



# The First International Seminar on Water, Energy and Environment -ISWEE'11-

## Algiers, March 1-2, 2011



### Program

March 1<sup>st</sup>, 2011  
Al Kheima, Safir Hotel

|               |                                                                                                                                                                                                                                       |
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| 08:00 – 08:30 | Registration                                                                                                                                                                                                                          |
|               | Opening ceremony                                                                                                                                                                                                                      |
| 08:30 – 09:00 | <p>NASR Director : Prof. Hafid Aourag</p> <p>CDER Director : Dr. Maiouf Belhamel</p> <p>ISWEE'11 Chairwoman : Dr. Nachida Kasbadji Merzouk</p> <p>ISWEE'11 Organizing Committee Chairman : Dr. Hacene Mahmoudi</p>                    |
|               | Keynotes                                                                                                                                                                                                                              |
| 09:00 – 09:30 | <p><b>Panorama des enjeux à 2030 de l'eau et de l'énergie à l'échelle du Monde. Plaidoyer pour une stratégie énergétique de l'Algérie pour 2030</b></p> <p>Prof. Chems Eddine Chitour, ( Ecole Nationale Polytechnique, Algeria).</p> |
| 09:30 – 10:00 | <p><b>The desalination community and development indicators.</b></p> <p>Prof. Miriam Balaban, (European Desalination Society, Italy)</p>                                                                                              |
| 10:00 – 10:15 | Discussion                                                                                                                                                                                                                            |
| 10:15 – 10:45 | Coffee break                                                                                                                                                                                                                          |

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|               | <i>Chairman : Dr. Maiouf Belhamel</i><br><i>Co-Chair : Dr. Nachida Kasbadji Merzouk</i>                                                                                                                   |
| 10:45 – 11:15 | <b>Energy and climate change – Implications, challenges and opportunities for water and wastewater treatment technologies and research</b><br>Prof. Roya Sheikholeslami (University of Edinberg, UK)      |
| 11:15 – 11:45 | <b>Inorganic membrane reactors for energy applications</b><br>Prof. Miguel Menéndez (University of Zaragoza, Spain)                                                                                       |
| 11:45 – 12:00 | <b>Discussion</b>                                                                                                                                                                                         |
| 12:00 – 13:00 | Poster Session<br>from EG1 to EG37 and from W1 to W69                                                                                                                                                     |
| 13:00 – 14:30 | <b>Lunch</b>                                                                                                                                                                                              |
|               | <i>Chairman : Prof. Ahmed Kettaf</i><br><i>Co-Chair : Dr. Abderhmane Belkaid</i>                                                                                                                          |
| 14:30 – 15:00 | <b>The cost of desalination</b><br>Dr. Norredine Ghaffour, (King Abdullah University of Sciences and Technology KAUST, KSA)                                                                               |
| 15:00 – 15:30 | <b>Water Scarcity &amp; Drought in WANA countries</b><br>Dr. Jauad El Kharraz, (SEMIDE, France)                                                                                                           |
| 15:30 – 15:45 | <b>Assurance des Risques Energie</b><br>Mr Laziz Ait Ali Braham, (CASH Insurance, Marketing and network Manager)                                                                                          |
| 15:45 – 16:00 | <b>Discussion</b>                                                                                                                                                                                         |
| 16:00 – 16:30 | <b>Coffee break</b>                                                                                                                                                                                       |
|               | <i>Chairman : Dr. Ahmed Chikouche</i><br><i>Co-Chair : Prof. Hocine Ben Moussa</i>                                                                                                                        |
| 16:30 – 17:00 | <b>Les ressources en eau en Algérie: Stratégies, Solutions, Perspectives, Enjeux, Défis et Compétences, pour un développement durable</b><br>Prof. Ahmed Kettaf ( Ecole Nationale Polytechnique, Algeria) |
| 17:00 – 17:30 | <b>Solar Energy: From R&amp;D to Demonstration and Deployment</b><br>Dr. Mahieddine Emziane (Masdar Institute of Science and Technology, UAE)                                                             |
| 17:30 – 17:45 | <b>Discussion</b>                                                                                                                                                                                         |
| 17:45 – 18:45 | Poster Session 2<br>(From E1 to E109)                                                                                                                                                                     |

March 2<sup>nd</sup> 2011

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|               | ORAL PRESENTATIONS                                                                                                                                                                                                                                                                           |  |               |  |                                                                                                                                                                               |  |                     |  |
|               | Room :                                                                                                                                                                                                                                                                                       |  | Topic : Water |  | Room :                                                                                                                                                                        |  | Topic : Energy      |  |
|               | Chairman : Prof. Miriam Balaban<br>Co-Chairs : Dr. Magda Amina Aziza                                                                                                                                                                                                                         |  |               |  | Chairman : Prof. Ali Aouabed<br>Co-Chairs : Dr. Samira Chader                                                                                                                 |  |                     |  |
| 08:00 – 08:15 | Assessment of potable water quality produced by MSF and SWRO desalination processes<br>Y. Gacem, S. Taleb, S. Senadjki and N. Ghaffour                                                                                                                                                       |  |               |  | Système hybride de production d’eau et d’énergie utilisant les énergies renouvelables: cas du projet Open-Gain<br>A. Sadi                                                     |  |                     |  |
| 08:15 – 08:30 | Nanofiltration: a promising technology for brackish water desalination in Morocco<br>H Dach , A.Lhassani, J.Leparc and M.Hafsi                                                                                                                                                               |  |               |  | Economic study of nuclear seawater desalination for Mostaganem site<br>A. Belkaid, S.A. Amzert , Y. Bouaichaoui and H. Chibane                                                |  |                     |  |
| 08:30 – 09:45 | Contribution à l’étude des procédés inhibiteurs de l’entartrage : Procédés chimiques, procédés électrochimiques en présence de Ca(OH) <sub>2</sub> , Na <sub>2</sub> CO <sub>3</sub> et KH <sub>2</sub> PO <sub>4</sub><br>K.Labioud, S.Ghizellaoui, H.Semineras and Y. Bendaoud – Boulahlib |  |               |  | Use of the on/off mode for the regulation of a solar heating system pump<br>F.Mokhtari, L. Loukerfi and M.Belhamel                                                            |  |                     |  |
| 08:45 – 09:00 | Novel adsorbent loaded micro-spheres for Arsenic removal in drinking water<br>A. Figoli, J. Hoinkis, A. Criscuoli, F. Gallo and E. Drioli                                                                                                                                                    |  |               |  | Data acquisition system for photovoltaic water pumping system in the desert of Tunisia<br>A. Mahjoubi, R.Fethi Mechlouch and A. Ben Brahim                                    |  |                     |  |
| 09:00 – 09:15 | A Role of additives in the casting solution in preparation of porous membranes<br>A. Ouradi, J.C. Jansen, F. Tasselli, S.Mimoune and A.Benaboura                                                                                                                                             |  |               |  | Compressed Natural Gas: The new alternative fuel for the Algerian transportation sector<br>F. Amrouche                                                                        |  |                     |  |
| 09:15 – 09:30 | Cationic Dyes Removal Using Polymer Inclusion Membranes (PIMs)<br>S .Aitali, O. kebiche-Senhadj, L. Mansouri and M. Benamor                                                                                                                                                                  |  |               |  | Thermo-optic behaviors modelization of a multiple effects solar still<br>C. khelifi                                                                                           |  |                     |  |
| 09:30 – 09:45 | Sea water desalination (RO) as a wind powered process, technical and economical specifics<br>J. Kaufler, R.Pohl and H.Sader                                                                                                                                                                  |  |               |  | The chemical investigating methods of concentration polarization in lectrodialysis ( plateau length and overlimiting current iov )<br>K.E Bouhidel, K.Oulmi and S. Benslimane |  |                     |  |
| 09:45 – 10:15 | Coffee break                                                                                                                                                                                                                                                                                 |  |               |  |                                                                                                                                                                               |  |                     |  |
|               | Room :                                                                                                                                                                                                                                                                                       |  | Topic : Water |  | Room :                                                                                                                                                                        |  | Topic : Environment |  |
|               | Chairwoman : Prof. Safia Taleb<br>Co-Chair : Dr. Ali Malek                                                                                                                                                                                                                                   |  |               |  | Chairman : Prof. Roya Sheikholeslami<br>Co-Chair : Dr. Nadjib Drouiche                                                                                                        |  |                     |  |
| 10:15 – 10:30 | Coagulation Flocculation test of Keddara’s Water Dam Using Chitosan and Sulfate Aluminium<br>H. Zemmouri, Majda. A. A., N. Mameri and H. Lounici                                                                                                                                             |  |               |  | Environmental Management and Sustainable Development<br>M. F. A. Goosen                                                                                                       |  |                     |  |
| 10:30 – 10:45 | Multivariate statistical evaluation of major and trace elements in groundwater of Ain Azel plain, Algeria<br>L. Belkhiri, A. Boudoukha and L. Mouni                                                                                                                                          |  |               |  | Contribution du vent à la progression de l’ensablement dans les hauts plateaux Algériens<br>M. Merzouk, S. Louassa and N. Kasbadji-Merzouk                                    |  |                     |  |

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| 10:45 – 11:00 | <b>Unité de dessalement d'eau de mer par osmose inverse: améliorer son efficacité et réduire l'impact négatif de ses rejets sur l'écosystème marin</b><br>A. Chouikhi                                                     |                      | <b>Binary adsorption of basic dye and humic acid on inorganic–organic pillared clays: Equilibrium isotherm studies in single and multicomponent system</b><br>F. Zermane, O.Bouras and B.Cheknane,                    |                            |
| 11:00 – 11:15 | <b>Le dessalement de l'eau de mer dans la perspective d'une gestion intégrée et d'un développement durable (Cas de la station de dessalement de Bousfer)</b><br>F Alaoui, M. Benyahia, M. Habi, L. Hamel and R. Djellouli |                      | <b>Biological filtration on sand of dunes – Characterization of the sand</b><br>Y. Touil, Y. Gherairi, S. Nefci, R. Issaadi and A. Amrane                                                                             |                            |
| 11:15 – 11:30 | <b>Feasibility study of exploitation of the "Biological desalination process" to desalinate seawater</b><br>S. Achacher, B. Mahmah, S. Chader, M. Belhamel and A. Malek                                                   |                      | <b>Effect of heat treatment and by hydrogen peroxide (H2O2) on the physicochemical and rheological behavior of an activated sludge from a purification plant</b><br>L.Hammadi , A. Ponton and M. Belhadri             |                            |
| 11:30 – 11:45 | <b>Couplage de traitement électrochimique et membranaire appliqué aux eaux du lac de Reghaia</b><br>M.Taleb Ahmed, T.Chaabane, A.Darchen and R.Maachi                                                                     |                      | <b>Effectiveness of biological activated sludge treatment for removal of basic dyes from wastewater</b><br>O. Senhadji-Kebiche and K.E. Bouhidel                                                                      |                            |
| 11:45 – 12:00 | <b>Contribution à la caractérisation du sable de dune (Erg occidental) : Cas du sable de (Taghit) Algérie au profil de la filtration</b><br>A.. Maazouzi and A. Kettab                                                    |                      | <b>Single and multicomponent equilibrium studies for the adsorption of basic dyes on pillared clay granules; effect study and equilibrium modelling of data</b><br>B. Cheknane, M. Baudu, O. Bouras and J. P. B Basly |                            |
| 12:00 – 13:30 | <b>Lunch</b>                                                                                                                                                                                                              |                      |                                                                                                                                                                                                                       |                            |
|               | <b>Room:</b>                                                                                                                                                                                                              | <b>Topic : Water</b> | <b>Room:</b>                                                                                                                                                                                                          | <b>Topic : Environment</b> |
|               | Chairman : <b>Dr. Matheus. F. A. Goosen</b><br>Co-Chair : <b>Dr. Norredine Ghaffour</b>                                                                                                                                   |                      | Chairman : <b>Prof. . Hakim Lounici</b><br>Co-Chair : <b>Dr. Mourad Amara</b>                                                                                                                                         |                            |
| 14:30 – 14:45 | <b>Enhancement of textile waste water treatment process using nanofiltration</b><br>E. Ellouze, N. tahri, A. Jrad and R. Ben Amar                                                                                         |                      | <b>Study of a sebkha: the sebkha d'oran (algerian west)</b><br>M. Kacem                                                                                                                                               |                            |
| 14:45 – 15:00 | <b>Simulation of proton exchange and water transport in the membrane of PEM fuel cell</b><br>B. Dokkar, N. Settou, O. Imine, B. Negrou, N. Saifia and N Chennouf.                                                         |                      | <b>Contrats de Performance Environnementale (CPE), norme ISO 14001 et performance environnementale : analyse critique</b><br>M.A.M Khelladi                                                                           |                            |
| 15:00 – 15:15 | <b>Membrane bioreactor (MBR) technology – A promising approach for industrial water reuse</b><br>J. Hoinkis, S.A. Deowan, A. Figoli, R.R. Huang and E. Drioli                                                             |                      | <b>Elimination d'un anti-inflammatoire par une argile anionique de synthèse cas du Diclofenac</b><br>R. Khatem, A. Bakhti, H. Zaidi, N.Sayah and M. Larid                                                             |                            |
| 15:15 – 15:30 | <b>Sol–gel preparation of ZnO films with extremely preferred orientation along (002) plane</b><br>L. Salmi, S. Boudjadar and L. Guerbous                                                                                  |                      | <b>Remote Sensing Techniques for Salt Affected Soil Mapping (Application to the Oran region, Algeria)</b><br>A. Dehni and M. Lounis                                                                                   |                            |
| 15:30 – 15:45 | <b>Modelisation d'une colonne de demineralisation De l'eau</b><br>D.Imessaoudene, S.Hanini and C.Simoussa                                                                                                                 |                      | <b>Detection of tropospheric ozone in algiers utilizing tobacco plant, two years study</b><br>T. Lakki, B. Nadjemi, R. Kerbach, M. Boudjeniba, N. Zouaghi and M. Nasri                                                |                            |

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| 15:45 – 16:00  | <b>Chloromethylation of metaxylene by phase transfer catalysis – Application to the water treatment</b><br>N. Nasrallah, M. Trari, A. Amrane and R. Maachi     | <b>Geochemical Evolution of Groundwater in Mengxu-Guiping City</b><br>S. Younes                                                                                                                                                                         |
| 16:00 – 16:15  | <b>Water resources management and sustainable development in Sudan</b><br>A. Mustafa Omer                                                                      | <b>Mesure des performances du traitement des eaux usées urbaines par lagunages à microphytes et à macrophytes en zone sahélienne : exemple de la station pilote de l'université de Niamey – Niger</b><br>T. Idder , M. S Laouali , M. Seid and A. Idder |
| 16 :15- 16 :30 | <b>Analyse spatiale des tendances pluviométriques récentes de la région de Souk-Ahras, Algérie</b><br>D. Mrad, S. Daira and Y. Djebbar                         | <b>Changement climatique mondial en relation avec les variations climatiques locales (impact sur les ressources hydrique dans la plaine de sidi bel abbes)</b><br>R. Djellouli A. Bouanani, F. Alaoui and L. Hamel                                      |
| 16:30- 17:00   | <b>Coffee break</b>                                                                                                                                            |                                                                                                                                                                                                                                                         |
|                | <b>Room :</b>                                                                                                                                                  | <b>Topic : Energy</b>                                                                                                                                                                                                                                   |
|                | <i>Chairman : Dr. Mustapha Merzouk</i><br><i>Co-Chair : Dr. Kacem Moussa</i>                                                                                   | <i>Chairman: Prof. Wahib Naceur</i><br><i>Co-Chair : Mr Abdelkrim Sadi</i>                                                                                                                                                                              |
| 17:00 – 17:15  | <b>Current status of concentrator photovoltaics (CPV) technology: field-performance of CPV modules implemented around the world</b><br>A. Mokri and M. Emziane | <b>Removal of copper from cable factory effluent by coupling electroflotation and indirect electro-oxidation processes</b><br>T. Chaabane , A. Darchen, M. Taleb Ahmed and R. Maachi                                                                    |
| 17:15 – 17:30  | <b>Solar thermal power tower plant: transfer of technology from Jülich to Bourkika (W. of Tipasa)</b><br>A. Khedim                                             | <b>Synthese et caracterisation des polyoxometallates à base de tungstene application à l'adsorption du bleu de methylene</b><br>S. Kouraichi M. Abbessi , R. Belghiche and A. Balaska                                                                   |
| 17:30 – 17:45  | Conception d'un Photoréacteur Solaire pour la Dégradation d'un Effluent Récalcitrant<br>S. Bouafia-Chergui, R. Alloune and M. Chergui                          | <b>Removal of Hexavalent Chromium from Aqueous Phase by Adsorption Using Peanut Skin in Fixed bed: Experimental Study</b><br>M. Chabani, M. Kebir, Y. Ait Ouassa., A. Amrane and A. Bensmaili                                                           |
|                | <b>Keynote</b>                                                                                                                                                 |                                                                                                                                                                                                                                                         |
|                | <i>Chairman : Dr. Jan Hoinkis</i><br><i>Co-Chair : Dr. Omar Cheknane</i>                                                                                       |                                                                                                                                                                                                                                                         |
| 17:45 – 18:15  | <b>Etat et perspectives des Energies Renouvelables en Algérie</b><br>Dr. Nachida Kasbadji Merzouk                                                              |                                                                                                                                                                                                                                                         |
| 18:15 – 19 :00 | <b>Closing Ceremony</b>                                                                                                                                        |                                                                                                                                                                                                                                                         |
| 20:30 – 22:30  | <b>Gala Dinner</b>                                                                                                                                             |                                                                                                                                                                                                                                                         |