مشاريع بحثية مدعومة من عمادة البحث العلمي في جامعة اليرموك 2018

Project Title	**معالجة الزيبار بتفاعل فنتون غير المتجانس**
Principle Investigator/ Faculty	**د. ايمن حموده**
Section	**الكيمياء**
Number of Project	1/2018
Project Objectives	- Investigating the efficiency of copper ferrite based catalysts in reducing the organic content in olive mill wastewater (expressed as chemical oxygen demand, COD) via the Fenton reaction. - Evaluating the effectiveness of Jordanian bentonite and zeolite in reducing the organic content in OMWW using adsorption pretreatment methods. Testing the developed catalysts in treating the pretreated OMWW samples in batch and/or continuous flow modes and optimization of the experimental conditions.
Funding Agency	YU
Project Partners	د. صبري صادق عثمان محمود، د. منى احمد أبودلو
Project Budget	15690
Milestones and expected result	- Zibar of lower COD and SS values as a result of pretreatment with clays. - Optimum conditions for the homogeneously catalyzed Fenton process. - New solid systems promising as catalysts in the degradation of organic pollutants via the Fenton process. - Further reduction of the COD value of zibar as a result of the heterogeneous irradiation-assisted Fenton degradation.

Project Title	**تتبع هدف ارضي بطائرة بدون طيار متحكم بها بناء على تفاعلية حركة رأس المشغل المعرض لنظام الواقع الافتراضي**
Principle Investigator/ Faculty	**د. محمد عبد الله الجراح**
Section	**هندسة الحاسوب**
Number of Project	2/2018
Project Objectives	• Create a video feature extraction system capable of capturing raw video data and summarize them into features vectors using KAZE 2D

	images features descriptor. This system should be able to process millions of frames in a timely manner. • Improve the system performance and work on generalize it to allow the use of future 2D image descriptors when required. • Create a locality sensitive hashing system to compress the collected features into easy to manage data representations that can be easily stored and compared for video retrieval purposes. • Create a video indexing system capable of storing video hashed-features based on their similarity to facilitate further data queries related to their contents. Evaluate the system accuracy and performance by implementing it using latest software technologies
Funding Agency	YU
Project Partners	د. عبدالكريم رحاب كامل التميمي
Project Budget	9900
Milestones and expected result	The expected outcomes of this project can be divided into scientific outcomes, applicable outcomes, and developmental outcomes as follows: A) Scientific Outcomes: • An optimized system to extract raw video frames from video files • An optimized system to extract KAZE 2D features from raw video frames using both CPU and GPU-based image processing technologies • An optimized system to hash and condense the extracted features to ease the indexing mechanism using LSH • An optimized video indexing system based on the hashed KAZE features • Show the effectiveness of KAZE in describing video raw frames • Show the effectiveness of LSH in representing and condensing collected features into fixed size representation • Show the performance improvements from using our proposed system based on the Columbia university video indexing dataset B) Applicable outcomes: • An optimized system to extract raw video frames from video files • An optimized system to extract KAZE 2D features from raw video frames using both CPU and GPU-based image processing technologies • An optimized system to hash and condense the extracted features to ease the indexing mechanism using LSH

	• An optimized video indexing system based on the hashed KAZE features C) Developmental outcomes: • Video as one of the main sources of communication and information in the recent years, improvements in this field, and especially in the ability to index and retrieve videos, will have significant impacts on many aspects of our lives, including: • Improve video surveillance systems that can index, query and retrieve certain events based on certain video features • Improve learning via videos, with the ability of retrieving videos belonging to a certain criteria or similar contexts (e.g. sports, outdoors … etc) • Improve the reputation of Jordan as a hub of technical innovation, which leads to improved attention of investors and thus creating more job in this sector

Project Title	**استخدام دواء كاربامازبين**
Principle Investigator/ Faculty	**د. غيث محمد الطعاني**
Section	**الممارسة الصيدلانية**
Number of Project	3/2018
Project Objectives	The primary aim of the present study is to analyze carbamazepine level in saliva and plasma sample of patients. The Secondary objectives are: 1. employment of an analytical methods for the analysis of carbamazepine in saliva using immunoassay method. 2. Validation of the analytical methods for the analysis of carbamazepine in saliva 3. Measurement of carbamazepine level in plasma and saliva 4. Correlate the results obtained from saliva to those measured in plasma

	5. Assessment of the adherence to carbamazepine using direct (saliva and plasma) and indirect (validated questionnaire) methods.
Funding Agency	YU
Project Partners	
Project Budget	7900
Milestones and expected result	The present study undertakes a novel approach for the application of pharmaceutical analysis clinically in the assessment of medication adherence. This approach involves the utilizing the saliva sample for estimation of the systematic level of the carbamazepine. Expected outcome of the present research, includes - The potential of a ELISA method for the analysis of carbamazepine in saliva. - Correlation of the results obtained from saliva with that of plasma. Gain an insight about the level of adherence of patients to carbamazepine using direct methods (blood and saliva samples) and indirect (survey).

Project Title	**Chromatogrphic Seperation of Different Pharmaceutical Compounds Including Synthetic Cannabinoid Using High Performance Liquid Chromatography (HPLC) and Gas Chromatography (GC)**
Principle Investigator/ Faculty	**د. ديما علي البلص**
Section	**العلوم الصيدلانية**
Number of Project	4/2018
Project Objectives	In this research, we will analyze different types of synthetic cannabinoid (JOKER) samples that will be obtained from directorate of public security and department of drug control. To our Knowledge, this is the first study involves performing a chiral and/ non-chiral separation of these samples using HPLC and GC technique available in our labs.
Funding Agency	YU

Project Partners	د. الاء مخيمر يحيى
Project Budget	9890
Milestones and expected result	After performing the suitable experiments; ones can expect to: -Know the exact composition/concentrations/ratios of the psychoactive materials in JOKER samples. -To study the chirality of the separated compounds. -To discuss the possible clinical side effects of these separated compounds on human health.

Project Title	**حذاء رياضي لانتاج طاقة كهربائية عالية باستعمال متعدد الملفات ومغناطيسات النيوديميوم**
Principle Investigator/ Faculty	**د. عصام فتحي ابو قاسمية**
Section	**هندسة النظم المعلوماتية الطبية والحيوية**
Number of Project	5/2018
Project Objectives	Kinetic energy is generated by the human body in various forms, such as foot strike; motions of joints, and center-of-gravity (COG) motion of the upper body [1–3]. Energy harvesting principles from mechanical kinetic energy include piezoelectric [4–15], triboelectric [16–25], and electromagnetic energy harvesting [26–42]. Electromagnetic generators can be categorized into two types, inertial induction [26–33] and gear-and-generator [34–42]. Piezoelectric energy harvesting is based on the piezoelectric effect, in which an electric charge accumulates in certain materials in response to applied mechanical stress. Triboelectric energy harvesting is based on the triboelectric effect, in which a material become electrically charged when it comes into frictional contact with another material. Once the two materials are charged, the displacement between two can generate an electric current through an electrode connecting them. Electromagnetic energy harvesting generates electricity based on Faraday's law. In inertial-induction-type energy harvesters, a permanent magnet is made to vibrate or oscillate relative to a coil using human motion. In gear-and-generator-type energy harvesters, the human motion is amplified by a gear train and the amplified motion is used to operate a rotary generator.

	Meanwhile, gear-and-generator-type energy harvesters are bulky and lead to high consumption of metabolic energy, but they can generate the highest power, up to 10W [43]. To directly drive or to assist a mobile electronic device of watt-level power consumption, an energy-harvesting device must generate watt-level electric power. Considering only generated power, the gear-and-generator-type electromagnetic energy harvester is the best candidate, and the other types of energy harvesters cannot be used individually to generate high power. However, because of growing power requirements and applications of various power ranges, combining energy harvesters based on two or more different principles is more effective than using a gear-and-generator type alone.
Funding Agency	YU
Project Partners	**د. عصام عودة احمد عودة**
Project Budget	8700
Milestones and expected result	.١ Harvesting sufficient electrical power from the feet strike during walking and jogging using multi-array of powerful magnets and high-dense windings coils for operating various mobile devices. .٢ Production of harvesting shoes and its combined suit that provide unrestricted and sufficient electrical power source needed for body warming and slimming. .٣ Obtaining a patent for the proposed system. .٤ Production of a commercial warming sport suit for outdoor road runners, and for slimming purposes.

Project Title	**تصميم وتنفيذ سيارة صديقة للبيئة ذاتية القيادة لغايات تسليم البريد في جامعة اليرموك**
Principle Investigator/ Faculty	**د. احمد محمد خلف دقامسة**
Section	هندسة الالكترونيات
Number of Project	6/2018
Project Objectives	This project represents a proof-of-concept model for an autonomous electric vehicle with a potential benefit of delivering mail packages between different faculties and departments at Yarmouk University. The vehicle will guide itself towards its destination through a pre-defined route to reach by a sensory systems hand-in-hands with embedded system to control the mechanical system of the vehicle. The smart-embedded system drives the vehicle automatically without human interaction to reach the proposed target. As the auto-safety is one of the main concerns, the car should be able to avoid

	obstacles as well as to take-action based on any urgent case possibly might happen. The impact of implementing this project is recognized mainly in standardizing and speeding-up the mail distribution process, reducing costs, reducing risks and accelerating decisions in the university. Additionally, such system has a potential for implementation in security tasks to monitor the university campus during the night.
Funding Agency	YU
Project Partners	**الدكتور عصام عودة** **الدكتور عبد المهدي المومني** **الدكتور محمد الصمادي** **الدكتور احمد القرعان** **الدكتور أيمن القرعان** **الدكتور زيد بطاينة** **الدكتور حسين المصري** **الدكتور عمار الروسان** **الدكتور خالد غرايبه** **الدكتور محمد الجراح**
Project Budget	9950
Milestones and expected result	This project represents a proof-of-concept model for an unmanned electric vehicle able to deliver mails between faculties and directorates at Yarmouk University. The vehicle will be self-powered and will perform driving tasks semi-autonomously while avoiding crashes. The vehicle should be able to power itself using batteries that can be charged using PV system. The vehicle should be free running within its path while providing some useful information such as temperature, local time battery level, status of the mail packages…etc….

Project Title	**طريقة مبتكرة لفهرسة وتصنيف الفيديو باستخدام التجزئة الحساسة للموقع اعتماداً على الميزات الثنائية الابعاد لخوارزمية كاز**
Principle Investigator/ Faculty	**د. محمد عبد الله الجراح**
Section	**هندسة الحاسوب**
Number of Project	7/2018

Project Objectives	In this proposal, we will develop body signal base control system for Drones. The remote operator of the Drone will be in an environment as he is in the Drone. Moreover the Controller will sense the body movement and may be operator emotional signs and model it to control Drone movement that includes move forward, move backward, move up, move down, turn left, turn right, slow down, speed up, and stop. The operator of the Drone will be able to track moving object in the ground through following similar head movement to track moving object in real life. This goal will be achieved through putting the operator in environment very close to real one using virtual reality helmet. The controller also, will model the safety of the Drone. The Model will have two states; safe and unsafe. In the case of unsafe mode. The Drone controller will take over the control from the operator into autonomous mode. In order not to lose the tracked object, the Drone will send laser beam toward the tracked object. In safe mode, the operator will keep the laser beam in the middle of the tracked object. The following is a summary for main objectives of this proposal: 1. To develop a Drone remote control system (DRCS) to track moving ground object 2. To develop mass wireless communication between earth station and Drone remote control 3. To develop microcomputer based head mounted human interaction system (HMHIS)using digital compass 4. To develop virtual reality pilot system (VRPS) 5. To develop remote control system for Drone based on operator head movement and some emotional signs. 6. To integrate VRPS with HMHIS 7. To develop communication between VRPS with DCRS throw the land station 8. To develop an autonomous control system to track ground object.
Funding Agency	YU
Project Partners	**د. عبد الكريم التميمي/هندسة الحاسوب**
Project Budget	7400
Milestones and expected result	At the end of this project, the following set of outcomes should be achieved. - Human body movement interactive control Drone to track target object - Virtual reality system for Drone - Autonomous control system for Drone - Human body interactive system to control Drone - Object tracking system

Project Title	**تطبيق مبتكر لغرفة تعليمية الكترونية ذكية باستخدام تقنيات انترنت اشياء**
Principle Investigator/ Faculty	**د. منال حسن عبد الله البزور**
Section	**هندسة الحاسوب**
Number of Project	8/2018
Project Objectives	The main objective behind designing the system of automatic steering of a camera towards the lecturer or toward the whiteboard is to focus the attention of the observer on what the lecturer wants to show. Our proposed camera steering system will use voice localization method to localize the speaker and point the camera toward him/her and will use visual localization for the used laser pointer to follow it on the whiteboard when the presenter points using it. We aim to make a simple and a cheap electronic device that will automate the lecture video capturing and eliminates the human effort, cost, and security issues (rising over conventional methods of human intervention). Smart sensory system objectives revolves around providing an intelligent system that can monitor several sensors measurements wirelessly to assess the quality of the environment and determine if it is safe for university society members or not. A practical deployment of this system paves the way to deploy it on a larger scale to support better safety measures. As a complete system, it is important to allow the user of the system to have an integrated environment that is intuitive and easy to use. Practicality of the proposed solution is one of the main concerns behind the proposed implementation in addition to providing a fully functional system that can be replicated in other environments
Funding Agency	YU
Project Partners	
Project Budget	9210
Milestones and expected result	There are several expected outcomes of this project that can summarized as follows: - The system will boost confidence and add to the reputation of the faculty and its students - The distinguishing features of the smart system is that its effects are peculiarly noticeable by any visitor to the room that uses it. - The system is to be deployed in Wesam Bushnaq hall, where most of the important events in the faculty take place. - The students who will work on the project should gain experience in recent technologies which aids them in their future work.

	- Students will gain a hand on experience on how to program, control and communicate with the microcontrollers - Students will be able to interface microcontrollers with the physical world or with another processors using wired or wireless embedded networking - Students will be able to perform sound source localization using sound signals captured by a microphone array - Students will be able to extract useful information from the diverse set of deployed sensors (e.g. image sensors, audio sensors .. etc) - The deployment of smart systems is in itself a business, and the students who worked on this project should gain the needed experiences to start their own businesses after graduation.

Project Title	**الاستجابة للمضادات الحيوية والفروق الجينية بين انواع البكتيريا المعزولة من ايدي وتلفونات الخليوية لطلبة الجامعات في شمال الاردن**
Principle Investigator/ Faculty	**د. وليد حسن المومني**
Section	**العلوم الطبية الاساسية**
Number of Project	9/2018
Project Objectives	1. Detection and identification of the bacterial species isolated using standard diagnostic techniques. 2. Detect any development of antimicrobial resistance among the isolated bacteria 3. Determine the genetic diversity between the isolated bacteria
Funding Agency	YU
Project Partners	
Project Budget	9800

Milestones and expected result	1. Isolating and identifying the most common bacteria which contaminate the hand and mobile phone among university students 2. Showing the role of hand hygiene in developing antimicrobial resistance 3. Comparing the genetic similarity between the isolated bacteria of the same species

Project Title	**نظام ادارة حركة المرور باستخدام انترنت الاشياء**
Principle Investigator/ Faculty	**د. نواف عمر السريحين**
Section	**نظم المعلومات الحاسوبية**
Number of Project	10/2018
Project Objectives	The main objective of this proposed project is to: • Collect the existing traffic congestion concern causes. • Analysis the traffic congestion causes. • Propose a new automated method of managing the traffic congestion in Jordan using lot. • Apply and demo the proposed idea as a pilot stage on a prototype that simulate real life roads and traffic lights. • Evaluate the application of the prototype and its applicability on real life roads.
Funding Agency	YU
Project Partners	
Project Budget	9978
Milestones and expected result	We can summarize the expected output of this project as follows: 1. Reduce traffic congestion: when this project is deployed, the traffic will be better managed and traffic will be reduce to relatively an acceptable level. 2. The initial stage of this project is to deliver a prototype of the whole project all together where accumulate cameras/sensors and all equipment to test the applicability of the project .when prototype is in an acceptable share, we will apply this project with the cooperation and support of drivers and vehicles licensing department in the public security directorate in irbid to take the project to the next step.

	3. Part of the main expected output is to measure the effectiveness of the proposed project in the reality (in irbid) ,if it works good and the measurement gives us a positive impression then we will take it to the next level to try to apply it in the capital city of Jordan (Amman). 4. One of the expected outputs is to reduce travel time for the drivers. 5. When this project is deployed, the expectation is that the traffic will be managed, which means there will be a reduction in the percentages of loss of lives because of traffic congestion. 6. An extension principles of this proposal could be a software application that developed based on software engineering principles and deploy it as a mobile application for the users to manage some certain attribute.

Project Title	**تأثير السمنة على استجابة مقاومة الانسولين لتدريب المقاومة**
Principle Investigator/ Faculty	د. رمزي احمد الحوراني
Section	علوم الرياضة
Number of Project	11/2018
Project Objectives	This study aims to investigate the influence of obesity-related factors on the insulin resistance and glycemic control responses to several weeks of resistance exercise. In addition, we aim to examine whether higher resistance exercise intensity or volume can induce responses pertaining to insulin sensitivity and glucose control comparable to lean subjects. To accomplish these objectives, the study will include three groups: 1) lean subjects, 2) obese/overweight A, and 3) obese/overweight B. group 1 and 2 will perform the same relative intensity of resistance exercise, and group 3 will perform a higher relative intensity. Insulin resistance and glycemic control will be measured to find the effect of the training interventions, and to compare between the lean and obese subjects in those responses.
Funding Agency	YU
Project Partners	**د. بهاء الطراد العلوم الحياتية، د. اسامة ابو الرب- قسم الممارسة الصيدلانية**

Project Budget	30500
Milestones and expected result	1- Resistance exercise at low intensity will result in greater improved insulin resistance in lean subjects compared to obese subjects 2- Resistance exercise at low intensity will result in slight decrease in inflammatory-cytokines in obese subjects; however, not sufficient to induce improvements in insulin sensitivity 3- Resistance exercise at higher intensity will improve insulin resistance in obese subjects to a similar level in lean subjects when exercising at low intensity. 4- Only resistance exercise at higher intensity may reduce the inflammatory cytokines in obese subjects.

Project Title	Defining Best Protocol for Equivalent Doses Assessment Using Isothermal TL (ITL) Signals from Rock inclusions and its advantage in Luminescence rock surface dating
Principle Investigator/ Faculty	د. سحر " محمد رشيد " خصاونه
Section	صيانة المصادر التراثية وادارتها
Number of Project	12/2018
Project Objectives	The foremost outcome of this project is the development of an accurate single-aliquot ITL protocol dose estimation for rock surfaces. The project will also define a method to overcome the sensitivity change during the first isothermal measurement by testing different stimulation temperatures following a preheat in order to isolate the most stable TL signal. The new established protocol will enable us dating limestone and quartzite rocks that are spread in most of the archaeological sites in Jordan, and more specifically the archaeological features that lack organic matters or serigraphic sequence for ^{14}C or any other conventional dating methods, e.g. of these features are dolmens floors' pebbles, stone tools, cairns and monuments structures. In Jordan for example, megalithic structures like kites, wheels and dolmens are widely found throughout the ancient landscape. Unfortunately, there is an almost complete absence of the organic matter needed for radiocarbon dating and there are very few archaeological finds to

	be associated with locally-known relative chronologies, as a result, there is no robust chronological framework for the construction or period of use of any of these important, numerous and widespread structures. ITL luminescence will provide an alternative dating method where the standard luminescence method does not work for dating these enigmatic megalithic structures.
Funding Agency	YU
Project Partners	
Project Budget	15300
Milestones and expected result	Isothermal thermoluminescence signal characteristics will be identified which will allow to establish a new measurement protocol for rock surface. More applications of luminesce rock surface dating for archaeological cobbles will be available despite the current obstacles of low quartz inclusions and low OSL sensitivity in limestones and quartzite.

Project Title	مستويات الجرعة المرجعية لفحص الاشعة التشخيصية في مستشفيات محافظة اربد
Principle Investigator/ Faculty	د. رياض سالم عبابنه
Section	الفيزياء
Number of Project	13/2018
Project Objectives	The foremost outcome of this project is the development of an accurate single-aliquot ITL protocol dose estimation for rock surfaces. The project will also define a method to overcome the sensitivity change during the first isothermal measurement by testing different stimulation temperatures following a preheat in order to isolate the most stable TL signal. The new established protocol will enable us dating limestone and quartzite rocks that are spread in most of the archaeological sites in Jordan, and more specifically the archaeological features that lack organic matters or serigraphic sequence for ^{14}C or any other conventional dating methods, e.g. of these features are dolmens floors' pebbles, stone tools, cairns and monuments structures. In Jordan for example, megalithic structures like kites, wheels and dolmens are widely found throughout the ancient landscape. Unfortunately, there is an almost complete absence of the organic matter needed for radiocarbon dating and there are very few archaeological finds to be associated with locally-known relative chronologies, as a result, there is no robust chronological framework for the construction or period of use of any

	of these important, numerous and widespread structures. ITL luminescence will provide an alternative dating method where the standard luminescence method does not work for dating these enigmatic megalithic structures.
Funding Agency	YU
Project Partners	د. انس محمد عبابنه
Project Budget	15000
Milestones and expected result	Isothermal thermoluminescence signal characteristics will be identified which will allow to establish a new measurement protocol for rock surface. More applications of luminesce rock surface dating for archaeological cobbles will be available despite the current obstacles of low quartz inclusions and low OSL sensitivity in limestones and quartzite.

Project Title	دراسة السمية الجينية للمعالجة الثنائية لارتفاع ضغط ادك بعلاجي الاملوديبين والهيدروكلوروثيازايد باستخدام مزارع الخلايا اللمفاوية البشرية
Principle Investigator/ Faculty	أ.د. مي فؤاد جورج صادق
Section	العلوم الحياتية
Number of Project	14/2018
Project Objectives	The objectives of this proposal are to accomplish the following: 1. Study the cytotoxicity and genotoxicity of different concentrations of the separate treatments with amlodipine and HCTZ to human lymphocyte cultures. 2. Evaluate the cytotoxicity and genotoxicity of the simultaneously combined treatments of amlodipine and HCTZ in human lymphocyte cultures.
Funding Agency	YU
Project Partners	د. المثنى خلف احمد الكركي
Project Budget	9715
Milestones and expected result	The expected outcomes of this study are going to give valuable information concerning the understanding of the safety of dual therapy with amlodipine and HCTZ in blood pressure treatment. The study will provide a good reliable foundation for better management of this common disease. Extension of this study in the future to include more drug combinations may help in better treatment for those affected people with high blood pressure.

Project Title	التركيب الكيميائي ومضادات الاكسدة ومضادات الكولينستراز من الزيوت الاساسية والمستخلصات الخام من ارابيكا كليوم من الاردن
Principle Investigator/ Faculty	د. محمود علي عبد القضاة
Section	الكيمياء
Number of Project	15/2018
Project Objectives	To discover the medicinal potential of the *C. arabica* L. several tests were carried out. These include; total phenolic, total flavonoids and antioxidant activity of butanol, aqueous methanol, hexane and water crude extracts and essential oil of the *C. arabica* L.. Therefore, the objectives of present study can be summarized by: 1- To determine the chemical composition of the essential oil of the *C. arabica* L. 2- To determine the total phenolic content of the butanol, aqueous methanol, hexane and water crude extracts of the *C. arabica* L 3- To determine the antioxidant capacity of the butanol, aqueous methanol, hexane, water crude extracts and essential oil of the *C. arabica* L. 4- To carry out phytochemical screening of the crude extracts of the *C. arabica* L To evaluate for the anticholinesterase of the crude extracts and essential oil of the *C. arabica* L
Funding Agency	yu
Project Partners	د. رياض مهيدات، المدرس طارق طلال البطاينة
Project Budget	9890
Milestones and expected result	The activity of plants extracts as antioxidants is attributed to the presence of flavones, isoflavones, flavonoids, anthocyanin, coumarinlignans, catechins and isocatechins. Antioxidant-based drug formulations are used for the prevention and treatment of complex diseases like atherosclerosis, stroke, diabetes, Alzheimer´s disease and cancer. Primary metabolites comprise

	common sugars, amino acids, proteins and chlorophyll while secondary metabolites consist of alkaloids, flavonoids, tannins and so on. The *Cleome* species plants are rich in essential oils, terpenoids, flavonoids, phenolics, and alkaloids, so that it's expected to have good antioxidant activities.

Project Title	نظام لمراقبة وحماية الرياضيين في الميدان الرياضي قائم على انترنت الاشياء
Principle Investigator/ Faculty	د. نهلة محمد شطناوي
Section	علوم الحاسوب
Number of Project	16/2018
Project Objectives	Our main goals and objective are summarized in the following: • The use of IoT-based computer applications in protecting the sportsman. • Helping medical staff in monitoring any sudden hits during training or at real match. • Identifying the abnormal and dangerous hit by sending readings of concussion sensors. • Alerting about the abnormal and high concussion occurs, directly. • Locating the dangerous situation to the sportsman. • It may help in protecting athletes especially in training or during competition matches
Funding Agency	YU
Project Partners	د. رعد الخطيب، د. خالد نهار
Project Budget	5800
Milestones and expected result	After finishing our project and performing the testing, we plan to have the following outcomes: • The project is expected to have good results in areas such monitoring and protecting athletes health. • A complete IoT-based system for sportsman monitoring and detection during training sessions. • Publishing several research papers in the IoT and computer application field. • Future research work for improving such protecting athletes health. • Open new trends and ideas in the field of social healthcare.

Project Title	ارتباط تعدد الاشطال الوراثية لجين ال KIBRA مع الذاكرة العرضية في اشخاص بالغين من شمال الاردن
Principle Investigator/ Faculty	د. احمد عثمان مسلط
Section	العلوم الحياتية
Number of Project	17/2018
Project Objectives	**First**, genetic analysis to evaluate the distribution of KIBRA genotypes among Jordanian population living in the north of the country. **Second**, evaluation the episodic memory performance and comparing our results with other populations. **Third**, investigating the impact of single nucleotide polymorphism within the ninth intron of KIBRA gene (rs1707045) on memory performance.
Funding Agency	yu
Project Partners	
Project Budget	5600
Milestones and expected result	We expect to find the distribution of KIBRA gene variants among the population living in north Jordan.The relationship between the KIBRA gene polymorphism and episodic memory depends on the actual results, which will be obtained. However, we expect to find positive correlation between KIBRA polymorphism and episodic memory. The difference in memory performance between males and females will be analyzed after the neurological tests is completed. The possibility to find differences cannot be totally excluded.

Project Title	بناء نظام ذكي لتوزيع المياه يعتمد على الحوسبة السحابية وانترنت الاشياء
Principle Investigator/ Faculty	د. سوسن خليل شطناوي
Section	امن الشبكات
Number of Project	18/2018
Project Objectives	1- Tracking the water consumption, real-time metering helps for

	understanding customer water consumption patterns and increasing his awareness. Studies based on behavioral economics and psychology show that providing users with real-time information can lead to changes in behavior. 2- Keep track of water supply loads and flow rate in real-time. 3- Extract a consumption pattern of each customer which helps in expecting the future water pumping amount. 4- Determine when the water will be supplied to each zone, as known in the intermittent water supply, the water is supplied in a regular periods i.e.one hour per day, three hours two times per week, but this may not correspond with the need, the authority must supply the water as needed with keeping some specific threshold or restrictions.
Funding Agency	YU
Project Partners	د. انس محمد رمضان الصبح
Project Budget	2910
Milestones and expected result	We expected at the end of this project to: 1. Produce a prototype of smart water for people using the Internet of Things technology (IoT) to control the water distribution by using either a web page, mobile application, or using the tracking interfaces. 2. publish 2 papers in the high-end journals or conferences 3. In the future, this research could be the next stage for the fifth and sixth phases of the action plan and the research that aims to produce a real product and then sell on the local market.

Project Title	عمل خطة طويلة الامد لصيانة شبكة الطرق باقل تكلفة واعلى جودة مع الاخذ بعين الاعتبار عدم التجانس الغير ملحوظ لمستخدمين الطريق: دراسة لمجموعة من الطرق المختارة في الاردن
Principle Investigator/ Faculty	د احمد غازي الطرابشة
Section	الهندسة المدنية
Number of Project	19/2018
Project Objectives	1. Propose a prioritization model that favors the most critical roads in the network in the optimization of the overall network performance.

	2. Selects near optimum renewal plans for the roads network which maximizes the average network condition, minimizes the average network risk of failure, and minimizes the life-cycle costs of the network over the entire planning period. 3. Propose and implement new stochastic regression model to predict roads condition throughout the planning period using survival analysis with unobserved heterogeneity
Funding Agency	YU
Project Partners	
Project Budget	3960
Milestones and expected result	The main expected outcome from this study is a long-term renewal plan for selected main roads in Amman so that the condition of these roads is significantly improved, and the consequence of failure of these roads on the traffic and the surrounding environment is reduced with minimum possible cost throughout 20 years period. Therefore, the proposed approach select the most important road segments from the perspective of the municipality and those that are in most need to be renewed, and for each segment the proposed approach choose the most appropriate renewal method and the overall renewal cost for each year throughout a 20 years period.

Project Title	دراسة مقارنة لاثر التدريس بالانشطة التنشيطية على تحصيل طلبة الجامعات في اللغات والعلوم الاجتماعية دراسة حالة (اللغة الفرنسية والجغرافيا)
Principle Investigator/ Faculty	د. ريم عدنان الخاروف
Section	الجغرافيا
Number of Project	20/2018
Project Objectives	• الوقوف على اثر تدريس اللغات باستخدام الانشطة التنشيطية على التحصيل في اللغة الفرنسية . • الوقوف على اثر تدريس العلوم الاجتماعية باستخدام الانشطة التنشيطية على التحصيل في الجغرافيا . • المقارنة بين نتائج تدريس اللغة الفرنسية بالانشطة التنشيطية على تحصيل الطلبة ونتائج تدريس الجغرافيا بالانشطة التنشيطية على تحصيل الطلبة.

Funding Agency	YU
Project Partners	د. بتول مجاهد المحيسن
Project Budget	1500
Milestones and expected result	- سيكون هنالك اثر لتطبيق استراتيجية التعليم المعتمدة على الانشطة التنشيطية على تحصيل الطلبة في اللغة الفرنسية والجغرافيا. - سيكون هنالك فروق ذات دلاله لتطبيق استراتيجية التعليم المعتمدة على الانشطة التنشيطية على تحصيل الطلبة لصالح اللغات او العلوم الاجتماعية.

Project Title	تقييم زيوت محركات البنزين بالطرق الطيفية
Principle Investigator/ Faculty	أ.د. ايمن حموده
Section	الكيمياء
Number of Project	21/2018
Project Objectives	The studies concentrating on motor oils are rare so the motor quality authentication is gaining increasing attention and motor oil classification became an important task for quality control identification of oil adulteration. Over the past several years many new technologies have surged in motor oils identification so we will study 1. The physical and chemical properties of new and used oil samples with different viscosities from different companies by Infrared spectroscopy and UV-Vis spectrophotometry in an attempt to classify them in first place and uncover possible adulteration by used or cheap oils in the second place. The extent of oxidation and deterioration of oil properties upon usage will be also monitored and various oil brands and viscosity categories will be tested with respect to their antioxidation stabilit
Funding Agency	YU
Project Partners	
Project Budget	1000

Milestones and expected result	- Classification of gasoline engine oils based on their IR and UV-Vis spectral data. - Uncovering adulteration in gasoline engine oils by simple, fast spectroscopic methods (IR, UV-Vis)

Project Title	دراسة طباقية والسحنة الرسوبية لتتابع الرواهص (المدملكات) بمنطقة اوصرة شمال غرب الاردن
Principle Investigator/ Faculty	د. محمود حامد التميمي
Section	علوم الارض والبيئة
Number of Project	22/2018
Project Objectives	❖ Study the detailed description of lithostratigraphy of conglomerate deposit. ❖ Study facies architecture and depositional environment of the conglomerate deposits. ❖ Identification of the source area of the conglomerate deposits (provenances). Follow up the lithostratigraphical relationship between the investigated conglomerate deposits and Dana Formation
Funding Agency	YU
Project Partners	
Project Budget	2740
Milestones and expected result	• Identifiying the conglomerate deposits as the code of lithostratigraphical nomenclature of rock units. • Study the lithostatigraphical and sedimentological features of conglomerate deposits that never studied in details yet in order to its sedimentological characterstics.

Project Title	تقييم برامج الدراسات العليا في جامعة اليرموك من وجهة نظر الطلبة وسبل تحسينها
Principle Investigator/ Faculty	أ.د. نواف موسى شطناوي
Section	الادارة واصول التربية
Number of Project	23/2018
Project Objectives	_ تعرّف درجة تقييم برامج الدراسات العليا في جامعة اليرموك من وجهة نظر طلبة الدراسات العليا؛ وذلك لتسليط الضوء على الجوانب التي تحتاج إلى مزيد من التطوير والتفعيل. 2_ تعرّف أثر متغيرات (الجنس، ونوع البرنامج، والكلية) في درجة تقديرهم لتقييم برامج الدراسات العليا في جامعة اليرموك من وجهة نظر طلبة الدراسات العليا. 3_ تعرّف سبل تحسين واقع برامج الدراسات العليا في جامعة اليرموك من وجهة نظر أعضاء هيئة التدريس وطلبة الدراسات العليا؛ وذلك للتوصية بالأخذ بها لتحسين فاعلية هذه البرامج.
Funding Agency	YU
Project Partners	الطالبة ورود معروف الطعاني
Project Budget	650
Milestones and expected result	_ درجة تقييم الطلبة لبرامج الدراسات العليا في جامعة اليرموك. _ مقترحات الطلبة وأعضاء هيئة التدريس لسبل تحسين واقع برامج الدراسات العليا في جامعة اليرموك.

Project Title	نحو حكومة الكترونية متكاملة: بناء نظام معلومات جغرافي الكتروني لبلدية معاذ بن جبل
Principle Investigator/ Faculty	د خالد " محمد امين " هزايمه
Section	الجغرافيا
Number of Project	24/2018
Project Objectives	**يهدف المشروع إلى تحقيق مايلي:** • تحويل البيانات المكانية الورقية بكافة أنواعها في مناطق بلدية معاذ بن جبل إلى خرائط الكترونية بحيث يسهل التعامل معها وتعديلها وعرضها واسترجاعها ورسمها.

	• تجميع وتصحيح جميع البيانات المكانية والصور الجوية والمرئيات الفضائية لمناطق بلدية معاذ بن جبل. • انشاء بنية تحتية رقمية موحدة للبيانات الجغرافية (Standardized database) تسهم في سهولة الوصول إلى البيانات الجغرافية وتبادلها واستخدامها. • تصميم ومعالجة خريطة الأساس لمناطق بلدية معاذ بن جبل، بحيث يتم استخدامها من قبل جميع الإدارات في البلدية. تعزيز ودعم اتخاذ القرارات بشكل أفضل من خلال استخدام البيانات المشتركة وتبادل المعلومات والحد من الهدر في موارد البلدية المالية والبشرية الناتجة عن تكرارالبيانات بين الإدارات.
Funding Agency	YU
Project Partners	د. عبد الله مصطفى الروابدة
Project Budget	2200
Milestones and expected result	يتوقع بعد الانتهاء من المشروع تحقيق مايلي: • تطوير قاعدة بيانات مركزية لمنطقة الدراسة. o تجميع البيانات الجغرافية من مختلف إدارات منطقة الدراسة (طبقات). o إعداد وتطوير نموذج البيانات الجغرافية مع مراعاة متطلبات الانظمة الحالية والمستقبلية. o إعداد وتطوير نموذج البيانات الوصفية والدليلية الجغرافية لمنطقة الدراسة. • تجميع وتصحيح الصور الجوية والفضائية لمنطقة الدراسة. • تطوير خريطة الأساس Base-map لمنطقة الدراسة. • تطوير نظام تصفح جميع الطبقات الجغرافية وتعديلها وطباعتها.

Project Title	**دراسة زاوية العضلة رباعية الرؤوس المتشكلة عند مفصل الركبة البشري**
Principle Investigator/ Faculty	د. رمادا خصاونة
Section	العلوم الطبية الاساسية
Number of Project	25/2018
Project Objectives	1. To examine the variation of the Q angle between two different ethnicities (Middle eastern Vs. Malaysian). 2. To examine the correlation between the Q angle and the condylar distance

	of the femur. 3. To study the Q angle with respect to dominance side (right or lift) 4. To confirm the previous findings regarding the measurements of the Q angle with correlation to individual sex, height and weight.
Funding Agency	YU
Project Partners	
Project Budget	1710
Milestones and expected result	The Q angle is different according to ethnicities The Q angle is depend on the condylar distance of the femur

Project Title	تحسين العمليات الحسابية المعقدة باستخدام تقنية الدوائر القابلة للبرمجة والمعالجات الحاسوبية الغير متجانسة
Principle Investigator/ Faculty	د. عبد المهدي محمد المومني
Section	هندسة الحاسوب
Number of Project	26/2018
Project Objectives	To effectively utilize the high-performance hardware platforms in studying mathematical, science and engineering problems using computer simulations. These simulations are constructed using high-level synthesis tools that exploited significant changes in these platforms.
Funding Agency	YU
Project Partners	
Project Budget	3000
Milestones and expected result	applications is Using state-of-the-art technologies in scientific essential, the FPGAs could be used effectively as the main platform or within an integrated heterogeneous computing environment to reduce the long simulation time as well as the overall power consumption.

Project Title	الحفريات الاثرية المشتركة في تل دامية/ موسم ٢٠١٨
Principle Investigator/ Faculty	أ.د. زيدان عبد الكافي كفافي
Section	الاثار
Number of Project	27/2018
Project Objectives	إن تنفيذ هذا المشروع يمثل حافزاً ويهدف إلى دراسة مجتمع خلاّق عاش في منطقة غور الأردن خلال الألف الأول قبل الميلاد وتفاعل مع جميع التحولات البيئية المفاجئة في المنطقة واستطاع التغلب عليها في سبيل دوام العيش فيها. إن عمليات الحت الطبيعي، والعوامل البشرية كشفت النقاب عن تدمير جزء من جهة التل الجنوبية مما يؤكد على ضرورة إجراء حفريات في تل دامية قبل فقدانها نتيجة لهذه العوامل.
Funding Agency	YU
Project Partners	د. لوكاس بتيت من متحف لايدن- هولاندا
Project Budget	9044
Milestones and expected result	

Project Title	التنوع الحيوي لسلالات من اليقطين في الاردن
Principle Investigator/ Faculty	د. وسام " محمد هادي" الخطيب
Section	العلوم الحياتية
Number of Project	28/2018
Project Objectives	The objectives of this study are to: 1- Assess the genetic variation of bottle gourd landraces in Jordan using ISSR markers. 2- 2- Assess the Agromorpholological traits of bottle gourd landraces in Jordan.
Funding Agency	YU
Project Partners	د. رياض مهيدات، د. خالد مبارك البطاينة
Project Budget	9600

Milestones and expected result	Assessment of Bottle gourd (*Lagenaria siceraria*is (Molina) standl) landraces genetic diversity in Jordan. This may help in breeding programs for better growth characteristics and adaptation to our environment.

Project Title	تحديد هوية الشفرة الوراثية التعريفية (الباركودات) لانواع الشعير المختلفة المزروعة والبرية في الاردن
Principle Investigator/ Faculty	د. المثنى خلف الكركي
Section	العلوم الحياتية
Number of Project	29/2018
Project Objectives	1. To identify an effective DNA barcodes for different wild barley species including: Hordeum spontaneum Koch, Hordeum bulbosum L., H. glaucum Steud and the cultivated Hordeum vulgare sp. 2. To identify effective DNA barcodes for different Jordanian barley land races and varities. 3. To compare the cultivated Jordanian barley land races with other land races from neighboring countries.
Funding Agency	YU
Project Partners	أ.د. جميل اللحام، أ.د. مي صادق، د. لينا محمد خير العبيني، م. محمد احمد عواد (جامعة الازهر)
Project Budget	9980
Milestones and expected result	x بحث علمي يعرض في مؤتمر x بحث علمي ينشر في مجلة Researcher are expected to have effective barcodes to differentiate between different wild type and cultivated barley species, varieties and landraces.

Project Title	استخدام الادوية الموصوفة عادة والبقاء على قيد الحياة عند مرضى السرطان
Principle Investigator/ Faculty	د. ريما عبد الله كراسنه
Section	العلوم الطبية الاساسية
Number of Project	30/2018
Project Objectives	The overall aim of this research is to identify medications which could increase/reduce cancer survival. Specifically, research question asked in this study: Are commonly used medications associated with cancer survival?
Funding Agency	YU
Project Partners	
Project Budget	2250
Milestones and expected result	To investigate the association between commonly used medications and the risk of death from cancer. Should the study determine that any of the investigated medications increase or decrease cancer progression, current practices may need to be reconsidered

Project Title	تأثير تناول الكافيين على اشارات التلف العضلي بعد اداء التمرين - المسبب تلف عضلي عند لاعبي كرة القدم
Principle Investigator/ Faculty	د. محمد فايز عبد اللطيف ابو محمد
Section	علوم الرياضة
Number of Project	31/2018
Project Objectives	1. Investigate the effects of caffeine on plasma serotonin and markers of muscle damage. 2. Examine the effects of caffeine on exercise-induced muscle damage.
Funding Agency	YU
Project Partners	الطالبة شيماء سهيل احمد عبابنه
Project Budget	660
Milestones and expected result	١. رسالة دراسات عليا ٢. بحث علمي ينشر في مجلة

Project Title	تحضير جسيمات مودافنيل البلورية المتكسرة بواسطة تقنية السبك المزدوج للاستعمال الفموي: دراسة تأثير اشعاعات الميكرويف والالتراساوند
Principle Investigator/ Faculty	د. ضرار محمد ابراهيم العمري
Section	العلوم الصيدلانية
Number of Project	32/2018
Project Objectives	The objective of this study was to investigate the effect of compression (slugging techniques) on dissolution rate of modafinil from tablets intended to be orally bioequivalent to the original modafinil (Provigil). Double slugging was the best in comparison with single and triple techniques investigated. To simulate this behavior in a simpler way, Microwave and Ultrasound energy are expected to have same effect of compression force during slugging process. These high energetic electromagnetic rays are expected to affect the crystalline structure of drug particles by rearrangement of the drug molecules in the crystalline structure and provides energy for partial dislocation, lattice defects, decrease in intramolecular bonding and increase in void space so as to increase fracture tendency and brittleness of the crystals [28]. Thus, significant increased size reduction of modafinil under pressure can be achieved by exposing modafinil crystals to microwave or ultrasonic energy, which could be useful in increasing dissolution rate of modafinil tablet manufacturing by direct compression. The compressibility and compactibility, surface area and porosity measurements (BET), Intrinsic dissolution, XRPD, SEM, FTIR and DSC are to be utilized for physicochemical characterization of modafinil crystalline powder materials before and after treatments.
Funding Agency	YU
Project Partners	د. السيد العربي نعمان سلام شركة التقدم للصناعة الدوائية، د. اياد سعيد عبد القادر رشيد الشركة الاردنية للصناعة الدوائية، د. حسن علي الحمود قسم العلوم الصيدلانية
Project Budget	15000
Milestones and expected result	1- Increasing solubility and dissolution of drug (modafinil) 2- Enhancing bioavailability of the drug 3- Bioequivalence of the drug product

Project Title	correlating experimental findings with theoretical calculations on: effects of substituents on extraction efficiency of naphthalene based chelates (Mono- and disubtituated for Hg(II),Cd(II) and Pb(II) Divalentions
Principle Investigator/ Faculty	د. عامر جعفر عبد القادر العبد الحميد
Section	الكيمياء
Number of Project	33/2018
Project Objectives	1-Studying the effects of substituents on the binding effectiveness of the proposed chelates. 2- Conducting such comparative studies offers deep understanding of how substitution affects the donation capability of wide spectrum of substituted ligands. 3- Including theoretical calculations of how (a) charge density is distributed and (b) frontier HOMO molecular orbitals are occupied, would enforce the experimental findings in showing the influence of substituents on the electronic delocalization map over the entire ligand system. 4- Achieving success in this study would expand our knowledge to cover new category of chelating compounds. ٥- The benefits of this proposed research to society at large will be provided by using three different approaches: *a) Integration of research and education.* Findings from this study would benefit graduate and an undergraduate students since they will constitute the basis for research work in chemistry, as well as independent study course. *b) Participation of underrepresented groups.* This project provides a vehicle for integrating the research activities found in Yarmouk University and the surrounding institutes. Sharing results of the presented research work with other research groups. *c) Contribution to the ongoing research on similar modules.* The stakeholders who are involved in similar or close research works will have access to and benefit from the information generated by this study.
Funding Agency	YU
Project Partners	
Project Budget	4000

Milestones and expected result	The expected results of this study in broad lines are : 1- Proving the effect of the attached substituents on the extraction efficiency of the investigated chelates 2- Drawing the map of the electron density distribution over the donor atoms involved in the different chelates 3- Correlating the results gathered from the theoretical calculations with the experimental findings 4- Drawing conclusions about the factors that would promote chelates to act as an efficient extractors

Project Title	**العمل الميداني الأثري لموسم ٢٠١٨ في موقع** **أم السرب الأثري – شرق الأردن**
Principle Investigator/ Faculty	أ.د. خالد شنوان البشايرة
Section	
Number of Project	34/2018
Project Objectives	The main objectives of the 2018 proposed project are to : 1- Continue the architectural surveys, that the French-Italian team started last year. 2- Proceed with the documentation of the architectural features of Umm as-Surab structures. 3- Excavate the Area (A) of Umm as-Surab. 4- Proceed in surveying the surroundings of Umm as-Surab.

	5- Train the MA Archaeology students of Yarmouk university on archaeological fieldwork (field and architecture surveys, collecting materials and excavation methods, building archaeology, GPS and total station techniques) and participating in the fieldwork activities. 6- Study the uncovered archaeological remains. The major objectives of the research are local and regional goals. Locally, to understand the occupational trends of the site by surveying, excavating and analysis of standing structures and, regionally, to outline a diachronic evolution of the settlement dynamics in the Hawran region during the time period between the Hellenistic and Islamic periods.
Funding Agency	YU
Project Partners	د. معن العموش
Project Budget	6772
Milestones and expected result	• بحث علمي يعرض في مؤتمر • بحث علمي ينشر في مجلة

Project Title	**الوضع المناعي والخلوي الوراثي في لعاب وخلايا الشدق في عينة مختارة من الأردنيين مستخدمي الهاتف الجوال**
Principle Investigator/ Faculty	**أ.د. أحمد محمد نجيب خليل**
Section	العلوم الحياتية
Number of Project	35/2018
Project Objectives	This research proposal focuses on measurements of the immunocytogenetic effects of the mobile phones in saliva and buccal mucosa cells, as they are the first line of contact with many hazardous agentsincluding exposure to the

	radiation of mobile phones, by 1. Examining the levels of interleukin -33 (IL-33), high sensitivity C-reactive protein (hs-CRP) and Immunoglobulin A, alpha 1 antitrypsin which are used as a clinical marker of an acute inflammation and injuries, in the saliva specimens of participants. It is thought that these markers function as an 'alarm in' released following cell necrosis to alerting the immune system to tissue damage or stress (Miller, 2011). 2. Analyzing the cytogenotoxicity by using buccal micronucleus test and comet assay. The MN formation is related to chromosomal instability, while the comet reflects DNA damage and is an indirect measure of systemic oxidative stress. 3. Following the apoptotic pathway through investigating the induced nuclear abnormalities, which reflect defects in cell kinetics and are associated with cell death.
Funding Agency	YU
Project Partners	أ.د. خالد محمود القاعود
Project Budget	15000
Milestones and expected result	Postgraduate thesis √ رسالة دراسات عليا Scientific research presented at the conference √ بحث علمي يعرض في مؤتمر Scientific research published in the journal √ بحث علمي ينشر في مجلة

Project Title	**تأثير الهرمونات الجنسية الانثوية على مستوى البروتين مستقبلات الانجيوتنسن (AT1 and AT2) في القلب والشريان الاورطي في ذكور جرذان التجارب**
Principle Investigator/ Faculty	د. بهاء الدين محمد امين الطراد
Section	العلوم الحياتية
Number of Project	36/2018
Project Objectives	1- To investigate whether there is a sex-specific differences in the action of estrogen on the arterial and cardiac AT1R and AT2R expression or not. 2- to investigate the progesterone effects on the arterial and cardiac AT1R and AT2R expression in males rat
Funding Agency	YU
Project Partners	
Project Budget	9900
Milestones and expected result	- رسالة دراسات عليا - بحث علمي يعرض في مؤتمر - بحث علمي ينشر في مجلة

Project Title	أثر CoQ10 على علامات التعب العضلي لدى لاعبي جري مسافات الطويلة في أندية شمال الأردن
Principle Investigator/ Faculty	د. محمد بديوي بني ملحم
Section	علوم الرياضة
Number of Project	37/2018
Project Objectives	اثر CoQ10على علامات التعب العضلي بعد جري (٥٠٠٠م) وهي , LDH, CK , AST , TOS . (ALP GGT) , COQ10
Funding Agency	YU
Project Partners	الطالب محمود ابراهيم البشير
Project Budget	1000
Milestones and expected result	- رسالة دراسات عليا

Project Title	**الكارست وعلاقته بعمليات الاذابة والتشققات المتواجدة ضمن الصخور الجيرية المتكشفة في منطقة الدراسة شمال غرب اربد/ الاردن**
Principle Investigator/ Faculty	أ. د. رافع عارف شناق
Section	علوم الارض والبيئة
Number of Project	38/2018
Project Objectives	The aim of this study is to establish the location of karst in NW Irbid and the reasons leading to the formation of karst and karst topography, to delineate the relationship between karst and the tectonic setting of the study area, and to determine the quality of the reservoir and its relationship to the hydrogeology of the study area.
Funding Agency	YU
Project Partners	
Project Budget	3140
Milestones and expected result	رسالة دراسات عليا x

Project Title	دراسات جيومكانيه لتصميم وتقييم موقع بديل لطريق جرش - عمان
Principle Investigator/ Faculty	د. عبد الله مصطفى الروابده
Section	علوم الارض والبيئة
Number of Project	39/2018
Project Objectives	The objectives of this study are to identify the optimum location for an alternative route with the lowest risk assessment in landslide susceptible area using GIS and RS. The approach in the development of the methodology is as follows: 1. Identify the factors for road construction and stress the importance of geological assessment prior to selecting sites for the building of infrastructure. 2. Design an optimum route alignment in landslide prone areas. 3. Identify a least cost path for the optimum route.

Funding Agency	YU
Project Partners	أ.د. مهيب عواوده
Project Budget	8940
Milestones and expected result	Postgraduate thesis 0 عليا دراسات رسالة x Scientific research published in the journal 0 مجلة في ينشر علمي بحث x

Project Title	**الحفريات الأثرية في نفق مدينة أم قيس الأثرية "جدارا" الواقع تحت المعبد الهللنستي**
Principle Investigator/ Faculty	**عاطف محمد سعيد الشياب.**
Section	صيانة المصارد التراثية
Number of Project	40/2018
Project Objectives	a. اجراء حفريات علمية منظمه في هذا النفق والذي يقع تحت المعبد الهلنستي المذكور والذي لم يتم فيه اجراء اية حفريات سابقه . b. رسم وتصوير وعمل المخططات اللازمة لهذا النفق لمعرفة طبيعته ووظيفته المعمارية. c. تفسير هذا النفق والذي سيتم الحفر فيه من الناحية الوظيفية وعلاقته بباقي الانفاق التي تم الكشف عنها في مدينه ام قيس الأثرية سابقا ومقارنة ذلك مع الانفاق الموجودة في مدن الديكابولس الاخرى . d. تأهيل هذا النفق ليصبح جاهز لاستقبال الزوار وتقديمه بطريقه علميه ومنسجمه مع بقيه اجزاء مدينه ام قيس الاثرية. e. توعية المجتمع المحلي بأهميته اثار منطقتهم من خلال اشراكهم بالكشف عن بقايا هذا النفق وتعريفهم بأهمية الاثار من الناحية الاقتصادية لخلق تنمية مستدامة وتشجيع المجتمع المحلي للمحافظة على اثار وتراث مدينة ام قيس من العبث والتخريب.
Funding Agency	YU
Project Partners	د. واصف احمد سخاينه
Project Budget	18241
Milestones and expected result	١-عمل دراسة معمارية هندسية للنفق الموجود تحت المعبد الهللنستي في موقع ام قيس الاثري ٢- توثيق النفق من خلال التصوير والرسم وعمل المخططات اللازمة

	٣- تفسير وظيفة النفق موضوع الدراسة ٤-تاريخ الموقع الاثري من خلال طبقات الاستيطان والتي سيتم الكشف عنها من خلال الحفريات الأثرية ٥-دراسة اللقى الأثرية التي سيتم الكشف عنها . ٦- دراسة التقنيات التي كانت مستخدمه في بناء وحفر النفق وطرق قصارته والمواد التي استخدمت لذلك ٧-تأهيل النفق للمجتمع المحلي والسياح مما سينعكس اثرة ايجابا على اعداد السياح والدخل القومي الاجمالي ٨- نشر بحث علمي في مجلة علمية محكمه وربما عرض نتائج هذه الاكتشافات في مؤتمر دولي

Project Title	**The effect of using DYNAVISION - D2 in training program to evaluate atheletic ability on reaction time in different sports**
Principle Investigator/ Faculty	**أ.د. مازن رزق صالح حتاملة**
Section	علوم الرياضة
Number of Project	41/2018
Project Objectives	Objectives main goals 1- To Determine whether training on the Dynavision program has an effect on the ability to maintain focus of attention on different targets, personal movement. 2- To determine the athletes ability and response to different stimuli in different sport using Dynavision. To examine the visual tracking speed and reaction time on sport type.
Funding Agency	YU
Project Partners	
Project Budget	24500
Milestones and expected result	The benefit of using Dynavision training Device is to improve athletes reaction time, attention ,and Concentration to enhance the level of

	performance. Dynavision Device can be used for different purposes and areas in sp*ort (e.g. Sport Rehabilitation) like athletic injuries.*

Project Title	**مستوى بعض القدرات الحركية وعلاقتها بالتحصيل الدراسي لتلاميذ الفئة العمرية (١٠-١٢) سنة تبعاً لمتغير النوع وبعض المتغيرات الديموغرافيه**
Principle Investigator/ Faculty	د. احمد سالم بركات بطاينه
Section	علوم الرياضة
Number of Project	42/2018
Project Objectives	- التعرف الى الفروق في مستوى القدرات الحركية لدى تلاميذ الفئة العمرية (10-12) سنة تبعا لمتغير النوع الإجتماعي والفئة العمرية. - التعرف الى الفروق في مستوى بعض متغيرات التحصيل الدراسي لدى تلاميذ الفئة العمرية (10-12) سنة تبعا لمتغير النوع الإجتماعي والفئة العمرية. - التعرف الى العلاقة الإرتباطية بين القدرات الحركية وبعض متغيرات التحصيل الدراسي لدى تلاميذ الفئة العمرية (10-12) سنة. - التعرف الى العلاقة الإرتباطيه بين كل من القدرات الحركية وبعض المتغيرات الديموغرافية لدى تلاميذ الفئة العمرية (10-12) سنة. - التعرف إلى كل من متغيرات التحصيل الدراسي، مؤشر كتلة الجسم (BMI) وبعض المتغيرات الديموغرافية التي ساهمت في التأثير على القدرات الحركية لدى تلاميذ الفئة العمرية (10-12) سنة.
Funding Agency	YU
Project Partners	كريمة موسى محمود ياخولا، مرسلات على خاشوقة
Project Budget	990
Milestones and expected result	بحث علمي ينشر في مجلة

Project Title	**الفخار الاموي المكتشف من تل الحصن الاثري موسم ٢٠١٨، دراسة وصفية وعلمية تحليلية**
Principle Investigator/ Faculty	د. ماهر مثقال فايز طربوش
Section	الاثار
Number of Project	43/2018
Project Objectives	١. إبراز أهم سمات وخصائص فخار الفترة الأموية في شمال الأردن بالتركيز على المكتشفات الفخارية في موقع تل الحصن. ٢. دراسة الفخار بأشكاله المتعددة وتصنيفه وإستخراخ العينات الفخارية المماثلة لهذه الدراسة التي ترجع للفترة الأموية. ٣. التعرف على طبيعة الإستيطان من خلال أنواع الفخار وتصنيفه بالإضافة لكميات هذه الأواني لما تحمله من دلالات تفسر طبيعة الإستيطان في الموقع. ٤. دراسة الرسومات والزخارف الموجودة على عينات الدراسة من الناحية الفنية. ٥. التعرف على التقنيات التي استخدمت في تصنيع الأواني الفخارية من خلال التعرف على تقنيات التصنيع وتقنيات الحرق التي استخدمت في تصنيع هذه الأواني.
Funding Agency	YU
Project Partners	الطالبة رويدة ناصر يوسف عتوم
Project Budget	1000
Milestones and expected result	١. رسالة دراسات عليا ٢. بحث علمي ينشر في مجلة

Project Title	**دراسة مقارنة لمحتوى السيليوز واللجنين في نباتات مختارة من الصحراء الاردنية**
Principle Investigator/ Faculty	د. امل حرب
Section	العلوم الحياتية
Number of Project	44/2018

Project Objectives	1- To comparatively analyze cellulose in selected wild plant species from the desert habitat of the southern part of Jordan. 2. To comparatively analyze lignin in selected wild plant species from the desert habitat of the southern part of Jordan.
Funding Agency	YU
Project Partners	د. جميل نمر اللحام
Project Budget	6000
Milestones and expected result	بحث علمي ينشر في مجلة

Project Title	دراسة نمط الوجود الزماني والمكاني لعوامل الانتساخ الجينية DLX2 MASH1 في الجزء الانتهائي الظهري والبطني للدماغ البشري الجيني
Principle Investigator/ Faculty	د. ايمن الزعبي
Section	العلوم الطبية الاساسية
Number of Project	45/2018
Project Objectives	Investigating the identity and state of differentiation of MASH1 and DLX2-expressing cells in different locations and at different time points of developing human brain.
Funding Agency	YU
Project Partners	
Project Budget	10000

Milestones and expected result	High level of expression of the proneural transcription factor MASH1 in human cortex could partly explain the underlying genetic mechanism for expanded neuronal population found in human cortex.

Project Title	اضطراب العاب الانترنت في المجتمع الاردني
Principle Investigator/ Faculty	د. ريما كراسنة
Section	العلوم الطبية الاساسية
Number of Project	46/2018
Project Objectives	1. To establish the prevalence of IGD in Jordanian population 2. To examine factors associated with IGD
Funding Agency	YU
Project Partners	د. ساير ابراهيم العزام
Project Budget	3200
Milestones and expected result	بحث علمي يعرض في مؤتمر بحث علمي ينشر في مجلة

Project Title	تصنيع مستحضرات مضادات حيوية داخل نواقل نانونية لمعالجة مقاومة البكتيريا للمضادات الحيوية
Principle Investigator/ Faculty	د. محمد علي عياصره
Section	العلوم الصيدلانية
Number of Project	47/2018
Project Objectives	Niosomes nanoparticles were investigated for the delivery of different cosmetics and

	therapeutic agents but they have not widely used for antibacterial delivery. Therefore, the main objective of this study are: 1- To formulate niosomes nanoparticles loaded with antimicrobial agent with high encapsulation efficiency and stability. Several antibiotic agents will be investigated such as ciprofloxacin, amoxicillin, imipenem, and some others. 2- To investigate the in-vitro activity of the niosomes based antibiotic formulations and compare these activity with the free un-encapsulated drug. 3- Establish a drug delivery lab at the faculty of pharmacy.
Funding Agency	
Project Partners	د. علاء الجبالي
Project Budget	9950
Milestones and expected result	بحث علمي ينشر في مجلة

Project Title	تقيم اثر نقص الحديد على فعالية مضادات الاكسدة ومستويات كبريتيد الهيدروجين وأكسيدى النيتريك في الاشخاص المصابين بفقر دم نقص الحديد في الاردن
Principle Investigator/ Faculty	د. زيد الطعاني
Section	العلوم الطبية الاساسية
Number of Project	48/2018
Project Objectives	The objective of this study are 1. To assess the oxidative status, nitric oxide, hydrogen sulfide, copper and zinc content in the subject with IDA in Jordan. 2. To study the relationship (correlation) between oxidative status/ NO-H2S balance and the severity of anemia in patients with IDA in Jordan.
Funding Agency	YU
Project Partners	د. المثنى خلف احمد الكركي
Project Budget	9000

Milestones and expected result	بحث علمي ينشر في مجلة

Project Title	تحديد التصنيف الجيني والاستجابة للمضادات الحيوية للبكتيريا المعزولة من طلبة الجامعات الذين يستخدمون العدسات اللاصقة
Principle Investigator/ Faculty	د. وليد حسن المومني
Section	العلوم الطبية الاساسية
Number of Project	49/2018
Project Objectives	1. Isolation and identification of the contaminant bacterial species from the eye, mobile phones and contact lens storage cases using standard diagnostic techniques. 2. Detect multidrug resistant bacteria 3. Molecular typing of the isolated bacteria
Funding Agency	YU
Project Partners	د. وسام احمد شحاده
Project Budget	7000
Milestones and expected result	

Project Title	التقييم الادراكي لجودة مقاطع الفيديو الاصطناعية
Principle Investigator/ Faculty	د. نواف عمر السريحين
Section	نظم المعلومات الحاسوبية
Number of Project	50/2018
Project Objectives	The main objective of this research study is to evaluate the performance of existing VQA methods on synthetic

	video datasets by using the following methods: (1) Conducting a series of subjective tests on new publicly available Virtual KITTI and TRICTRAC Synthetic video datasets. KITTI contains 50 high-resolution monocular videos (21,260 frames) generated from five different virtual worlds in urban settings under different imagining and weather conditions. These worlds were created using the Unity game engine and a novel real-to-virtual cloning method. These photo-realistic synthetic videos are automatically, exactly, and fully annotated for 2D and 3D multi-object tracking and at the pixel level with category, instance, flow, and depth labels. (2) Evaluate the performance of more than two publicly available VQA algorithms on these new datasets
Funding Agency	YU
Project Partners	د. رامي ضرار ملكاوي، أ.د. محمد عارف مطير، د. بشير ابراهيم عياش
Project Budget	6386
Milestones and expected result	The ultimate goal of any objective quality technique is to match human judgment for any multimedia content. So, it could be very useful for the commercial companies that are working with Cloud Gaming services and popular eSports tournaments, which are growing at an exponential pace. The expected outcomes from this research will be: (1) optimizing delivery of video content to end-users, (2) maintaining satisfactory levels of the QoS and QoE for humans which represent the final consumers of the visual content (3) designing optimized displaying devices, rendering engines, and compression standards, and (4) giving the best performance results for the LIVE large natural video database.

Project Title	التغيرات في نظائر سلاسل الميوسين الثقيلة في الخلايا القلبية كاستجابة للتدريب المتبوع بالانغمار في الماء البارد لدى جرذان التجارب
Principle Investigator/ Faculty	د. رمزي احمد الحوراني
Section	علوم الرياضة
Number of	51/2018

Project	
Project Objectives	Therefore, given that the responses of the myocardium MHC isoforms composition to exercise training have been shown inconsistent, this study aims to investigate the changes of MHC isoforms distribution in cardiac muscles associated with exercise training in young and health rats. In addition, we aim to investigate whether post-exercise CWI can alter cardiac function by the means of changes in the myosin isoforms composition
Funding Agency	YU
Project Partners	د. مخلد عبد المنعم الجنابي
Project Budget	9950
Milestones and expected result	بحث علمي يعرض في مؤتمر بحث علمي ينشر في مجلة

Project Title	عمارة الحمامات الرومانية في ام قيس (جدارا) دراسة آثارية مقارنة
Principle Investigator/ Faculty	أ.د. زيدون المحيسن
Section	الاثار
Number of Project	52/2018
Project Objectives	The purpose of this study is the benefit to the scholar seeking new knowledge on Roman thermal baths since the scarcely of local publications and master thesis have been written about the subject. The main goal is to conclude the typology for these bath-houses at Gadara,. The other goal is to recreate the bath's social context, about the purpose of these bath-houses, who used them, when they were used and how they were used. Three bathing establishments are now known, but none has been the subject of a complete and reliable study.
Funding Agency	YU
Project Partners	الطالبة عربية عمر البطاينه
Project Budget	1000

Milestones and expected result	رسالة دراسات عليا

Project Title	استخدام رماد جفت الزيتون الاردني كمادة اولية لانتاج الباطون الجيو بولمري
Principle Investigator/ Faculty	د. فارس عبد الكريم مطالقه
Section	الهندسة المدنية
Number of Project	53/2018
Project Objectives	The main thrust of the proposed project is to develop a new design and a scalable production of sustainable, cost-effective and high-performance geopolymer concrete, which make value-added use of Jordanian olive waste ash to realize engineering properties suiting infrastructure, environmental and other applications. The Project objectives are presented below together with the questions to be answered in the course of achieving each objective. **Objective 1. Characterize the Jordanian Olive Waste Ash with Chemical Compositions and Structures Suiting Use as Precursors for Development of Geopolymer Concrete.** • Does Jordanian olive oil ash provide chemical constituents which benefit geopolymerization? • What is the availability (solubility, crystallinity and amenability to alkali-activation) of the key constituents in olive waste ash? • What are the particle size distributions of the ash, and how amenable are they to milling? • What are the variations in the chemical compositions and structures of the ash collected from several oil mills in Jordan? **Objective 2. Develop Criteria and Methods for Milling and Proportioning Olive Waste Ash, Other By-Products and Synthetic Materials for Production of Sustainable, Economical and High-Performance Geopolymers.** • What are the viable ranges for the ratios of available alkali metal cations (Na, K): silicon: aluminum for effective geopolymerization (alkali-activation of aluminosilicates)? • Which concrete chemical admixtures can function in the alkaline environment of olive waste ash-based geopolymer to benefit their fresh mix workability, processing and engineering properties? • How can the required liquid-to-solid ratio of olive waste ash-based geopolymer be determined in terms of the required fresh mix workability? • What example proportions of (milled) olive oil residue combustion ash, other by-products, synthetic ingredients and water yield a desired combination of chemical constituents, particle size distribution and liquid-to-

	solid ratio for production of olive waste ash-based geopolymer? **Objective 3. Proportion of Olive Waste Ash, Other By-Products, Synthetic Ingredients and Water, Produce the Resulting Geopolymers Using Scalable methods, and Characterize the End Products.** • To what extent do the measured performance characteristics of olive waste ash-based geopolymers deviate from those predicted based on the criteria developed for realizing viable - 7 - chemical compositions and particle size distributions? • How can the mix designs be revised via systematic experimental investigations for approaching the optimum geopolymer mix proportions rendering desired engineering properties at viable cost using scalable production methods? • What are the basic engineering properties of olive waste ash-based geopolymers? **Objective 4. Assess the Commercial Prospects of Olive Waste Ash-Based Geopolymers.** • How does olive waste ash-based geopolymer compare with Portland cement-based materials in terms of performance, cost, carbon footprint, energy content and environmental impacts? • What would be the environmental, economic and performance benefits of transitioning olive waste ash-based geopolymer to the identified priority markets?
Funding Agency	YU
Project Partners	د. ياسر محمود جرادات
Project Budget	14700
Milestones and expected result	بحث علمي يعرض في مؤتمر بحث علمي ينشر في مجلة