Honour for Pesticides Research in Oman
Intrinsic Motivation

We talk a lot about inculcating innovation and entrepreneurship among our students and researchers. To succeed in the current century economy, students must learn to analyze and solve problems, collaborate, persevere, take calculated risks and learn from failure. The fact is that many young people learn how to innovate most often despite their schooling—not because of it. Though few young people will become brilliant innovators like Steve Jobs, most can be taught the skills needed to become more innovative in whatever they do. High schools, colleges and graduate schools can teach young people these skills. In most high-school and college classes, failure is penalized. But without trial and error, there is no innovation. One of the most important things that a good teacher has to teach students is that “when you fail, you are learning.” Students gain lasting self-confidence not by being protected from failure but by learning that they can survive it. The university system today demands and rewards specialization. Though expertise is important, the most important thing educators can do to prepare students for work in good organizations is to teach them that problems can never be understood or solved in the context of a single academic discipline. At an ideal university, all courses are interdisciplinary and based on the exploration of a problem or new opportunity.

Learning in most conventional education settings is a passive experience: the students listen. But at the most innovative schools, classes are “hands-on,” and students are creators, not mere consumers. They acquire skills and knowledge while solving a problem, creating a product or generating a new understanding. In conventional schools, students learn so that they can get good grades. But young innovators are intrinsically motivated. The culture of learning in programs that excel at educating for innovation emphasizes the three P’s: play, passion and purpose. The play is discovery-based learning that leads young people to find and pursue a passion, which evolves, over time, into a deeper sense of purpose. Mandating that schools teach innovation as if it were just another course will not solve the problem. The solution requires a new way of evaluating student performance and investing in education. Students should have digital portfolios that demonstrate progressive mastery of the skills needed to innovate. Teachers need professional development to learn how to create hands-on, project-based, interdisciplinary courses.
Lee Myung-bak, former President of the Republic of Korea commended the comprehensive and sustainable development in the Sultanate under the wise leadership of His Majesty Sultan Qaboos Bin Said in economic, social and cultural spheres. This came during a lecture delivered by the former Korean President on “the Korean Experience in Promoting the Economy” at the Cultural Centre of Sultan Qaboos University (SQU) recently in the presence of Sayyida Dr. Muna bint Fahd bin Mahmoud al-Said, SQU Assistant Vice-Chancellor for External Cooperation.

In his lecture, Lee Myung-bak gave a briefing on Korea and the social, economic and cultural areas, particularly the progress witnessed in the industrial field. He stressed the importance of education and its role in the renaissance and development of the economies of world countries. He talked about his career and the difficulties he faced to complete his education, pointing out that he become the CEO of Hyundai Company, the Mayor of Seoul in 2002 until he was elected president of the Republic of Korea in December 2007.

The former Korean President touched on the Omani-Korean relations and the progress they witnessed in various trade and economic areas, pointing out that Korea is the largest importer of the Omani natural gas as there are a number of Korean companies working in some projects in the Sultanate. He stressed that the current generation should receive the education from the universities and colleges to effectively contribute in the process of building and development. He also stressed the importance of enabling the woman to take part in the development of the economy in various areas.

As many as 36 legal scholars from around the world attended the International Conference on “the Launch of the Arabic Version of UNIDROIT Principles 2010” organized by the College of Law at Sultan Qaboos University (SQU), in association with the School of Advanced International Studies at John Hopkins University, USA. The opening ceremony of the two day conference was held under the patronage of Dr. Hamed bin Sulaiman Al Salmi, SQU Deputy Vice Chancellor for Administrative & Financial Affairs. The conference marked the launch of Arabic version of the 2010 UNIDROIT Principles of International Commercial Contracts in Light of International Conventions & National Laws. UNIDROIT Principles is a document drawn up by UNIDROIT (an intergovernmental organization on harmonization of private international law) intended to help harmonize international commercial contracts law.

In the opening session, Dr. Amal K Abdallah, Assistant Dean for Postgraduate Studies & Research, College of Law, SQU, welcomed the participants. This was followed by a talk on “Human rights in the UNIDROIT Principles of international Commercial Contracts” delivered by Dr. Mohamed Mattar, Senior Research Professor of International Law, and Executive Director of the Protection Project at the John Hopkins University. He emphasized on the importance of human rights, and explained how the UNIDROIT Principles played a major role on preserving human rights by guarantying the rights based on the principles. Dr. Amal Abdallah then gave a talk on “the Omani Civil Code and the 2010 UNIDROIT Principles of International Commercial Contracts”. She focused more on the Omani Civil Law, and elaborated on how the Omani legal system and authorities act with regard to the UNIDROIT Principles. Anna Vezzaziano, Deputy Secretary General, UNIDROIT, Rome, Italy, gave a presentation on “the 2012 Model Clauses for the Practical Application of UNIDROIT Principles”. She started with an outline on UNIDORIT Principles as a whole and its history, and subsequently focused more on the practical application of these principles.

SQU Hosted the 20th meeting of the Committee of the heads of the centers of community service and continuing education at GCC countries recently. The event was opened under the patronage of Dr. Hamed bin Sulaiman Al Salmi, SQU Deputy Vice Chancellor for Administrative & Financial Affairs at Barr Al Jissah Resort Muscat. The meeting was attended by 42 participants representing 25 GCC universities and higher educational institutions. This is for the third time that SQU is hosting the meeting of the heads of community service and continuing education centers.

Speaking on the occasion, Dr. Hamed bin Sulaiman Al Salmi said that the Community Service and Continuing Education Centers play a key role in the functioning of any higher educational institution by fostering partnerships with employers, alumni, faculty, staff, administrators, and the greater community to increase their participation in serving the society. The Centers are more or less self-financed by offering training programs on different areas that are beneficial to the society. At the same time the centers have the responsibility to organize certain free services to the society based on their mission and vision.

Rashid Al Kiyumi, Director of the Centre for Community Service & Continuing Education at Sultan Qaboos University, and chair of the meeting, said that the 20th meeting is a continuation of the committee’s previous meeting which was hosted by Kuwait University. He thanked Kuwait University for hosting the 19th meeting and also the secretariat of the committee headed by Prof. Dr. Ibrahim Karam and assisted by Ms. Naifeh Shammari for their continuous efforts in achieving the goals of the secretariat. “This annual meeting is a good platform to enhance the coordination and cooperation between the educational institutions with special attention to better serve the community service and continuing education missions. The two day meeting concluded by approving a series of recommendations to further streamline the performance of the centers and the services offered by them.
Research on the safe use of pesticides in Oman has recently been honoured by inclusion in a special edition of a top international scientific research journal. The work was conducted by Dr. Said Al Zadjali from the Ministry of Environment and Climate Affairs and Prof. Mike Deadman from the College of Agricultural and Marine Sciences at Sultan Qaboos University, along with collaborators from Surrey University in UK. Science of the Total Environment is one of the highest ranking academic journals; publishing research results from around the world. It has recently produced a special on-line edition that brings together a limited number of the most important papers published on pesticides research over the last few years. The inclusion of the work in the special edition highlights the value of the research in documenting the processes involved in pesticide use in Oman and especially the dangers arising from the disposal of obsolete and surplus chemicals and their containers.

The results came from a farm level examination of the decision-making processes used by farm owners and farm workers when deciding about the deployment of chemical methods for the control of pests and diseases on food crops. The research has serious implications not only for the safety of those involved in the application of pesticides on farms, but also for the protection of the environment and the healthiness of the food that reaches our tables. Prof. Deadman said that the research was conducted initially in Al Batinah governorates and covered over 200 farms although the work has recently expanded to cover all other agricultural regions of Oman. He pointed out that farm-based surveys had shown up differences in attitudes towards pesticides between those owning and working on farms that were members of the Al-Batinah Farmers’ Association and those from farms not in the Association. On farms in the Association the pesticides being used were mainly higher quality products from major international producers and obsolete products and empty containers were less likely to be disposed of according to government requirements. Fewer pesticides that were prohibited under the recent Royal Decree were found on farms that were members of the Association. In contrast, farms that were not part of the Association were more likely to be using cheap (and potentially inferior and possibly dangerous) pesticide products, were more likely to be using products that were prohibited by the Royal Decree and were less likely to dispose of unwanted pesticides and their containers according to government guidelines. On non-Farmers; Association farms, empty pesticide containers were most likely to be left lying around on the soil or perhaps to be collected and burned on site. Both practices are very hazardous. Empty pesticide containers are an obvious danger to livestock and people, especially children. The burning of empty containers is also a serious source of pollution as such containers are unlikely to have been cleaned before being burned. Pesticide residues or their combustion products are then released into the atmosphere. Prof. Deadman said that he hoped that in future the research could be expanded to cover other aspects of pesticide use in Oman, along the lines recently outlined in his address to the Shura Council by the Minister of Agriculture and Fisheries.

“Much of what happens on farms comes down to the perception of risk. What we started calling ‘Recognize the Risks’. Risk can either be embraced or avoided; some of us like it, some run from it. There are risks involved in growing certain crops – some are likely to need more pesticide protection than others, they are more inherently susceptible to pests and diseases. The study results show that Farmers’ Association farmers are more likely to embrace risk and grow high risk-reward crops, and yet by using appropriate, high quality products at the correct rates, the dangers of contamination and over exposure (leading to pesticide residues on food) are minimal. In contrast on a poorly managed farm risky crops are avoided and risks to yield are eliminated by excessive use of chemicals. The problem is that this transfers the risk to us – the risk of pesticide contamination of our food”, Prof. Deadman said.

Prof. Deadman further said: “We need to reinforce the path of pesticide enlightenment that starts with correct problem diagnosis, continues through selection of appropriate pesticide product and correct application procedure and ends with observance of the waiting period between pesticide application and crop harvesting”. Prof. Deadman, with colleagues from the ministries is working towards the introduction of certificate programmes that must be taken by those involved in pesticide applications; the rigorous enforcement of border controls to prevent the importation of prohibited pesticides into Oman; restrictions on the use of cheap copies of pesticides that could contain high levels of contaminants and the issuance of clearer guidelines on recommended pesticides for particular crop problems. “For the sake of our health, the health of farmers and the health of the environment, we need to ensure that the use of pesticides is ever more closely controlled and in line with government policy” Prof. Deadman concluded.
Imagined Forms of Border Crossing and Cultural Exchange

By: Dr. Jamal En-nehas
College of Arts & Social Sciences

“In this is still the strangest thing in all man’s travelling, that he should carry about with him incongruous memories.” Robert Louis Stevenson, The Silverado Squatters (1883)

In an age of fluidity and relativity in the definition of concepts, the word travel has been subjected to various revisionist endeavors to accommodate its latent and intangible forms—metaphorical, symbolic, and virtual—which are now gaining considerable ground in academic discourse. Undeniably, these approaches provide novel perspectives and offer alternative perceptions of how travel is defined and lived transnationally and cross-culturally. Revisiting travel as a discursive practice cannot be seen in isolation from the concept of border crossing, which is no longer viewed as merely a mundane act of passing, moving, and crossing, but fundamentally as a reflection of a postmodern condition and a form of ideological praxis. Inspired by Edward Said and James Clifford’s theoretical insights, the valorization of the touring and traveling cultures helps take the debate beyond the boundaries of academia to embrace other equally important spheres of influence concerned with immigration, cultural policy, identity, and diasporic politics. This article seeks to review and ultimately reposition the concept of travel by exploring how the imaged, imagined, and imaginary forms of travel and physical movement reshape the field of travel literature, accounting for its discursive peculiarities, theoretical and ideological presumptions.

It might seem obscurantist, or perhaps more accurately, apocalyptic to formally declare the end of the age of “authentic” travel at a time when physical movement and the quest for newness and exploration are on the increase as a result of the preponderance of the means of travel and the considerable improvement in their quality. The nostalgic reference to the period of good travel—when the “going was good”—is now but a platitude in postmodern travel discourse. As this paper does not aspire to be apologetic for that era of authentic travel and discovery, certainly not because this is not a matter worthy of academic investigation, the whys and wherefores are best left for a paper that surveys the field of travel, its rise and demise. As we move from the déjà vu and the inevitable, we witness a steady rise in other forms of travel reified mostly through metaphor and symbol, providing alternative perceptions of what might constitute travel in an age characterized by shifting concepts and definitions. Interest in the issue of border crossing, not merely as a mundane act of travel and physical movement, but more for its ideological purpose and cultural significance, has increased over the past three decades since Edward Said and James Clifford started focusing on the significance of the touring and traveling cultures, often taking the debate beyond academia to embrace other public spheres concerned with immigration, cultural policy, identity and diasporic politics, etc. The purpose of this paper is certainly not to document instances of the policies resulting from the new perceptions and definitions of travel in the postmodern context, but rather to explore how the imaged, imagined, and imaginary forms of travel and physical movement reshape the field of travel literature by accounting for its discursive peculiarities and theoretical presumptions.

Nations and peoples have always been defined by how they interact with others, and interaction has traditionally been associated with movement and encounter, with the classical definition of travel hardly shifting from the age-old definition of movement consisting essentially of departure, passage, and return. These static parameters, which have long informed human movement, are now nuanced as the journey no longer solely depends on what occurs at the spatial and temporal levels, for it is also defined in terms of virtuality. As bodies travel and tour places, cultures and ideas concomitantly do so as well, to fascinate and at times bewildering extents. Whether crossing actual borders or mental ones—one in fact needs to distinguish between the two just as John Henry Newman dissociates the “bodily eye” from the “mental eye” albeit for a different purpose—the metaphorical associations therein need to be reckoned with, for as a metaphorical construct, the act of traveling is itself a way of interrogating, subverting, and destabilizing the matrices of self, place, identity, and culture. In the same way as the traveling self cannot exist without the explored/gazed other, as Chris Rojek and John Urry argue, “cultures do not exist in a pure state, hermetically sealed from each other, and possessing a clear and distinct essence.” Several questions can be raised in connection with these hypotheses, revealing how, in their interactions, cultures create hybridized images as they interact at the multiple “contact zones” which result from various cross-cultural encounters. To explore the several ways travel becomes a reflection of the postmodern condition, it seems useful to address the following questions: What types of signs and images does the discourse of travel present/represent as it transgresses lived and imagined/imaginary borders? How is the concept of place shaped by our perception of the very signs and images we attribute to the physical journey? Do these signs and images reinforce or rather mitigate the process of cultural creation and representation in the travel text? Is the perceived image a genuine or a distorting mirror? What is imaged and what is imagined about the self and the journey?
Research Conference Addresses Key Issues

As many as 75 research papers were presented at the First National Conference on Agricultural & Fisheries Research, jointly organized by the Sultan Qaboos University (SQU), the Ministry of Agriculture & Fisheries, the Research Council (TRC), and the Agricultural & Fisheries Development Fund, at SQU. The opening ceremony of the two-day conference was held under the patronage of H.E. Sheikh Mohammed bin Abdullah Al Hinai, State Council Advisor.

Speaking on the occasion, H.H. Sayyid Dr. Fahad bin Julanda Al Said, the Chair of the Conference, and TRC Assistant Secretary General for the Development of Innovation, said that the event would enable agricultural and fisheries researchers to meet each other, gain from each other’s experiences, present their research and exchange ideas about the future of these sectors. “Agriculture and fisheries sectors are always supported by His Majesty Sultan Qaboos, who has called for developing and improving these sectors through research and studies. A large number of researchers from the Ministry of Agricultural & Fisheries, SQU, TRC, the Royal Court Affairs and the Fisheries and Agriculture Development Fund, participate in this conference which is held under the theme “Research for Development”, Dr. Fahad said.

The organizers said that agriculture and fisheries are important sectors in Oman’s economy. “These sectors have been suffering from challenges arising mainly from abiotic and biotic factors in recent decades. Of late, climate change has been affecting the fragile local ecosystems and the flora and fauna through the associated effects of natural disasters such as cyclones, flooding, droughts, ocean acidification and human actions that have adversely affected agricultural and fisheries production. Food security in the country is linked to the development and progress of the agricultural and fisheries sectors. Other issues that face these sectors are reduction of agricultural and fisheries effects on the environment, sustainable production of food, utilization and conservation of natural resources such as soil, water and genetic resources, and development of innovative technology in the agro-fisheries industry. The conference addressed all these issues”.

Apart from 75 research papers, 35 scientific posters and 40 scientific papers were presented at the conference. The papers were presented in seven different sessions namely, plant production, animal and veterinary sciences, marine sciences and fisheries, aquaculture, plant protection, agriculture and health sciences. Away from the mechanical testing environment, PDO seeks to widen this to other areas including humanities and social sciences, information and communication technologies, and life sciences.

PDO-SQU Technology Souq, the annual poster presentation and discussion session, organized by Petroleum Development Oman (PDO) and the Deanship of Research at Sultan Qaboos University (SQU), explored the possibilities of more consultative research projects between the two organizations in fields related to oil and gas exploration and recovery. The event was held recently at SQU under the patronage of H.E. Dr. Hilal Al Hinai, Secretary General of the Research Council (TRC). The engineers and experts from PDO explained certain technical challenges through a number of posters, which enabled SQU researchers to understand the latest challenges in oil industry and the latest technologies adopted by PDO. The posters shed light on the whole range of research and development activities in petroleum fields such as material selection, corrosion, drilling, expandable tubes, etc.

The poster session was followed by two presentation sessions delivered and attended by experts from SQU and PDO. The presentations focused on two broad themes namely corrosion and materials, and water management. Hussain Al Salmi and Shabhd Qayum from PDO discussed about materials corrosion and integrity, and PDO water management opportunities and challenges in materials research and applications. This was followed by a talk on materials testing at SQU, delivered by Dr. Ashraf Al Hinai from the College of Science. Prof. Joydeep Dutta gave a brief overview of water research at SQU.

The research partnership between PDO and SQU started way back in 1995. PDO commits a significant portion of its research budget to projects spearheaded by SQU, almost all of these projects are focused on practical oil-field solutions which can be used by PDO to boost production, at the same time establishing SQU as the regional center of excellence for research into them. Until 2013, SQU has taken up 183 consultative research projects for PDO worth OMR 10473180. In the year 2013 alone, SQU got five projects from PDO worth OMR 544707. Currently most of the consultative projects for PDO comes under energy and non-renewable energy sources, and materials research. SQU seeks to widen this to other areas including humanities and social sciences, information and communication technologies, and life and health sciences. Away from the mechanical testing environment, PDO and SQU are also working together in the vital area of enhanced oil recovery (EOR). For many in the industry, EOR holds the key to maintaining future oil production at levels which will meet global demand. Three EOR-related research projects are currently under way at SQU: Surfactant EOR; Microbial EOR; and Chemical EOR.

Surfactant EOR is investigating the use of surfactants (chemical compounds that lower the interfacial tension between oil and water, thus enabling the oil to flow more freely) to boost production at PDO’s fields. Microbial EOR exploits naturally occurring microorganisms to improve oil production. For this project PDO and SQU are working with the Institut Français du Pétrole (IFP), a leading research organization based in France. Collaborative research in chemical EOR focuses on chemical EOR techniques including polymer plus water shut-off and sand control. SQU is using its laboratories to test new polymer or gel combinations so that any non-performers can be weeded out before they reach the more expensive field trial stage.
Solar Date Dryer Brings Khalifa Award for SQU Researcher

A solar date dryer designed and constructed with locally available materials in Oman bagged second position in the Khalifa International Date Palm Award (KIDPA) 2014 in best technique category. The dryer has been designed with multiple corrugated collector plates instead of a single plane sheet collector by Dr. Mohammad Ali Basunia, an Assistant Professor in the Department of Soils, and Water and Agricultural Engineering department at Sultan Qaboos University (SQU). Dr. Basunia received the honour trophy along with UAE DH 200,000 (RO 21,000) as award money at a function in Emirate Place, Abu Dhabi on 16 March. Khalifa International Date Palm Award was instituted to enhance the prestige of the UAE in the field of date palm research by virtue of its pioneering role in this field; and to encourage people involved in the cultivation of date palm: researchers, growers, exporters, whether individuals or agencies. It is also aimed at supporting research related to the development of the various aspects of the date palm industry.

Commenting on his invention, Dr. Basunia said, “The performance of the dryer was analyzed while drying about 200 kg of freshly harvested dates in a batch having initial moisture content 32.8 per cent (wet-basis). It was possible to reach the safe moisture content level for storage within less than two days (20 hrs) with solar tunnel dryer and 5-7 days in open air natural sun drying. “The results indicated that the drying was faster in solar tunnel dryer than the natural open air sun drying. The improvement in the quality of dates in terms of colour, brightness and flavour was distinctly recognized. The drying air temperature could be easily raised to 5-30 degree celcius above the ambient temperature while the average velocity of air flow inside the tunnel was 0.5 (m/s). The temperature can be easily maintained within 40-65 degree celcius inside the tunnel which is considered as appropriate temperature for drying most of the agricultural products,” he said. According to Dr Basunia, most of the date cultivators in Oman, especially those in the rural areas, still use traditional method of open air natural sun drying in Oman. This method of drying normally takes between 14 and 21 days in the country.

“The traditional open air natural sun drying methods often yield poor quality. In most cases the drying yard is not properly fenced. So the product is not protected against dust, rain and wind, or even against insects, birds, rodents and domestic animals while drying. In the traditional methods of drying, dew accumulates on the surface of dates and causes mold growth if it is not covered properly at night. Colour changes occur and drying becomes slow. Soiling, contamination with microorganisms and infection with disease-causing germs shorten their shelf-life and damage their quality,” said Dr. Basunia. Dr Basunia strongly believes the dryer has capacity to dry more quantities of dates than the traditional methods and says, “Taking into consideration the dates harvesting and land-holding capacities of the marginalized rural farmers in Oman, a 12-metre long and 2-metre wide tunnel was designed and constructed to dry about 200 kg of freshly harvested dates per batch. The prototype solar tunnel dryer consists of a multiple black painted corrugated plate air heating solar collector and drying tunnel, fabricated as a single unit.”

In Dr. Basunia’s dryer, the base of the tunnel is made of wooden frame. The lightweight aluminum frames are used as the upper structure for the entire tunnel to support the transparent plastic cover. The tunnel is placed on concrete block substructures 700 mm above the ground surface. The solar radiation passes through the upper transparent plastic cover. The black painted metallic sheets, which act as solar heat collectors, absorbs this heat. As a result the air inside the tunnel becomes hot particularly in the collector part of the tunnel. Then this hot air is forced by a fan from the collector region to pass over the product in the drying region of the half circled tunnel. The product also directly receives solar radiation in addition to the heat supply from the collector part of the tunnel. Thus this dryer is considered as a mixed mode type solar dryer. A simple economic analysis has shown that a farmer having 150-200 date palm trees can easily earn additional 1000 OMR from these trees instead of selling it in the harvesting season as a freshly harvested product. An extension project can be taken to familiarize this dryer to rural farmers of Oman not only to dry dates but also other agricultural products like limes and tomatoes.
Monique Beaudoin

Dr. Monique Beaudoin is the Associate Director at the US Office of Naval Research-Global (ONRG) for Middle East/North Africa located in London. ONR Global is a US Department of Navy organization directly reporting to the Chief of Naval Research (CNR). ONRG is a grant funding agency with funds specifically awarded for competitive non-US research grants around the world which are relevant to the US Navy’s Science and Technology Strategic Plan. Dr. Beaudoin visited SQU in February to meet researchers specialized in marine sciences, biological sciences, neurosciences, and other disciplines. This includes the biofouling group led by Dr. Sergey Dobretsov (CAMS), the nanotechnology group led by Prof. Joydeep Dutta (TRC Chair), the aging and dementia research group coordinated by Dr. Mohammed Essa (CAMS) and the microbial ecology research group coordinated by Dr. Raeid Abed (College of Science). Additionally, Dr. Beaudoin gave a talk at the Department of Marine Science and Fisheries (MSF). She updated faculty and students on the research funding opportunities provided by ONRG as a part of its mission to effectively address current needs of the Fleet and Force and to investigate and assess high pay off, innovative basic science research.

Horizon: Could you explain the reason why US Department of Navy is seeking international engagement in research?

Dr. Beaudoin: In the current era, the science and technology investment dynamics are changing with countries spending more and more of their GDP on research and development. When it comes to research, it is difficult for any one country to lead in all fields. Innovative science and technology is found across the globe regardless of international barriers. This is why ONR is seeking international scientific engagement in research. In fact, ONRG is one of the only a few US government organizations authorized to fund research outside the country. In the year 2013, ONR Global executed 432 grants in 51 countries totalling $13.7 mill. Grants, for basic science and very early applied science research, are provided to non-US partners from academia, industry, and non-governmental organizations.

Horizon: As an Associate Director with ONR Global, how do you coordinate with researchers in the MENA region in promoting research and development in fields relevant to the US Navy?

Dr. Beaudoin: I am one of the 22 directors assigned to 6 regional offices of ONR Global. My duties include engaging with leading edge international scientists and innovators and providing support to proper documentation needed for grant applications and to socialize their research with invested members of the Naval Research Enterprise (like ONR Headquarters).

Horizon: What are the major focus areas of research, that could obtain fund from ONR Global?

Dr. Beaudoin: The 9 current Naval Science and Technology Focus Areas are: 1) assure access to the maritime battle-space; 2) autonomy and unmanned systems; 3) expeditionary and irregular warfare; 4) information dominance; 5) platform design and survivability; 6) power and energy; 7) power projection and integrated defense; 8) total ownership cost reduction; and, 9) warfighter performance. The Navy’s S&T focus areas are described both in detail and in summary on the main ONR website (http://www.onr.navy.mil/About-ONR/science-technology-strategic-plan.aspx).

Horizon: Can you elaborate on the procedure of submitting non-US proposals for research funding to ONR Global?

Dr. Beaudoin: To begin with, the researchers from the MENA region can email me with a brief description of the project stating clearly what the hypothesis is that they will propose to explore during one research year. The researchers should state why the concept is novel and the research approach is new or superior to the existing approaches. If I believe there is merit to the proposal idea in theory, I will ask the researcher to submit a more technical summary of the project in one or two pages stating background of the work including relevant references, statement of work, and project duration; it is also important to include at this pre-proposal stage the approximate funding that would be required for the work, and high level explanations of what the cost will be for. Sometimes, a visit by myself or one of my Associate Director colleagues – or a grant for the researcher to visit other Program Managers at ONR in Arlington, VA – will be necessary to further understand the context of the research. Finally, if the white paper is successful, I will request mass full proposal submission. There is official guidance on the ONRG Funding Opportunities website about what is expected at this stage, and required procedures. (Refer: http://www.onr.navy.mil/en/Science-Technology/ONR-Glo- bal/funding-opportunities.aspx)

Horizon: Does ONR Global stipulate any conditions for scientific publications resulting from the research and patent registration for innovations?

Dr. Beaudoin: ONR Global encourages any kind of open scientific publications from the research funded by the organization, as well as open presentation of results at international conferences. We just ask that you inform us about publications, and be sure to note the funding support by ONRG in your publications acknowledgment sections. I also would like to take this opportunity to point out that ONR Global funded research has led to patents, degrees, science prizes and even future Nobel recipients. For any further questions on research opportunities with ONR Global, the researchers from the Middle East and North Africa region may contact me by email at monique.e.beaudoin.civ@mail.mil.