

2/2012

**environment
protection
engineering**

published quarterly

Wrocław 2012

Founding Editor

TOMASZ WINNICKI

Editor-in-Chief

KATARZYNA MAJEWSKA-NOWAK

Vice-Editors

Jerzy ZWOŹDZIAK, Lucjan PAWŁOWSKI

Assistant Editor

IZABELA KOWALSKA

Editorial Office

Faculty of Environmental Engineering

Wrocław University of Technology

Wybrzeże Wyspiańskiego 27, 50-370 Wrocław, Poland

Publisher

Wrocław University of Technology, Wybrzeże Wyspiańskiego 27, 50-370 Wrocław

Oficyna Wydawnicza Politechniki Wrocławskiej

Wybrzeże Wyspiańskiego 27, 50-370 Wrocław

<http://www.oficyna.pwr.wroc.pl>, e-mail: oficwyd@pwr.wroc.pl

© Copyright by Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2012

CONTENTS

M. DUDZIAK, Retention of mycoestrogens in nanofiltration. Impact of feed water chemistry, membrane properties and operating process conditions	5
M. ŚWIDERSKA-BRÓŻ, M. WOLSKA, Efficiency of ozonation followed by filtration through a biologically active adsorption bed at removing biogenic organic substances from surface water	19
L. KOS, K. MICHALSKA, R. ŻYLLA, J. PERKOWSKI, Effect of acetic acid on pollutant decomposition in textile wastewater treated by the Fenton method	29
M. ZIELIŃSKA, K. BERNAT, A. CYDZIK-KWIATKOWSKA, I. WOJNOWSKA-BARYŁA, Respirometric activity of activated sludge in sequencing batch reactor depending on substrate and dissolved oxygen concentration	41
K. KOSIŃSKA, T. MiŚKIEWICZ, Precipitation of heavy metals from industrial wastewater by <i>Desulfovibrio desulfuricans</i>	51
T. SIWIEC, L. KIEDRYŃSKA, K. ABRAMOWICZ, A. REWICKA, Analysis of chosen models describing the changes in BOD ₅ in sewages	61
Y. CAO, A. PAWŁOWSKI, Energy sustainability of two parallel sewage sludge-to-energy pathways: Effect of sludge volatile solids content on net energy efficiency	77
M. JANUS, A. MARKOWSKA-SZCZUPAK, E. KUSIAK-NEJMAN, A.W. MORAWSKI, Disinfection of <i>E. coli</i> by carbon modified TiO ₂ photocatalysts	89
R. JASIŃSKI, Directions of air pollution inflows as a method for evaluation of representativeness of automatic air monitoring stations area	99
S. HOFFMAN, Approximation of immission level at air monitoring stations by means of autonomous neural models	109
G. PASTERNAK, B. KOŁWZAN, G. BERNARD-BAURES, J. RYBAK, A. MROZIK, Physiological characterization of carbazole degrading bacteria isolated from a former gasworks site	121
J. MAGIERA, S. PATER, Bivalent heating installation with a heat pump and solar collectors for a residential building	127
J. ZIMNY, K. SZCZOTKA, Ecological heating system of a school building. Design, implementation and operation	141
P. ŻACH, Plastic raw materials from end-of-life vehicles	151
R. BLAŻEJEWSKI, R. MATZ, Design flows for pressure sewers	157