Studies of bee foraging plants in Oman
Hello Summer

The summer holidays are the days of refreshment and these days almost come after hard work. This vacation generally starts from the first weeks of June for the university students. As the holidays began, everyone starts making plans of how to spend his/her vacation.

Everyone thinks to enjoy his/her vacation in an amazing way. Some of them thinks of visiting some places, reading, traveling or enjoying the nature. There are several purposes of summer vacation, for instance, it is considered as a relaxation period after the fatigue of the annual examination. The second one is to tide over the terrible heat of the summer. Moreover, it is a chance for a student to improve his/her skill or deficiency in any particular subject. Further, it is the time to learn and experience new hobbies or polish the old talents. Some of them make use of summer vacation in finding a temporary job or getting a training opportunity during summer.

Sultan Qaboos University sometimes provides several programs for internal and external communities in order to improve their skills and to take benefit from their vacation. For instance, SQU provides English courses, sports programs and other entertainment activities.

Sultan Qaboos University provides its students a limited range of academic courses, which are both remedial in nature as well as answering high demand for key prerequisite courses, electives and internship courses. So the students who fulfill the requirements can benefit from summer courses and register on them.
Sultan Qaboos University participated in the activities of the Euro-Arab for Career and Education Fair, which was held at the University of Munich for Technology in Germany, during the period from 15 to 18 May 2014, with the participation of more than 30 educational and professional institutions from around the world.

The fair aims to strengthen the relationship between universities in the Arab world and Europe, and meet with PhD and master’s degrees students from different countries. Sultan Qaboos University participated in this fair, where it reviews the available educational opportunities at SQU for postgraduate programs.

The aim of the participation of SQU in the fair is to strengthen the international presence, to build relationships with other institutions and to build partnership and cooperation with various educational and professional institutions. Flight, oil and gas companies and different research centers participated alongside with the educational institutions.

SQU booth at the fair witnessed a large audience of students who tend to complete their higher education, as well as some educational institutions that looking forward to build partnerships with educational institutions in the Middle East and the Sultanate in particular.

Hamoud Al Qasimi from the International Cooperation Office at SQU said: This participation is important to us as it helps us to identify and meet many educational institutions, especially from European countries. This is the second participation of the University in this fair, which is considered as a continuous of SQU goal to strengthen its international relations.
Studies of bee foraging plants and analysis of pollen pellets from hives in Oman
Alia Sajwania, Sardar A. Farooq and Vaughn M. Bryant

Gathering information on the bee foraging plants in a given area is of primary importance in the development of any apiculture industry. Analysis of the honey produced in hives as well as the stored pollen loads help to evaluate the sources of nectar and pollen used by honey bees and their behavioral pattern in the selection of preferences for certain plants as food. Our previous melissopalynology study focused on the analysis of the Omani honey from hives in 14 locations of Muscat and Al Batinah regions. Our current study examines the pollen pellets collected from those same areas. A total of 249 pollen pellets from 22 honeycombs that were collected by Apis florea and Apis mellifera honeybees were processed and the pollen types were identified using light and scanning electron microscopy. Each pollen load was designated as a unifloral, bifloral or multifloral type. Each plant taxon identified was categorized as being utilized by honeybees for pollen only, nectar only or for both pollen and nectar. A pollen reference collection of 105 local flowering plants was prepared that enabled us to identify most of the pollen types.

The quantification of 94 pollen types revealed that 67 of them belonged to 39 plant families, all of which are represented in both the pollen loads and the honey samples. Seven pollen genera were found in the pollen loads only and suggest that those plants were visited by bees just for pollen. Twenty pollen types appear only in the honey samples and suggest that bees visited them only for nectar. Major bee foraging plant species include: Ziziphus spinapríš富有, Acacia tortilis, Prosopis cineraria, Prosopis juliflora, Maerua crassifolia, Citrus spp., Zygophyllum spp. and Fagonia spp. These data provide a guide to the optimal utilization of floral resources by honeybees in these regions.

Results
This study involved identifying, as far as possible, all pollen grain types in each of the pollen loads. Eighty three different pollen types were noted; 74 of them (i.e. 89%) were identified by comparing them with the local pollen reference collection we produced, or by searching for their identity amongst other relevant reference sources. Of the identified pollen types, 89.2% were from entomophilous plants and 10.8% were from anemophilous plants (Figure 3). All of the pollen found in the pollen loads belonged to the angiosperms with 90.5% coming from dicotyledons and 9.5% coming from monocotyledons. These data are not unusual since Ollerton et al. (2011) reported that in tropical regions of the world 94% of all angiosperms are insect-pollinated. Out of these pollen types present, we were able to identify 38 taxa at the species level and 21 taxa at the generic level, and 14 could not be determined below the family level. One pollen type was identified only at the level of being from the monocotyledon group. The highest number of pollen types (21) was recorded in Barka honeycomb samples C18 and the lowest number of pollen types (two) was recorded for Barka honeycomb sample C9. The average pollen types per pollen pellet were 11.

Conclusion
In Oman, the sale and purchase of honey needs to be expanded and there is also a need for quality control to identify non-Omani samples that may be illegal, blended or adulterated in some manner. Locally produced Omani honey also needs to be identified as to type and characterized as to nectar sources. Furthermore, there is also a need to establish geographical limits for the production of certain honey types in an effort to protect those production zones. With these objectives in mind, the present study was undertaken to evaluate the melissopalynology, determine bee foraging floral sources and identify ecological origins of various types of honey collected from different locations in Muscat and Al Batinah region. By processing samples using the acetylation technique, we were able to identify 122 and 74 pollen types in the honey samples and in the pollen loads, respectively. Pollen identification was possible at different taxonomic levels depending upon comparisons with local pollen references samples. Seven pollen types represented pollen found only in the pollen pellets and 20 pollen types were found in only the honey samples. Sixty-seven pollen types were found in both the honey and pollen pellet samples. Slightly more than 89% of the bee pollen load sources came from melliferous plants and 10.8% of the pollen came from non-melliferous plants. These data suggest that there are sufficient pollen and nectar sources to provide adequate honeybee foraging and for the production of superior honey types from Muscat and Al Batinah region.

Recommendations
Further studies are needed to refine the melissopalynological and biochemical properties of different types of honey produced in Oman, especially the most common honey types from Ziziphus spp. and Acacia spp. sources. These studies will help identify key bee foraging plants available during different seasons and will help to correctly assess and evaluate the potential honey production and future of the apiculture industry in Oman. Efforts are needed to propagate and expand honeybee foraging flora through afforestation and reforestation programs. Those efforts will help improve the bee foraging areas of Oman and will also help make the beekeeping industry and resulting honey production profitable. In an effort to improve the honey harvest in Oman, beekeepers are advised to practice migratory beekeeping to take advantage of nectar and pollen sources in different areas, or to introduce greater numbers and greater varieties of suitable bee foraging plants into their own locality. Efforts are needed to prevent the loss of honeybees from the excessive use of pesticides on bee foraging plants and crops in the vicinity of bee colonies. Current development projects in various regions of Oman threaten the existing bee foraging flora through the increased and uncontrolled indiscriminate destruction of habitats. The knowledge of the importance of key bee foraging plants in different vegetation zones of Oman might encourage the protection and/or planned propagation of those plants in order to aid the development and expansion of bee farms in those regions.
According to the lack of qualified volleyball coaches and trainers in the clubs and training centers. As a result, Oman volleyball coaches have a lack of education and coaching program to develop their knowledge, understanding and coaches skills. In this case, establishing the volleyball coaching education program (OVCEP) will be an excellent step for building up certified and qualified volleyball coaches. The main purpose of (OVCEP) program is to evolve qualified volleyball coaches and develop their individual skills, knowledge, mental skills, physical and coaching skills in national and international level. The program will be intensive and require committed athletes who are willing to dedicate high levels of time and effort to achieve improvements. The program services available to volleyball coaches cover all aspects of quality elite sports development.

The curriculum and models of educational materials which provide in this education program have extended the knowledge of sport sciences and coaching skills. Moreover, OVCEP program has courses and seminars which will be induction courses of FIVB coaches courses. Also, the educational materials of OVCEP program from various resources includes: FIVB Educational Materials, (ICECP) Materials of International coaching Enrichment Certificate Program and educational materials of volleyball USA team and AVCA American volleyball coaching association.

Creating Criteria of Selection (OVCEP)

From our experience and close link with Omani sports in general and volleyball in particular, and in order to prepare a generation of qualified trainers and coaches, building talented players to contribute effectively in Oman Volleyball sports and reflect a bright image of Omani sports in the near future.

The mechanism of selection of national coaches in OVCEP program was produced after a thorough investigation of all policies and regulations adopted in gulf cooperation states and in Arab countries. We also included some methods from western countries which are appropriate to our culture. The aim of these criteria is the attempt to identify potential talented Omani cadres in this type of sports and to classify them according to the international standard criteria which shall not apply to the national cadres only, but extend to cover expatriate technical cadres to ensure expertise and professionalism in this field. Thus, as FIVB coach instructor and former chief of coaches committee in OVA, I suggested that, there are only three items of criteria of participants’ selection in OVCEP. I am strongly believed that, this mechanism of selection will be capable and proper for candidates.

Oman had a lack numbers of certified and qualified coaches. So, OVCEP program will build up the coaches’ level and improving their knowledge and understanding in coaching field through enormous coaches courses and seminars. In addition, OVCEP program is able to generate certified volleyball coaches and trainers who have proper and basic fundamental of coaches aspects in volleyball coaches for clubs and training centers. In my opinion, I am strongly agree that this program will raise the number of qualified volleyball coaches and new generation of volleyball in coming future.

Building up the Fundamental of Volleyball Game and Increasing Number of Players

Obviously, increasing the number of certified volleyball coaches contributes to the building up of fundamental of volleyball game in clubs and schools. In this regard, curriculum and models of OVCEP have upgrade coaches’ knowledge and understanding in volleyball training and teaching. As a result, the number of volleyball players will be increased and it will be a great contribution for National teams. However, the OVCEP conducts numerous professional development seminars each year at the OVCEP Annual Convention. An archive of convention educational materials can be found by FIVB, AVCA and ICECP program. Because of this, I expect that the implementation and curriculum of the program can increase the number of athletes by certified coaches in clubs and training centers.

Development of Players Performance

As I mentioned above, curriculum and educational materials which applied in OVCEP program can improve coaches’ knowledge in training. Moreover, there are some models and subjects of OVCEP program which will develop coaches’ skills and understanding such as Periodization, Psychology, Teaching of Technical and Tactical Volleyball Skills. Also, OVCEP coaches can find out the principles of training and requirement of physical conditioning for volleyball game. However, understanding of periodization and annual plan of volleyball training teach coaches how to avoid any training mistakes and sports injuries. In this regards, coaches are able to develop players’ performance and skills. As FIVB coaches instructor, OVCEP program seems good coaching education program which provide essential models and sports methodology for improving coaches’ knowledge and enhancing players’ performance. In general OVCEP program plays main role for building up volleyball level and fundamental skills for players by certified and qualified coaches.
SQU Hosts the 2nd SEG Geoscience Symposium

More than 143 attendees including 107 students and faculty from 11 universities participated in the 2nd SEG Middle East Geoscience Student Symposium from 26-29 April at Sultan Qaboos University in Muscat, Oman. The conference brought together professionals, university faculty, and students from across the world to learn from the local SEG Student Chapters as they presented some of their most intriguing research.

The symposium was sponsored by Saudi Aramco, Petroleum Development Oman, Kuwait Petroleum Corporation, Oman Oil Company Exploration and Production, Schlumberger, CGG, BGP, Dhahran Geoscience Society and Geological Society of Oman. The hosts Sultan Qaboos University and GEO Group opened the event at the Holiday Inn Muscat Al Seeb.

On behalf of the Dean of College of Science, Dr. Faizah A. Al-Mjeni, Assistant Dean for Undergraduate Studies, delivered the opening speech on the first day of the technical session. Then, Hussain Al-Otaibi, Keynote speaker, Manager of Saudi Aramco’s Exploration Resources Assessment Department, summarized the main points of the symposium: “Looking at the big picture, if you see what is occurring among industry professionals today, the industry is experiencing a worldwide gap between the highly experienced people and newly graduated or less experienced people. It’s a huge gap that affects us all. Symposiums like this play a major role in bridging that gap and accelerating the experience level of the younger generation, enabling them to be ready to catch up with what’s going on in the industry.”

Technical Committee Chairman Said Al Mahrooqi, Petroleum Development Oman’s Head Geophysical Operations commented “SEG’s Middle East office puts them closer to the geoscientists in the region and this event was a perfect testimony. The students presented a success which provided networking, leadership, knowledge, and enjoyment to more than 143 students and faculty, young professionals, and oil industry professionals.

Students from NED University, Petroleum Institute Abu Dhabi, Sultan Qaboos University and United Arab Emirates University are this year’s winners for the oral and poster presentations. A total of 28 abstracts were received out of which seven oral presenters and 16 poster presenters were accepted.

Institutional and Program Standards Assessment Seminar at SQU

A seminar on “Institutional and Program Standards Assessment”, organized recently by the Quality Assurance Office at Sultan Qaboos University in collaboration with Oman Academic Accreditation Authority (OAAA), under the patronage of Prof. Said bin Ali bin Suleiman Al-Yahyaee, Deputy Vice-Chancellor for Academic Affairs and Community Service.

The seminar aims to give SQU staff an overview of OAAA’s role in Oman and to provide them with a context for the Standards Assessments activities and a guidance on preparing for Institutional and Program Standards Assessment. Further, to introduce the Standards Assessment Application (SAA), criterion ratings and approach to decision-making.

Speaking on the occasion, Prof. Said Al-Yahyaee, focused on the importance of Institutional and Program Standards Assessment and the importance of receiving academic accreditation in different SQU programs.

The seminar included 4 sessions; the first session presented by Dr. Salim Razvi on ‘Briefing on Institutional and Program Standards Assessment’, where he gave an overview of OAAA’s work, evolution of institutional and program accreditation, features of HEI and program accreditation. The second session was on ‘Institutional and Program Standards Assessment Processes’ given by Dr. Anna Scopza, where she presented an outline of the stages and timeline of the Institutional and Program Standards Assessment process. “Self-assessment for the Institutional and Program Standards Assessment: Standards Assessment Application and rating for criteria and standards” was the title of the third session which was presented by Dr. Tess Goodliffe. Whereas, the last session deals with the Self-assessment, consideration of product and process, project management and communication, given by Dr. Janice Ross.

SQU Students Receive the Best FYP prize

Students from mechatronics, mechanical, and civil engineering departments of Sultan Qaboos University have developed a prototype for a fully automated ready mixed concrete plant. The multi-disciplinary project got the best FYP prize in the Fourth National Symposium for Engineering FYP at Nizwa University. The project was done by the students: Ahmed Juma Al Shukaili, Khalid Salim Alyahyai, Hajer Aamer Al Rahbi, and Bader Khalfan Al Maamri and supervised by Dr. Ashraf Saleem from the Electrical and Computer Engineering Department.

The plant is designed so that the computer controls the concrete mixing process based on the required quantity and strength of the concrete batch. The system consists of three tanks for the raw materials, each of which has level sensor and electrical actuated valve. Moreover, it has a conveyor belt that moves the raw material to an electrical actuated mixer. Sensors, valves, pump, mixer and conveyor belt are connected to the computer through a data acquisition system. Acquired data are processed in the computer using a software that has been developed by the students. According to the processed data, control signals are generated by the computer in order to control the whole process. The main advantage of the developed system is the ability to produce different types of ready mixed concrete based on the customer demand. Furthermore, it improves the reproducibility as well as the quality of the concrete mixture.
Digital Art

By: Salman Amur Al Hajri,
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Digital Art is one of the modern art forms, which has developed and flourished after the technological revolution that entered significantly in all the details of a modern man’s life. The production of art is no longer limited to the use of traditional tools like oil or water colors, but extended to include contemporary tools like mouse and digital pen which are associated with advanced programs that provide the user with unprecedented possibilities to create artistic works and find a variety of colors by one click. The emergence of computer with this momentum and potential to the world of art has lead to confusion about the concept of this new form of art, its essence and the difference between digital art and graphic design.

There are several factors that contributed to the arrival of the digital art to an advanced level, starting from drawing and coloring programs produced by Apple Macintosh in the 18th century, followed by a lot of companies such as Macromedia, Coral and Adobe, which have produced a package of software, during the last thirty years, that allowed the user to produce accurate artistic works in standard time. During the same period the Internet appeared to contribute in spreading this production around the globe to be as an open gallery to exchange and display such digital production on a large scale. Therefore, an art that combine between tradition and modernity has been appeared, which has a lot of imagination and talent mixed with huge digital potentials to produce a creative art works especially if it is done by a real artist who knows the true meaning of art and its purposes. The problem is that the scope of producing digital art expanded to include contemporary artists, amateurs and those who have nothing to do with art; as a result, the concepts of this new art and the graphic design overlapped, which raise the problems of defining and differentiating between them.

Combining technology with art was the major concern among a large segment of the European artists at the beginning of the 19th century. The graphic design emerged as a new creative field which enables to receive artists’ ideas. It is the most important visual communication art form where the designer uses creative techniques to send a specific message to a specific targeted audience. In practical terms it can be defined as the process of organizing and combining of symbols, images, words, texts and graphics by following certain rules that can be easy delivered to the intended audience. In contrast, the digital art is a production of art through the computer, produced whether by amateurs or artists, such as changing the digital image dramatically, producing animation through digital pens or draw people in a three-dimensional way.

However there are some people who claim practicing the digital art, there are professionals in this field who improved it and made it as an independent art which has its own followers and fans who have the impact in the society and in cultural movement.

The most important global digital artists are Jean-Pierre Pulp, Catherine Belkhodja, and Morris Bannon, and from the Arab World; Adel Adbualrahman, Hisham Zuriq and Mary Al Fatimate. In addition, there are several subsections for this art such as abstract, animation, 3D, fractal art, photo-manipulation, pixel art, typography and vector art.

Anyone who is interested in this art should have skills and knowledge which enable him to distinguish between the digital art and graphic design on one side and on the other side between the good digital art, which is based on solid artistic foundation and carries a lot of expressive connotations through the language of form, and the “abstractive digital art” which does not offer anything and does not carry any connotations. By following these steps, the recipient may be able to enjoy the digital art and by asking a number of questions about digital art production. The questions are: what is the meaning of this painting? What does it offer for me? Does this work express joy and happiness or the opposite? Am I enjoying watching it for a long time or that my eyes cannot tolerate it? There is an initial meaning for any work of art including, components, colors, fonts, shapes, dots and others.

Moreover, the art lover should ask about each detail in the paintings and the relation between its shapes, the distribution of space, lighting, shadow and each detail. In addition, the next step requires the recipient to look at the connotations and symbols at the digital art, which make them, touch his feelings and this is the hidden meaning of the artistic work.

Further, to look at the modern digital art available at the social network and Arabic website reveal that there are a lot of excellent artistic works. At the same time there are other works which lack of the simple elements of the artistic work. The recipient should be aware of essential elements which enable him to enjoy the artistic work and to distinguish between the good and the bad one. We should know that the digital art is a communication tool among contemporary talented artists, which helps them acquire their knowledge and cultures and forming their artistic personality.
Straight Talk

Prof. Mark Adams

Prof. Mark Adams is currently Professor and Dean of the Faculty of Agriculture and Environment at the University of Sydney. He works on a range of native ecosystems – from forests to arid and semi-arid woodlands and grasslands. Adams also works in agricultural systems, mainly on soil processes such as those that release or mitigate greenhouse gases. Much of his career has been spent mentoring and supervising research students who share his keen interest for field-work and for developing our knowledge of how to manage land sustainably while maintaining and improving production. Mark Adams recently led a University of Sydney delegation to the College of Agricultural & Marine Sciences at SQU to explore potential research collaboration with academicians from various departments at the college.

Horizon: Can you state the mission of University of Sydney academicians’ recent visit to SQU?

Prof. Adams: The University of Sydney seeks to help education and research institutions in the GCC. The GCC is a major trading partner of Australia, and we would like to enhance the trade in education and research, through valued partnerships. Our institutional focus on the Energy-Water-Food nexus matches up well with leading institutions in this region.

Horizon: Could you say a few words about the joint seminar on Food-Water-Energy nexus delivered by the researchers from SQU and the University of Sidney as a part of your visit to Oman? What are the positive outcomes of this seminar in establishing long term and short term collaboration in agricultural Research?

Prof. Adams: For any partnership, mutual respect, commitment, and communication are key. By coming to the region and contributing to seminars, we hope to demonstrate our respect for and commitment to supporting local institutions. A second reason is that communication is still best delivered in person. Electronic communications are fine and ever increasing in quality. There is still no substitute for communication in person.

Horizon: Do you find any prospective commonalities between the agricultural practices in Oman and Australia, which may add to the feasibility of joint research and community service activities between the two universities?

Prof. Adams: Yes, for sure. Dry land agriculture has been a mainstay of the Australian economy for at least the past 60 years. As in the GCC, water is arguably our most valuable agricultural resource that has to be practiced often on poor soils. There are a great many individual research areas or fields, that relate to this, including: drought and salt tolerant crops; forage production from rehabilitated soils; aquaculture and hydroponic horticulture; and many more. Key though, has been the willingness of Australia to trade in agricultural produce. Without trade and reliable business models to deliver produce to foreign shores, our agriculture sector would be in deep trouble.

Horizon: In your view, what are the prospective areas of future collaboration, which is emerged from your interaction with faculty at SQU?

Prof. Adams: This is as much a matter for SQU as it is for us. We have outstanding soil and plant science researchers at the University of Sydney, to match up with the best minds in business. We are looking forward to further dialogue to help define areas that might profitably be explored to enhance outputs and outcomes of research and teaching.