors which affect the rescue system in Poland and to determine the changes in the long term. The main final effect of the research is the concept of the rescue system in the long term, complemented by recommendations formulated in the summaries of the chapters and subchapters of the publication. Studies in the publication revolve around the search for an answer to the most important question which is: how should the rescue system be changed and what shape should it take in 2030? In order to answer this question, we must: describe the environment in which the system should operate and the challenges it will face in order to make a diagnosis of the existing state, and then formulate a strategic vision for the rescue system. Author assumed that the rescue system in its current form, which is an tool used to restore public safety, may not be sufficient to ensure smooth development of individuals, communities and the country. Therefore, there is a need to develop a new concept of the rescue system, which would be adequate to the vision of Poland in 2030. In addition to the above hypothesis – due to a rapidly changing civilized environment and, therefore, the need to ensure an acceptable level of security that allows unimpeded development of individuals, communities and the country under the set directions – it has been assumed that the future rescue system should be based on the national fire and rescue system which should undergo changes in an evolutionary-adaptive manner, taking into account such factors as: formal and legal as well as socio-economic determinants, availability of human and social capital, as well as improving the use of safe and functional technology and new media for public safety and the rescue system, to diagnose and design public safety and an adequate rescue system, effective use of research, development and implementation of innovative solutions for safety, training and education.

APPLICATION No.	PLN-11
AUTHOR(S)	**Edward Sobczyński, Witold Jędrychowski**
ORGANIZATION	Poltegor-Instytut Instytut Górnictwa Odkrywkowego
TITLE OF INVENTION	**Fire signaling system of fundamental opencast mining machinery**

Subject-matter of the invention is fire signaling system of fundamental opencast mining machinery, which task is to detect a fire in fundamental machinery automatically, at the early stage, and to notify operating personnel on imminent fire hazard. This system is characterized by additional isolated monitoring subsystems, connected to other control inputs of the central unit, created pursuant to adopted criteria referring to existing operating conditions in areas not accessible during operations in process rooms, conveyor routes and moving parts of machines, at variable temperatures, between 248K and 358 K. This innovative fire signaling system is enabling full fire protection of fundamental opencast mining machinery, including both machinery room and process rooms, belt conveyors, and moving parts of machines, operated under ambient conditions similar to outdoor conditions. As compared with other systems, this system is characterized by additional isolated monitoring subsystems, , connected to other control inputs of the central unit, created pursuant to adopted criteria referring to existing operating conditions in areas not accessible during operations in process rooms, conveyor routes and moving parts of machines, at variable temperatures.

PORTUGAL

APPLICATION No.	PRT-01
AUTHOR(S)	**Fernando Maldonado Lopes**
ORGANIZATION	INVENTARIUM-SRD Security, Research & Development
TITLE OF INVENTION	**JET4BATON**

Tactical batons for professional uses, with incorporated Red Pepper or Tear Gas canister ™, and "Front Impact Shock Absorber System"™; extra protection for police and military personnel in crowd control situations. There is no maintenance required and uses all defense Sprays OC/CS, effective in a second.

QATAR

APPLICATION No.	QTR-01
AUTHOR(S)	**Professor Muhammad Abdul Aziz Al Baker**
ORGANIZATION	INVENTARIUM-SCIENCE
TITLE OF INVENTION	**Al Quds Watch For Peace**

The new luxury watch for peace. It collects between Islam, Christianity and Judaism. New technologies are invented in this watch. The first technology in the world which leads to watch damage in case it is being opened except our company for quality reasons. New technology which don't allow any scanning system to view what is inside it. The watch battery can be charged once every 20 years for 10 minutes with certain charger. Indicators for phone calls and messages since it is connected directly to the phone by Bluetooth. Fasting time Indicator for Muslim, Christians and Jewish.

APPLICATION No.	QTR-02
AUTHOR(S)	**M. Salim Ferwati, Arezou Shafaghat, Ali Keyvanfar**
ORGANIZATION	Qatar University, Iran University of Science and Technology (IUST), Universidad Tecnológica Equinoccial
TITLE OF INVENTION	**ZERO-ENERGY COOLING PANEL**

Zero-Energy Cooling Panel is a building ventilation sandwich panel which perform passive cooling function. It can reduce indoor ambient temperature without an additional energy. Natural nano-based material has resulted in artificial thermal gradient that act as a thermal diode. Zero-Energy Cooling Panel is sandwich panel construction technology. The wall has been designed to be used as open building system (or Industrial building system) construction element. It has been developed for a multifunctional purpose. Cooling wall designed to perform architectural function as well as passive cooling duties. Natural Nano based material has been utilized to introduce artificial thermal gradient, as first introduction of thermal diode in body of knowledge. The final product is reducing indoor ambient temperature without energy consumption. The product is very suitable in hot (dry and/or humid) climate region. The product was partially funded by NPRP grant no. NPRP 5-074-5-015 from the Qatar National Research Fund (a member of Qatar Foundation).

ROMANIA

APPLICATION No.	ROM-01
AUTHOR(S)	**Marin RADU, Florica RADU, Valentin RADU, Daniela RADU, Florian CIOROIANU**
ORGANIZATION	Centrul de Cercetare pentru Materiale Macromoleculare si Membrane S.A. (CCMMM)
TITLE OF INVENTION	**MEMBRANE ELECTRO-CATALYTIC SYSTEM AND PROCESS FOR OBTAINING FUEL GAS**

An electro-catalytic membrane system for preparing fuel gas from water operates at normal levels of pressure and temperature. The system includes a high frequency power source, a power supply system, a programmable control unit, an electro-catalytic membrane module, and a module for processing the fuel gas. The electro-catalytic membrane module includes metallic electrodes in a concentric arrangement. The space between the electrodes includes granular carbon and metallic particles. A fixed membrane is arranged at a lower end of the space while a mobile membrane is arranged at an upper end of the space. A system for cooling the electrodes is provided.

APPLICATION No.	ROM-02
AUTHOR(S)	**Constantin ROIBU, Nicolae-Radu OLARU, Dumitru-Ioan HANCU, Victor DRASOVEAN, Marin RADU**
ORGANIZATION	Centrul de Cercetare pentru Materiale Macromoleculare si Membrane S.A. (CCMMM)
TITLE OF INVENTION	**PROCESS FOR OBTAINING THERMAL ENERGY BY THE COMBUSTIONOF HYDROGEN IN ADMIXTURE WITH CARBON OXIDES, NITROGEN OXIDES AND/OR SULPHUR OXIDES AND INSTALLATION FOR THE APPLICATION OF THE PROCESS**

The subject-matter of the invention is a process for obtaining thermal energy by the combustion of hydrogen in admixture with carbon oxides, nitrogen oxides and/or sulphur oxides in the presence of a magnesium catalyst and an adequate installation for the application of this process. The process is based on the reaction between hydrogen and oxygen with the formation of water and the spontaneous release of the atom of carbon, nitrogen and/or sulphur, the thermal energy obtained by this process being well controlled in a simple, reliable, efficient and highly secure installation which may contribute to substantially lowering the emissions.

APPLICATION No.	ROM-03
AUTHOR(S)	**Marin RADU, Liliana Viorica PASARE, Vasile TIRON, Florica RADU, Mariana GEORGESCU**
ORGANIZATION	Centrul de Cercetare pentru Materiale Macromoleculare si Membrane S.A. (CCMMM)
TITLE OF INVENTION	**INTEGRATED TECHNOLOGY FOR THE PREPARATION OF ECOLOGICAL COMPOSITE ASPHALT MIXTURES, WITH ADDED PRODUCTS OBTAINED BY PROCESSING INDUSTRIAL WASTES, TO APPLY FOR PERFORMANT ROAD STRUCTURES**

Asphalt mixtures preparation technology which is performed hot at a temperature of 165-170 0C, using a mobile station, located close to the site established for road construction, by direct mixing of components (mineral aggregates, bitumen and additives obtained from industrial wastes: high density polyethylene, synthetic rubber – α-methylstyrene-butadiene copolymer, sulphur, metallurgical slag, polyacrylonitrile fibers, cationic polyelectrolytes), in a mixer fitted with accessories for dosing and introducing components, providing increased strength and durability characteristics. The technology provides a mixture with a water permeability greatly reduced. The water absorption degree is within the range 0,18-0,57% as against the acceptable range of 2-6%.

APPLICATION No.	ROM-04
AUTHOR(S)	**Kamel EARAR, Andrei Victor SANDU, Mădălina Nicoleta MATEI, Ion SANDU, Ioan Gabriel SANDU**
ORGANIZATION	Romanian Inventors Forum
TITLE OF INVENTION	**Ecological Mouthwash**

The invention refers to an ecological mouthwash made of 100% natural ingredients. It has no side effects and can be used by pregnant woman or children.

APPLICATION No.	ROM-05
AUTHOR(S)	**SANDU ION, CANACHE MARIA, ŞTIRBU CĂTĂLINA MIHAELA, ŞTIRBU ILIE CĂTĂLIN, SANDU ANDREI-VICTOR, CHIRAZI MARIN, VASILACHE VIORICA**
ORGANIZATION	Romanian Inventors Forum
TITLE OF INVENTION	**Artificial Hallochamber**

The inventions relates to 3 types of artificial halo chamber for multiple users. According to the invention, the halo chamber consists of a dry chamber with ionized windows with UV filters, provided on the door wall with a blower with reversed action wherein there is placed a fan, which, through a cellulose textile material achieves the suction of the air into the chamber, conditioned at a relative humidity of 60...65% and a temperature of 20...22°C, and sends it to the discharge zone where can be a heat exchanger.

SAUDI ARABIA

APPLICATION No.	SAU-01
AUTHOR(S)	**Wesal mohammedtawfeeg mostafa madani**
ORGANIZATION	Umm Al Qura University
TITLE OF INVENTION	**APPARATUS AND METHOD FOR THE GENERATION OF ELECTRIC ENERGY FROM NOVEL NANOGENERATOR AS A THIN TAPE**

The invention is new methods to fabricate an unique nanogenerators, then use this nanogenerators in a thin, transparent tape to generate electric energy and to rationalize the consumption of electric energy, that placed on the floor in any crowded place or buildings as Schools, universities and airports. when anyone walk on this tape, the tape will be generate an electric field uses a variation of pressure and surface temperature come from peoples walk . After that, the tape should be connected to a charging/discharging board to store electric energy for later use.

APPLICATION No.	SAU-02
AUTHOR(S)	**Prof. Dr. Najia Abdulkhalig Al-Zanbagi**
ORGANIZATION	King Abdulaziz University (KAU), Highly Innovative Unique Foundation (HIUF)
TITLE OF INVENTION	**ZNgagi, A combination for getting rid from head lice**

A specific combination for the elimination of head lice, it consists of some effective natural oils adding with the presence of a preservative material. This special combination is added to the wet hair and left for three hours as a maximum period, then hair will be combed with fine comb and it will be free from lice and their nits.

APPLICATION No.	SAU-03
AUTHOR(S)	**Prof. Dr. Najia Abdulkhalig Al-Zanbagi**
ORGANIZATION	King Abdulaziz University (KAU), Highly Innovative Unique Foundation (HIUF)
TITLE OF INVENTION	**CooZn, for healthy and soft skin**

Natural mixture contains active ingredients to maintain the health and smoothness of human skin. It composed from *Indian Costus* oil, olive oil and the concentrated oil of *Boswellia Carterii* which preserved in natural wax with smell of natural flowers. It can be used for all ages and in all areas of the body including the face. Preferably not exceeding used for a maximum of twice a day.

APPLICATION No.	SAU-04
AUTHOR(S)	**Prof. Dr. Najia Abdulkhalig Al-Zanbagi**
ORGANIZATION	King Abdulaziz University (KAU), Highly Innovative Unique Foundation (HIUF)
TITLE OF INVENTION	**RCT "Refill Car Tires"**

A specific technique to refill the car tires without need to go to the tires mobilization station. It is depend on checking the air pressure in tire and show its state in the car screen, so the driver can fill it by pressing the key which has directly contact with the air pump 'that will added to the car kit under the hood' and the tire will be filled. During this process the car should be stopped.

APPLICATION No.	SAU-05
AUTHOR(S)	**Prof. Dr. Najia Abdulkhalig Al-Zanbagi**
ORGANIZATION	King Abdulaziz University (KAU), Highly Innovative Unique Foundation (HIUF)
TITLE OF INVENTION	**ZnECOLi (cream for skin itching)**

A Specific combination of natural materials found in a natural soft cream for cosmetic purposes to treat skin itching and inflammation caused by microbes infections, it placed on the affected skin in very light layer and leave for 24 hours to show the result of effective use, it can be used as much as the skin need.

SUDAN

APPLICATION No.	SUD-01
AUTHOR(S)	**ABDALBASIT IBRAHIM ADAM ABDALLA**
ORGANIZATION	AMRICAN UNIVERSITY(A U)
TITLE OF INVENTION	**The smart stick for sight impaired individuals**

The smart stick is a very useful tool for the individuals with sight impairment. The stick is designed to solve three major problems, objects and obstacles alarming, calling for help if needed, and alarming system in case that the stick is lost. There are several important parts that make the components of the device, monitor screen, the virtue of message and notifications, the acoustic alarm and vibration, alarming whistle, in addition to sensors for low and high objects. This innovation is absolutely useful, comparing with the old technology that available now, and it found to be reliable, and cost effective.

APPLICATION No.	SUD-02
AUTHOR(S)	**Muhammed Hussein Baryr**
ORGANIZATION	OMDURMAN ISLAMIC UNIVERSITY
TITLE OF INVENTION	**The M7 Rays**

It is anew type of Rays that use to discover the nuclear map inside the virus. The m7 rays help us to descover the nuclear maps of viruses as well as to know the types of energy used by the virus it self becuase there could be types of radiation used by the virus to predict the genstic codes of cells of the human body it can be said that the virus may have acertain type of radiation that makes it predict the genetic code of cells. And it is very clean to use energy because it is using the electric power

APPLICATION No.	SUD-03
AUTHOR(S)	**KHEDER HAMED GALLAB MUSE**
ORGANIZATION	General Union of Sudanese Inventors
TITLE OF INVENTION	**System to use Solar Energy in Agriculture**

This is a sophisticated Farming System which uses Solar Energy Unit installed on a Farming Machine. The Solar Energy Unit consists of a Solar Panel, a Control room, Batteries Switches Control Board, Security Alarm and external Charging Stations . The Farming Machines depends on the Solar Energy Panel to Provide it with Electrical Energy. After the Solar Energy is converted to Electrical Energy in the Control Room. The Farming Machine also depends on a number of switches to complete its work.

TAIWAN

APPLICATION No.	TWN-01
AUTHOR(S)	**SHIH YANG LUNG**
ORGANIZATION	National Taipei University of Nursing and Health Sciences
TITLE OF INVENTION	**3D Magic Twisty Toy**

Traditionally, the combination toys are to stack or embed it, but it is not firm and it is easy to break by the external impact. Furthermore, it is not user-friendly. The user cannot twist it easily. Thus, the improvement is to use the fishing line to run through the toy, so that the user can twist it faster and enjoy the puzzle more. 3D Magic Twisty Toy is a high intelligence new toy, not only inspire the user's creativity of 3D models, also encourage the imagination and the observation from the process of playing puzzles. One 3D Magic Twisty Toy can be created into hundred kinds of different shapes such as bird, giraffe, duck, turtle, even an ostrich, basket and cross. Having more than 2, the models can be created more. Are you ready for the brainstorm?

APPLICATION No.	TWN-02
AUTHOR(S)	**SHIH YANG LUNG**
ORGANIZATION	National Taipei University of Nursing and Health Sciences
TITLE OF INVENTION	**Electrically Heated Welding Torch with Stepless Welding Power Adjustment**

1. Generally, the welding power of the electrically heated welding torch is divided into 30W, 40W, 50W and 60W. For example, the electrically heated welding torch used in 60W when in factory. If the user needs in 30W, one way is to buy the other 30W one. The other way is to exchange the heating apparatus. It's very inconvenient to dismantle and exchange the components of the electrically heated welding torch.
2. The main idea of ELECTRICALLY HEATED WELDING TORCH WITH STEPLESS WELDING POWER ADJUSTMENT is to install and built-in PC boards and controller which could be able to adjust the weld power. For example, originally, the worker uses the electrically heated welding torch in 60W. By using this modified invention, the worker could freely use the electrically heated welding torch in any wattage that he/she needs.
3. This invention could freely adjust the welding power you need when you use the electrically heated welding torch. Without replacement and save time. Greatly improve your work efficiency.

APPLICATION No.	TWN-03
AUTHOR(S)	**SHIH YANG CHEN**
ORGANIZATION	DUNHUA JUNIOR HIGH SCHOOL
TITLE OF INVENTION	**The Simple Horizontal Bar**

The horizontal bars are usually firmly placed in the playground or park and the lowest height is about 155 cm (5.1 ft.). For kids, it is difficult and insecure to use it themselves. Once when I was exercising in the park, I saw the parents holding and raising the kids up to reach the horizontal bar, the distance from the ground is at least 30 cm, it could cause a danger if the parents carelessly loose the hands or the kids jump down accidently. For protecting kids' safety and using it fewer limitations, I invent The Simple Horizontal Bar which is adjustable, moveable and storable.

THAILAND

APPLICATION No.	TLD-01
AUTHOR(S)	**Kawin Leephakpreeda**
ORGANIZATION	Harrow International School Bangkok
TITLE OF INVENTION	**Hydro-vacuum sealer**

The hydro vacuum sealer is a device used to expel air from zip-lock bags without the usage of electricity or any types of fuel. A key property of liquid pressure is used to constrict zip-lock bags and expel unneeded gasses. Vacuum sealed food storage lowers the rate of food spoilage thus allowing people to plan flexibly when packing food. This home appliance is free to operate after purchase. The simple nature of the device allows for the ease of production and would make vacuum sealing accessible to more people groups.

APPLICATION No.	TLD-02
AUTHOR(S)	**Mr.Prachoom Khamput, Acting Captain Dr.Kittipong Suweero, and Mr.Thawatchai Ariyasutthi**
ORGANIZATION	Rajamangala University of Technology Thanyaburi
TITLE OF INVENTION	**Light-weight Construction Materials Mixed with Plastic Wastes for Energy and Environmental Conservation in Green Buildings**

This invention is the high performance concrete materials which mainly produced from industrial plastic wastes, especially the EVA plastics. The heat abrasion, modified polymer and binding additive technologies were used to qualify the plastic wastes to the light-weight aggregates for mixing in concrete materials. These construction materials include the precast concrete walls, concrete blocks, interlocking blocks, paving blocks, and ceiling boards which verified by the Thai industrial Standards. Moreover, these materials can get the special properties such as weight 690 kg/m^3, falling from a height of 2.5 meters without cracking, cutting by saw, fire resistance, good thermal and sound insulation.

APPLICATION No.	TLD-03
AUTHOR(S)	**Dr. Nasapon Povichit, Dr. Yohji Ezure**
ORGANIZATION	Detox(Thailand) Co., Ltd.
TITLE OF INVENTION	**RELAX CREAM : Water Soluble Curcuminoids for Anti-Osteoarthritis**

Curcumin, the major biological active substance found in Curcuma longa, exhibits many biological activities such as antioxidant, anti-inflammatory, antidiabetic, antifungals, anti-carcinogenic effects, and hepatoprotectives. However, the potential of curcumin in treating various diseases is limited, mainly owing to their bioavailability and poor stability especially in alkaline condition (0.0004 mg/mL in water at pH 7.3). This innovative formulation of curcuminoids consists of water soluble curcuminoids and water insoluble curcuminoids, where water soluble curcuminoids are microsize or nanosize micelle of curcuminoids. Therefore pancreatic lipase inhibitors can be preferably applied to the basic formulations and the improved formulations to protect the micelle decomposition by pancreatic lipase in the intestine.

APPLICATION No.	TLD-04
AUTHOR(S)	**Witraporn Pimpla**
ORGANIZATION	Blessed Products of Asia Co., Ltd.
TITLE OF INVENTION	**Certified Organic Kids' Chocolate Toothpaste**

Certified Organic Kid Chocolate Toothpaste has been invented by the inspiration of chocolate favorite. This unique organic toothpaste does not have any detergent agent, no fluoride, no artificial color and artificial fragrant. Pure cacao powder has been used as medicinal ingredient since ancient times, however, never used as toothpaste. The invention utilizes the benefit of pure organic cacao powder and Thai herb extract to act as bacteria killer and maintain healthy condition for kids' teeth, oral and gum.

TURKEY

APPLICATION No.	TKY-01
AUTHOR(S)	**Arshia Alaie**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Electrical Hospital With Me (EHWM)**

The mobile electronic hospital device is a watch that, in addition to the performance of conventional watches, has other capabilities, including checking vital parameters of the patient's body in different situations. This device is capable of detecting vital parameters of the body, and if it detects that the parameters (temperature and pulse) are out of range, it quickly contacts the emergency room and the sound goes to the speaker, so the operator can receive the patient's initial GCS. Additionally, the patient's exact location will be sent to the nearest relief center along with his medical records. The patient's medical record is editable only by a doctor with a medical code, and ordinary people only have the ability to view part of the case.

APPLICATION No.	TKY-02
AUTHOR(S)	**Maral Asnaashari**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Refractometer**

A refractometer is a system for measuring the refractive index of liquids. In this design, we obtain the refractive indices of liquids and various solutions by measuring the limit angle. For this purpose, the laser light is shifted to the medium containing the solution and simultaneously the air cell (diluted medium) is rotated by a stepper motor with a precision of half a degree, so that by passing the laser light from the soluble medium (thick medium) and the disappearance of the angle of deviation measured and the refractive index is obtained.

APPLICATION No.	TKY-03
AUTHOR(S)	**GHAZAL AZADI, MOBINA NAZARI**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Design and construction of sewage treatment system using nanoarticles**

One of the consequences of the industrial world and the modernization of the present life is environmental pollution. Industrial sewage, which is the product of technological advancement in industry, imposes its harmful effects on the water and soil environment on a daily basis. In our country, with more than 550 industrial towns, there are currently only 50 industrial towns with a well-functioning refinery, and if the ongoing drainage of industrial and municipal wastewater is ongoing, even underground water reservoirs that are already important The most common sources of drinking water for people in most areas are contaminated and because of the high cost of their treatment, re-use of groundwater is no longer affordable. Various methods have been used for water purification including chemical separation, filtration, electrochemical purification, reverse osmosis and surface absorption, but have high startup costs and timeliness. In this project, we designed and developed a system based on the process of coagulation and flocculation using nanoparticles, which enables us, with very little raw material, in the small volume, to have the highest efficiency in coagulation and flocculation of wastewater. Also, the amount of sludge produced in this method is much lower than other common methods.

APPLICATION No.	TKY-04
AUTHOR(S)	**Parsa farrokhi, Mohammad ali farrokhi**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Rebar spacer for concreting in concrete structure**

As you know, construction of reinforced concrete structures is used in combination of reinforcement and concrete, and in the precise execution of structures, the intervals of reinforcement are one of the important parameters of the resistance and strength of the structure. In this method, concreting begins by creating holders with fixed intervals and then molding, in practice, this retaining base prevents the formation of unwanted forces in the structure while maintaining the reinforcement in the concrete.

APPLICATION No.	TKY-05
AUTHOR(S)	**Dr. Afsoon Saeidi, Mehran Khavasi, Hamzeh Mirzaei**
ORGANIZATION	Barman Electronic Company (TRBE)
TITLE OF INVENTION	**The Flame Detector using different wavelengths of light**

-Design based on the analysis of different wavelengths of flames.
-Suitable body for placement within the heater cavity.
-Adjustable for different flame radiations
This product was manufactured in 2016 and sold to 2 industrial companies. Oil and gas companies, industrial companies are buyers this products. It is expected until next year, 2000 of it will sell to private buyers and 500 units to government buyers.

APPLICATION No.	TKY-06
AUTHOR(S)	**Yazdan Ghalavand, Kian Arabi**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Dense Delta Claw**

This project (Dense Delta Claw) is, in fact, an idea of nature inspired by the chameleon tongue; tip of the tongue of this crawler has dense muscles used to hunt insects, so that these muscles are very soft before hunting and they are easily formed, but when it reached the prey, the insect falls into the soft tongue and the tongue forms the insect's shape , and then the muscles begin to shrink and the insect gets stuck in the tongue; dense claw works exactly with this system, and its components are sand, suction pumps, soft plastic shells.

APPLICATION No.	TKY-07
AUTHOR(S)	**Parmida Sadat Ghorani**
ORGANIZATION	Solaleh High School
TITLE OF INVENTION	**3D printed casts for fractured bones with Transcutaneous Electrical Nerve Stimulator devices to reduce the time of treatment**

Wrist fracture to a bone fracture near the wrist, radius and scaphoid bone in particular is said. Children taking part in a high-risk exercise more than other age groups are fractured wrist. Other segments of society may also be fractured wrist. Given that there are different kinds of fractures after the incident that led to the fracture of normal life due care remains open to improvement. Given that in some cases the individual fracture should be immobilized've cast our team decided to design using three-dimensional printer that has overcome previous problems plasters as well as new features such as physical therapy along with welding process eating to reduce the duration of convalescence benefit.

APPLICATION No.	TKY-08
AUTHOR(S)	**Alireza Hajibad, Hosein reza Falah**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Vermicompost Production and Breeding Device**

Today, one of the most important pillars of human life is foodstuffs. With the increase in population and the decline of farmland, mankind is constantly forced to consume more chemical fertilizers. Perhaps the disadvantages of these fertilizers are not visible at the moment, but in fact, over the years, their harmful effects are characterized. Genetic disorders, hormonal disorders and many human diseases and problems are rooted in the diet. We can say surely that Vermicompost is one of the cleanest and safest available fertilizers available for agriculture. This fertilizer that is without any harmful fertilizers is suitable for farmers. This fertilizer is far better than animal fertilizers because animal and human fertilizers carry dangerous diseases and also has healthy seeds used by the livestock that create weeds, and ultimately reduces the efficiency of the yield; Vermicompost has not this problem. However, the production of vermicompost does not yield due to the production of a particular type of earthworms in very cold and very hot seasons. Regarding this issue, we wanted to create an environment that would make it possible to produce this fertilizer in all seasons without regard to cold or warmth.

APPLICATION No.	TKY-09
AUTHOR(S)	**Mahsa Hanife, Zahra Garoosi**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Designing and layout of fluid conductivity**

This project is based on a circuit based on the Wheatstone bridge circuit or the simplified Tar bridge. The flow is applied to the circuit. The flow is applied to the circuit. When this circuit is in equilibrium, it can be measured using the rules of the Tar bridge and Wheatstone bridge and the relation of the specific resistance with conduction. This device is very precise and very useful. This device is used in various industries such as food industry and laboratories.

APPLICATION No.	TKY-10
AUTHOR(S)	**Dr.Farzad Ayoobzadeh, Dr.Afsoon Saeidi, Hamzeh Mirzaei, Mehran Khavasi**
ORGANIZATION	Barman Electronic Company (TRBE)
TITLE OF INVENTION	**High Frequency X-ray Digital Generators**

This generators are in the field of electrical and electronic. The problem of generators in the hospitals is that they are using an old technology. Because of the direct use of city's electricity (50 Hz), to produce high voltage to accelerate electrons and X-rays, ripple factor of ray increase and reduces produced image quality also using of 50 Hz frequency causes increase the physical size of components and transformers, as a result, the generator and in places with space limitations, possibility of using and installation is very difficult. In addition, these generators Because of the old technology, lack of modern microcontrollers and standard communication modules, it is not possible to connect to computer for digital radiography DDR. And in this condition that the technology of using radiology film in country is going to the transition to digital radiology systems, has intensified problems of this changing technology.

APPLICATION No.	TKY-11
AUTHOR(S)	**Fatemeh Azhdari, Mojtaba Alavinezhad, Morteza Alavinejad,Mohsen Kojouri, Monireh Ghazipour**
ORGANIZATION	Barman Electronic Company (TRBE)
TITLE OF INVENTION	**Hotline Cleaning Robot**

Technical field of electricity transmission and distribution - medium voltage and high voltage lines. The technical problems and expressing objectives of the invention: One of the biggest problems in electricity companies, is outage in the electricity networks. These interruptions are either due to unexpected and unwanted events, or with planning. One of the causes of unexpected outages in the networks, are dirty insulators and other equipment.

APPLICATION No.	TKY-12
AUTHOR(S)	**Behrad KazemiToose, Nargess Narimani, Ali Maleki**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Design and construction of a solar desalination plant with a collector of graphene nano-plates coating**

Today, shortage of drinking water and its supply, especially in exploration areas in the oceans, ships and desert areas, is one of the important issues of different countries of the world. To solve this problem, we designed and constructed a sweetener based on the high thermal transfer of graphene nano-plates. In this design, a 100 * 60 * 50 cm enclosure with a stainless steel cavity and a cubicle of acrylic resin designed for the use of alcohol condensation tubes, zigzag copper plates coated with graphene nano-plates, and ultimately Setting angles of less than 20 degrees leads to the ability to transfer heat from the sun to the water tank and convert vapors to fresh water. The scientific and technical design of this system, as well as the use of graphene nano-plates, will increase the efficiency of drinking water production by 49%.

APPLICATION No.	TKY-13
AUTHOR(S)	**Ali KHORASANIGERDEHKOHI, MOHAMMADMAHDI DANESHKOHAN**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Biodiesel production using water**

The ongoing process of fossil fuels and the growing need for energy will lead researchers to alternative energy sources and available resources, such as energy from sunlight. For this purpose, in this project, we designed a system that extracts and generates fuel from a phytoplankton-containing aqueous medium that processes the whole process of fuel production. Performing each stage of growth, chemical composition and oil separation, and finally the extraction of fuel is conducted by the machine.

APPLICATION No.	TKY-14
AUTHOR(S)	**Adeleh Nourirasa, Atefeh Nourirasa**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Design and manufacture of air purification apparatus**

Air pollution is one of the problems that, along with the advancement of technology, has had harmful effects on the health of the community and the environment, and the smoke from fuel types, especially the automotive industry, has caused a variety of respiratory, cardiac and pulmonary diseases. With the study of air purification and nanosecond technology, a system is being installed on vehicles. This system is made of nanoparticles of electrostatic and activated carbon systems. Inflated air passes through the vehicle's movement and pressure from these plates, and the pollutants are absorbed by these plates.

APPLICATION No.	TKY-15
AUTHOR(S)	**Shima Razzaghi Vandi, Erfan Baghestani, Adel Sourchi Jouibari**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Flexible structure**

We have designed the structure like the hemisphere. What we consider to design the structure was to set up and implement it rapidly, the one that besides its beauty, is lighter and cheaper than other structures. The structure is composed of the small-sized parts of one meter that are snapped together by the spherical nodes. The size of the parts causes their easy replacement and it also has the ability to run for a pre-made or prefabricated condition. The Hemisphere which consists of vertical and horizontal parts are cylindrical, hollow, and narrow vertical parts of Pultrusion that are screwed to spherical balls. Pultrusion parts are much lighter than metals and have higher heat capacity, too. So they are also suitable for hot areas and do not transfer heat into space.

APPLICATION No.	TKY-16
AUTHOR(S)	**Vania Reshad Kouchesfehani**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Charging container with the ability to warm and keep food warm**

In the device, we use a tubular flexible element wire and Mica, a display that shows the temperature, a thermostat with which the temperature controls the elements, an electronics board including a resistor capacitor that we change the temperature with this thermostat, we built 3-volt lithium battery 3.7 with low weight and charging capability of container that can keep food warm for us to travel. This container can hold food at a temperature of up to 51 ° C, that is, if we place food at a temperature of 30 ° C and set the thermostat to a temperature of 30 °, this container with the sensor and the wire elements used in it Keeps food at a temperature of 30 degrees. If the temperature of the food is low, the sensor will be detected and the food will return to a temperature of 30 degrees.

APPLICATION No.	TKY-17
AUTHOR(S)	**Mohammad Safary, Mehdi Tale Masouleh**
ORGANIZATION	NESSA GROUP
TITLE OF INVENTION	**The novel flexible Amphibious Mobile robot with special mechanical structure, capable to obstacle climbing and compatible with variety surface coating**

The robot is a type of amphibious robot that has the ability to navigate inland and water. The robot has been designed and manufactured for the benefit of the environment, patrol, relief, and the like. In the process of creating this robot according to the applications, the ability to move on most surface coatings such as sandy, rocky, sloping and ... was felt. Hence, a detailed idea of the design phase of the robot's specific wheels has been made. Another challenge in the design and development process of the robot, the problem of disrupting the operation of electronic devices, as well as possible damage to the robot's mechanical structure caused by the impact of the movement due to rough surface movement. This is also done using springs, and the design and analysis of wheels accurately. On the other hand, the creation of an appropriate space for the installation of emergency relief equipment and equipment was also eliminated by the robot stabilizer section. The optimal floatation and even horizontal position of the robot on the water is another challenge that has been well resolved. Advantages and benefits of robots in every application can be analyzed separately.

APPLICATION No.	TKY-18
AUTHOR(S)	**Kosar Shoorghashti, Ali Maleki**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**A simple method for detecting cancer cells using a laser**

Detection of cancerous cells from healthy cells is always something that most researchers are trying to diagnose and treat it. In this project, we present a novel and useful method for the detection of cancerous cells from healthy cells that it is based on the properties of nonlinear tissue optics. The light of a laser passes through a convex lens to a sample of cancerous and healthy cells. With the displacement of the sample at distances around the lens focal point, different absorption values are obtained for healthy and cancerous cells. The accuracy of this method is very high and is done with a few features and low cost.

APPLICATION No.	TKY-19
AUTHOR(S)	**Parmida Sadat Ghorani, Dayan Irani, Yasaman Gholamhosseini Maraghi, Elina Bahari Kordabad, Atosa Bahari Kordabad, Ghazal Haj jafar Razaz**
ORGANIZATION	ANIA Association, SOLALEH High School
TITLE OF INVENTION	**PH control system and application based on internet of things (IOT)**

Certain amount of PH of material plays and effective role in the human and aquatic animals life, and hence, it is essential to know the exact amount of PH to control it. In this plan, due to the expansion of the world wide web(www), we decided to design a system for measuring the PH of liquids based on the internet of things (IOT). The system is capable of measuring the PH of liquids accurately , sending data collected over the internet as well as displaying online values for accurate decision making on the android software designed.

APPLICATION No.	TKY-20
AUTHOR(S)	**Atena Sorayaei, Zahra Kazemi**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Production of gold and silver nanoparticles of walnuts and almonds**

The purpose of this study is to provide trends involved in phytosynthesis of silver nanoparticles, selenium and gold using green peel extract of walnut and almond plants. For this purpose, we will try to investigate the factors affecting the dimensions, morphology and sta-bility of the nanoparticles during phytosynthesis. Con-sidering that chemical synthesis of nanoparticles is dif-ficult, large amounts of toxic organic solvents are needed, and the use of nanoparticles produced for medical purposes is not possible due to contamination in organic solvents, so using the phytosynthesis meth-od are suitable for the production of nanoparticles due to their stability, non-toxicity of nanoparticles, low cost methods and environmental non-contamination. If successful in controllable phytosynthesis of nanopar-ticles, this method can be a good alternative instead of the usual chemical synthesis.

APPLICATION No.	TKY-21
AUTHOR(S)	**Sahba Tabarraei, Tarane Bagheri, Melika Alaee, Mahfam Mohebbati**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Ventilation valve and subsurface cooling system in the Hamoon Greenhouse**

Suitable ventilation, without fluctuations in temperature, will have the maximum production in the greenhouse. Given the type of valves (Hamoon invented valves) and the intelligent control system, the Hamoon subsurface ventilation system has the most suitable ventilation (as compared to other common valves for the greenhouse in the world) with the least thermal stresses for plants in the greenhouse, and it means the highest rate of production.

APPLICATION No.	TKY-22
AUTHOR(S)	**Pedram Yousefi, Mohammad Safary Take Kand**
ORGANIZATION	ANIA Association
TITLE OF INVENTION	**Acid type detector without spectroscopy**

Typically, acid detection mechanism is detected through expensive and bulky devices. This has led laboratories and small workshops to not have the economic power and space to buy and install the device, and this is done in a non-automatic diagnosis using human resources. Thus, when using acids, common mistakes are detected and used in laboratories. Using old methods such as smelling and diagnosing using direct human interaction and solubility, in addition to generating many economic disadvantages, is detrimental to the health and safety of workers. In addition to minimizing the relationship between the person and the acid at the diagnosis stage, the device has a reasonable dimension and price, while at the same time has been able to achieve the desired performance accuracy, which supplies the needs of laboratories and small workshops. By detecting the pH of the solution, the temperature and the vapors emitted from it, it has been able to detect a few acids well. Initially, the acid was detected using suction pumps in the chamber and then examined using different sensors. The test result is shown on the device's LCD and also the solution temperature. In the next step, the diagnostic compartment first drains the acid and then rinses it completely in two steps using water and base solution. At the same time, the accumulated gases inside the machine are discharged from the inside by two fan blowers and three fan-suckers. No matter, at each stage, the proper weight of the solution in each human being is checked and, if not appropriate, is notified to the user.

APPLICATION No.	TKY-23
AUTHOR(S)	**Fatma Zehra KILIÇ, Ibrahim KARABAKAN**
ORGANIZATION	KARABUK UNIVERSITY
TITLE OF INVENTION	**GPS-assisted, seeding, fertilizing, life-watering, smart agricultural robot working with renewable energy**

This is a robot designed to increase the efficiency in agriculture and to autonomize the saving processes .The robot, producing its own energy by the help of solar panels seeds on an area predetermined by the user at predetermined seeding internals. It can simultaneously open a pit with adjustable depth, drop a desired amount of seed depending on its type, fertilize and give life water. The humidity sensor that the robot has can adjust the amount of water according to the need of soil. The soil pH value is recorded in the database with PH meter until the pH value seeding is finished. As a result of this, the user will supplement the minerals necessary to increase the yield of the soil. The seeded area can be followed and controlled using a GPS module. Its rigid design renders reliable seeding even under tough terrain conditions.

UAE

APPLICATION No.	UAE-01
AUTHOR(S)	**Mubarak Abdulla Mubarak Albuainain**
ORGANIZATION	-
TITLE OF INVENTION	**IRRIGATION WATER SAVER**

Compressed and combusted cylinder made of mixed crushed and dried biomass treated under temperature not less than 300 degrees. The natural lignin in biomass is liberated with wood fiber. Lignin serves as glue and holds the wood particles together in a new form of high density cylinder in a round or square shape at diameter of 8cm. / 6cm. / 4cm. and hollow inside to be used as absorbent & saver for irrigation water.

APPLICATION No.	UAE-02
AUTHOR(S)	**Sajjad Yaghoubi**
ORGANIZATION	ASPETTO Dubai
TITLE OF INVENTION	**Robotics Tree for Air Polluting**

Robotic system for eliminating air pollution in big cities via NANO ROBOTICS TREE, helping to GREEN WORLD REGARD United NATIONS. Currently working with UAE Government to run for EXPO 2020

APPLICATION No.	UAE-03
AUTHOR(S)	**Khaled Abdul Hamid Elnems**
ORGANIZATION	-
TITLE OF INVENTION	**Octopus Wash Car**

It is Wash Car by Movement Automatically Magnetic Arms (Stick and Movement for Full body of Car by round motion) With 3 Option (Soap, Water & Day) There are Two kind for (Octopus Wash Car): 1. Automatic Octopus: Just put a device above Car and it work self Automatically by Stick and Movement for Full body of Car by round motion Magnetizes Arms (High Cost) 2. Manual Octopus: Just put a device above Car along with contacted water hose and it work Automatically by Stick and Manual Movement for Full body of Car by round motion Magnetizes Arms (Low Cost) The Advantages: Save (Time, Effort & Money)

APPLICATION No.	UAE-04
AUTHOR(S)	**Khaled Abdul Hamid Elnems**
ORGANIZATION	-
TITLE OF INVENTION	**Interactive BOOK**

Is an interactive book has its stories and this book is linked wirelessly to a lamp Lighting room and when you read the story and thumbing, it will reduced lighting or increase or lighting color changes according to the lists in the story on every page with the narrative and timing different (For example, when referring in the story on page certain that the girl woke up the morning will be lighting at the top level, and Conversely when you turn the page and have the page content in the night time, the lighting automatically goes down level and the letters begin lighting .. and so on) Also on same procedure: Can Working Within Tablet e-Story (The goal of this interactive book) 1. It is to give status of Live & Atmosphere with story and time its 2. Capturing the imagination and not to distract the reader 3.New ways to enjoy reading and encourage children to love books.

APPLICATION No.	UAE-05
AUTHOR(S)	**Khaled Abdul Hamid Elnems**
ORGANIZATION	-
TITLE OF INVENTION	**Noodles by Mobile**

Just Put your favourite kinds of Noodles in device After (broken the Noodles inside same it Cyst cover) With filled water to bottle device And when you need to eat a Noodles only choice by your mobile witch kind for favorite Noodles you need (Give order) After 2 Minutes (Just Pick it from device ready to Eat it) The Advantages: Save time and effort with easy life / Easy and safety for children to use it to eat a favorite kinds of Noodles.

USA

APPLICATION No.	USA-01
AUTHOR(S)	**Kurt T. Rudahl, Sally E. Goldin**
ORGANIZATION	King Mongkuts University
TITLE OF INVENTION	**An Early Warning System for Pavement, Rail, and Dike Failure**

Our innovation permits wide area, repeated monitoring of the status of the earth underlying high value infrastructure such as roads, railway tracks, airport runways and flood control levees. The specialized geotextile augmented with electronics (a “smart” geotextile) can be embedded beneath the infrastructure during construction or reconstruction and can be repeatedly scanned from the surface to gather data about existing or developing problems before symptoms are visible. No power or other connections are required. The cost of installation and use is expected to be less than the savings in infrastructure maintenance.

APPLICATION No.	USA-02
AUTHOR(S)	**Dennis C. Alvarez**
ORGANIZATION	IC Motoring Technologies Inc.
TITLE OF INVENTION	**IC Green Oil Enhancer**

IC Motoring Technologies, Inc. is a First-Mover company that has a unique kind of product that possesses a solution to the pressing issues of our time- Climate Change and rising cost of fuel. IC Green Technology is a proven superior oil and fuel additives that significantly improve and maximize engine efficiency and performance to optimum level and consequently conserve fuel consumption as well as minimize carbon emission.

APPLICATION No.	USA-03
AUTHOR(S)	**Rebecca Klemm**
ORGANIZATION	NumbersAlive!
TITLE OF INVENTION	**Number Linx Puzzle and Game System**

Number Linx puzzle and memory/card game is a multi-layered system to learn geometry and arithmetic together. The system develops cognitive connections across all "disciplines." Children ages 3+ learn to link numerical secrets of shapes and pictures in a manipulative puzzle game. The decagon base, with cut-outs for each number 0 to 9, houses physical representations of numbers at progressive levels of difficulty. The system helps to develop spatial and sensory skills, and the picture cards that fit into the base encourage cognitive linkages. They can also be used for vocabulary development, memory games and creating visual patterns.

APPLICATION No.	USA-04
AUTHOR(S)	**Jungshen Lieh, Kuen-Ming Shu, Wen-Yuh Jywe**
ORGANIZATION	Wright State University, National Formosa University
TITLE OF INVENTION	**Dual-Ratchet Transmission For Mobile Devices and Power Generation**

The dual-ratchet transmission is developed for improving the efficiency of mobile devices such as wheelchairs, bicycles, lawnmowers, engines, power generation systems, and so on. The system utilizes low-cost traditional mechanical components that are commonly available in the market and can be easily implemented and serviced. Prototypes based on the mechanism have been manufactured and prove that the transmission does improve the efficiency and effectiveness of mobile devices.

VIETNAM

APPLICATION No.	VTM-01
AUTHOR(S)	**Nguyen Ngoc Tam Anh, Vu Dinh Hung, Le Minh Ngoc, Nguyen The Son**
ORGANIZATION	Tran Phu Major High School
TITLE OF INVENTION	**SALINITY OBSERVING SYSTEM IN AQUACULTURE PONDS**

A novel automatic system which can observe, control and give advance warning on salinity to help users control saltwater intrusion and reduce the damages caused by salinity to the environment and aquaculture. A low-cost and advance system which will help users solve the salinity problem automatically.

APPLICATION No.	VTM-02
AUTHOR(S)	**Mr. Vu Tien Anh, Mr. Tran Van Trung, Mrs. Tran Mai Trang**
ORGANIZATION	TA Water Treatment Technology Co., Ltd.
TITLE OF INVENTION	**Treatment system for Industrial wastewater, running waste water and underwater**

Treatment system for Industrial wastewater, running waste water and underwater is a completely new invention water treatment, "mechanical water treatment", to treat well water, river to drinking water and to treat industrial wastewater, animal husbandry, aquaculture, health care, etc., which are completely superior to modern technologies. Thoroughly treated insoluble solids, dissolved solids, gases and microorganisms in water. Keeps the required amount of minerals for the human body without: filter core, quartz sand, activated carbon, electricity, heat, chemicals. Machine life over 20 years.

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