Congratulations to the Winners of the EWRI Visiting International Fellowship!

The EWRI’s International Cooperation Council (ICC) recently hosted Ms. Rongqiu Cai and Dr. Alexander Bohuslavsky as its two distinguished Visiting International Fellows at the World Water and Environmental Resources Congress in Orlando, Florida. The Visiting International Fellowship program was established by the ICC to promote cultural and technical exchange between EWRI members and international colleagues from developing countries. The two Fellows were selected by members of the ICC based on a competitive process in which their applications were reviewed regarding the following aspects: 1) cultural and professional exchange activities proposed during the visit to the United States; 2) sponsorship by an ASCE or EWRI member; and 3) technical content of the proposed presentation. Each Fellow gave a presentation on a water or environmental resources topic pertinent to his/her country at the conference in a special session sponsored by the ICC. Both Fellows noted the value of their participation in the conference in terms of introducing them to scientific issues, professional contacts, and the EWRI.

Ms. Cai, a native of Beijing, China, is currently the Deputy Chief Engineer of System Operations for the Department of Water Affairs and Forestry (DWAF) in Pretoria, South Africa. She completed her Bachelors of Engineering degree from the University of Wuhan in 1985. She worked for the China Academy of Railway Science as a research engineer for 9 years before joining the Department of Water Affairs and Forestry in 1994. Ms. Cai received her Bachelors of Engineering (Hons) degree from the University of Pretoria in 1999, and became registered as a Professional Engineer of South Africa in 2000. Ms. Cai was sponsored by Mr. Jan Malan Jordaan who is a member of both EWRI and ASCE. Her presentation and paper was entitled “Discharge Characteristics of the Conduit Radial Gate Spillway.” Upon her return to South Africa, Ms. Cai prepared a report for her agency on her visit to the United States, and she has also joined the Border International Water Quality Standards Committee of the EWRI, noting that many of the issues that committee is addressing are of great interest to the DWAF.

Dr. Bohuslavsky is a Senior Researcher at the Radiological Center of the National Academy of Sciences of Ukraine. He received his first degree from the Department of Physics at Tavria University in Crimea, Ukraine in 1977. He received his Ph.D. from the Institution of Mathematics, Department of Nonlinear Problems at the Academy of Sciences of Ukraine in 1982. Since 1982, Dr. Bohuslavsky has been with the Radiological Center of the National Academy of Sciences of Ukraine as an Engineer, Junior Researcher, and Senior Researcher, specializing in mathematical modeling of groundwater dynamics and transport. Since 1986, Dr. Bohuslavsky’s research has focused on Chernobyl-related problems of groundwater radioactive contamination. Dr. Bohuslavsky was sponsored by Dr. John Labadie (member EWRI/ASCE), and gave a presentation entitled “Modeling Study of the Preferential Vertical Transport Zones Within Chernobyl Area and Their Role in Radioactive Contamination of Groundwater.” Dr. Bohuslavsky also generously donated an atlas of research findings related to the Chernobyl incident entitled “Atlas of Chernobyl Exclusion Zone” to the EWRI. Following the conference, Dr. Bohuslavsky visited the Earth Sciences and Resources Institute (ESRI) at the University of South Carolina in Columbia, South Carolina, where he participated in discussions that resulted in preparations for collaborative work with ESRI scientists to do joint research and publications to study the structure and mechanisms of preferential pathways phenomena in anomalous relief.
depressions for plane relief landscapes in Ukraine, the United States, Poland, Germany, and other countries.
The International Cooperation Council (ICC) of the Environmental and Water Resources Institute (EWRI) congratulates the following Visiting International Fellows to the 2002 Conference on Water Resources Planning and Management in Roanoke, Virginia:

- Dr. Raul Flores-Berrones, Instituto Mexicano de la Tecnologia de Agua (IMTA), Jiutepec, Morelia, MEXICO  
  **Sponsor:** Dr. Emir Jose Macari (M. ASCE), Louisiana State University  
  **Paper title:** Geotechnical aspects of water treatment through stabilization ponds

- Dr. A.W. Jayawardena, University of Hong Kong, HONG KONG  
  **Sponsor:** Dr. Syed R. Qasim (M. ASCE), The University of Texas at Arlington  
  **Paper title:** Neural network approach of hydrological modelling: application in the Asia Pacific Region

- Dr. Osman Nuri Ozdemir, Gazi University, Ankara, TURKEY  
  **Sponsor:** Dr. Thomas Walski (M. ASCE), Haestad Methods, Inc.  
  **Paper title:** Seyhan River Basin flood control study

- Dr. Sudhindra Nath Panda, Indian Institute of Technology, Kharagpur, INDIA  
  **Sponsor:** Dr. Richard Vogel (M. ASCE), Tufts University  
  **Paper title:** Water balance simulation for optimum design of on-farm reservoir in rainfed farming system in eastern India

Presentations by the Fellows were featured at in a special session at the conference. Each Fellow also participated in professional exchange activities during their visit to the United States.

The Fellows were selected based on a competitive review of their applications. Please note that all eligible candidates must meet the following requirements (previous recipients of the fellowship are not eligible):

- Be citizens of, and resident in, a developing country (defined as countries eligible for borrowing from the World Bank (see http://www.worldbank.org/html/extdr/about/eligibility.htm))

- Be sponsored by a North American (i.e., United States or Canada)-based EWRI/ASCE member who submits the application

- Provide descriptions of 2-3 days of cultural and technical exchange activities that will occur outside of the conference

- Provide descriptions of how costs not covered by the fellowship will be covered
Summary report of the activities of Raul Flores Berrones after attending the 2002 Conference on Water Resources Planning and Management at Roanoke, Va. (May 19-22, 2002)

1) Visit to the Geotechnical Division of Virginia Polytechnic Institute and State University in Blacksburg, Virginia, where I talked to Prof. George Filz about the geoenvironmental courses that he is teaching at Virginia Tech, and also to Prof. Tom Brandon, who is in charge of the geotechnical laboratories in that institution. We decided to exchange some information related to these issues, and the possibility of organizing a seminar on geoenvironmental engineering at the UNAM (National University of Mexico), during the Fall of 2003.

2) Visit to the National Science Foundation in Washington, D.C., where I talked to Dr. Harold J. Stolberg, Program Coordinator at the Office of International Science and Engineering. This person informed me about the programs through which it is possible to cover the travel expenses of people who are going to give a lecture, seminar or participate in a conference, either from the USA to Mexico or vice versa. I also talked to Dr. Richard J. Fragazzy, Program Director of the Division of Civil and Mechanical Systems, who told me about the financial aids that exist in the NSF for research and visiting professors on the area of civil engineering, specially in geotechnical and geoenvironmental engineering.

3) Visit to the Texas A & M University System Office in Washington, D.C., where I talked to dr. K. L. Peddicord, Associate Vice Chancellor – Federal Relations, who told me about all the water activities that Texas A & M University System is carrying out through several of its campuses in the state of Texas. Dr. Peddicord gave me the name and e-mails of the persons who are in charge of those institutions, in order to see if it is possible to do some work together with the Mexican Institute of Water Technology (IMTA) or with the National Water Commission of Mexico (CNA). Dr. Peddicord also asked me to see the proposals for CONACYT (National Council of Mexico for Science and Technology) that deal with water, to analyze if IMTA is able to participate in the joint research efforts by CONACYT and Texas A & M University.

4) Visit to the National Academy of engineering (NAE), where I talked to Dr. William A. Wulf, President, about the exchange of activities between this academy and the Academy of Engineering in Mexico (AI). Dr. Wulf will send me the program of activities of the NAE for the period 2002-2003, and he gave me a copy of the last publications made by NAE. He also accepted to give a keynote lecture next year, during our annual conference in Mexico.
It was a great honour and a privilege to be one of four recipients of the 2002 Visiting International Fellowships sponsored by the Environmental and Water Resources Institute of the American Society of Civil Engineers. It was made possible through the application made by Dr. Syed R. Qasim, Department of Civil and Environmental Engineering, The University of Texas at Arlington, on my behalf, for which I am very grateful.

My first stop on May 15th, after a long journey and a 12 hour jet lag was Dallas where I was met by Dr. Qasim. Despite my disorientation, I was made to feel relaxed and comfortable by Dr. Qasim who has arranged excellent accommodation in Arlington and treated me to several sumptuous meals. On May 16th, I had the opportunity to see the facilities in the Civil and Environmental Department of the University of Texas at Arlington, to have discussions with Dr. Qasim and his colleagues, and to give a seminar on “Neural Network Approach of Hydrological Modelling: Applications in the Asia Pacific Region”. In the evening, Dr. Qasim has arranged a visit to the City of Fort worth’s Village Creek Wastewater Treatment Plant Turbine Project which provided about 40% of the electrical needs of the plant using digester gas feed. This visit coincided with the Water Environment Association of Texas (WEAT) May Meeting, and was followed by a social and a dinner. The next day, I was a guest of Dr. W. Walter Chiang, Chief Executive Officer of Chiang, Patel & Yerby, Inc. I was shown two of the branch offices of the company, in Dallas and Fortworth, and a seminar was given to the company’s water resources group in the Dallas Office. On the 17th, I had the opportunity to meet engineers from the Chinese Engineers Society in Dallas.

The EWRI Conference provided an excellent opportunity to meet experts in many different fields in addition to getting to know the other fellow recipients of the Visiting International Fellowships. I met some old friends and made some new. Throughout the stay, we were made to feel at home by the very kind hospitality of Laurel. Special thanks go to her for making this wonderful event happen. I wish continued success of the Programme.
EWRI Honors 2003 Visiting International Fellows

Two Visiting International Fellows were honored during a reception at the 2003 World Water and Environmental Resources Conference in Philadelphia, Pennsylvania in June. Both fellows participated in a panel discussion on international issues in water resources management at the conference, and also presented technical papers.

Mr. Rajiv Batish, a Sub-Divisional engineer for Project Public Health in Chandigarh, India, presented a paper entitled “A new approach to the design of intermittent water supply networks.” His co-hosts, Dr. Rakesh Bahadur and Dr. Dilip Kothekar (Member ASCE), arranged meetings with several water officials at the Fairfax County Water Authority and the Normal M. Cole Pollution Control Plant in Virginia. He was able to learn about innovative technologies being used at these facilities.

The other Fellow, Dr. Nalin Wikramanayake, is a Senior Lecturer in the Department of Civil Engineering at the Open University of Sri Lanka. He gave two presentations at the conference, one entitled “Fertilizer run-off from rain-fed paddy cultivation”, and another entitled “Alternative technology for urban wastewater treatment: case studies and issues of implementation and sustainability.” He was accompanied by his host, Dr. Glenn E. Moglen (Member ASCE), who made arrangements for Dr. Wikramanayake to visit the Department of Civil and Environmental Engineering at the University of Maryland, College Park, where he presented a seminar. Dr. Wikramanayake also visited the OceanUS Office in Arlington, VA, the International System for Analysis, Research, and Training (START) Secretariat in Washington, DC, the Horn Point Laboratory at the University of Maryland in Cambridge, and the Laboratory for Atmospheres at the Goddard Space Flight Center of the National Aeronautics and Space Administration, where he had discussions with several researchers and scientists.

A third Fellow, Dr. Heng Liu of the Nanjing Hydraulic Research Institute was unable to attend the conference due to sanctions for the SARS crisis. He will be honored and participate in the 2004 World Water and Environmental Resources Congress in Salt Lake City, UT. Dr. Liu’s host, Dr. Ximing Cai (Member ASCE) was present at this year’s conference and gave Dr. Liu’s paper entitled “Restoration of pastureland ecological system in the Western Inner Mongolia” at the conference on his behalf.

We were also especially honored this year to have a return visit from one of our first Fellows, Ms. Rongqiu Cai of the Department of Water Affairs and Forestry in Pretoria, South Africa. Ms. Cai was a recipient of the fellowship in 2001, and is currently active on some EWRI committees.

The International Cooperation Council (ICC) established the Visiting International Fellowship program in 2001 to promote cultural and technical exchange between EWRI members and international colleagues from developing countries. The Fellows were selected by members of the ICC based on a competitive process in which their applications were reviewed regarding the following aspects: 1) cultural and professional exchange activities proposed during the visit to the United States; 2) submission of the
application by a collaborating ASCE or EWRI members; and 3) technical content of the proposed presentation. More information about the 2003 Fellows is available at http://www.ag.unr.edu/saito/congra03.htm, and information about the 2003-2004 fellowship is available at http://www.ag.unr.edu/saito/info04.htm.

Left to right: Dr. Ximing Cai; Mr. Rajiv Batish (India); Dr. Nalin Wikramanayake (Sri Lanka)

Left to right: Dr. Nalin Wikramanayake (Sri Lanka); Ms. Rongqiu Cai (South Africa – Fellow from 2001)
By
Rajiv Batish

Visiting International Fellowships are awarded to candidates from developing countries. I feel myself fortunate for being selected for this honor for year 2003. Attending the conference was an exiting experience of rare kind. Many world-renowned experts had gathered there to attend the conference and I could meet many of them personally. The personal interaction with these experts helped me to broaden my outlook towards many water-issues. Many state of art technology issues and products were displayed which gave me a chance to view these.

Developing countries have a long way to reach a technology level of developed nations. This visiting fellowship gave me an opportunity to understand and analyze the two different systems in two different countries in water sector. Now it is possible for me to benchmark our water systems with the developed world and it has motivated me to attain that level in my country.

Professional Exchange

I visited Fairfax County Water Authority' water treatment plant in Virginia (www.fcwa.org) along with my host Mr. Rakesh Bahadur on Friday 27th June 2003. Ms Jeanne M. Bailey, Public Affair Officer of the Fairfax County Water Authority was there to receive me and introduced with various officials employed at the water treatment plant.

The Fairfax County Water Authority is the largest water utility in Virginia, providing drinking water to 1.2 million people. Average daily total production of water for 1999 was 142.4 MGD. The authority has a total value of $ 852 Millions (plants, equipment, office buildings etc.) and water sales of $ 67.8 Millions in 1999. The authority operates 2936 miles of water mains at the end of ’99 including 19,341 Fire Hydrants.

The Fairfax County Water Authority uses conventional technology in an ozone/biofiltration mode to produce finished drinking water from raw water. This technology has six steps (1) Coagulation; (2) flocculation; (3) sedimentation; (4) ozonation; (5) biofiltration and (6) chlorine residual maintenance, and is part of multiple barrier approach to ensure safe drinking water. The multiple barrier approach includes not only elements in the water treatment process, but also procedures within the distribution system and the procurement of the best available raw water. Keeping this in view the Fairfax County Water Authority is building a new off-shore intake in the Potomac River to provide a more consistent water source to Northern Virginia. The intake pipe will extend for 725 ft underneath the bed of the river.

I learnt many things from the water treatment plant especially the online monitoring of the water quality parameters, disinfection with ozone, efficient disposal of solids and an automated control system to monitor the operation of the plant.
On June 27th 2003 afternoon I visited Noman M. Cole Pollution Control plant at Lorton, Virginia 220079. My host accompanied me to the plant and arranged a meeting with the plant officials. I visited the plant and interacted with Mr. Mike McGrath, Senior Process Engineer, Wastewater treatment division.

The Fairfax County Noman M. Cole, Jr. Pollution Control Plant located at 9399 Richmond Highway, Lorton, VA, is a 54 million gallon per day (MGD) advanced wastewater treatment facility which incorporates preliminary, primary, secondary and tertiary treatment processes to remove pollutants from wastewater generated by residences and businesses in Fairfax County. The original plant, which was placed in operation in 1970 with an average treatment capacity of 18 MGD, has undergone two capacity increases (36 MGD in 1978 and 54 MGD in 1995) and process upgrades to meet more stringent water quality standards. The treatment plant receives approximately half of Fairfax County's domestic and commercial wastewater flow.

The plant has full odor control unit of activated carbon and has solid incineration unit to burn the solids produced during the treatment. The Noman M. Cole, Jr. Plant has received several awards for safety and has been recognized for EXCELLENCE IN OPERATION AND MAINTENANCE and for consistently complying with its discharge permit. Several awards have been received from EPA, Association of Metropolitan Sewerage Agencies, Virginia Department of Environmental Safety and Virginia Water Environment Association.

Acknowledgment

I again thank Environmental Water Resource Institute of American Society of Civil Engineers for awarding visiting International Fellowship. Special thanks are due for Ms Laurel Saito for being wonderful host during the conference. I also thank other committee members of Visiting Fellowship program.

Sincerely

Rajiv Batish
Sub Divisional Engineer
Public Health, UT Chandigarh, India
Email- rajivbatish@yahoo.com
A view of the Noman M. Cole, Jr. Waste Treatment Plant.
Report of Activities under the ASCE Visiting International Fellowship awarded to Dr. Nalin Wikramanayake to attend the World Water and Environmental Resources Congress, 2003 in Philadelphia

June 22nd
I attended the committee meeting of the International Cooperation Council from 8.30 to 12.00 am. From 1.30 – 5.00 pm I attended a Short Course entitled “Incorporating Hydrology and Hydraulics Software into Engineering.

June 23rd to 26th
I attended the Keynote Address, Plenary and Award lectures as well as several sessions of the Congress. I presented a paper entitled “Fertilizer Run-off from Rain-fed Rice Cultivation” on the 25th and a paper entitled “Alternative Technology for Urban Wastewater Treatment : Case Studies and Issues of Implementation and Sustainability” on the 26th. I also participated in a panel discussion entitled “International Issues in Water Resource Management” on the 23rd.

As part of the Visiting International Fellowship awarded by ASCE I spent a few days visiting universities and research institutes in the US. The host for this portion of my visit was Prof. Glenn Moglen of the Dept. of Civil and Environmental Engineering, University of Maryland. My activities during this period are summarized below.

June 27th :
Visited the Department of Civil and Environmental Engineering, University of Maryland, College Park. I presented a seminar entitled “Environmental Management of Negombo Lagoon, Sri Lanka”. I carried out reference in the library.

June 30th :
Visited the Ocean.US Office in Arlington, VA. I discussed the planning and implementation of the Integrated Ocean Observation System (IOOS) for the US with Prof. Tom Malone and also exchanged views on the development of a similar system in the Indian Ocean.

Visited the International START (System for Analysis, Research and Training) Secretariat in Washington, DC. I discussed the progress of the South Asian project on Material Fluxes to the Coastal Zone and their Impacts, which is partly funded by START and of which I am the Team Leader in Sri Lanka, with the Deputy Director, Dr. Hasan Virje. I also discussed forthcoming research and capacity building programs involving the South Asian region in the fields of global change and coastal areas.

July 1st
Visited the Horn Point Laboratory of the Centre for Environmental Science of the University of Maryland at Cambridge. My visit was arranged by Prof. Larry Sanford. I presented a seminar entitled “Environmental Management of Negombo Lagoon, Sri Lanka”. I also had discussions with several researchers about their work on understanding the physical, chemical and biological processes in Chesapeake Bay.

July 2nd
Visited the Laboratory for Atmospheres of the Goddard Space Flight Centre of the National Aeronautics and Space Administration. My visit was organized by Dr. Jeffrey Halverson. I had discussions with several members of the team responsible for processing and disseminating the data from the TRMM (Tropical Rainfall Measuring Mission) satellite. The discussions centered on verification of the TRMM estimates using data from Sri Lanka and the use of TRMM data in modeling floods etc. in Sri Lanka.
EWRI Honors 2004 Visiting International Fellows

Three Visiting International Fellows were honored during a reception at the 2004 World Water and Environmental Resources Conference in Salt Lake City, Utah in June. Each of the Fellows gave technical presentations at the conference, and also participated in a panel discussion on water quality issues in their countries. In addition, each Fellow participated in professional activities outside of the conference. ASCE/EWRI member hosts for each of the Fellows helped to arrange these activities for the Fellows. Each of the Fellows commented on the positive and productive interactions they had during their visit with their colleagues and peers in the United States.

Dr. Dilorom Fayzieva, Head of the Environmental Medicine and Hygiene Laboratory at the Institute of Water Problems of the Uzbekistan Academy of Sciences in Tashkent, Uzbekistan, gave a presentation entitled “Hydroecological situation of the basin of the River Zaravshan in Uzbekistan.” She also visited with her host, Dr. Amy Childress (M. ASCE) and other faculty and students at the University of Nevada Reno, where she gave a presentation on her work. While in Reno, she also attended a water system operator training workshop, and visited wastewater and water treatment facilities. She also participated in field sampling on the Truckee River in coordination with research collaborators at the U. S. Geological Survey.

Another Fellow, Mr. Wijanto Hadipuro of Soegijapranata Catholic University in Semarang, Indonesia, presented on issues of public involvement in his talk entitled “Public participation on safe water management in Semarang, Indonesia.” Mr. Hadipuro is a lecturer and researcher in the Post Graduate Program on Environment and Urban Studies, and his host, Mr. Stuart Moring (M. ASCE) arranged for visits with numerous state and local water managers in the vicinity of Roswell, Georgia to discuss issues of public participation in water management. Mr. Hadipuro met with representatives from the Georgia Environmental Protection Division, Atlanta Regional Commission, the Riverkeeper of the Upper Chattahouchee River, and several others.

Dr. Jose Ochoa-Iturbe, the Director of the School of Civil Engineering and the Director of the Environmental Graduate Program at Universidad Catolica Andres Bello (UCAB) in Caracas, Venezuela, gave a presentation on “Recovery of the capacity of a water supply system as a means to river restoration” at the conference. He also visited with his host, Dr. John Stone (M. ASCE) at North Carolina State University (NCSU), where they had productive meetings concerning ongoing collaboration between NCSU and UCAB. In particular, they made considerable progress on renewing a summer practicum between the two institutions, developing a civil engineering distance learning program, possible summer seminars in Caracas, and future exchanges of faculty and students.

The International Cooperation Council (ICC) established the Visiting International Fellowship program in 2001 to promote cultural and technical exchange between EWRI members and international colleagues from developing countries. The Fellows were selected by members of the ICC based on a competitive process in which their applications were reviewed regarding the following aspects: 1) cultural and professional
exchange activities proposed during the visit to the United States; 2) submission of the application by an ASCE or EWRI host; and 3) technical content of the proposed presentation.

Left to right: Mr. Tom Rachford, EWRI President; Mr. Wijanto Hadipuro, Indonesia; Dr. Dilorom Fayzieva, Uzbekistan; Dr. José Ochoa-Iturbe, Venezuela; Dr. Laurel Saito, Chair, Visiting International Fellowship Task Committee
REPORT

of the Visiting International Fellow for the 2004 World Water and Environmental Resources Congress in Salt Lake City, Utah Dr. Dilorom Fayzieva, Institute of Water Problems, Academy of Sciences, Uzbekistan.

I have arrived to US on June 22, 2004 and hosted by Dr. Laurel Saito and Dr. Amy Childress at the Nevada University in Reno. Before attendance of the 2004 World Water and Environmental Resources Congress in Salt Lake City held between June 27-July 1, on June 24, 2004 I participated at the Water System Operator Training Workshop organized at UNR for water operators of the Nevada state. The workshop was very useful for better understanding of Monitoring Requirements and Sampling Procedures accepted in US.

Also, I made a presentation on current international and state research projects carried out in Uzbekistan by our laboratory of Environmental Medicine and Hygiene at the Institute of Water Problems. This presentation was organized for scholars and students of Environmental and Resource Sciences Department of UNR and contained current water resources problems and research needs. Some results of these projects raised many questions which showed a big interest of scholars at UNR. One of the very interesting questions was a high salinity level of waters in the Aral Sea area, its consequences for agriculture, ecosystem and population health and possible ways of their solutions.

I discussed possibilities of future collaboration between educational and academic organizations of Uzbekistan and UNR during the following meetings:

- Meeting with Susie Bender, Director, International Students and Scholars
- Meeting with Amy Childress and Keith Dennett in Civil Engineering Department
- Meeting with Dr. Glenn Miller, Laboratory of Environmental Chemistry
- Meeting with Dr. Tom Dudley
- Meeting with Dr. Mark Walker
- Meeting with Dr. Mark Pinsky (Math Dept)

All scholars were very enthusiastic and expressed a big interests in future research collaboration as well as educational activity with research and educational organizations in Uzbekistan which would provide development of effective environmental protection measures in our region.

During my stay in Nevada I visited the Truckee Meadows Water Reclamation Facility and Chalk Bluff Water Treatment Plant where I saw effective implementation of scientific achievements for practical needs. Last day of my stay in US I participated in sampling by using of SPMD (Semi-permeable membrane device) along the Truckee River together with Dr. Michael Rosen, other staff of USGS and Master Student Margaret Shanafield. Application of this technology for sampling of water for organic pollutants in Uzbekistan will be a main task of future research project proposals between UNR and Institute of Water Problems of Uzbek Academy of Sciences.

During an attendance of the 2004 World Water and Environmental Resources Congress in Salt Lake City held between June 27-July 1, I made a presentation on
“Hydro-ecological Situation in the Basin of the River Zaravshan in Uzbekistan” on the International Water Quality Challenges Session held on June 29, 2004. During the Visiting International Panel Discussion on Water Quality Issues, July 1 we i.e. Visiting International Fellows from different developing countries like Venezuela, Indonesia and Uzbekistan discussed about current water quality problems, possible public health consequences and ways of health risk reduction and pollution prevention. Fellows expressed that exchange by knowledge and experience, developing of research and training projects with US institutions are a very important for capacity building on environmental protection in that countries.

The Visiting International Fellowship Program promotes to recipients to be involved in international collaboration with better understanding of advanced environmental protection strategy achieved in US and for future joint activity towards better and secure environment for future generation.

I am very proud to be a Visiting International Fellow for the EWRI World Water and Environmental Congress 2004 in Salt Lake City and to contribute for future effective research and educational collaboration with US scholars.

Dilorm Fayzieva, Uzbekistan

Napoleon Cordwell from Water Resource Policy Management for Georgia Environment Protective Division told me at my visit to his office that planning should be made before government issued regulations. In most countries, it is more usual for governments to issue regulations although there has not been any planning yet. Regulation is one of the tools in water resources management just to achieve the goals defined in planning process.

Water planning process is not a simple one because there are many institutions involved in the process. Pat Stevens, the Director of Environmental Planning of Atlanta Regional Commission, explained about the planning process and showed me the stakeholders involved in making 'Plans of the Metropolitan North Georgia Water Planning District'. There are more than 300 people both representing their organization or as individuals involved in making three integrated plan of the Metropolitan North Georgia: watershed, wastewater, and water supply and conservation management.

It is not only Public Elected Officials, Citizen Members, all Basin Advisory Councils, and Technical Experts, but also NGOs are the ones to be involved in planning process. Sally Bethea the Executive Director and Riverkeeper from the Upper Chattahoochee Riverkeeper has participated in planning and control process for years. Upper Chattahoochee Riverkeeper is an NGO in the field of keeping river clean from pollution. There are three key activities in Sally’s NGO, those are education, policy and legal advocacy. Just to make sure that the control process is well-done, one of Sally’s NGO activities is education for fishermen to understand well the regulations on the pollution control. Other activity that also very impressive is the education for children to appreciate water quality and conservation.

Water resource could be managed by the local government itself or by inviting private sector in managing water supply or wastewater. There is not any general rule whether public or private which manage better in water sector. Lee Hunt from the Department of Watershed Management, Richard Chime from the Environmental Compliance Division, and Richard T. Parker from Bureau of Drinking Water of City of Atlanta, and also Joseph Batista program Manager of Clean Water Atlanta told me the details why private sector participation failed in managing Atlanta drinking water. The most important thing that makes privatization failed in Atlanta was the shortcoming of the agreement. There were not any incentive for the United Water as the private sector partner to collect bills and to do efficiency programme.

Mike Leonard from the Atlanta Fulton County Water Treatment Plant gave details on the requirements for the success partnership with private sector. There are some key words for success partnership with private sector, those are

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1 Indonesian Visiting International Fellow of The International Cooperation Council 2004 Visiting International Fellowship Programme.
good contract, start small, and that all the parties should know well what they want with partnership. The successful partnership also requires independent commission and no political intervention.

All of these detail descriptions would not be fully understandable without concrete practices on water management and private sector participation in garbage collection which have been long done by City of Roswell. **Stuart A. Moring the Director of Public Works at Roswell** who also my host during the Congress gave me the details and broad descriptions on water management in Atlanta especially concerning Chattahoochee river basin with all its problems.
INTRODUCTION

The World Water and Environmental Resources Congress was held on June 27th to July 1st at the Grand America Hotel in Salt Lake City, Utah. It was organized by the Environmental & Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE).

In the last years the International Committee of the EWRI has awarded Fellowships amongst the papers presented by people from developing countries in accordance with certain conditions and rules.

Recipients for the 2004 Fellowships were Dr. Dilorom Faysieva of Uzbekistan, Mr. Wijanto Hadipuro from Indonesia and the author of this report, from Venezuela.

REPORT

The Fellowship is a great step in the information exchange between countries with different levels of development. It not only brings professionals from developing countries to be in touch with up-to-date expertise and know-how, but also gives a chance to learn from these countries how they are coping with many common problems in the water and environmental sector and what is the chance for future collaboration.

Besides the obvious exchange of information from the sessions, the personal contacts and the possibility of acquiring many useful and interesting publications (a limited resource in many countries) makes the Fellowship a truly worthwhile award.

For the author it was a very enriching and rewarding experience for which I’m very grateful, and I welcome the opportunity to thank the International Committee for their graciousness in recognizing my paper.

As part of the requirements for the fellowship there is a visit to a US institution, to further explore future collaboration. In my case the institution was the Civil Engineering Department at North Carolina State University (NCSU), hosted by Dr. John Stone.

NCSU VISIT

For some years now, NCSU and the Andres Bello Catholic University (UCAB), my institution have been having certain programs with the CE department and the Industrial Eng. Department (IE). Core of these programs has been a summer practicum for senior students from both departments at UCAB.
Unfortunately the program has not been delivered for two years due to the political and economical situation in Venezuela.

Therefore the visit concentrated on several issues to strengthen the ties and to renew and explore several other ideas for collaboration. Amongst these were:

a) *Summer practicum renewal*- NCSU is still very open to continue with this program in view of its previous success (as a tangible result there are now 3 former summer practicum students doing their Master degree, one of them continuing to the Phd.) UCAB is looking for a good number of students to make it economically feasible. For this he is recruiting students from other universities in Caracas, and from the network of Jesuit Universities across Latin America.

b) *CE Distance learning program* – NCSU has a Master’s Degree in Civil Engineering distance learning program already in operation. It was agreed that both universities would explore the feasibility of doing it overseas, with UCAB being a “representative” of NCSU for Latin America. Already some steps have been given in this direction.

c) *Summer seminars in Caracas* – One of the possible outcome of all this is the lecture of seminars in Caracas for certain topics of interest. This would give a chance for a larger number of Venezuelan students to take advantage of up-to-date know-how.

d) *Future exchange of Faculty and students*– Looking into the future we hope to see more students come to NCSU for graduate studies, and to have NCSU students come to UCAB for international experience. Looking further ahead with optimism, an exchange of faculty to do investigation could develop in the next years.

**CONCLUSION**

The international visiting award permitted me a brief but enriching outlook into what is being done in the water & environmental sector in the Americas and elsewhere, which in turn gave me very useful ideas to focus in my own country, especially in the academic institution where I work. It also gave me the opportunity to meet old friends and make new ones, bonded by the same challenges and goals we each pursue within our countries, as is the bettering of our environment for future generations.
EWRI Honors 2005 Visiting International Fellows

Two Visiting International Fellows were honored during a reception at the 2005 World Water and Environmental Resources Congress in Anchorage, Alaska in May. Each Fellow gave a technical presentation at the conference and participated in a panel discussion on climate change issues in their countries with other distinguished panelists. In addition, each Fellow participated in professional activities outside of the conference. ASCE/EWRI member hosts for each of the Fellows helped to arrange these activities for the Fellows. Each of the Fellows commented on the positive and productive interactions they had during their visit with their colleagues and peers in the United States.

Dr. Chandan Mahanta, Assistant Professor of Civil Engineering at the Indian Institute of Technology (IIT) in Guwahati, India, gave a presentation entitled “Regional climate change impact perspective on the future riverine C-N-P flux in the Indo-Tibetan Brahmaputra Basin.” During his stay in the United States, he visited with his hosts, Dr. Jagath Kaluarachi (M. ASCE) and Dr. Mac McKee at Utah State University’s Utah Water Research Laboratory (UWRL). There he interacted with researchers and graduate students, where they discussed the formulation of a joint collaborative project involving UWRL and IIT Guwahati on the trans-boundary water management of Brahmaputra River.

Coming from the Federal Center for Technological Education (CEFET-MG) in Minas Gerais, Brazil where he is an Assistant Professor, Dr. Guilherme Fernandes Marques gave a presentation at the Congress on “WEAP as a participatory tool for shared vision planning in the River Njoro Watershed, Kenya.” Dr. Marques’ host, Dr. Jay Lund (M. ASCE) arranged for visits with faculty and students at the University of California, Davis. There, Dr. Marques worked on collaborative current and future journal publications involving WEAP, multi-stage stochastic programming for water transfers and conjunctive use modeling. He also attended a seminar at the U.S. Army Corps of Engineers’ Hydrologic Engineering Center (HEC) in Davis, and discussed possibly collaborations between CEFET-MG, another Brazilian research center called EMBRAPA, and UCD.

A third fellow, Dr. Marwan Haddad, a Professor at An-Najah National University in Nablus, Palestine, was unable to attend, and will hopefully be able to join us as a Visiting International Fellow at the next EWRI Congress in Omaha.

The International Council (IC) (formerly International Cooperation Council) of EWRI established the Visiting International Fellowship program in 2001 to promote cultural and technical exchange between EWRI members and international colleagues from developing countries. The Fellows were selected by members of the IC based on a competitive process in which their applications were reviewed regarding the following aspects: 1) cultural and professional exchange activities proposed during the visit to the United States; 2) submission of the application by an ASCE or EWRI host; and 3) technical content of the proposed presentation.
Left to right: Dr. Guilherme Fernandes Marques, Brazil; Ms. Katie Gorscak, EWRI; Dr. Chandan Mahanta, India
I came to know about the ASCE visiting International fellowship at the World Water & Environmental Resources Congress 2004 held at Salt Lake City. That year, I was to present my paper at the same session where the Visiting International Fellows of 2004 were also presenting their respective works. After the session, Laurel Saito, the session moderator, came to me and encouraged me to apply for the fellowship next year. That’s how eventually I had applied and qualified for the fellowship for 2005. Thus, I remember with sincere appreciation how Laurel played an instrumental role in making it possible that I returned for the Congress next year followed by an enriching time professionally at UWRL, Logan. Without the fellowship, perhaps I would not have made it this year.

During the time from my application till I finally reached Anchorage to attend the Congress, and even afterwards, there was a regular communication through e-mails from Laurel providing an update and reminding to act on the deadlines. As the coordinator of the programme on behalf of ICC, she was particular in ensuring that the contact with the hosts of the programme is established in time and that nothing should have gone wrong with the application process. In fact, on behalf of the ICC, she played quite a pro-active role in all the initiatives and was always ready with answers to all the queries. During this time, she also facilitated a great deal of discussion on my proposed activities at the Utah Water Research Laboratory at the Utah State University, Logan as a part of the fellowship. All throughout these, my host Prof. Mac Mckee and Prof. Jagath Kaluarachchi also had been quite forthcoming with all necessary information and arrangement.

I had been looking forward to the Fellowship Reception & Icebreaker at Egan Explorer’s Hall on May 15\(^{th}\), 2005 at 6.00 p.m. The warmth and hospitality of the ICC members led by Laurel and Katie was unmistakable all throughout the function. Due to the unique ambience of the citation award event, this would indeed remain one of the most memorable moments of my life. Sharing the platform with the other visiting international fellow, Dr. Guilherme Marques of Brazil was indeed a celebration of true international spirit in addressing a global water environment issue like the climate change. On the subsequent days, there were several good opportunities to meet most of the ICC members for informal discussions, particularly at the dinners hosted so graciously by them. These informal evenings provided ample time and scope for learning more about the functioning of the ICC including possible scope of future association in its activities. Nalin Wikramanayake, a former international fellow sharing his post-fellowship experiences over the years was a welcome addition. The other important part of the activities in the Anchorage congress was the Fellowship Panel Discussion on Climate Change. Here, moderated by Vinio Floris, we had a platform to highlight issues related to our specializations vis-à-vis the policies, challenges, and opportunities of our countries (India in my case) & regions (I highlighted East South Asia) with respect to climate change impact on water resources and how to explore appropriate environmental management tools that could help mitigate such impacts. It was gratifying to note that my input to the panel discussion was well received by the audience and the comments of appreciation both from the other panel members as well as the ICC colleagues later were
heartening. Above all, it was a unique opportunity to put across a regional perspective of a global problem to a diverse group of international professionals. The panel discussion held on May 16th during 3.30 to 5.00 pm also featured the participation of Mr. Kyle Schilling and Dr. Abdul Malek Al Sheikh. The other highlight of my participation in the Congress was that I also moderated two sessions in the Congress on May 19th (Precipitation shifts due to climate change and Stream-flow and run-off modelling under the theme Hydrological impacts of changing climate patterns).

The next important part of the fellowship commenced as soon as the congress was over. I reached Utah State University (USU) at Logan on 21st May to spend the better part of the week to follow for having academic exchange with the faculty and scholars of the Utah Water Research Laboratory (UWRL). All throughout my stay at the USU, most of which was spent at the UWRL, I was well taken care of in all respects and encouraged to take part in the ongoing activities of the laboratory. It was my host Prof. Mac McKee, Director of UWRL, who spared no effort to keep me spending each moment of my stay at the laboratory with getting to know something or the other. He personally took me around to each corner of this big complex, explaining each of the activities being carried out, the equipments, the simulation facilities and in the process introducing me to all the key personnel of UWRL. I can never thank Prof. Mac enough for his understanding benevolence and exceptional hospitality. My other host Dr. Jagath Kaluaracchi who heads the Water Engineering programme at the UWRL provided valuable clues on future research directions. I was happy to see that the talk delivered by me on future international research challenges in the transboundary international river the Brahmaputra (which happens to be the geographical area of my active research interest) could provoke vibrant discussions and generated much interest for possible future research collaboration. As a result of my interaction with the other active groups of researchers at UWRL, I could also visit the field sampling locations in the Logan River and could look at the online data logger system with multi-sensor probes and advanced telemetric system. There was an active group of graduate students from Palestine working in UWRL at the time of my visit and with them not only I could have beneficial professional deliberations but also long lasting individual friendship. At the time of my visit, the selection process of a new head for the Civil and Environmental Engineering Department of USU was on, and I could attend two important expository seminars delivered by eminent candidates on the theme related to future of the Civil and Environmental Engineering at the USU, which were quite illuminating from the point of learning about the emerging areas related to these disciplines of growing importance. Encouraging comments were received from Prof. David. K. Stevens, Prof. Gilberto Urroz and Prof. Jagath Kaluaracchi of UWRL during discussions. I also fondly remember the logistic support supplemented untiringly by Jan Urroz, Supervisor, Administrative Services and Infrastructure at UWRL.

Today, looking back I realize that the fellowship could bring some remarkable change in my professional life. That is what I could say the least about this unique opportunity. It has not only brought changes in my outlook towards perceiving major water related research programmes, it also equipped me with knowledge about several new concepts that I could pick up at the UWRL, in addressing emerging water-environment problems.
While it helped to reaffirm the conviction that the nature of many future water problems will be governed by global phenomenon such as climate change, equally important remains the fact that much of what can be mitigated of the potential ill effects would depend upon how we can garner international cooperation in seeking solutions to such uncertain domains.

A major outfall of the fellowship seminar that I delivered at UWRL was a series of discussions on the formulation of a joint collaborative project involving UWRL and IIT Guwahati on the trans-boundary water management of the Brahmaputra River. This discussion is being followed up currently over exchange of e-mails to shape it further based on two preliminary drafts that I had left with Prof. Mckee. Active participation of the Utah Centre for Water Resources Research and the International Programme of UWRL headed by Prof. Mckee is expected to be the very strength of this proposal to be submitted for funding in due course.

As a part of an academic career, there were opportunities to visit places and institutions of different nature and take part in programmes of various types, but the international visiting fellowship programme of EWRI-ICC stands apart from the rest distinctly. First, the reception at the icebreaker in a unique ambience is a great idea; then the cheerful helping spirit of the young ICC members is an experience to be cherished, supplemented by the scope of mingling with some of the best academicians and professionals around; I found the panel discussion to be stimulating as well as rich in substance. Above all, the idea of being hosted by a prestigious U.S. institution for the post-congress academic exchange is beneficial in many ways. All these add to the excitement and accomplishment of this programme. There is no doubt that the International visiting fellowship is one of the very effective events of the EWRI/ASCE Congress. In the years to come, this is one event that should be strengthened more to spread the reach of the International activities of the ASCE-EWRI through a growing group of scholars drawn from all over the world. I would love to be part of that mission.
International Fellow: Guilherme Fernandes Marques

The 2005 Visiting International Fellowship provided an opportunity for participation in the 2005 World Water and Environmental Resource Congress and scientific exchange and collaboration at the University of California, Davis. Both activities were of significant importance in strengthening cooperation with UC Davis and other research institutions in US, with the objective of improving development of state-of-the-art research in Brazil. The activities were considered successful based on the results presented below.

2005 World Water and Environmental Resource Congress

The fellow presented the paper “WEAP as a participatory tool for shared vision planning in the River Njoro Watershed, Kenya” in a technical session and had the opportunity of discussing feedback with researchers conducting similar work in other countries, including Canada. The fellow also had the opportunity of attending other presentations addressing the same research topic and to get to know different approaches and methods used, as well as their limitations and strengths.

Visit to the University of California, Davis

This visit had the purpose of discussing and working in current and future journal paper publications, identify collaboration possibilities and get to know up-to-date research in progress.

Attending Seminar at the Hydrologic Engineering Center - HEC

The HEC, based on Davis, CA, presented a seminar about the new generation of software systems for water resources planning, NexGen, integrating databases, object-oriented graphical interfaces and data manipulation. The presentation was focused on a reservoir optimization system with new features including manipulation of penalty functions for water demands through the interface. This system enables the inclusion of new developments on economics-engineering water planning models.

Publication related activities

The stay at UC Davis allowed collaborative work towards new peer-reviewed publications. Technical meetings were scheduled with researcher Marion Jenkins (UCD) to put forward a journal version of the WEAP paper presented in Anchorage, with improvements in the analysis and inclusion of more detailed methods. Discussions with professor Jay R. Lund were scheduled to improve journal publications currently in review stage and start development of two other journal publications involving multi-stage stochastic programming for water transfers and conjunctive use modeling. These discussions and work also involved Dr. Tingju Zhu, a former UCD PhD student currently
working at IFPRI. Other important meetings and discussions involved further knowledge of latest and up-to-date research being conducted at UCD in the Agricultural and Resource Economic Department (Professor Richard Howitt) and Civil and Environmental Engineering Department (PhD student Julien Harou and master’s student Randy Fields).

Future work and collaboration related activities

A research group is currently being organized in Brazil to work with simulation of large scale integrated water systems and opportunities for collaboration in internationally funded projects and being sought. At UCD, the fellow had the opportunity to meet with Dr. Steve Vosti, associate director of the John Muir Research Institute, currently involved with CGIAR research proposals. Through Dr. Steve Vosti, the fellow met Dr. Lineu Rodrigues head of a research division of the Brazilian research centre EMBRAPA, who coincidently was visiting UCD in the same week. EMBRAPA is a key player in water and agriculture research in Brazil currently involved with a large CGIAR funded project aimed at improving planning and design of small reservoir ensembles in Brazil. Through meetings with Dr. Lineu Rodrigues and Professor Jay Lund, possibilities of collaboration work involving UCD, EMBRAPA, the fellow’s institution CEFET-MG and the large scale modeling group mentioned previously were put forward.

Conclusions

The visit to US including Anchorage and University of California, Davis was very rewarding given all the contacts made and opportunities for future work discussed and worked. It was also a great opportunity to meet new colleagues and get to know latest research currently in progress at UCD. The fellow is immensely thankful to ICC for the opportunity and hope that other colleagues from Brazil will share the same opportunity in the future.

The fellow would like to express his most sincere and special thanks to Dr. Laurel Saito for her extreme dedication, efficiency and competence during the whole process of contact, selection and participation of the fellow in the EWRI conference. The fellow is also thankful to all the other colleagues at ICC whose work made his visit to US possible including (but not limited to!): Lisa Bourget, Vinio Floris and Katie Gorscak.