



1st NATIONAL CONFERENCE ON NATURAL RESOURCES

**Conservation of Natural Resources and
Sustainable Development**

18-19 May 2010
Grand Riverview Hotel, Kota Bharu,
Kelantan, Malaysia

CONFERENCE PROGRAMME AND ABSTRACTS

Organized by:
Faculty of Agro Industry & Natural Resources

1st NATIONAL CONFERENCE ON NATURAL RESOURCES

Conservation of Natural Resources and Sustainable Development

11.00-12.30 CONCURRENT SESSION

Session 1 THEME: Aquatic System and Ground Water Management Chairperson : <i>Dr Awang Soh Mamat</i> Place: <i>Dewan Putri Sa'adong</i>		Session 2 THEME: Sustainable Development and Management Chairperson: <i>Dr Mariam Firdaus Mad Nordin</i> Place: <i>Dewan Congkak 1& 2</i>	
11.00	A simplified double-porosity model for NAPL migration in groundwater sytems <i>Ngien Su Kong*, Norhan Abd. Rahman & Kamarudin Ahmad,</i> <i>Department of Hydraulics and Hydrology, Faculty of Civil Engineering, Universiti Teknologi Malaysia</i>	Sustainable development: Critics of the concept and approach <i>Mohd Rafi Yaacob,</i> <i>Fakulti Keusahawanan & Perniagaan, Universiti Malaysia Kelantan</i>	
11.15	Removal of ferum (III) ions from aqueous system by <i>Moringa oleifera</i> seed powder <i>Nik Norziehana Che Isa and Yusairie Mohd, Fakulti Sains Gunaan, Universiti TeknologiMara, Shah Alam</i>	Enhancement of spiritual values toward practical conception of sustainable Development <i>Azizan Ramli and Tuan Sidek Tuan Muda, Faculty of Chemical Engineering and Natural Resources, Universiti Malaysia Pahang</i>	
11.30	Preliminary study: A simple net rainfall model and soil water content undepine (<i>Pinus caribaea</i>) canopies <i>Chong Siam Yee*, Christopher Teh Boon Sung and Ahmad Ainuddin Nuruddin,</i> <i>Department of Land Management, Faculty of Agriculture, Universiti Putra Malaysia</i>	Beneficial Microbes - natural resources for sustainable agriculture <i>Halimi Mohd Saud,</i> <i>Jabatan Teknologi Pertanian, Universiti Putra Malaysia</i>	
11.45	Preliminary study on the application of ionic liquid as solvent medium for iron removal in ground-water <i>Nur Hayati Hussin*, Nurul Yani Rahim, Sharifah Mohamad, Ismail Yusoff and Yatimah Alias, Geology Department, faculty of Science, University of Malaya</i>	Spiders in Malaysia: Their conservation and the importance of systematics study <i>Nurul Syuhadah Mohamed Dzarawi* and Rosli Hashim,</i> <i>Institute of Biological Sciences Faculty of Science, Universiti Malaya</i>	
12.00	Morphological and anatomical characters of selected aquatic ferns in Peninsular Malaysia <i>Rabi-atul Khairuninnisa Mohd Ramli, Haja Maideen Kader Maideen and Mohd hasmadi Ismail, Faculty of Forestry, Universiti Putra Malaysia, Serdang.</i>	Urban park and groundwater conservation: Case study of Jakarta City, Indonesia <i>Mansor Ibrahim, Ismawi Hj. Zen & Mohammad Koeswadi,</i> <i>Department of Urban and Regional Planning and Landscape Architecture, Kulliyyah Of Architecture And Environmental Design, IIUM</i>	
12.15	:	POSTER SESSION	
13.00	:	LUNCH	

1st NATIONAL CONFERENCE ON NATURAL RESOURCES

Conservation of Natural Resources and Sustainable Development

Preliminary study: A simple net rainfall model and soil water content under pine (*Pinus caribaea*) canopies

Chong Siam Yee*, Christopher Teh Boon Sung and Ahmad Ainuddin Nuruddin, Department of Land Management, Faculty of Agriculture Universiti Putra Malaysia

This study was carried out at Pine estate (*Pinus caribaea*), University Putra Malaysia, Selangor. Gross rainfall (Pg), throughfall (Tf) and stemflow (Sf) data were recorded from early of December 2009 until end of January 2010, for the purpose of validated a net rainfall model and determined the soil water content under its canopies. 13 rain gauges were distributed along the pine trees for collected the rainfall in terms of throughfall and stemflow, which were ten and three rain gauges, respectively. Values obtained were applied in the new net rainfall model together with LAI value, MAE showed less than 20%. Soil water content was measured every week. The difference between the highest and the lowest water content was 43 mm. Further work on the model will be conducted to improve its accuracy.

Preliminary study on the application of ionic liquid as solvent medium for iron removal in groundwater

Hussin, N. H.¹, Yusoff, I.¹, Alias, Y.², Mohamad, S.² and Rahim, N. Y.²

¹Geology Department, Faculty of Science, University of Malaya, 50603 Kuala Lumpur

²Chemistry Department, Faculty of Science, University of Malaya, 50603 Kuala Lumpur

Long term mean data for groundwater in Kelantan aquifers shows that the iron concentration exceeds the recommendation limit of WHO and MOH water quality standard for treated water. An alternative treatment for iron removal using the liquid-liquid extraction with the room temperature ionic liquids (RTILs) 1-butyl-3-methylimidazoliumbis(trifluoromethanesulfonyl) imide [C₄mim][NTf₂] as a solvent medium was studied. The chelating reagent, 1, 10-phenanthroline was used as extractant for iron in this system. The percentage of extraction of the Fe³⁺ and Fe²⁺ ion was influenced significantly by pH of the aqueous phase. Quantitatively, the Fe³⁺ and Fe²⁺ ion were optimally extracted from aqueous solution into [C₄mim][NTf₂] at pH value around 2-2.5. Almost 100% successful removal of iron from groundwater was achieved from the loaded of [C₄mim][NTf₂].

Morphological and anatomical characters of selected aquatic ferns in Peninsular Malaysia

Rabiatul Khairunnisa Mohd Ramli, Haja Maideen Kader Maideen and Mohd hasmadi Ismail, Faculty of Forestry, Universiti Putra Malaysia, Serdang.

This study was carried out to investigate the morphological and anatomical characters of aquatic ferns which are could be useful for identification and classification purposes. The species are *Salvinia molesta*, *Marsilea crenata* and *Azolla pinnata*. Specimens were collected at Tanjung Karang, Selangor and experimental were undertaken by fresh specimens for anatomical study and dried specimens for morphological study. Results showed that certain morphological characters such as lamina venation types, structure of the lamina, stipe, rhizome, sporocarp and anatomical characters such as air spaces, hairs, cortex and endodermis are a taxonomic value. *Salvinia molesta* and *M. crenata* have reticulate venation in the lamina while *A. pinnata* have pinnate and dichotomous venation. *Salvinia molesta* has open-type venation in the margin, *A. pinnata* have open-type and branched while *M. crenata* have close-type venation. The air spaces are observed in all species studied. Papillas occur on the adaxial of the lamina in *S. molesta* only. Filiform multicellular hairs occur on the abaxial of the lamina and rhizome in *S. molesta*. *S. molesta* and *M. crenata* have straight and tapered the margin. Fibrous cells do not occurred at the end of leaf margin in both species. The rhizome in *S. molesta* and *M. crenata* has endodermis which encloses the stele and consists of two zones of cortex namely external cortex and internal cortex. The stele in *M. crenata* also enclosed by pericycle and sclerenchyma. The stele in the stipe of *M. crenata* is elliptic or semicircular. Xylem consists of two arc-shaped bands that connect in a v-shape. A combination of these characters can be used for the identification and authentication of species. This study therefore, concluded that morphological and anatomical characters of aquatic ferns can be used for the identification of pteridophyta.

1st NATIONAL CONFERENCE ON NATURAL RESOURCES

Conservation of Natural Resources and Sustainable Development

COMMITTEE MEMBERS

Chairman

Prof. Dr. Hj. Ibrahim Che Omar

Secretariat and Registration

En. Zulhazman Bin Hamzah (Secretary)
En. Mohd Badrul Hisyam Bin Muhamad Alias (Asst Secretary)
Pn. Marinah Muhammad (Treasurer)
En. Wan Faidz Mohamad Shahimin (Asst Treasurer)
Pn. Rohaida Ramli
Pn. Nor Edawati Yusoff

Technical

Prof. Madya Dr. Ahmad Anwar Ismail
Dr Kassim Buhiran
Dr. Mariam Firdhaus Binti. Mad Nordin
Cik Jazilah Mat Sa'at

Opening and Closing Ceremony

Dr. Noor Azlina Ibrahim
Pn. Syarifah Duhaija Syed Jaafar
Nur Suffiah Salleh
Cik Anes Azura Binti. Zakaria

Participants and Invitation

Pn. Aslina Abdullah
Cik Najihah Shamsuddin
En. Wan Mohd Shahril Shaberi

Logistics and Transportation

En. Suhaimi Omar
En. Wan Mohd Shamsul Amri B. Wan Zainul
Abidin
En. Salbaharin Ismail
En. Abdul Khaliq B. Zakaria

Publicity, Advertising and Sponsorship

En. Aweng Eh Rak
Cik Suniza Anis Mohamad Sukri
Cik Arlina Ali
En. Kamarul Ariffin Hambali

Poster Presentations

Prof. Dr. Awang Soh Mamat
Dr. Dwi Susanto
En. Mohamad Faiz Mohd Amin
En Mohd Khairul Azhar
En. Mat Farizal Mat Hassan
En. Muhammad b. Che Isa
Cik Hasimah Hassan

Meals and Refreshments

Pn. Nor Anida Yusoff
Pn. Nor Hidayah Hamzah
Pn. Nusaibah Ab Aziz
Nurul Syazana Abd Halim

Certificates and Souvenirs

Cik Wani Sofia Udin
Cik Nur Idayu Zainudin
Cik Nur Aiasyah Ibrahim
Cik Nurul Akmar Che Zaudin
Cik Nur Izzati Salleh

LIST OF SPONSORS

TerasLab Saintifik Sdn Bhd
Bank Islam Malaysia Berhad
Aztec Sinar Sdn Bhd
ChromScience Sdn Bhd
Muzmi Resources
Amat Bestari Sdn Bhd
Chancellory UMK