

NEW TECHNOLOGIES OF WATER TREATMENT ADAPTED TO DEVELOPING COUNTRIES



Minutes of the Conference
December, 11th and 12th 2017
Lebanese University, Fanar, Lebanon



PROGRAM

MONDAY, 11TH OF DECEMBER 2017: WATER AND WASTEWATER TREATMENT IN LEBANON

8:30 - 9:00 Reception and registration

9:00 - 11:00 Session 1: Water quality in Lebanon

Moderator: Dr. Claude DAOU, Lebanese University, Lebanon

- National Water Sector Strategy of Lebanon, Prof. Naim OUAINI, Ministry of Education and Higher Education, Lebanon
- Drinkable water and impact on the health of the Lebanese population, Dr. Farid KARAM, Ministry of Public Health, Lebanon
- Sustaining safe domestic water supply in Lebanon: challenges and future perspective, Prof. Mey JURDI, American University of Beirut, Lebanon
- Pollution vulnerability and solution approaches to water resources management in the Bekaa, Dr. Lucas BECK, Embassy of Switzerland in Lebanon

11:00 – 11:30 Coffee Break

11:30 – 12:30 Session 2: Official inauguration of the conference

- Address of the Director of Faculty of Sciences II, Prof. Chawki SALIBA
- Address of the Dean of the Faculty of Sciences at the Lebanese University, Prof. Bassam BADRAN
- Address of the representative of the UNESCO Chair, Prof. Philippe MIELE
- Address of the Director of the “Agence Universitaire de la Francophonie”, Middle East Office (AUF-BMO), Prof. Herve SABOURIN
- Address of the Secretary General of the National Council for Scientific Research – Lebanon (CNRS-L), Prof. Mouin HAMZE
- Address of the President of the Lebanese University, Prof. Fouad AYOUB
- Address of H.E. Minister of Environment, Mr. Tarek EL KHATIB
- Address of H.E. Minister of Industry, Prof. Hussein EL HAGE HASSAN
- Address of H.E. Minister of Education and Higher Education, Mr. Marwan HAMADE
- Address of H.E. Minister of Public Health, Mr. Ghassan HASBANI

12:30 – 14:00 Lunch

14:00 – 16:00 Session 3: Stakes of water and wastewater treatment in Lebanon

Moderator: Dr. Carla KHATER, CNRSL-O-life, Lebanon

- Impact of treated and untreated domestic wastewater on the Lebanese marine environment, Dr. Milad FAKHRI, CNRS-L, Lebanon
- Industrial liquid waste: causes, problems, solutions and recommendations, Ms. Mimo ISHAK, Ministry of Industry, Lebanon
- Water treatment technologies in Lebanon, Mr. Najib ABI CHEDID, Ministry of Environment, Lebanon

TUESDAY, 12TH OF DECEMBER 2017: NEW TECHNOLOGIES OF WATER AND WASTEWATER TREATMENT (MEMBRANE PROCESSES)

9:00 – 11 :00 Session 4: Introduction to membrane processes

Moderator: Ms. Claire PAPIN-STAMMOSE, Programme Solidarité Eau (pS-Eau), Lebanon

- Introduction: the UNESCO SIMEV Chair and the Thematic School *Science and Technologies for Membranes* (STM), Dr. Mathilde BOUCHER, UNESCO-SIMEV Chair, France
- The “Institut Européen des Membranes” (IEM) – Introduction, Prof. Philippe MIELE, IEM, France
- Introduction to the materials, units and processes of membranes for water and wastewater treatment, Dr. André DERATANI, CNRS - IEM, France

11:00 – 11:30 Coffee break

11 :30 – 13 :00 Session 5: Treatment by membrane technology

Moderator: Dr. Désirée AZZI, USEK, Lebanon

- Nano-structured material engineering for membrane applications, Dr. Mikhael BECHELANY, IEM, France
- Membrane bioreactor (MBR) - Presentation, performance (clogging), and uses (recycling and reusing sewage water), Dr. Geoffroy LESAGE, IEM, France

13 :00 – 14 :00: Lunch

14 :00 – 15 :30 Session 6: Membrane applications

Moderator: Dr. Dominique SALEMEH, USJ, Lebanon

- Treatment of industrial water and sewage by membrane processes: the Moroccan experience and perspectives, Prof. Azzedine EL MIDAOU, President of Ibn Tofail University - Kenitra, Morocco
- Membrane processes for desalination, Dr. François ZAVITSKA, IEM-Polytech Montpellier, France

15 :30 – 16 :00: Overview and closing of the conference

OBJECTIVES OF THE CONFERENCE

The main objective of this conference was to gather all the stakeholders around the crucial topic of water treatment in Lebanon. The event created an enabling environment for sharing and exchange between political representatives, development associations, local companies, international researchers and students.



The inauguration of this 1st school held in Lebanon gathered 600 people. The event had participants from ministers of Public Health, Education and Higher Education, Environment and Industry, from Lebanese Universities (AUB, USEK, USJ), from the Embassy of Switzerland in Lebanon and from IEM.

Lebanese speakers first presented a comprehensive assessment, taking stock of the water management problems in their country. The experts from IEM then introduced the new membrane technologies and their impacts, in order to brainstorm possible solutions adapted to Lebanon's needs.

The participants have been convinced of the urgent need for a better water and wastewater management in Lebanon. The existing synergies should enable to implement adapted projects. Membrane technologies can meet certain issues that have been identified. New research and training collaborations will also strengthen the positive momentum reached.

PRESENTATIONS

SESSION 1 : THE WATER QUALITY IN LEBANON

Stratégie gestion de l'eau au Liban [Naim OUAINI](#)

Eau potable et impact santé au Liban [Farid KARAM part 1](#) - [part 2](#)

Pollution vulnerability and solution approaches in the Bekaa [Lukas BECK](#)

SESSION 2 : WATER TREATMENT ISSUES IN LEBANON

Industrial Liquid waste [Mimo ISHAK](#)

Technologies de traitement de l'eau au Liban [Najib ABI CHEDID](#)

SESSION 3 : INTRODUCTION TO MEMBRANE PROCESSES

SIMEV & STM schools [Mathilde BOUCHER](#)

L'Institut Européen des Membranes Philippe MIELE

Introduction matériaux, modules et procédés membranaires [André DERATANI part 1](#) - [part 2](#) - [part 3](#)

SESSION 4 : TECHNOLOGIES OF WATER TREATMENT

Engineering of Nanostructured materials for Membrane Applications [Mikhael Bechelany part 1](#) - [part 2](#) - [part 3](#)

Les Bio-réacteurs à membranes [Geoffroy LESAGE part 1](#) - [part 2](#) - [part 3](#)

SESSION 5 : MEMBRANE APPLICATIONS

Expérience marocaine et perspectives [Mohamed TAKY part 1](#) - [part 2](#) - [part 3](#)

Membrane processes for desalination [François ZAVISKA](#)