



# Prince Sultan Bin Abdulaziz International Prize for Water



**4<sup>th</sup> Award  
2008 - 2010**

**General Information and Invitation for Nominations**



**HRH Prince Sultan Bin Abdulaziz**

The Prize is an undertaking that reflects brightly on Saudi Arabia's continued efforts and constructive work on behalf of humanity. There can be no doubt that the Prize, by honoring creative scientists, gives recognition to the contributions they are making to protect one of our most precious resources. Whether it is for their work in water conservation, quality-control, minimizing pollution, or some other worthy endeavor, honoring these researchers is an inspiration for scientists to give their utmost in developing ever-better research methods and capabilities.

A handwritten signature in black ink, likely belonging to HRH Prince Sultan Bin Abdulaziz. The signature is stylized and cursive, with a large, sweeping flourish at the end.

## **Introduction**

On 21 October 2002, His Royal Highness Prince Sultan Bin Abdulaziz – Crown Prince, Deputy Prime Minister, Minister of Defense and Aviation and Inspector General – announced in Riyadh that nominations were being accepted for a new global Prize to be awarded biannually: the "Prince Sultan Bin Abdulaziz International Prize for Water".

The Prize Council, headed by His Royal Highness Prince Khalid Bin Sultan Bin Abdulaziz, includes leading scholars from around the world. The General Secretariat of the Prize is headquartered in the Prince Sultan Research Center for Environment, Water and Desert, at King Saud University in Riyadh, Saudi Arabia.

This internationally acclaimed scientific prize has proven to be one of Saudi Arabia's key contributions to water-related issues on a global scale, issues which represent some of the world's most pressing humanitarian, economic and political concerns. The Prize reflects the true image of a nation committed to the environment. It represents a call to the people of the world – a call for international responsibility.

Dr. Abdulmalek A. Al Alshaikh  
PSIPW General Secretary

## Goals of the Prize

This Prize aims to give recognition to the efforts that scientists, inventors, and organizations around the globe are making in water-related fields. The Prize is established to acknowledge exceptional and innovative scientific work which contributes to the sustainable availability of potable water and the alleviation of water scarcity, particularly in arid regions.

## Description & Value of the Prize

The Prize is an international award judged by leading scientists from around the world and bestowed bi-annually in five branches. One million Saudi Riyals (about \$266,000) is allocated for the Creativity Branch, while half a million Saudi Riyals (about \$133,000) is allocated for each of the other four Specialized Branches. The Prize is accompanied by a gold medallion, a trophy and a certificate.



## Branches of the Prize

- 1- Creativity Prize
- 2- Specialized Branch Prizes:
  - 2-1 Surface water
  - 2-2 Groundwater
  - 2-3 Alternative (non-traditional) water resources
  - 2-4 Water resources management and protection

## **Fourth Award 2008-2010 – Topics and Nomination Conditions**

### **1 – The Creativity Prize:**

The Creativity Prize is not restricted to specific topics. Instead, its criteria are defined by general guidelines. This allows the Creativity Prize to cover a broad range of water-related subjects.

The Creativity Prize is awarded to an innovator or pioneer in any water-related field whose work can rightfully be considered a "breakthrough". The work might be an invention, a research paper, a new technology, or a development project. It can relate to any branch of any water-related discipline. What matters is its importance and originality, and that it achieves something significant. For instance, it might contribute to increasing available water resources, or to alleviating scarcity, or to minimizing pollution. It might make a material contribution to water conservation or to effective water management.

Moreover, the work should provide a solution which is useful to society, contribute to development and social upliftment, be practical, environmentally friendly, and cost-effective.

### **Conditions for Nomination – Creativity Prize:**

1 - All nominations for the 4th Award of the Prize will be made online through an electronic application form that will be available on the PSIPW website. All required documentation and submitted works will be uploaded by way of the same form. No mail-in applications will be accepted.

2 - Nominations may be made for individuals and groups whose work conforms to the criteria of the Creativity Prize (see above).

3 - An individual or group of individuals (a team working on the same project or research) may be nominated for the prize. In the event that a group of individuals are being nominated, all group members must be named at the time of application and one member must be specified as their representative. Groups of people working on

the same project may not be nominated separately. They must be nominated as a group with a single nomination form.

4 - A university, institution, or government agency is not eligible to be nominated for the Creativity Prize. The nominee must be an individual or group of individuals as detailed in 1.2 above.

5 - Nominations for the Creativity Prize must be made by a university, institution, or government agency. Individuals may not nominate themselves or others for the Creativity Prize.

6 - The work or works being considered for the nomination must have been completed no more than five (5) years prior to the nomination deadline for the current Prize.

7 - Published research papers, published books, and registered patents may be submitted for consideration. No more than five (5) distinct works may be submitted. Multiple works should not be collected together and submitted as a single work.

8 - Works will be reviewed and judged in English. If the work being nominated was originally published in a language other than English, it must be submitted in the original language accompanied by a full translation or by a translation of the parts of the work that are to be considered for the Prize. If a partial English translation is provided for a work submitted in another language, then only that portion of the work which is translated will be considered for assessment.

9 - An individual or group nominated for the Creativity Prize may not be nominated in the same round for a Specialized Branch Prize.

10 - The work being nominated must not have previously been a recipient of any other international prize.

11 - Members of the Prize committees and their immediate relatives may not be nominated for the Prize.

## **2 - Specialized Branch Prizes:**

The topic for each of the four specialized branches of the Prize will vary with each award. As a rule, the topics are selected for each round in consideration of the most pressing water-related issues faced anywhere in the world. More emphasis, however, is placed on the concerns of arid regions, since the problems in these areas are more widespread and serious.

The topics for the current award are as follows:

- 1<sup>st</sup> Branch – Surface Water  
Topic: Innovative Methods for Rain and Runoff Water Modeling
- 2<sup>nd</sup> Branch – Groundwater  
Topic: Assessment and Control of Radioactive Contamination in Groundwater
- 3<sup>rd</sup> Branch – Alternative (non-traditional) Water Resources  
Topic: Innovative Methods for Water Production from Non-Traditional Water Resources
- 4<sup>th</sup> Branch – Water Resources Management and Protection  
Topic: Remote Sensing and GIS Applications for Water Resources Management

### **Conditions for Nomination – Specialized Branch Prizes:**

1 - All nominations for the 4<sup>th</sup> Award of the Prize will be made online through an electronic application form that will be available on the PSIPW website. All required documentation and submitted works will be uploaded by way of the same form. No mail-in applications will be accepted.

2 - Nominations may be made for individuals, groups, and organizations who have made a pioneering contribution in of the branches of the Prize (see above).

3 - An individual, group of individuals (a team working on the same project or research), or organization may nominate themselves for the prize. In the event that a group of individuals are being nominated, all group members must be named at the time of application and one member must be specified as their representative. Groups of people working on the same project may not be nominated separately. They must be nominated as a group with a single nomination form.

4 - The work or works being considered for the nomination must have been completed no more than five (5) years prior to the nomination deadline for the current Prize.

5 - Published research papers, published books, and registered patents may be submitted for consideration. No more than five (5) distinct works may be submitted. Multiple works should not be collected together and submitted as a single work. All works submitted for consideration must be related to the particular specialized branch chosen for the nomination.

6 - Works will be reviewed and judged in English. If the work being nominated was originally published in a language other than English, it must be submitted in the original language accompanied by a full translation or by a translation of the parts of the work that are to be considered for the Prize. If a partial English translation is provided for a work submitted in another language, then only that portion of the work which is translated will be considered for assessment.

7 - An individual, group, or organization nominated for a particular branch of the Prize may not be nominated in the same round for another Specialized Branch Prize or for the Creativity Prize.

8 - The work being nominated must not have previously been a recipient of any other international prize.

9 - Members of the Prize committees and their immediate relatives may not be nominated for the Prize.

## **Evaluation of Nominated Works**

Works are evaluated to determine their scientific value and originality, how they contribute to the field, and their usefulness to society, especially with reference to development and to solving problems on an international level.

The nominated works are evaluated by an international panel of distinguished scientists, who serve on various specialized committees on one or more of the following three levels:

- 1 - Preliminary Evaluation Committees
- 2 - Referee Committees
- 3 - Selection Committees.

The Prize places great emphasis on enlisting the participation of scholars of the highest caliber from all over the world to act as members of these committees.

## **Activities of the Prize**

The Prize is a nonprofit organization that promotes a wide range of innovative work in various water-related fields.

1. The Prize supports the research programs of the Prince Sultan Research Center for Environment, Water, and Desert at King Saud University, particularly those that relate to water issues. The most important of these programs is King Fahd's Project for Rain and Floodwater Harvesting and Storage in the Kingdom, with which the Prize's experts are directly involved.
2. The Prize is undertaking to establish the world's largest international database for water research, which will provide extensive information about experts and organizations working in the field.

3. The General Secretariat of the Prize has its headquarters at the Prince Sultan Research Center for Environment, Water and Desert. It has access to the Center's Remote Sensing Unit with its full range of geographical information systems and the most advanced programs for satellite image processing.

4. The General Secretariat of the Prize possesses an extensive library which includes, alongside books and journals in water-related fields, all of the research nominated to the Prize throughout its history. This research is made available for the benefit of specialist bodies engaged in research and applied water technologies in coordination with the original researchers.

5. The Prize provides financing and support for the Prince Sultan Bin Abdulaziz International Prize's Chair for Water Research located at the Prince Sultan Research Center for Environment, Water, and Desert. The Chair, in turn, supports a number of graduate students of various nationalities engaged in a program of research into rain and floodwater harvesting, for which these students are awarded their Masters and Doctorate degrees. The Chair is supervised by an international panel of distinguished scholars from within and outside of Saudi Arabia.

6. In conjunction with King Saud University and the Saudi Ministry of Water and Electricity, the Prize organizes a bi-annual international conference that is held concurrently with the Prize's awards ceremony. The program of the International Conference on Water Resources and Arid Environments addresses six main themes:

- Water Resources
- Water Conservation
- Climate Change & Its Impact on Water Resources
- Utilization of New Technologies in the Study of Arid Environments and their Natural Resources
- Advancement of Arab Water Policy towards Development
- Management of Water Crises in the Arab World

The Conference also hosts workshops and seminars on the ministerial level.

Free air fare and hotel accommodation are provided to scholars whose papers are exceptional. This encourages competition among scholars wishing to participate in the Conference.

7. The Prize, in conjunction with the United Nations, UNESCO, and the King Abdulaziz City for Science and Technology, participated in organizing the International Conference on the Use of Space Technology for Water Management held in Riyadh.

8. The Prize is part of the delegation representing Saudi Arabia at the meetings of the United Nations' Committee on the Peaceful Uses of Outer Space held annually in Vienna.

9. The Prize participates in water-related conferences and forums around the world. It presents seminars at these conferences under the title "Saudi Water Day". The Prize also arranges meetings between participating scholars in order to foster the exchange of ideas.

10. The Prize is a gold-level sponsor of a number of international conferences and exhibitions around the world, sponsoring at least 10 to 15 different conferences and exhibitions during each round of the Prize.

11. The experts who serve on the Prize's Advisory Board provide technical consultations locally and participate in a number of ministerial and project committees in Saudi Arabia.

12. The Prize cooperates as much as possible with all bodies involved in water-related issue, both within Saudi Arabia and abroad.

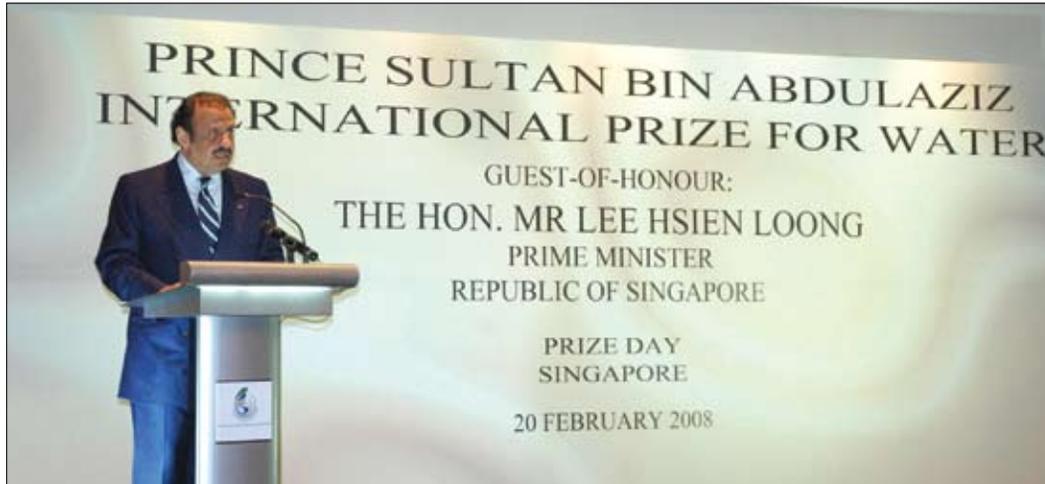
13. The Prize is undertaking cooperation agreements with various international organizations, particularly the United Nations and UNESCO, and leading water societies.

14. The Prize is a member of the Arab Water Council's Board of Governors, and as such actively participates in all of the Council's meetings and conferences. It also provides support for some of the Arab Water Council's activities.

15. The Prize supports the publication of a number of distinguished scientific works in water-related fields that are produced by specialized international organizations and distributed at major scientific forums.

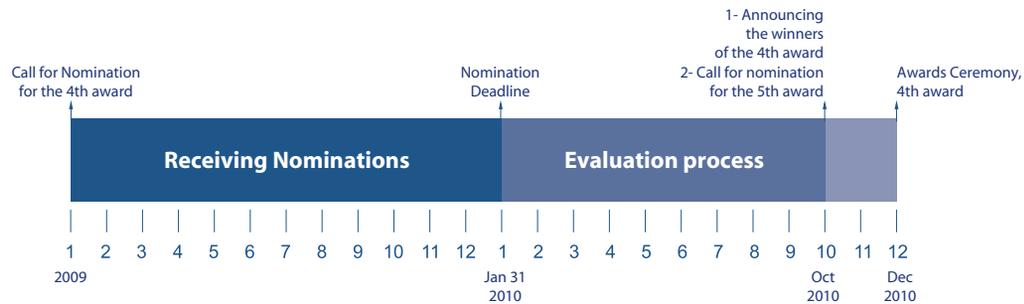
16. The Prize publishes a number of scientific books and brochures, and prepares articles for publication in specialist journals as well as newspapers.

17. The Prize Council holds regular meetings around the world. During each round of the award, two meetings are held in Riyadh, one in the capital of another Arab country, and a fourth in a non-Arab country. This is to encourage the exchange of ideas and to open channels of cooperation among water specialists



## Prize Calendar

- Early 2009: Call for nominations to the Prize and opening of the online application form for the new award.
- 31 January 2010: Deadline for receiving nominations.
- February-September 2010: The evaluation process.
- October 2010: The Prize Council announces the winners of the 4<sup>th</sup> Award and calls for nominations to the following award.
- December 2010: The awards ceremony for the 4<sup>th</sup> Award.



## For More Information

Please visit the Prize website: [www.psipw.org](http://www.psipw.org)

For inquiries, you may contact the General Secretariat of the Prize at the following address:

Prince Sultan Bin Abdulaziz International Prize for Water General Secretariat  
Prince Sultan Research Center for Environment, Water and Desert  
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## Winners of the 3rd award of the prize (2006 - 2008)

### Branch 1: Surface Water

Topic: Sedimentation Control in Surface Water Systems



#### Chih Ted Yang , USA

- Professor Yang is the Borland Professor of Water Resources and Director of the Hydrosiences and Training Center for the Department of Civil and Engineering at Colorado State University.
- He received his PhD in Civil Engineering from Colorado State University in 1968.
- In 2001, he graduated from the Senior Executive Fellow Program, Harvard University.
- In 2002, he graduated from the Interior Senior Executive Service (SES) Candidate Development Program and is certified by the Office of Personnel Management as a qualified SES for all Federal agencies.
- From 1994 to 2003, he was the manager of the Sedimentation and River Hydraulics Group, Technical Service Center, U.S. Bureau of Reclamation.

#### Awards

- Diplomate from the American Academy of Water Resources Engineers (2007)
- Honorary Professor from the Yellow River Institute of Hydraulic Research (2005)
- Career Service Certificate Award from the U.S. Bureau of Reclamation (2004)
- Meritorious Service Honor Award from the U.S. Department of the Interior (2003)
- Bureau of Reclamation Commissioner's 2001 Work Force Diversity Group Award (2002)
- Giants Among Us Award from the U.S. Bureau of Reclamation (2000)
- Hans Albert Einstein Award from the American Society of Civil Engineers (1999)
- Honorary Professor from Sichuan University, China (1999)

- President Award from the Denver Federal Center Professional Engineering Group (1991)
- IAHR/IHP Lecturer of the Year Award from the International Association for Hydraulic Research and the United Nations UNESCO International hydrological Program (1991)

### **Publications**

Professor Yang has published three books, five computer model user manuals, and more than 100 professional publications in hydraulics, erosion, sedimentation, river morphology, river restoration, and engineering.

### **PSIPW Prizewinning Works**

- Sediment Transport: Theory and Practice
- Erosion and Sedimentation Manual
- GSTARS2.1 Computer Model User's Manual
- GSTARS3 Computer Model User's Manual

## Branch 2: Groundwater

Topic: Exploration and Assessment of Groundwater



### Wolfgang Kinzelbach, Germany

- Professor Wolfgang K. H. Kinzelbach is Professor of Hydromechanics, ETH Zurich (Swiss Federal Institute of Technology). He is also the Director of the Institute of Environmental Engineering, ETH Zurich, President of the ETH North-South Centre, and Delegate of the President of ETH for Professorial Search Commissions.
  - He received his PhD in 1978 in Civil Engineering from the University of Karlsruhe in Germany with a specialization in river pollution control.
  - In 1986, he received his professorship in the field of "Flow and Transport Processes in the Environment" from the University of Stuttgart in Germany.
- He is an advisor of the Swiss Nuclear Waste Agency (NAGRA).

### Awards

- Cox Visiting Professorship of Stanford University (2007).
- Henry Darcy Medal of the European Geophysical Society (2002).
- European Science Award of the Körber Foundation (1992).
- Academic Software Award of the German Ministry of Research and Technology (1990).
- Ehrensator-Huber-Award of the Faculty of Civil Engineering Karlsruhe University for the best dissertation of the year (1979).

### Publications

Professor Kinzelbach has published six books and 75 scientific papers within the past 12 years.

### **PSIPW Prizewinning Works**

- How can remote sensing contribute in groundwater modeling
- Using remote sensing to regionalize local precipitation recharge rates obtained from the Chloride Method
- A regional coupled surface water/groundwater model of the Okavango Delta, Botswana
- Sustainable groundwater management – problems and scientific tools

### **Branch 3: Alternative (Non-traditional) Water Resources**

Topic: Innovative Methods and Systems in Desalination



#### **Abdul Wahab Mohammad, Malaysia (co-winner)**

- Professor Abdul Wahab Mohammad is Deputy Dean and Professor of Membrane and Separations Technology at Universiti Kebangsaan in Malaysia
- He received his PhD in 1988 in Chemical Engineering from the University of Wales Swansea, in the United Kingdom.

#### **Awards**

- UKM Research Award – Main Prize (2007)
- UKM Excellent Service Award (2007)
- UKM Research Award – Individual (Certificate) (2006)
- Silver Medal, International Invention, Innovation, Industrial Design & Technology Exhibition (ITEX 2005)
- JSPS Travelling Grant at University of Kyoto (2004, 2005)
- Research Fellowship, Middle East Desalination Research Center (MEDRC) (2003 and 2005) at the University of Nottingham UK
- Young Researcher Award UKM (2003)
- Best Paper Award (Co-author), Energy: International Conference on Advances in Strategic Technologies (ICAST) (2003)
- Gold Medal, 31st Salon International Inventions Geneva (2003)
- Marquis Who's Who in Science and Engineering 7th Edition (2003)
- Silver Medal, Ekspo Sains dan Teknologi Kebangsaan (2002)
- Bronze Medal, International Invention, Innovation, Industrial Design & Technology Exhibition (ITEX 2002)

## **Publications**

Professor Abdul Wahab Mohammad has published over 60 scientific papers in refereed journals and over 90 articles as conference proceedings.

## **PSIPW Prizewinning Works**

- Development of Innovative Predictive Model for Nanofiltration Membrane System (3 papers)
- Innovative Application of Models for Process Design and Optimization (3 papers)
- Desalination Application of Nanofiltration Membranes (3 papers)
- Innovative approach in nanofiltration membrane design and fabrication (3 papers)
- Innovative approach in value-added applications (2 papers)

## Branch 3: Alternative (Non-traditional) Water Resources

Topic: Innovative Methods and Systems in Desalination.



### Saline Water Conversion Corporation, Saudi Arabia (co-winner)

- The Saline Water Conversion Corporation (SWCC) was established in 1974 by royal decree as an organization responsible for the planning, construction, operation and maintenance of seawater desalination plants, for the delivery of the water produced by those plants to various cities, and for the development of seawater desalination technologies.
- SWCC has 30 operational plants at 15 locations, producing more than 3 Mm<sup>3</sup>/day of water coupled with electricity production of 5000 MW. Today Saudi Arabia is the world's leader in the production of desalinated water, providing 18.05% of world's production. SWCC has 14 water transmission systems of more than 4,160 km length of pipelines along with 29 pumping.
- station for the transmission of desalinated water from the site of production to the population inland.
- In 1987, SWCC established the Saline Water Desalination Research Institute (SWDRI) in al-Jubail to conduct research in desalination with the help of thermal and membrane pilot plants.

### Awards

- Arabian Computer News Award in Energy and Utility Implementation in the field of Electronic Transformation (2008).
- Prize for Innovation - Saudi Water & Power Forum (2007).
- Global Water Intelligence Prize for Innovation (2007).
- IDA International Prize (2005).
- Late Prime Minister Rafic Hariri Prize for best Operation and Maintenance of Desalination Plants (2005)

- Prince Mohammed Bin Fahd Prize of Excellence for a Governmental Organization (2002 & 2005).
- Almarai Saudi Co. Award for best research work carried out for lowering the cost of water in both Reverse Osmosis and Thermal Desalination Processes (2001 & 2002).
- IDA conference in San Diego - Prize for best innovation of the year on Nano-Filtration pretreatment processes (1999).
- King Baudouin International Development Prize (1998).
- International Desalination Association (IDA) Award (1995).

#### **PSIPW Prizewinning Works**

- Innovation Procedure for extending Life of an Old Desalination Plant by Twenty-five years
- Development of an Innovative and Cost Effective Approach for Membrane and Thermal Desalination Processes

## Branch 4: Water Resources Management & Protection

Topic: Water Demand Management in Urban Areas



### Decision Center for a Desert City, USA (co-winner)

- The Decision Center for a Desert City (DCDC) was established in 2004 with a grant from USA's National Science Foundation. It is part of Arizona State University's International Institute for Sustainability.
- DCDC is one of five research projects funded by the National Science Foundation's Decision Making under Uncertainty initiative. DCDC research,

outreach, and educational activities focus on water management decisions in central Arizona in the context of the area's rapid population growth and urbanization, complex political and economic systems, variable desert climate, and the specter of global climate change. Although DCDC is a regional case study, its research products and decision-support tools can be generalized to rapidly growing desert regions worldwide.

- DCDC scholars conduct research that integrates knowledge across academic disciplines, and work closely with local and state resource managers to enhance long-term decision making about water resources. DCDC seeks to build a new model of science and policy integration in which decision-makers and scientists collaborate on important research questions and experiment with new methods.

### PSIPW Prizewinning Works

- WaterSim: Integrated Modeling and Decision Support
- Determinants of Small-Area Water Resources Consumption for the City of Phoenix, Arizona
- Climatic Uncertainty and Water Resources Management
- New Methods of Estimating Future Water Demand
- Public Outreach: Water, Climate, and the Future of Phoenix

## Branch 4: Water Resources Management & Protection

Topic: Water Demand Management in Urban Areas



### Zainuddin Abdul Manan, Malaysia (co-winner)

- Professor Zainuddin Abdul Manan is a Professor of Chemical Engineering and the founder of Process Systems Engineering Centre (PROSPECT) at Universiti Teknologi Malaysia. He is also head of the Chemical and Biotechnology Research Cluster at the University's Research Management Centre.
- He received his PhD in Chemical Engineering from University of Edinburgh, Scotland, in 1998.
- He is a Technical Advisor for Pusat Tenaga Malaysia (Malaysian Energy Centre).

### Awards

- UTM Excellence Award (2007)
- UTM Innovation Award for Best Researcher – Individual Category (2006)
- National Champion for Business Plan Competition (2006)
- UTM Excellence Award (2006, 2003, 2002, 2001)
- UTM Champion for Business Plan Competition (2005)
- Gold Medal Award, IPTA Exhibition, 2005
- Commercialization Grant from Bureau of Innovation and Consultancy, UTM 2004.
- Silver Medal Award, Expo S&T (2004)
- Silver Medal, Products Category, INATEX (2004)
- Best National Journal for UTM Publication Day (2004)
- Silver Medal, 31st International Exhibition of Invention, New Techniques and Products of Geneva, Switzerland (2003)
- Silver Medal, Expo Science and Technology Malaysia (2002)
- IEM Best Paper for APPChE (2002)
- Asian Development Bank Fellowship award (1993)

- UK Association of Commonwealth Scholarship Award for PhD studies (1994-1998)
- Best Working Paper Award, Seminar FKKKSA (August 1994)
- Petronas Scholarship Award (1981-1988)

### **Publications**

Professor Zainuddin Abdul Manan has published books, technical reports, manuals, and more than 40 technical papers. He has presented nearly 100 papers at local and international conferences.

### **PSIPW Prizewinning Works**

- A holistic framework for design of cost-effective minimum water utilization network
- SHARPS - A New Cost-Screening Technique to Attain Cost-Effective Minimum Water Utilization Network
- Water Pinch Analysis for Urban Systems: A Case Study on Sultan Ismail Mosque in Universiti Teknologi Malaysia
- Targeting multiple water utilities using composite curves

## **Topics & Winners for the 1<sup>st</sup> Award (2002-2004)**

### **1st Branch – Surface Water**

Topic: Effective Flood Control Methods

**Dr. Jery R. Stedinger, USA**

### **2nd Branch – Groundwater**

Topic: Artificial Groundwater Recharge

**Dr. Herman Bouwer, USA**

### **3rd Branch – Alternative (Non-traditional) Water Resources**

Topic: Economical Technologies in Seawater Desalination

**Dr. Hisham Taha Abdulla El Dossouky, Egypt**

**Dr. Hisham Ettouney, Egypt**

### **4th Branch - Water Resources Management**

Topic: Effective New Techniques for Irrigation Water Conservation

**King Abdulaziz City for Science & Technology, Saudi Arabia**

### **5th Branch - Protection of Water Resources**

Topic: Protecting Groundwater From Agricultural Pollutants

No award given due to the lack of nominations which met the required standards and conditions.

## **Topics & Winners for the 2<sup>nd</sup> Award (2004-2006)**

### **1st Branch – Surface Water**

Topic: Water Harvesting

No award given due to the lack of nominations which met the required standards and conditions.

### **2nd Branch – Groundwater**

Topic: Management of Coastal Aquifers

**The Water Section, Research Institute of the King Fahd University for  
Petroleum and Minerals, Saudi Arabia**

**Professor Abdelkader Larabi, Morocco**

### **3rd Branch – Alternative (Non-traditional) Water Resources**

Topic: Treatment and Re-use of Wastewater

**Professor Abdul Latif Ahmad, Malaysia**

### **4th Branch - Water Resources Management**

Topic: Integrated and Sustainable Water Resources Management in Arid and Semi-Arid Regions

**Professor Howard S. Wheeler, United Kingdom**

### **5th Branch - Protection of Water Resources**

Topic: Groundwater Pollution by Urban Activities

**King Abdulaziz City for Science & Technology, Saudi Arabia**





## Prince Sultan Bin Abdulaziz International Prize for Water

General Secretariat  
Prince Sultan Research Center for Environment,  
Water and Desert – King Saud University

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