

exposure assessment
in occupational
and environmental
epidemiology

edited by

MARK J. NIEUWENHUIJSEN

OXFORD

Contents

List of abbreviations	xi
List of contributors	xiii
Section I: Methods	1
1. Introduction to exposure assessment <i>Mark J. Nieuwenhuijsen</i>	3
2. Questionnaires <i>Mark J. Nieuwenhuijsen</i>	21
3. Environmental measurement and modelling: introduction and source dispersion modelling <i>Roy Colvile, David Briggs, and Mark J. Nieuwenhuijsen</i>	39
4. Environmental measurement and modelling: geographical information systems <i>David Briggs</i>	55
5. Personal exposure monitoring <i>Mark J. Nieuwenhuijsen</i>	71
6. Analysis and modelling of personal exposure <i>Alex Burdorf</i>	85
7. Retrospective exposure assessment <i>Wolfgang Ahrens and Patricia Stewart</i>	103
8. Exposure surrogates: job-exposure matrices, self-reports, and expert evaluations <i>Kay Teschke</i>	119
9. Dermal exposure assessment <i>Sean Semple and John W. Cherrie</i>	133
10. Physiologically based pharmacokinetic modelling <i>George Loizou and Martin Spendiff</i>	151

11.	Biological monitoring	167
	<i>Mark J. Nieuwenhuijsen and Pierre Droz</i>	
12.	Exposure measurement error: consequences and design issues	181
	<i>Ben Armstrong</i>	
Section II: Current topics		201
13.	Allergen exposure and occupational respiratory allergy and asthma	203
	<i>Dick Heederik</i>	
14.	Particulate matter	221
	<i>Helen H. Suh</i>	
15.	Exposure assessment in studies of chlorination disinfection by-products and birth outcomes	237
	<i>Mark J. Nieuwenhuijsen</i>	
16.	Exposure assessment of pesticides in cancer epidemiology	251
	<i>Mustafa Dosemeci</i>	
17.	Radiofrequency exposure and cancer	263
	<i>Martie van Tongeren and Philip Chadwick</i>	
	Index	277