

Book Reviews

Soil Pollution: Origin, Monitoring & Remediation

Author: Ibrahim Mirsal
Publisher: Springer, Heidelberg, Berlin, New York 2004. 112 figures, 27 tables, 252 pages; ISBN 3-540-40143-1; sales price 79.95 Euro, 135.50 SFR, 61.50 GBP, 109.00 USD
Reviewer: Jörg Matschullat¹

Soil pollution is a multi-faceted issue and of interest in almost every country of our planet. It is not a new topic either, but has been discussed literally for millennia – albeit with a different background.

In this new book, the author tries to offer a monograph in 5 parts with a total of 13 chapters followed by the references and an index. The volume of 250 pages and a rather slim list of references (6 pages) demonstrates that not much more than an introduction and overview may be aimed at.

The first part is dedicated to the basics of soil science, with (1) The Origin of Soils, mainly dealing with weathering phenomena, (2) Soil Constituents that introduce the solid inorganic, the organic, the liquid and the gaseous phases of soils. (3) Soil Properties very briefly demonstrates physical and chemical characteristics, (4) Soil Classification and Soil Types just a brief (7 pages) taxonomy of soils, and (5) Soil Degradation talks about physical and chemical influences like erosion, compaction, crust formation, acidification, salinisation, and sodification.

The second part, dealing with soil pollution, starts with an introduction in macro and micropollutants, followed by (6) Major Types of Soil Pollutants, (7) Sources of Soil Pollution, (8) Pollution Mechanisms and Soil – Pollutant Interaction, and ends with (9) Pollutants Alteration, Transformation, and Initiation of Chemical Changes within the Soil. As pollutants, both inorganic (trace metals and their salts, and radionuclides) and organic compounds (agrochemicals, chemical weapons, hydrocarbons, etc.) are discussed.

The third part briefly introduces the Monitoring of Soil Pollution with (10) Monitoring and Monitoring Plans, talking about site characterisation, data acquisition, field and lab investigations, and monitoring of groundwater flows. Subsequently, (11) Biological Monitoring is discussed, consisting of planning and implementation, foliage sampling and investigation, and chemical studies of foliage.

The fourth part, Modelling of Soil Pollution, consists of a very short introduction and one chapter (12) only that introduces models and their construction, and provides some examples.

The fifth and last part, on Soil Remediation, again features one single chapter (13) on Planning and Realisation of Soil Remediation with the four aspects of chemical and physical remedial techniques, bioremediation, solidification/stabilisation methods, and thermal treatment.

The presentation of the content alone may already demonstrate to the interested reader that it is a particular logic that binds individual chapters and sections together, a logic which I could not always follow. The textbook is directed towards graduate level students and claims to offer "professionals from the earth, environmental, and agricultural sciences the integrated overview of previously separately treated materials they may have been seeking". While this wording certainly reflects some truth, I have a hard time recommending the book wholeheartedly. It falls short of the expectations, and is by no means more than a brief introduction on an undergraduate level. Let me explain:

Academia these days, and particularly the scholarly duty of teaching, faces the challenge of presenting rather complex material to a generation of students with often very good computer skills and high expectations, not only towards the quality of facts taught, but also on the didactics and presentation. Quite a few of our Anglo-Saxon colleagues demonstrate how to translate this into fine textbooks. Mirsal fails to accommodate those expectations. Apart from biased centres of gravity (in respect to the ideal of a well-balanced overview), and the almost ridiculously short list of references (given the enormous quantity of relevant papers on that topic), the

book offers mostly figures of mediocre quality, and texts that raise more questions than deliver answers. It is typeset with some oddities, which even I could not recommend to my students, such as using table footers instead of headers, etc. Many figures are taken from other books without citing the sources, and their reproduction quality is rather poor. My overall impression is that this book is not much more than nicely bound lecture notes for students, but certainly not a thoroughly edited textbook.

The Art of Scientific Writing From Student Reports to Professional Publications in Chemistry and Related Fields

Authors: Ebel HF, Bliefert C, Russey WE
Publisher: Wiley-VCH, Weinheim (2004). 2nd, completely revised edition. 595 pages. ISBN 3-527-29829-0; sales price 34.90 Euro
Reviewer: Jörg Matschullat¹

Let me start with some trivia: It is simply not sufficient for scientists to be knowledgeable, to design and perform good experiments, and to intelligently interpret the results obtained. Without the capacity to communicate their work well, the other talents remain a necessary base, but will gain neither appreciation nor future support or recognition.

Many of us act as referees or even editors for scientific journals. And every one engaged in those activities can tell never-ending stories about papers that will have to be rejected for a lack of communication skills alone in the case of some authors. Every one of those rejections makes for a frustrating experience to both sides. Those of us busy teaching university students can again report on similar problems with some of our students.

Quite a few years ago, I wrote a review on the first edition of Ebel and Bliefert's book (1987) and strongly recommended it to the community. That English-language edition followed and grew with its German-language predecessor, which has ever since been THE guidebook on scientific writing and publishing. While the first edition was rather compact and gave an excellent overview, this new edition has become something like THE handbook on the topic, and has been greatly influenced by the new third author, William E. Russey.

Nine chapters, divided into 2 parts, appendices, the reference list and a substantial index now fill 595 pages. The first part, entitled 'Goals and forms in scientific writing' contains chapters on Report writing (1), Dissertations (2), Journal articles (3), and Books (4). The second part, named 'Materials, tools, and methods in scientific writing', yields the chapters on Writing techniques (5), Formulas (6), Figures (7), Tables (8), and Collecting and citing the literature (9). The appendices yield information on Reference formats (A), Selected quantities, units, and constants (B), The 20 commandments of electronic manuscripts (C), and Conversion tips between operating system platforms (D).

This structure already reveals that the initial hands-on approach of the authors has remained unchanged, and this certainly is an asset. It may be debatable whether the more extensive covering of the topics is really necessary to the user of this extraordinarily useful source of information, or whether a 'scientific writing for dummies' approach (which is how I felt very positively about the first edition) would not be just as useful. As in the previous edition, the style and layout of the book are like a role-model for fine science writing in its clarity and appropriate use of current text processing capacities. There is little doubt, however, that a thorough study of the book or chapters related to the current situation of the reader will be beneficial and help a great deal in avoiding the frustration and conflict already observed between a student and a supervisor or between the author and an editor of a journal. Basically, every relevant aspect is covered and, using very practical examples and even delivering helpful examples, the authors of the handbook capacitate the reader to compose and deliver works that will avoid many of the obstacles out there – provided that the teachings of this book are taken seriously.

I can only and fully recommend this excellent source of updated and well-balanced information. As a matter of fact, as with the previous edition, I continue to strongly recommend my students to read it prior to even writing their first report or thesis. Because of its fine language, it is fine reading and, because of its exquisite organisation and content, it is a wealth of most valuable information and insights – even for the more experienced professional.

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