

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

Policy and Global Affairs Division
Office for Central Europe and Eurasia

500 Fifth Street, NW
Washington, DC 20001
Phone: 202 334 2172
Fax: 202 334 2614

Proposal to the Richard Lounsbery Foundation
(March 29, 2010)

U.S.-IRAN SCIENTIFIC ENGAGEMENT

Summary

The National Academies request \$100,000 from the Richard Lounsbery Foundation to help bridge their current financial gap in planning and carrying out activities of their program of scientific engagement with Iranian counterparts during the next 12-18 months. This program currently has two major aspects: (a) carrying out three workshops and related activities during this period in fields such as the following: solar energy, seismic problems in urban areas, urban transportation, communicable diseases, hospital administration, and air pollution, and (b) providing continuing advice to the U.S. Government and to interested non-governmental organizations on scientific exchange policies, programs, and approaches involving Iranian institutions. The workshops and related activities will be designed to (a) involve greater active participation by young scientists than in the past, and (b) give more emphasis to sustainability of engagement activities, which should become the responsibility of the individual American and Iranian participants in initial engagement events and their home institutions, as well as the responsibility of the National Academies.

The costs of these and subsequent activities will be shared to the extent possible with other organizations, and particularly Iranian counterpart organizations, the Department of State, and foundations. Unfortunately, obtaining funding of such activities from some sources has become more difficult, given the increasingly aggressive actions of the Iranian Ministry of Intelligence and other Iranian organizations, which cause concerns among potential funders (e.g., an unidentified Carnegie “foundation” is on the Ministry’s list of U.S. NGOs that are no longer welcome in Iran, which raises concerns of the Carnegie Corporation of New York; and the Department of State is re-evaluating potential dangers to Iranian participants in its International Visitors Program.)

Background

The primary objective of the National Academies in embarking on an engagement program ten years ago has been to achieve scientific benefits for both sides and for the international community more broadly. Iran has significant science capabilities in a number of fields of regional and global interest (e.g., seismology, oncology, physics). However, in many ways the Iranian scientific community has been isolated from the main stream of international science. Thus, the engagement program has emphasized direct interactions between scientists from the two countries for working together more fully than had previously been possible in

fields spanning science education, research investigations, and applications of technology. Of course these fields must be considered by the two governments as non-sensitive (e.g., water conservation and recycling, disease surveillance, fisheries research methods).

More than 25 exchanges of individuals (e.g., epidemiology, drug addiction, science policy, geology) and more than 20 workshops and other events (e.g., ecology of Caspian Sea, distance education, research at universities, water resource management) have been carried out during the past decade. Many dozens of American scientists now have a much better appreciation of the quality and significance of Iranian technical achievements (e.g., stem cell research, irrigation approaches), the extent and soundness of Iranian scientific manuscripts (both published and unpublished), and the opportunities and limitations for collaboration through electronic means and attendance at conferences. At the same time, hundreds of Iranian scientists have become familiar with details of U.S. approaches to research and applications in a number of fields (e.g. molecular epidemiology, watershed modeling). On occasion, the two sides have identified areas for learning together (e.g., personal medicine). In one recent case, a member of a team that visited Iran helped Sharif University of Technology gain recognition from the Institute for Scientific Information (ISI) of international status for the journal *Scientifica Iranica*, which will emphasize developments of broad international interest.

Credible surveys of program participants to ascertain their views on the benefits of the program have not been possible due to funding limitations, the political sensitivities of questionnaires, and the small sample size. However, the National Academies have received a number of unsolicited comments about the positive scientific aspects of the program. Also, the importance and quality of some of the papers presented at various venues have attracted considerable interest in both countries.

At the same time, it has not been possible to insulate U.S.-Iranian exchanges from the strained political relationship that has existed between the two governments for many years. The National Academies and its partner organizations in Iran have usually been optimistic that cooperation in science will contribute to the evolution of more favorable environments in both countries for reaching agreements on controversial political and security issues. In this regard, a number of Iranian participants in the program have cycled in and out of important government positions, usually holding favorable views of the importance of cooperation. In short, scientific cooperation is one of the few options for bridging political differences that separate the two countries; and the program has begun to test in a very limited way whether such bridges can be constructed.

Four Nobel Laureates have traveled to Iran, and their receptions have been impressive. A sculptured bust of physicist Joseph Taylor now resides in the garden of a Techno-Park near Tehran. Economist Thomas Shelling received an honorary doctorate even though there was not a faculty of economics at the host university to advocate the awarding of the degree. Physicist Burton Richter was received by a Grand Ayatollah for an extended conversation on current energy issues. Chemist F. Sherwood Rowland inspired both ozone-specialists and air pollution experts to quickly expand their scientific horizons.

Several other examples of engagement activities with significant political dimensions are as follows. (a) In front of an audience of 100 Iranian physicians, a leading American medical expert participated with Iranian surgeons in a joint evaluation of the dangers of an operation on an Iranian TB patient that involved delicate surgery close to the heart. (b) The Vice President of Iran, with 50 leaders of Iranian science and 10 leaders of American science in attendance, called on the scientific communities of the two countries to monitor how advanced technologies are being used and to exert their influence in helping to ensure that new achievements are not being used simply to fuel the arms race. (c) An Iranian specialist who participated in a joint pilot project in Iran on surveillance for food-borne diseases has been sent to Africa by WHO to transfer western approaches to local specialists. On the other hand, an offer by Sharif University of Technology to send earthquake engineers to Haiti to assist with reconstruction was not seriously considered by the U.S. Government when the National Academies forwarded the offer to the Department of State.

The transparency aspects of scientific engagement are worth noting. Authoritative English-language reports about science and technology achievements in Iran are in short supply. Visits to laboratories by American specialists provide opportunities for ground-truth of Iranian scientific advances. Previously unknown manuscripts frequently come to light during personal interactions. The many Proceedings prepared for the workshops contain considerable material that is not otherwise available in the United States and is important in assessing the future course of science and technology in Iran.

The engagement activities have been complicated to arrange. Many agreed activities have been either cancelled or postponed due to administrative issues that arose during the planning process. All the while, representatives of the two governments as well as the partner organizations in the two countries have repeatedly expressed support for the program. However, obtaining visas on time, processing license applications in accordance with U.S. regulations concerning economic sanctions, and arranging for the presence at events of both key scientific leaders and younger rising researchers have been difficult. Also, obtaining financial support for engagement activities that often seemed uncertain has been challenging.

Throughout the past decade, the National Academies have assumed a leadership position in Washington as an advocate for scientific engagement based on commonality of interests. Representatives of the National Academies have regularly consulted with the Department of State, from the Secretary to the Iran desk officer, concerning the program and more broadly about the value of scientific engagement in supporting the government's long-term strategy for improving the relationship with Iran. The National Academies provide up-to-date information about civilian science in Iran that is not otherwise available. Their interactions with the Government clarify for all participants the approval procedures within Iran that permit or deny exchanges. Also, such discussions improve understanding of the roles of significant Iranian leaders. When the U.S. Government is asked whether the program of the National Academies complements other approaches being taken by the government, the answer is always the same, "Yes, and we are eager to learn about your impressions as to developments in Iran."

Current Concerns and Plans for the Future

In December 2008, a staff member of the National Academies was detained by Iranian security officials in a Tehran hotel room for nine hours over a period of three days. He was falsely accused of attempting to foment a velvet revolution. Then in June 2009, chaos erupted on the streets of Tehran and in a number of universities following the flawed Iranian presidential election. At both times, the National Academies had serious concerns as to whether the program could and should continue. After consultations with the Department of State, the National Academies decided to continue the program with events outside Iran. Three workshops were subsequently held in 2009 in California, Finland, and France involving a total of 25 Iranian scientists. There was no indication of any hesitancy on the part of the Iranian Government in approving participation in these events. Then in 2010 the Iranian Ministry of Intelligence released a list of 56 U.S. NGOs that were no longer welcomed in Iran, as previously noted. The National Academies were not on the list. Nevertheless, the National Academies will continue to press for Iranian assurances that workshops and other events in Iran will be free of security incidents.

Almost every workshop results in proposals for additional workshops. The three workshops held in 2009 triggered the following actions for follow-on workshops/activities. (a) The success of a bilateral workshop on earthquake science held in California has led to a trilateral workshop on urban vulnerabilities that is to be held in Turkey in late 2010. (b) The trilateral workshop on environmental crises held in Finland has led to an Iranian proposal for a bilateral workshop on solar energy in the United States, probably in early 2011. (c) The trilateral workshop on science, ethics, and appropriate uses of technologies held in France resulted in a joint statement among participants, which the Iranians intend to introduce at a meeting of the International Association of Universities in 2010 on the same topic.

At present, the following topics for workshops are being discussed with Iranian counterparts in addition to the workshops on solar energy and seismic vulnerabilities in urban areas: urban transportation, air pollution including dust storms in Tehran, water conservation, hospital administration, medical records, cancer, and communicable diseases. The following topics have been suggested by Iranian colleagues for more ambitious projects: strengthening the international network of earthquake engineering centers, training programs in radiation therapy techniques to avoid medical mistakes, assessments of the feasibility of restoring marshlands on the Iran-Iraq border, and designation of an internationally protected biodiversity park in Iran. The National Academies are in correspondence with Iranian counterparts on the foregoing topics and issues. As always, each activity will be difficult to arrange, and some arrangements may not materialize. But once the funding support is assured, efforts will be accelerated to have a credible program through 2011.

Two aspects of the program will receive increased attention in the future. First, both sides have selected primarily senior scientists with well established reputations to make presentations at the workshops; but there now seems to be agreement in principle on both sides that younger scientists should play a more active role. On one occasion, the program successfully attracted young Iranians. A group of 20 specialists in food-borne diseases came to the United States for a workshop and subsequent visits to a number of facilities. More than one-half of the Iranians

ranged in age from 21 to 40, and almost all presented scientific papers. During the events in 2009, most of the Iranian participants were in their mid-careers. Several were approaching retirement, and several were in their early thirties. It is easier to include young American scientists in the activities, and the average age of the American presenters is slowly declining. Unless the workshop is held at a secluded site, there is almost always a large contingent of graduate students from the host country in attendance. Also, an electronic linkage was established between Thomas Jefferson High School in Fairfax, VA, and an elite high school in Tehran. The linkage has been used occasionally to foster dialogues on topics of particular interest to the students.

The second concern is the difficulty in promoting sustainability of activities without the continued involvement of the National Academies. Scientists in the two countries have apparently been too busy and have had too many other international opportunities to take time to deal with the complexities of organizing cooperative U.S.-Iranian activities on their own. On one occasion, the Association of American Universities (AAU), with financial support by the Richard Lounsbery Foundation, organized a visit for six distinguished U.S. university presidents to visit Iran, relying in part on experience and contacts of the National Academies. The presidents stimulated considerable excitement within the Iranian education and scientific communities concerning the importance of university-to-university linkages, and they reported interesting findings during their visits to facilities. The reciprocal visit to the United States has been delayed due to the political turmoil in Iran, but it is now being actively discussed. The National Academies have intervened with the Department of State to help facilitate the visit by ensuring that there will be minimal visa problems on the U.S. side. In the meantime, the National Academies asked each of the six presidents to nominate a faculty member to participate in a recent U.S.-Iran workshop in order to sustain the interest of the U.S. universities, as well as to ensure the high quality of U.S. participants.

Turning to the advisory role of the National Academies, they have teamed with the American Association for the Advancement of Sciences in organizing regular meetings with government officials to discuss U.S. policy directions. These meetings have been in addition to the regular communication between the National Academies and the Iran desk and other action offices of the Department. Among the suggestions presented by the National Academies are (a) correspondence between the two governments that endorses scientific exchanges as an important activity and that provides assurances that scientists having duly authorized visas will be treated in accordance with accepted international practices, and (b) development by the NGO community, in consultation with Iranian colleagues, of a model inter-governmental bilateral Science and Technology Agreement that could serve as a goal to be reached as soon as possible.

Funding Base for the Activities

The lead time for an engagement event is about one year. The National Academies are one of the few U.S. organizations supporting science engagement, and two workshops per year has been a level of activity that sustains credibility in the program. Such credibility is important, not only in maintaining contacts with key Iranian organizations, but also in retaining the interest of the U.S. Government in discussions with the science community of the national policy for science engagement with Iran. The engagement experience of the National Academies during the

next year will be an important determinant as to whether the Department of State retains or abandons its International Visitors Program with Iran as well as whether it invests its funds for support of Iranian civil society in science-oriented activities..

In short, funding is now needed to maintain the momentum and impact of the program which has taken a decade to develop. Funds are in hand from the Carnegie Corporation to support one workshop in 2010, but support (probably in-kind) is essential for preparation of the Proceedings. It is necessary to mobilize resources to finance a second workshop in 2010 and a third workshop in 2011. If the National Academies can demonstrate through these activities that they can continue to engage Iranian counterparts in the most tumultuous times, there is a reasonable likelihood that potential funders will be sufficiently impressed to provide funding for future efforts.

The total cost of a workshop, with a published Proceedings and visits to relevant facilities, often exceeds \$200,000. Therefore, the National Academies must have partners for sharing the costs. When there is core money (e.g., Lounsbery support), the National Academies have in the past been successful in finding partners.

In January 2005, the Lounsbery Foundation provided the National Academies with \$160,000 and in July 2007, with \$200,000. With these funds in hand the National Academies were able to build a strong financial base for the program. Some funds came to the National Academies from other sources, primarily Carnegie Corporation. In-kind support came from a number of partners including the Iranian sponsors, the Department of State, the University of Helsinki, and the Fondation des Treilles.

At present, the Carnegie Corporation is uncertain as to whether its support will continue. The Department of State may or may not continue to be a financial supporter of large travel expenses for Iranian participants to travel to the United States. Other potential funders are interested, but they question the feasibility of exchanges. In short, the near-term success of the National Academies will be very important in persuading funders that despite the political divide, science exchanges can continue to be one of the few bright spots in the U.S.-Iran relationship.

The estimate of costs, which is included herein, reflects the funds that would flow through the National Academies (\$200,000), including the contribution by the Lounsbery Foundation (\$100,000), for two major events. In-kind support will be at least comparable (\$200,000), and perhaps significantly greater, depending on the complexity of the events.

Federal Advisory Committee Act (FACA)

Section 15 of the Federal Advisory Committee Act, 5 U.S.C. App. § 15, does not apply to the activities described in this proposal. Section 15 of FACA restricts agency use of any advice or recommendations provided by the Academy that were developed by use of an Academy committee under an agreement with a Federal agency unless certain requirements are met. Those requirements do not apply to the work described in this proposal because the work does not

involve either the use of an Academy committee or the provision of any advice or recommendations to a Federal agency.

Public Information About the Project

In order to afford the public greater knowledge of Academy activities and an opportunity to provide comments on those activities, the Academy may post on its website (<http://www.national-academies.org>) the following information as appropriate under its procedures: (1) notices of meetings open to the public; (2) brief descriptions of projects; (3) committee appointments, if any (including biographies of committee members); (a) report information; and (5) any other pertinent information.

The Principal Investigator

Glenn Schweitzer is the Director of the Office for Central Europe and Eurasia of the National Research Council. He has managed this program since its inception. He has a long history within and outside the U.S. Government of developing and managing scientific exchanges involving other difficult countries as well, particularly countries of the former Soviet Union and Eastern Europe. In many instances, exchanges that he initiated as bilateral nongovernmental efforts were taken over by governments and became important aspects of bilateral relationships between the countries.

He has written a number of books on international scientific affairs. He has received a number of awards from U.S., international, and foreign organizations for his international work. In 2007, he received the Presidents' Award of the National Academies, which is given occasionally to a member of the staff of the National Research Council.

POLICY AND GLOBAL AFFAIRS

DEVELOPMENT, SECURITY AND COOPERATION

Proposal No. 10-PGA-052-01

U.S. - IRAN SCIENTIFIC ENGAGEMENT

Richard Lounsbery Foundation Summary Estimate of Costs

07/01/10 to 12/31/11

	AMOUNT
Salaries	\$29,324
Travel	\$26,940
Technology/Communication	\$1,512
Meeting Expense	\$3,600
Other Costs	\$1,118
Administrative Services	\$11,324
Computing Services	\$2,574
Financial Services	\$3,260
Information and Library Services	\$1,832
Physical Plant and Equipment	\$7,326
Program Direction and Management	\$11,193
Total:	\$100,000

Amount Requested From Richard Lounsbery Foundation

\$100,000

DeadSeaNet

A transborder Network for Disaster Diplomacy
in the Dead Sea Region

A funding request submitted by

Dr. Hillel Wust-Bloch & Dr. Alon Ziv, Tel Aviv University (TAU)

In association with

Prof. Jalal Al-Dabbeek, An-Najah University (ANU)

Prof. Abdallah Al-Zoubi, Al-Balqa University (ABU)

Prof. Hillel Levine, Boston University & the International Center for
Conciliation (ICfC)



DeadSeaNet: Vision

Science Diplomacy, heretofore, has been a rather limited enterprise. It created meeting spheres where scientists, as citizens of states in conflict, could meet and build provisional networks for communication at times when ordinary citizens could not. The purported "neutrality" of science made this legitimate; the limited technologies for communication made this a special privilege for scientists and a benefit for the statesmen who sanctioned this exception, particularly when this could provide any opportunities for intelligence gathering.

In the 21st century, science diplomats cannot claim neutrality in relation to political, economic or social interests because of the extremes of destructiveness and peacemaking enabled by scientific research itself. Neither can scientists claim a privileged position in creating networks. Ordinary citizens are not restricted in their access to the dramatic expansion in the means of communication, neither by their limited technical savvy nor by their limited resources; and this communication cannot be completely controlled by even the most repressive regimes. The communication of scientists in the global era, therefore, will be either part of the solution or part of the problem.

In a corner of the Middle East, near the Dead Sea, science solutions proliferate and science diplomacy is taking on a new course. Our triangular group of Israeli, Jordanian and Palestinian earthquake scientists is demonstrating that since earthquakes occur beyond the extend of disputed boundaries, writing innovative scripts and agendas for transborder scientific cooperation can bring about a renewed state of reflectiveness, communication, and responsibility and can overcome restraints on cooperation. Applying our scientific appreciation for complexity and focusing on long range perspectives of the welfare and security of our respective nation states and that of the their citizens, we are melding our shared expertise to assure a sustainable development for the unique Dead Sea ecosystem, its local inhabitants, and beyond. Through the intensity and scope of our cooperation, we are trying to model new hope for many millions of people, in the Middle East and elsewhere, caught in the ravages of intractable conflicts.

Recognizing that earthquakes, as well as other natural hazards, know no boundaries, we are focusing on these specific predicaments afflicting the Middle East, utilizing them for an innovative cooperation platform: *"If nature can bring destruction across borders, humans across borders must mobilize to mitigate nature's destructiveness."* We are developing a curriculum for science diplomats and stewards of the environment that responds to earthquakes and natural hazards as realities as well as metaphors for what undermines the very earth on which we stand. We are drawing our lessons from three realms: the best scientific research, the best policies for environmental sustainability, and the best experiences with cultures of cooperation and conciliation.

The Dead Sea region, with its mythical city of Jericho, is remembered since Biblical times as a region of active destruction through wars, earthquakes, and environmental depredation. These events, as well as the memories of these events, have repeatedly disrupted the lives of contemporary Jordanians, Israelis and Palestinians, and their ancestors alike.

Over the past years, Abdallah Al-Zoubi, a geophysicist at Al-Balqa University, Hillel Wust-Bloch, a seismologist at Tel Aviv University, and Jalal Al-Dabbeek a seismic engineer at An-Najah University, have conducted transborder research projects to take the pulse of the planet from its lowest point and to raise humanitarian cooperation to higher possibilities.

Together, we are turning a network of instruments into a network of dedicated experts and transborder disaster diplomats. There is no paucity of areas prone to natural disasters, intra- and inter-state conflicts. We already receive inquiries from other regions to assist in developing programs to be administrated by local leadership.

Over the past year, the *Richard Lounsbery Foundation* noticed our unique looking forward scientific efforts and was very instrumental in developing of our initial vision of science diplomacy in the Dead Sea region. We were able to set up a unique network of scientists, decision-makers and grass-root organization dedicated to transborder earthquake preparedness.

Today, Tel Aviv University together with its transborder partners, is requesting seed money from the *Richard Lounsbery Foundation*, to apply the innovative Disaster Diplomacy curriculum it designed for the benefit of the inhabitants of the Dead Sea region.

DeadSeaNet: Recent accomplishments

Over the past years, DeadSeaNet has evolved into two complementary networks: An earthquake monitoring network and an earthquake preparedness network.

DeadSeaNet: An Earthquake Monitoring Network

Supported by several research grants awarded by the Minerva, Rothschild and Lounsbery Foundations, the Swiss Development Agency, and taking advantage of the greatest technological breakthroughs of just the past five years, we have set up a unique earthquake research and education platform: DeadSeaNet.

DeadSeaNet has brought innovation in several aspects of seismic research. Benefiting from dramatic instrumental miniaturization in size, as well as in costs, we have developed innovative nanoseismic monitoring techniques, which increase the range of detection and data transfer while significantly reducing operational costs. In addition, we have designed a unique, hybrid-monitoring network, which integrates a cluster of multi-sensors (broadband, 1 Hz and accelerometers) mini-arrays together with dozens of low-cost accelerometers (citizen network). Reaching beyond borders as well as deeply within our own communities, DeadSeaNet is a stethoscope that records ground-motion on both sides of the Dead Sea Fault and deciphers its complex dynamics. Supported by a newly awarded USAID-MERC grant (2012-2015), our joint earthquake research focuses on microseismicity because investigating the behavior of small frequent earthquakes provides more robust and abundant insights into the earth's dynamics than observing the powerful and destructive but relatively rare earthquakes that provide less data for inferences. Since sharing seismic data and expertise saves lives and fosters sustainable development, DeadSeaNet is also developing innovative earthquake visualization tools for life-saving data.

Online display of on-going seismicity will be made available to researchers, educators, decision-makers and concerned citizens of all ages. ShakeMaps, Microzonation maps and active fault maps will be designed and up-dated regularly to provide the professional, life saving needs of rescuers, local engineers, builders, planners and decision-makers, within and across borders. Already committed to reach beyond the original scope of this new USAID-MERC project, DeadSeaNet is devising state-of-the-art earthquake mitigation techniques are integrated into an appropriate cultural context and take advantage of direct cross-hierarchical interpersonal relationships between experts. This will result in monitoring that is more instructive, data analysis that is more comprehensive, and rescue strategies that will express greater empathy, and reduce suffering more effectively. The developments of these new standards will draw international humanitarian initiatives, as expressed in 19th century organizations like the Red Cross, into the

actual possibilities of the 21st century by appropriating new technologies of life sustaining prediction, communication, and transportation.

DeadSeaNet: An Earthquake Preparedness Network

To engage its social responsibility, DeadSeaNet has been expanding the scope of its original earthquake research activities to include education, training and public awareness. Since mid-2011, a new Science Diplomacy platform has been established with the support of the *Richard Lounsbery Foundation*, whereby an original network of sophisticated seismic sensors it turning into a network of shared professional expertise and of personal relationships between Israeli, Palestinian and Jordanian scientists. DeadSeaNet has initiated expertise transfer across borders through a series of professional training courses for local engineers and builders as well as seminars at local public schools. Spotting new opportunities for vastly expanding the usefulness of innovative research and monitoring potential, DeadSeaNet in January 2012 established a new strategic partnership with:

- The International Center for Conciliation

ICfC is an international NGO with an extended record of developing conciliation and a shared future within embattled and conflict-torn communities worldwide.

- Friends of the Earth Middle East (FoEME)

FoEME is a transborder NGO that has made outstanding efforts for two-decades to protect the environment by educating the Palestinian, Israeli and Jordanian public about their fragile ecosystem.

This new international partnership, whose members strive to model the relationships that it promotes, is designing and promulgating a trans-border, interdisciplinary earthquake education program. This includes leadership and professional training for prevention and management of crises among adults, Quake-Scouts enlisting teenagers for training in disaster assistance in interactive earthquake learning stations and QuakeParks and EcoParks for children to learn the power and fragilities of their environments through hands-on displays, games, amusements and experiential learning.

We believe that an educated and well-trained public will be less vulnerable to future earthquake destructiveness and act more responsibly in regard to their natural and social environments; raised earthquake and environmental awareness will generate additional work opportunities to local populations; facilitating the integration of

young local scientists trained overseas, DeadSeaNet will reverse brain-drain from the region thereby developing positive role and leadership models for young Jordanians, Israelis and Palestinians.

The members of our partnership, themselves from different parts of the world, of different ethnic and religious backgrounds, and with complementary professional skills and experiences, strongly believe and have the initial evidence to demonstrate that: the state-of-the-art science promoted by DeadSeaNet, the constructive cultural and emotional attitudes promoted by ICfC, the strong commitment to the environment promoted by FoEME — this unusual combination of competence and devotion will function as a vector for positive change in conflict regions. Banking on positively valued research directions and creative interpersonal relationships, our interdisciplinary model has the capacity to look freely towards the future, beyond political boundaries for the good of our children and the fragile environment we share.

Over the past 15 months, the *Richard Lounsbery Foundation* has supported a series of concrete Science Diplomacy activities:

- DeadSeaNet scientific training workshops (4)
- DeadSeaNet-ICfC network building workshops (2)
- Scientific Board meeting (1)
- DeadSeaNet-ICfC-FoEME workshop (1)
- DeadSeaNet-ICfC networking and organization development:
(15 days US tour by PI Wust-Bloch & PI Al-Dabbeek)
 - American History Workshop
 - USIP
 - Michael Singer Studio
 - USAID-MERC
 - Richard Lounsbery Foundation
 - The World Bank
 - USAID-PEER
 - Madison House Foundation
 - Google
 - Aminco Ressources
 - Jefferies
 - Human Right Watch
 - ChangeCommunication

DeadSeaNet: Plans for tomorrow

DeadSeaNet was set up incrementally over the last five years. Leading international funders including the Minerva Foundation, the Rothschild Foundation, the Swiss Development Agency and USAID-MERC provided generous grants for over US\$ 1.8 million. Starting in mid 2011, the *Richard Lounsbery Foundation* has generously supported the groundbreaking science diplomacy efforts of DeadSeaNet, mainly helping cement a strategic partnership: DeadSeaNet-FoEME-ICfC.

In addition to functioning as a transborder seismic observatory, the action plans of DeadSeaNet for the near future focus on developing a unique Disaster Diplomacy curriculum. For 2013, Tel Aviv University, the leader of our transborder research group, is submitting a new funding request to the *Richard Lounsbery Foundation*, whereby technological breakthrough in earthquake research will be brought to the benefit of the Israeli, Palestinian and Jordanian people.

Disaster Diplomacy

Objective:

Promoting our transborder networking efforts through earthquake preparedness and education.

Activities:

The activities of the Disaster Diplomacy program planned for 2013, consist in developing three concentric networks:

- *Networking within DeadSeaNet:* A series of two-days workshops have been designed and led by ICfC to foster transborder communication amongst Israeli, Palestinian and Jordanian scientists.
- *Networking with the authorities:* ICfC will help DeadSeaNet build its earthquake preparedness capacity.
- *Networking with the public:* DeadSeaNet-ICfC-FoEME will develop a new curriculum and experimental material on earthquake hazard and preparedness to be taught to teens at EcoParks (FoEME).

Work program:

- WP-1: Networking within DeadSeaNet:
Participants at our last DeadSeaNet workshop (August 30-31, 2012) identified three main topics:
 - Optimizing group dynamics and resilience
 - Enhancing complementary professional expertise (Engineering vs. Seismology)
 - Planning transborder emergency response and communication.

Two interactive workshops will be conceptualized, custom-designed and led by ICfC experts. Progress will be assessed through evaluations forms filled out by participants, baseline assessment procedures and by on-going developmental evaluation.

- WP-2: Networking with the authorities:
Earthquake preparedness capacity in the Dead Sea region will be evaluated jointly by:
 - Reviewing jointly emergency response procedures
 - Designing a common automated protocol for earthquake analysis for the region with first responders (local Red-Cross Societies)
 - Developing a simple routine to inform the authorities and the media during emergencies.

Program conceptualization will be designed by ICfC, which is also in charge of a customized training program to teach culturally sensitive disaster communication skills.

- WP-3: Networking with the public:
The new curriculum to be prepared by the DeadSeaNet-ICfC-FoEME for the EcoParks (FoEME) includes:
 - An educational brochure will be designed on earthquake hazard and preparedness for EcoParks.
 - A series of interactive learning stations about earthquakes, fitted with accelerometers and real-time display of waveforms.
 - ANU will hold a “shake-table” design competition with 3rd year engineering students and
 - ANU will build three experimental “shake-tables” to be deployed and integrated in heuristic teaching at the Israeli, Palestinian and Jordanian EcoParks.
 - The existing “Water-Trustees” program ran at EcoParks will be supplemented with earthquake educational material. FoEME trainers will be trained to test a new “Quake-Scouts” program.

DeadSeaNet: Finance strategy for disaster diplomacy

The support requested by Tel Aviv University from the *Richard Lounsbery Foundation* for 2013 amounts to a total of US \$ 90,000. This sum comprises the following activities:

- WP-1: Networking within DeadSeaNet: 30,000
 - Program conceptualization and design (200h @ \$50/hour) 10,000
 - Running two workshops on group dynamics, complementary professional expertise and transborder emergency response & communication (incl. transportation & lodging) (2 workshops @ 10,000/workshop: 4 days lodging & food + travel costs for 20 workshop participants) 20,000

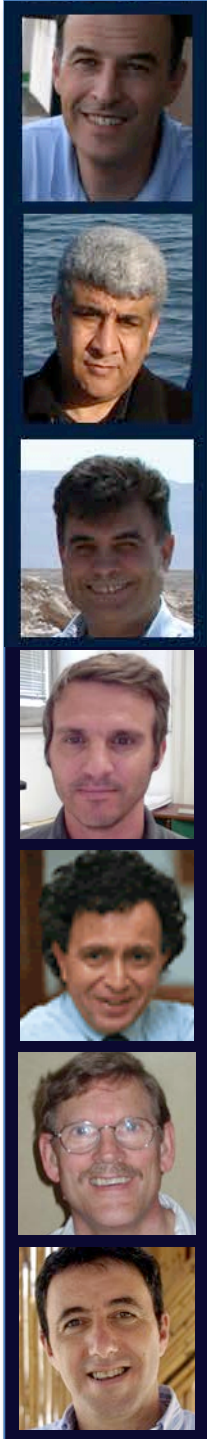
- WP-2: Networking with the authorities: 10,000
 - Reviewing emergency response procedures with first responders and disaster communication (Research: 80h @ \$50/hour) 4,000
 - (Conceptualization & document design: 80h @ \$50/hour) 4,000
 - (Meetings & transportation) 2,000

- WP-3: Networking with the public: 40,000
 - Designing an educational brochure (Research: 120h @ \$50/hour) 6,000
 - Setting up interactive learning stations (Research: 80h @ \$50/hour) 4,000
 - (Equipment: PC, quakecatchers, WiFi) 3,000
 - Running "shake-table" design competition (Research & concept: 200h @ \$50/hour) 10,000
 - Building 3 experimental "shake-tables" (Equipment & materials \$5000/unit) 15,000
 - Designing "Quake-Scouts" curriculum (Research: 40h @ \$50/hour) 2,000

- Overheads: 10,000

Total Budget for Disaster Diplomacy activities in 2013 [in US\$]: 90,000

DeadSeaNet: Project leaders



Dr. Hillel Wust-Bloch is a senior lecturer and researcher at the Minerva Dead Sea Research Center in the Department of Geophysics and Planetary Sciences at TAU. He is the founder of DeadSeaNet, and heads the experimental seismology group. Hillel developed and pioneered nanoseismic-monitoring techniques in the field of earthquake and forensic seismology. Over the past decade, he has lead unique Israeli-Jordanian-Palestinian cooperative research projects in the Jericho area. Hillel was selected by the 2009 national KAMEA Program for Emigrant Scientists.

Dr. Jalal Al-Dabbeek is the director of the Earth Sciences and Seismic Engineering Center and Associate Professor at the department of Engineering at An-Najah University. Jalal presently serves as the General Coordinator for Research Centers at An-Najah University and is the special advisor to the Palestinian government and the official Palestinian representative in every bi- or multi-national project in earthquake research and mitigation. Dr. Al-Dabbeek, a civil engineer by training, has a long record of cooperation with NGOs active in development and hazard mitigation.

Dr. Abdallah Al-Zoubi is the Director of the Department of Geomatics and Engineering as well as Vice-President of Al-Balqa University. His extended academic career includes positions in the USSR, Germany and the US. His regional cooperation record began with a post-doctoral fellowship at TAU. As a geophysicist, Dr. Al-Zoubi has extensive expertise in surface and subsurface imaging techniques for hazard assessment purposes. Over the past 12 years, Abdallah has cooperated with numerous multinational or bi-national research projects in the Middle-East and Levant region, with both TAU and ANU.

Dr. Alon Ziv is an earthquake scientist at the Department of Geophysics and Planetary Sciences at TAU. Co-founder of DeadSeaNet, his research aims to improve the understanding of earthquake mechanics. He combines data analysis and modeling in his studies, and related work that he has performed includes time-space analyzes of earthquake catalogs, relocation of microearthquakes, numerical modeling of seismic faults, comparison between simulated and natural earthquake catalogs, and co-seismic slip inversions.

Prof. Hillel Levine is a professor of sociology and religion at Harvard, Yale, and now Boston University, and visiting professor at many foreign universities; he helped facilitate the first workshops between Israelis and Palestinians organized at Harvard in the early 1970s. Mr. Levine has since conducted research and written books and articles on ethnic and religious conflict. In 1989, he was first sent by the US Department of State as a consultant to China and Japan. He continues that work in those countries as well as South Korea, Cambodia, and India.

Prof. David Steele is an adjunct professor at the Heller School for Social Policy and Management at Brandeis University and a Senior Associate at the International Center for Conciliation in Boston, MA, USA. He has over 20 years experience working to facilitate dialogue, confidence building, problem solving, consensus building, and network building. He has assisted in the development of working groups that have implemented a wide range of cross-cultural projects on issues like environmental protection, economic development and conflict transformation across numerous ethnic divides, including the Balkans, Iraq and Kenya.

Adv. Gidon Bromberg is the Israeli Director of Friends of the Earth Middle East (FoEME). He is an attorney, member of the Israel Bar Association. He holds a Bachelor of Economics and a law degree from Monash University as well as a master's degree in international environmental law (American University in Washington, D.C.) He has published numerous academic publications concerning Middle East environmental policy and water security issues. He was selected for the 2007 World Fellowship at Yale University on global leadership.