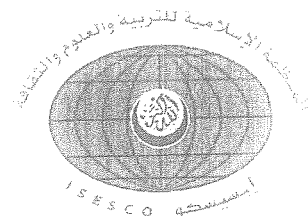
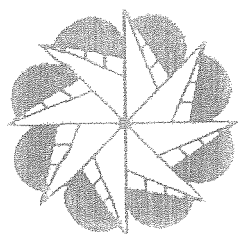
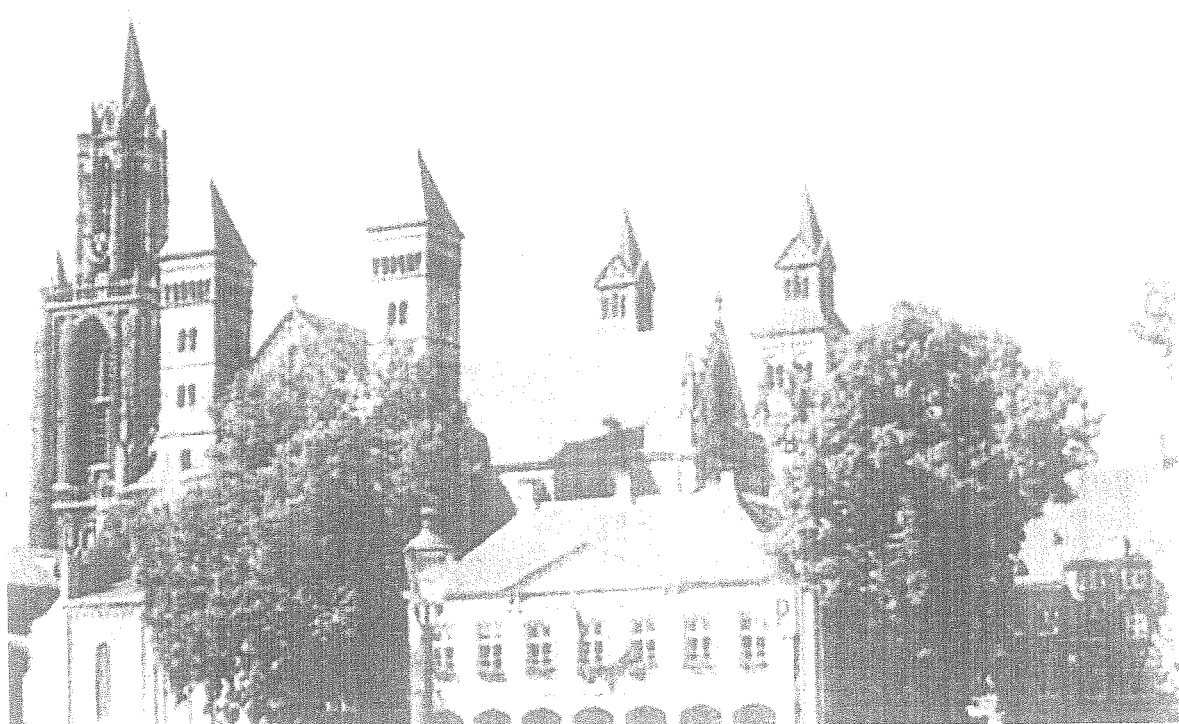


Conference PROGRAMME



First World Water Sustainability - Renewable Energy Congress and Exhibition 25-28 November 2007 MECC Conference Complex, Maastricht, THE NETHERLANDS

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World Renewable Energy Congress 2007



- 12:30 – 14:00 Lunch break
- 14:00 – 15:30 **The Water Footprint of Eenergy Consumption: An Assessment of Water Requirements of Primary Energy Carriers**
Winnie Gerbens-Leenes, Arjen Y. Hoekstra and Theo van der Meer
University of Twente, Enschede, the Netherland
- Using Phase Change Material to promote seasonal solar energy storage**
Kais CHARFI and Mohamed.J.SAFI
National Engineering School of Tunis, BP 37-1002 Tunis.TUNISIA
- Effect Treated Waste Water and Different Levels of Nitrogen Fertilizer on Yield of Sorghum**
Mohsin Mussalam Alamri: Agricultural research center Oman
- Sustainable water circulation system by using graywater in complex**
Joonkyu Kim, Insang Song, Haeseok Oh, Jisun Jong,
Joonhong Park, Younkyoo Choung , Department of Civil & Environmental Engineering, College of Engineering, Yonsei University, Seoul, KOREA
- 15:30 – 16:00 Tea break sponsored by Messrs. Hawle Austria ^{Hawle}
- 16:00 – 17:30 **Implementation of coagulation - flocculation treatment in towns with seasonal inhabitant increment**
Rodriguez-Lopez, A.D., Garcia-Garrido, J. , Garcia-Castello, E., Laguarda-Miro, N., Pascual-Garrido, J.
TECAR I+D+I. Dpto. Ingeniería Química y Nuclear. Universidad Politécnica de Valencia. Valencia. Spain.
- Grid Connected Solar Fired Combined RO/TMD SeawaterDesalination Plant**
Hussain Alrobaei: Higher Institute of Engineering, Hoon, Libya.
- Towards a sustainable urban water cycle: technological challenges**
Maarten Nederlof and Ellen van Voorthuizen, Wetsus Centre for Sustainable Water Technology, Leeuwarden, The Netherlands,
- Potential of Kasimir (Hura Crepitans L) and Bintaro (Cerbera Manghas L) Oils for Alternative Biodiesel Feedstock**
Kudrat Sunandar*, Eiji Minami** and Shiro Saka**
*Post-Graduate Student, Doctorate, IPB, Indonesia
Chemical Engineering Department, Institut Teknologi Indonesia
** Graduate School of Energy Science, Kyoto University, Japan

Sustainable water circulation system by using graywater in complex

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Keywords: graywater, membrane, advanced oxidation process, sustainability

Abstract

According to development of industry, urbanism and diversification of life style, a lot of demand of water are to request. As a large scale apartment complexes are constructed recently, problems are not only increasing of demand of water but also increasing of wastewater. Wastewater in complex like apartment can be divided as wastewater of kitchen, bathroom, laundry and chamber pot. If wastewater can be reused, demand of water and wastewater can be decreased. In this study, wastewater of kitchen, bathroom and laundry was defined as graywater. Graywater was treated by membrane and advanced oxidation process. The characteristic of quantity and quality of graywater was enough to establish sustainable water circulation system to reuse wastewater of apartment.