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DEPARTMENT OF
CHEMISTRY



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POSTER SESSIONS

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PEC05	SEASONAL INFLUENCES ON THE LEVELS OF PARTICULATE METALS IN KUANTAN RIVER, EAST COAST MALAYSIA USING PRINCIPAL COMPONENT ANALYSIS <i>Fikriah Faudzi, Kamaruzzaman Yunus, Mohd Fuad Miskon, Asnor Azrin Sabuti, Azman Azid</i>
PEC06	DEGRADATION OF METHYL ORANGE BY USING SILVER PHOSPHATE/TITANIUM DIOXIDE PHOTOCATALYST <i>Noor Izznin Najiah Lansir, Nur Amalina Abdul Aziz, Abdul Halim Abdullah</i>
PEC07	PENENTUAN KEPEKATAN LOGAM BERAT DALAM SEDIMEN DI MUARA SUNGAI KEMAMAN, TERENGGANU <i>Samsuddin, A.A., Suratman, S., Shazili, N.A.M, Nor Antonina, A., Mohammed Faizal, A.R</i>
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PEC09	WATER QUALITY AND ANTROPHOGENIC POLLUTANTS DETERMINATION IN SUNGAI BERTAM, CAMERON HIGHLANDS, PAHANG. <i>Khairatul Mardiana Jansar, Ismail Sahid, Siti Nur Ain Suhaimi, Muhamad Safwan Ishak</i>
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SEASONAL INFLUENCES ON THE LEVELS OF PARTICULATE METALS IN Kuantan River, East Coast Malaysia Using Principal Component Analysis

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Abstract

Principal component analysis (PCA) were performed to evaluate temporal variations of trace metals of Kuantan River waters. Water samples from 12 sampling stations were taken from downstream of the estuary towards the upstream of Kuantan River during the Northeast Monsoon (NEM) and Southwest Monsoon (SWM). Particulate metals were filtered, dried, weighed, analyzed using Teflon Bomb digestion processes and detected using ICP-MS. The metals distribution in suspended particulate matter was found influenced by monsoon seasons particularly during NEM. The PCA/FA identified six varifactors, which were responsible for 83.30% of total variance in the dataset. The PCA results showed that the main source of river water pollution is mostly due to the point sources such as domestic wastewater, wastewater treatment plants and industries as well as non-point sources namely agriculture and oil palm plantations. This study illustrates the usefulness of PCA for identification of pollution sources and understanding temporal variations in river water for effective river water management.

Keywords: Trace Metals, River water, Principal component analysis, Suspended particulate matter