# GOOD WATER MANAGEMENT

## Good Water Management

Princess Nourah University has implemented the use of electrical equipment efficiently, which can reduce water consumption by more than 75 percent within the university campus.

- 1. Censored / Automated hand washing taps installed in all colleges.
- 2. High Efficient dual flush installed in all colleges.

Of water efficient appliance installed > 75%

#### Sensor system

- Sink sensor system, water will flow and stop automatically as soon as when the hands pull in/cut.
- The sensor system of the men's sanitary ware will run the water when standing, if the user leaves stands, the water will stop flowing immediately.



#### Figure(1)

### Water Recycling Program Implementation

The purpose of the PNU Wastewater Treatment Plant is to treat the total wastewater that will be collected from various university applications, both suspended solids and biodegradable organic matter will be reduced through the treatment stages to an acceptable limit . The plant is capable of producing treated water that meets the standards for water reuse in volume and quality. All the treated effluent is used for irrigation with an average of 3,500 m2.

Water Recycling Program (Princess Nourah University)



water conservation program

PNU is developing a water conservation program, which includes the following activities:

Rainwater harvesting

Recycle / reuse water within the facilities

Advise for the protection of water resources and acknowledge any success stories about conserving water within the campuses.

#### Environmental Events and Workshops

Princess Nourah Bint AbdulRahman University launches Geo-Environment Forum with Vision 2030 in collaboration with the Ministry of Environment, Water and Agriculture

Under the auspices of His Excellency the Director of the University, Dr. Inas Bint Suleiman al-Issa, Princess Nourah Bint Abdul Rahman University, represented by the Faculty of Arts, launched the "Geographical Environment Forum with Vision 2030" in cooperation with the Ministry of Environment, Water and Agriculture, in the University's Conference Center, in the presence of a number of leaders, representatives of ministries and a group of experts and interested people from various universities in the Kingdom.

The program opened with fragrant verses from the Holy Quran, followed by a speech delivered by H.E. The University's Undersecretary for Graduate Studies and Scientific Research Dr. Ahmed Al Ghadeer on behalf of His Excellency the University's Director Dr. Inas Bint Suleiman al-Issa, Inas Bint Suleiman al-Issa, in his speech welcomed the generous presence and expressed his pride and gratitude for the blessed efforts our leadership has given to support the processes of education and learning to promote the country in its present and future.

The Dean of the Faculty of Arts, Dr. Mona Al-Loiba, then delivered the opening speech of the forum, explaining that the Faculty of Arts represented by the Department of Geography initiated this forum based on the vision of Princess Nourah Bint AbdulRahman University to invest knowledge to be a beacon in the development of a sustainable national

environmental community, where the forum (Geographical Environment vision 2030) aims to deepen and enrich the environmental culture in society, promote scientific research to serve environmental issues using giss, and highlight the original and innovative experiences leading in environmental work. Sustainable, promoting national values in maintaining quality of life by reducing pollution in all its forms, increasing the efficiency of waste management and reuse, reducing the phenomenon of desertification, preserving natural wealth and consolidating the value of the sustainable environment in our dear country.

Dr. Al-Loiba's speech was followed by a panel discussion introducing the process of space and geospatial information in the Kingdom presented by the former Chairman of the General Authority for Space, His Excellency Lt. Gen. Mareh Al-Shahrani, and the Undersecretary of the Ministry of Land and Space at the Ministry of Municipal and Rural Affairs, Dr. Mohammed Al Rajhi.

The forum was then launched on its first day with two sessions in which nine working papers were presented, the first session was entitled "Modern technical applications in the field of environment using GIS" under the management of Dr. Abdullah Al-Briki Al-Shammari, in which the associate professor of geography from Qassim University, Dr. Ahmed Al-Daghiri, participated in the talk about: "The contribution of spatial analysis techniques in the study and preparation of naturality in the Tesia reserve in Saudi Arabia", as addressed by Engineer Talaat Al-Rahali to "plan the expansion of the investment of the metric industry for more accurate measurements and economy of the world." "Monitoring sand creep and predicting its movement using remote sensing and geographic information systems techniques in Badr province in Medina," said Dr. Nasser Al-Zabneh, Assistant Professor of Geography at Taiba University, "Monitoring sand creep and predicting its movement using remote sensing and geographic information systems techniques in Badr province of Medina," while Princess Nourah University Assistant Professor of Geography Dr. Iman al-Banna presented her scientific paper entitled "The impact of sea level rise on land uses in damietta and Rashid regions using GIS and remote sensing." Professor of Geographic Information Systems at Princess Nourah Afnan University of Turkey and Sita Al-Oufi, with a scientific paper entitled "Using GIS in Environmental Planning".

The second session was entitled "How to make our environment sustainable Ramadan?" From King Saud University and its scientific paper entitled "Major transport projects for sustainable development in Riyadh and its expected impact to reduce pollution and raise the level of air quality in 2030". At the end of the second session, Professor of Islamic History Dr. Alia Al-Jubaili of Princess Nourah University discussed "Islamic solutions to the problems of the environment and its impact on Islamic civilization".

The forum has been attended by 16 entities, including ministries, institutions and government and private sectors, and will continue its activities until Thursday with two dialogue sessions entitled "Environmental Challenges" and "Waste Recycling to maintain a sustainable environment".

Invitation to attend the Geographical Environment Forum

Under the auspices of

University Director Dr. Huda Bint Omar Al-Wahabi

Princess Nourah Bint Abdul Rahman University is honored

Represented in the Department of Geography at the Faculty of Arts

Invite you to register and participate in

Geographical Environment Forum

Vision 2030

The accompanying exhibition in cooperation with the Ministry of Environment, Water and Agriculture

Note:

Registration, participation in the forum and visiting the accompanying exhibition are available to men and women.

**Registration link:** 

http:/www.alraee.co/FOGE.html

Time from 9am-2pm

Date 20-21/ 7 / 1440 H

27-28/3/2019

Location: Convention Center (Blue Hall) Safety and Environmental Protection Workshop

Pleased Faculty of Pharmacy

I invited you to a workshop.

"Safety and environmental protection"

Sunday 2018/10/14

12 p.m.

Dental College Theatre

For the educational, administrative and student body <u>Faculty of Health interacts with "Environment for Us</u> <u>and Our Generations" Week</u>

The Faculty of Health and Rehabilitation Sciences interacted with Saudi Environment Week, launched by the Ministry of Environment under the slogan "Environment for us and for our generations".

The college displayed images of motivational phrases on the electronic ad display on the ground floor, such as "Let's instill environmental awareness in all of us to have a healthy and sustainable environment."

Students Rima Al-Aiban and Reem Al-Nuweiser presented an awareness lecture entitled "Environment for us and our generations" with the aim of providing advice and guidance for environmental protection, such as intensifying tree planting for its role in climate change, using biodegradable materials, and using rainwater by preserving it for use in irrigating plants, and referring to the damage caused by nonconservation of the environment such as air pollution and water pollution.

#### Environmental Pollution Research Chair

1. The speech of Mr. Chair A.D. Khairia bint Mohammed bin Ahmed Al-Qahtani:

Based on princess Nourah Bint AbdulRahman's vision and mission to be a comprehensive university for women distinguished by her educational leadership and scientific research, she contributes to building the knowledge economy with a community and global partnership. The Environmental Pollution Research Chair seeks to achieve this ambitious vision by developing several research projects that include prioritizing support for key areas of research, documenting communication and scientific cooperation between Princess Nourah University and other universities while serving the environment, promoting a culture of creativity, excellence and innovation and building influential strategic relationships with researchers and partners in various sectors of society and business. It also includes supporting outstanding research in the field of the environment and encouraging members to publish their scientific research in international journals classified to raise the university's reputation and reach the ranks of international universities. The chair will also contribute to increasing the scientific and practical efficiency of researchers and centers interested in pollution through cooperation and training. This chair serves all disciplines and sectors of the University, whether scientific, health or humanitarian, allowing the establishment of research groups of different disciplines to study any point in all its aspects.

#### 2. The name of the chair financier:

The chair is funded by Princess Nourah Bint Abdul Rahman University

#### 3. Vision:

Leadership in environmental research, pollution study and treatment methods.

#### 4. The message:

Contribute to the service of the community by providing research that studies and addresses environmental problems of all kinds and through the transfer and localization of knowledge.

#### 5. Goals:

1. Conducting and publishing a series of research resulting from the chair in internationally classified journals.

2. Establish local and international research partnerships with relevant entities.

3. Providing laboratory analysis services to the public and private sectors in the field of the environment.

4. Holding conferences, seminars and scientific workshops.

5. Providing scientific advice to government and private entities.

6. Develop the chair to work with self-financing in the future.

7. Creating an advanced research environment in environmental pollution

8. Develop pollution detection mechanisms and treatment methods.

9. Preparing undergraduate and master's students as researchers in specialized fields in pollution detection and treatment.

10. Promoting the quality and quantity of research focused on pollution treatment in Saudi centers and universities.

Create and develop new strategies to translate research results to 11. improve the performance of pollution centers in the Kingdom.

#### 6. Scientific Committee:

Dr. Osama Faqaha / Undersecretary of the Ministry of Agriculture, Environment and Water for Environmental Affairs.

Dr. Zeid Abdullah Al-Othman/ Professor of Analytical Chemistry, Faculty of Science, King Saud University.

Dr. Abdullah Suleiman Al Faraj / Professor of Chemistry and Minerals - Faculty of Food and Agriculture Sciences, King Saud University.

Dr. Mohammed Hamza Al-Saeed / Professor of Chemistry and Environmental Pollution - King Saud University.

A.Dr. Torches Young Women / Professor of Physical Chemistry -Faculty of Science - Princess Nourah University.

Al-Jawhara Al-Muqrin / Associate Professor of Nuclear and Radiophysics - Faculty of Science - Princess Nourah University.

Mudi Al-Otaibi / Assistant Professor of Plant Environment - Faculty of Science - Princess Nourah University.

- 7. Chair Coordinator:
- A. Al-Bandari Abdul Aziz Al-Obaidan (Scientific Coordinator)
- A. Sahab Al-Falij (Administrative Coordinator)
- 8. Chair Secretary:
- A. Sarah Al-Sharif
- 9. Means of communication:

#### VGS-EPRC@pnu.edu.sa

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10. The achievements of the chair: (Research chair <u>activities and programs.pdf</u>)

# Princess Nourah University implements three environmental awareness campaigns relative to the sustainable development objectives

In view of the role of Princess Nourah bint Abdulrahman University in achieving environmental sustainability, and its belief in the importance of active students' participation in various international forums and events related to the environment. The Department of Biology and the Community Service Unit at the College of Science have recently organized three environmental community awareness campaigns with slogans linked to the thirteenth objectives of private sustainable development in the climate, and the fifteenth of life on the land. In the presence of the head of the Biology Department, Dr. Laila Al-Shuraim, the college's vicerector, as well as several faculty members, administrative staff and the students.

As coordination and cooperation has been made with the General Department of Parks and Community Service in the Secretariat of the City of Riyadh to obtain various types of different annual flowering seedlings, cacti, perennial outdoor plants, and small trees to be cultivated by approximately (90) students among the fourth level students in the Biology Department within two weeks at a rate of one hour per day, under the supervision of Dr. Arwa Abdul Karim Al-Hukail.

This comes in line with the Kingdom's strategies towards the environment and the restoration of vegetation in Riyadh to reduce the damages related to drought and its negative effects, as an influential environmental mission and social responsibility to activate the role of students in society inside and outside the college and university. In addition to contributing to raising awareness and environmental sense with a number of Applied Ecology issues.

On the other hand, and to achieve the quality of educational outputs, in line with the achievement of the Kingdom's Vision 2030, the initiative has been taken to host (14) third-graders (American Diploma) students from Riyadh Najd Private Schools to attend the various campaigns and events and participate in applied activities such as afforestation. In order to increase the green areas inside the college and educate them about home gardening methods in addition to a scientific tour to learn about the laboratories of the Department of Biology and the herbal plants in the college.

The awareness campaigns varied to include the introduction of the World Day to Combat Desertification and Drought under the slogan (Vision is affiliation to achieve development), the introduction of the International Day for Biological Diversity, whose campaign was called (Our Vision 2030 Saves Our Environment). As well as the introduction of the International Day for Preserving the Ozone Layer and shedding light on the resulting global climate change and global warming under the slogan (Vision 2030 protects the environment).

The event was accompanied by three corners of environmental issues for the three campaigns to cover them from various aspects and link their issues to each other and to clarify the risk of continuing to pollute the environment with different pollutants. Several visual presentations, which have been designed and prepared by students, were presented. In addition to reviewing some international efforts and the Kingdom's efforts specifically the directives included in the Vision 2030 for environmental protection.

This came within the framework of promoting the principle of rationalization, reducing consumption and waste in natural resources, preserving biological diversity. As well as protecting it through nature reserves, sustainable development for it, preserving it, and directing renewable (clean and safe) energy such as solar energy, wind energy, etc. as a safe and clean alternative that protects and preserves the environment and contributes to reducing the breadth of the Ozone (O3) layer hole.

The campaigns also presented recommendations and proposed solutions to contribute to limiting the exacerbation of these problems and controlling them and explaining some positive applied mechanisms to protect the environment. These recommendations emphasized the importance of solidarity and effective participation in eliminating pollution by limiting the use of all kinds of plastics, and the need to move to the use of safe alternatives as biodegradable plastics alternatives. As well as the possibility of using some insect repellent plants, especially in house rooms, as an alternative to the use of chemical pesticides. In addition to urging the rationalization of electricity and water consumption and preventing logging, and encouraging the participation of students in planning and implementing organized campaigns, including some positive activities and events, and developing a high sense of responsibility towards public property and cleanliness of the environment within university and college facilities.