



ENVIRONMENTAL POLLUTION: Assessment and Treatment

**Proceedings of the 1995 International Conference
on Environmental Pollution (ICEP'95),
held in St Petersburg, Russia**

17–24 July, 1995



Edited by P Read and J Kinross
Department of Biological Sciences
Napier University, Edinburgh

1997

**ENVIRONMENTAL POLLUTION:
Assessment and Treatment**

**Proceedings of the 1995 International Conference
on Environmental Pollution (ICEP'95)
held in St. Petersburg, Russia**

**Organised by
Department of Biological Sciences,
Napier University, Edinburgh, Scotland
and
The Institute of Ecology and Genetics of
Microorganisms, Perm, Russia**

**Edited by
P Read and J Kinross,
Department of Biological Sciences
Napier University
10 Colinton Road, Edinburgh EH10 5DT, UK**

**Napier University Press
1997**

Published by

**Napier University
219 Colinton Road, Edinburgh EH14 1DJ**

© 1997

**The copyright of the material in this publication
resides with the individual authors from whom
permission must be obtained prior to any form
of transmission or reproduction**

ISBN 0 902703 30 7

**Printed by
Napier University Press
219 Colinton Road, Edinburgh EH14 1DJ**

CONTENTS

	Page
Preface. P A Read.	i
Paper no.	
Environmental Pollution and Toxicology	
1	1
Underground technology as a source of hydrosphere pollution. <i>G Michailov, A Oborin, I Karabanova and L Rubinstein.</i>	
2	4
Can low macroalgal species richnesses in north east England be attributed to colliery waste input? <i>B T Hyslop and M S Davies.</i>	
3	7
Antibiotics in fish farm sediments. <i>P G Provost, K D Black, I M Davies and P A Read.</i>	
4	21
Photo-oxidation of organic pollutants in aqueous systems. <i>D Jeffrey-Smith, P L McGregor and A R Werninck.</i>	
5	27
Aerogenic anomalies in urbanised areas. <i>M Shishkin, B Bachurin and V Gusev.</i>	
6	34
Coastal Zone Management: Comparative Approaches. <i>TF Fernandes and PA Read.</i>	
7	45
Experimental investigations of genotoxic effects of industrial town chemical pollution. <i>V A Demakov and N V Golyasnaya.</i>	
8	55
Mutagenic effect of n'-methyl-n'-nitro-n-nitrosoguanidine on osmotically shocked <i>Escherichia coli</i>. <i>N V Golyasnaya and V A Demakov.</i>	
Microbiology	
9	59
The role of putrescine-potassium exchange in the adaptation of <i>Escherichia coli</i> to anaerobic conditions. <i>O Ja Salakhedinova, A G Tkachenko and M R.Pshenichnov.</i>	
10	66
Interrelation between intracellular levels of nonprotein thiols and catalase activity following treatment of growing <i>Escherichia coli</i> cells with hydrogen peroxide. <i>G V Smirnova, O N Oktyabrysky, N G Muzyca and M N Glukhovchenko.</i>	
11	71
Environmental microbiological quality control under conditions of chemical pollution. <i>O V Bukharin, V A Gritsenko and D G Deryabin.</i>	
12	75
Microbiotest for estimating and monitoring the pollution of soils. <i>R A Pshenichnov, F N Zakirov and N M Nikitina.</i>	
13	77
"Microbial Diversity 21" and formation of a regional specialised centre of microbiological resources in the Urals. <i>I B Ivshina.</i>	
14	85
Conservation and safe storage of propane-oxidising Rhodococci. <i>T N Kamenskikh and I B Ivshina.</i>	

Microbiology of Remediation

15	Scientific basis of biotechnology of remediation of oil-polluted soil. <i>S A Ilarionov.</i>	92
16	The earth's bacterial filter and its geochemical activity. <i>A Oborin and I Kalachnikova.</i>	95
17	Evaluation of the biomass of the earth's underground biosphere. <i>L Rubinstein.</i>	100
18	Microbial biodegradative potential of springs attending various mineral deposits. <i>VT Khmurchik, S A Ilarionov, A A Seleznyov, A A Oborin, L M Rubinstein and E G Kolpakova.</i>	104
19	The study of lipid composition of biosurfactants produced by <i>Rhodococcus ruber</i> bacteria. <i>M A Volkova and S I Krosocha.</i>	107
20	The acetate concentration effect on the character of cytoplasmic inclusions in cells of hydrocarbon oxidising, phosphate accumulating bacteria <i>Acinetobacter calcoaceticus</i>. <i>N Churilova, M Berdichevskaya and J Soifer.</i>	111