

TAYLOR, H. M., JORDAN, W. R., SINCLAIR, T. R. (ed.): *LIMITATIONS TO EFFICIENT WATER USE IN CROP PRODUCTION*. — American Society of Agronomy, Inc., Crop Science Society of America, Inc., Soil Science Society of America, Inc., Madison 1983. 538 pp., US \$ 30.00 (+ 75 ¢ per book on foreign orders).

The increasing need of crop production for feeding ever growing world population has solicited the utilization of less favourable environments, including arid areas, and all techniques and procedures, as a matter of course also irrigation, for increasing plant productivity. Contemporarily, it must not be forgotten that only limited water resources are available, and all conditions must be constituted for efficient water use. For this reason all publications on this subject are sold out almost immediately. In view of this fact and due to a major increase in knowledge of plant-water relation and the effect of water stress on plant growth the American Society of Agronomy, Inc., Crops Science Society of America, Inc. and Soil Science Society of America, Inc. decided to publish a new comprehensive book on this subject. The matter is divided into twelve sections, each of which begins with fairly exhaustive overview complemented with shorter discussions, critiques or supplements. The chapters of both types are written by well known experts.

The introductory chapter by C. B. Tanner and T. R. Sinclair, gives a historical and current picture of the efficient water use in crop production. It is complemented by the discussion on the general aspects of the relations between biomass production and evapotranspiration (J. T. Ritchie). The next section on soil properties and efficient water use is introduced by W. R. Gardner's overview complemented by a chapter on evaporation of water from bare soil (H. R. Gardner) and water management for salinity control (G. J. Hoffman and M. T. van Genuchten). The third section is dedicated to managing the root system for efficient water use consists of an overview by H. M. Taylor and chapters on axial resistance to water flow in root systems (B. Klepper), and breeding of plant to root drought tolerance (D. K. Barnes). The fourth section on water transport and balance within the plant is written by W. Wenkert and supplemented by reviews on stomatal mechanics and gas exchange (J. R. Cooke), and resistance to water flow in roots (E. L. Fiscus). The canopy gas exchange is comparatively shortly discussed by E. Lemon and extended by chapters on canopy flow modelling and its application (R. M. Cionco), and gas exchange with soil (B. A. Kimball). A voluminous treatise on physiological consequences of cellular water deficits by T. C. Hsiao and K. J. Bradford is the main part of the sixth section, complemented by the chapters on presently much discussed problem of osmotic adjustment (J. W. Radin) and on nonstomatal inhibition of photosynthesis by water stress (R. W. Pearcy). The whole plant response to water deficit, the seventh section of the book, is based on an overview by W. R. Jordan, which is extended by chapters on carbon assimilation and utilization (D. R. Krieb) and on water deficit effect on nitrogen economy (A. D. Hanson and W. D. Hitz). With the practical problem of crop manipulation for efficient use of water deals the next section introduced by R. S. Loomis and supplemented by a brief discussion on crop water use response to CO₂ enrichment (G. H. Heichel) and potential techniques in breeding to efficient water use (R. W. Zobel). Relationship between yield and water use is the object of the section introduced by R. J. Hanks and enlarged by remarks on some problems relating grain yield to transpiration (E. T. Kanemasu). Chapters on soil fertility (J. F. Power) and soil profile modification effect on plant growth and yield (D. C. Reicosky) are added to a voluminous survey of soil management for efficient water use, compiled by P. W. Unger and B. A. Stewart. The basic part of section on irrigation as a means of avoidance from critical water stress, elaborated by E. A. Hiler and T. A. Howell, is followed by directions on irrigation scheduling (E. C. Stegman) and on optimization of on-farm water allocation to crops (J. W. Jones). J. van Schilfgaarde and S. L. Rawlins close the book by the chapter on water resources management in a growing society.

The book is provided with a Glossary of Common and Scientific Names of Plants and the Subject Index, all chapters are well-arranged, illustrated by pictures and tables and completed by the list of Literature Cited. It may be sincerely recommended to all those who wish to get up-to-date knowledge of every aspect of water regimen from the time it falls as rain, passes through the soil and plant and returns again into the atmosphere and especially of the effect this circulation has on crop yield.

JARMILA SOLÁROVÁ (*Praha*)

HEBBLETHWAITE, P. D. (ed.): *THE FABA BEAN (Vicia faba L.). A BASIS FOR IMPROVEMENT*. — Butterworths, London—Boston—Durban—Singapore—Sydney—Toronto—Wellington 1983. 573 pp., £ 55.00.

Faba bean as a protein and energy crop of great value for human and animal consumption produces its own nitrogen whose residues remain in the soil for the following crops. Simultane-

ously it has a great role as a suitable break in cereal system rotations, especially because its cultivation decreases the occurrence of diseases and weed populations, and improves physical soil conditions. In spite of these positive qualities the cultivation area in many countries has steadily declined, mainly in consequence of low and unstable yields. The major reason of this is rather poor and unsystematic knowledge of this crop in spite of its relatively abundant use in plant physiology studies, and low level of breeding. For this reason 32 authors from nine countries, each an expert in his field, bring together their specialized knowledge of different aspects of this crop. The volume is divided into five sections the first of which "Background, Physiology and Breeding" is most interesting for *Biologia Plantarum* readers. The topics are discussed under following headings: Background and History of Faba Bean Production (G. C. Hawtin and P. D. Hebblethwaite), Classification, Origin, Breeding Methods and Objectives (D. A. Lawes, D. A. Bond and M. H. Poulsen), Pollination (D. A. Bond and M. H. Poulsen), Developmental Physiology (W. E. Peat), Reproductive Physiology of *Vicia faba* L. (P. Gates, M. L. Smith and D. Boulter), Whole-crop Physiology and Yield Components (G. Dantuma and R. Thompson), Chemical Constituents and Biochemistry (D. G. Hill-Cottingham), The Influence of Growth Regulators on Development and Yield of *Vicia faba* L. (E. R. Keller and S. Bellucci), Cytogenetics (G. P. Chapman), Water Relations and Irrigation Response (W. Day and B. J. Legg), and Nitrogen Fixation (R. J. Roughley, J. I. Sprent and J. M. Day). The next four sections dealing with practical tasks ("Husbandry", "Pests", "Diseases", and "Harvesting, Drying, Storage and Utilization") are rather shorter than the first one.

The book is meant for Faba bean scientists, advisors and growers to help them to increase and stabilize yields and to excite a greater interest in this unjustly neglected but promising and perspective crop.

JARMILA SOLÁROVÁ (*Praha*)

CREMMINS, E. T.: *THE ART OF ABSTRACTING*. — ISI Press, Philadelphia 1982. 150 pp., softcover in USA \$ 13.95, outside USA \$ 16.95.

The volume of scientific periodicals, number of books and proceedings from all over the world is tremendously and steadily increasing. From the point of view of individual consumers in every scientific branch there are too many papers to read. For this reason Current Contents, bibliographies and abstracting journals are favoured. Unfortunately, not all abstracts are informative and indicative. The author of this book, working many years on a broad range of information systems as an abstractor, index editor, instructor of other abstractors, translator and lexicographer, makes it his aim to present practical advice on the reading, thinking, writing and editing tasks that comprise the abstracting process. The matter of this book is divided into five parts. In the first part (Abstracts and Abstracting) the types of published materials that are abstracted, types and contents of abstracts are described, human and computer assisted abstracting and translating are compared. In the next three parts the importance, rules and differences between analytical, creative and critical reading of abstracted matter are discussed. The last part is devoted to professional relationships between abstractors and other information system professionals.

The book is complemented by seven appendices containing the Abstract of the American National Standard for Writing Abstracts, Reading Rules for Abstracting, Selected Annotated Bibliography on Abstracting, Thinking and Cognition, two examples of creative reading, Index to Points of Editing Style, list of References and Index containing both subjects and names.

Thus the book is highly recommended to authors of scientific papers, professional abstractors, primary publishers, editors and information specialists.

JARMILA SOLÁROVÁ (*Praha*)

FINLEY, J. W., SCHWASS, D. E. (ed.): *XENOBIOTICS IN FOOD AND FEEDS*. — American Chemical Society Symposium Series 234, Washington, D. C. 1983. 421 pp. USA + Canada \$ 49.95; elsewhere \$ 59.95.

This volume, the proceedings of the 184th Meeting of the American Chemical Society, held at Kansas City, Missouri 1982, covers the progress made in the study of the effects of xenobiotics, present in foods and feeds. Xenobiotics are defined as compounds that are foreign, and potentially but not necessarily harmful to a living system. They may be introduced into the human food chain e.g. as food or color additives, by migration of additives from wrappings, by incorporation of environmental pollutants while crops are growing or maturing, etc. This publication presents 23 papers covering a wide range of topics. The opening paper reviews methods for toxicity testing of xenobiotics. Subsequent papers focus on the effects of various types of xeno-

biotics, *e.g.* antibiotics, lipid oxidation products, isopeptides, psoralens. Many carcinogens and mutagens have been detected in cooked foods. Broiling, grilling and frying of foods can produce substances with genotoxic effects. Several presentations discuss the mutagenic potential of proteins and amino acids when pyrolyzed at temperatures above 300 °C and investigate the process of mutagen formation in canned products, seafood samples *etc.* Certain fungi synthesize chemicals called mycotoxins that are toxic to humans and animals. The toxic effects of these xenobiotics, *e.g.* aflatoxin, vomitoxin, trichothecenes and methods for their detection are reviewed in detail. The concluding papers cover the health hazards of pyrrolizidine alkaloids and of food, drug and cosmetic colors. This book will be essential reading for research workers interested in genotoxicology, food processing and nutrition.

T. GICHNER (*Praha*)

BECKWITH, J., DAVIES, J., GALLANT, J. A. (ed.): *GENE FUNCTION IN PROKARYOTES*. — Cold Spring Harbor Laboratory 1983. 328 pp. Cloth \$ 52.—, outside \$ 62.40.

Volume 15 in the "Cold Spring Harbor Monographs Series" reviews important aspects of recent research on the gene function, the mechanisms of cell division and on the nature of interactions between cells. The approaches are biochemical and molecular biological as well as physiological. The volume is dedicated to Luigi Gorini (1903–1976). A biographical memoir by J. Beckwith and D. Frankel covers the work of L. Gorini in the field of bacterial genetics. The introductory chapter on protein biosynthesis reviews factors that perturb the accuracy and speed in protein synthesis and thus the translation precision, *e.g.* ribosomal mutations, antibiotics, high concentrations of polycations, *etc.* Further articles focus on the attenuation in bacterial operons, the inducible resistance to macrolides, lincosamides and streptogramin type-B antibiotics, and on the role of RNA polymerase and ribosomes in transcription termination. Other topics covered include global control systems, protein-mediated translational repression, recombinational regulation of gene expression and bacterial transposable elements. Papers on the genetic analysis of protein localization, membrane-mediated regulation of gene expression in bacteria and on bacterial chemotaxis conclude this volume of reviews on prokaryotic genetics.

This publication, which includes extensive illustrations, reference tables and references to the literature, will be of special interest to bacterial geneticists and molecular biologists.

T. GICHNER (*Praha*)

SUND, H., ULLRICH, V. (ed.): *BIOLOGICAL OXIDATIONS*. — Springer Verlag, Berlin—Heidelberg—New York—Tokyo 1983. 313 pp., 119 figs.; cloth DM 89.—, approx. US \$ 33.20.

The book contains Proceedings of the 34th Mosbach Colloquium held at Mosbach/Baden in April 1983. This Colloquium was organized by the Gesellschaft für Biologische Chemie in commemoration of Otto Warburg's 100th anniversary. The topics of contributions are related to the hydrogen-transferring, oxygen-reducing, and oxygen-activating enzymes.

The first chapter is a personal recollection of Otto Warburg by Th. Bücher. The whole book comprises 17 contributions divided into 5 sections: (1) — NAD-dependent dehydrogenases: structure-function relationships, binding of coenzyme analogs and association and folding of oligomeric proteins, (2) — Flavoproteins: three-dimensional structure, mechanism of action, pharmacological and toxicological aspects, (3) — Dioxygen binding and reduction: oxygenases and oxidases, reversible dioxygen binding, cytochrome c oxidase, (4) — Oxygenases: lipoxxygenase, oxygenase products of arachidonic acid, cytochrome P-450 monooxygenases, (5) — Integrated systems: regulation of glycolysis, regulation of ATP synthesis in mitochondria, oxygenation pathways in bacteria, oxygen radicals and hydroperoxides in mammalian organs.

The book is of interest to all research workers specialized in the field of biological oxidations.

IVANA MACHÁČKOVÁ (*Praha*)

DE SERRES, F. J. (ed.): *CHEMICAL MUTAGENS. PRINCIPLES AND METHODS FOR THEIR DETECTION*. — Volume 8. — Plenum Press, New York—London 1983. 386 pp. Hard cover \$ 45.00.

During the past two decades, hazards and potential hazards to human health from exposures in many facets of our environment have received much scientific and public attention. Effective assessment of the potential genotoxic effects of environmental chemicals requires well-validated tests. The series "Chemical Mutagens" is designed to provide information on the new or revised assays used for screening environmental mutagens and on theoretical problems connected with

mutagenesis. Volume 8 of this series continues this task by presenting data mainly on the use of human and animal cells in culture and whole animals in genotoxic assays. Some of human or mammalian cell assays are now as fast as the microbial assays. The topics covered include the mouse spot test, the bone marrow micronucleus assay, the measurement of recessive lethal mutations in the mouse, mutational analysis in cultured human — hamster hybrid cells, chemically induced changes in sperm in animals and humans, and the use of intact cellular activation systems in genetic toxicology. Special chapters are devoted to the detection of effects of mutagens in human populations, to the relation between the chemical structure and mutagenic activity of monocyclic aromatic amines and to the genetic toxicology of some known or suspected human carcinogens. Volume 8 also includes the Council of the European Communities Directive on the Control of Commercial Chemicals. It has been decided that each chemical must be tested for its mutagenic potential by means of the reverse mutation assay with *Salmonella typhimurium* and also by the test for detecting chromosome aberrations in animals.

This publication should find a place in biological libraries. It is of interest to all engaged in environmental mutagenesis and occupational health.

J. VELEMIŇSKÝ (*Praha*)

RAO, T. K., LIJINSKY, W., EPLER, J. L. (ed.): GENOTOXICOLOGY OF N-NITROSO COMPOUNDS. — Plenum Press, New York—London 1984. 271 pp., US \$ 39.50.

In recent years there has been a rapid rise in interest in genetic toxicology. This volume, the first in a new series: Topics in Chemical Mutagenesis (series editor F. J. de Serres) deals with the genotoxic effects of N-nitroso compounds. Existing evidence suggests that the environmental chemicals, and in particular N-nitroso compounds are possible factors involved in the development of human carcinoma and in human inheritable damage. N-nitroso compounds are also strong mutagens in bacteria, fungi, animal and plant cells *etc.* Experts currently active in examining the behaviour of this group of compounds have contributed chapters covering a wide range of topics. The introductory chapter presents data on the formation of N-nitroso compounds. The principal source of exposure of humans to N-nitroso compounds seems to be their formation in the gastrointestinal tract by nitrosation of amines. Further chapters focus on the mutagenic activity of N-nitroso compounds in various short-term mutagenicity tests *e.g.*, in the *Salmonella*/microsome, in the CHO/HGPRT, in human leukocyte, SCE and prophage induction assay. Several chapters discuss the relation between carcinogenicity and mutagenicity of N-nitroso compounds, especially of nitrosamines. As demonstrated in this volume, many carcinogenic nitrosamines are not mutagenic to bacteria, and some are not active in any of the short-term tests presently in use. Two chapters are devoted to the structure-activity relations in carcinogenesis and mutagenesis.

Further volumes in the series: Topics in Chemical Mutagenesis should appear within the next few years and will include topics as mutagenicity of pesticides, single-cell monitoring systems, the detection of genetic damage in mammalian germ cells *etc.* The volumes in this series will be useful to anyone interested in environmental mutagenesis and occupational health.

T. GICHNER (*Praha*)

BIOLOGICAL EFFECTS OF LOW-LEVEL RADIATION. — International Atomic Energy Agency, Vienna 1983. 679 pp. Austr. Schill. 1340.—.

Recent advances in science and technology have resulted in continuously increasing environmental levels of ionizing radiation. Naturally, the problem of quantitative evaluation of the effects of this exposure on human health and heredity as well as on other biological systems, has arisen. This book contains the proceedings of a symposium, held in Venice, Italy, 11—15 April 1983, organized jointly by IAEA and WHO. 230 scientists from 28 countries came together to discuss specific aspects of low-level radiation biology from external and internal sources. The opening lecture given by E. Pochin deals with the way in which radiation causes damage to the genetic material of cells and discusses inheritable damage and carcinogenic effects induced by low-level radiation. The first sections of this book are devoted to epidemiological studies of A-bomb exposure and to basic research into physiological and genetic effects of ionizing radiation. Mechanisms of induction of somatic and genetic injury, DNA repair, further dose-response curves, risk estimation *etc.* are discussed in detail. The subsequent sections present papers on epidemiological studies of medical, environmental and occupational exposure. Two special sessions focused on stochastic and non-stochastic effects of radiation. Stochastic effects have been defined as those for which the probability increases with dose without a threshold,

while non-stochastic effects are those for which severity depends on dose but for which a threshold may occur. Both types of effects are discussed with special reference to radiobiological protection. The proceedings include full text of 46 papers, the summaries of discussions written by the chairmen of the individual sessions and the text of 37 poster presentations. Most papers are written in English, a few in French. The book includes a table for converting some common units to SI equivalents.

J. BRÍZA (*Praha*)

RENSING, L., HARDELAND, R., RUNGE, M., GALLING, G.: ALLGEMEINE BIOLOGIE. Eine Einführung für Biologen und Mediziner. 2., neubearbeitete und neugestaltete Auflage. (Uni-Taschenbücher 417). — Verlag Eugen Ulmer, Stuttgart 1984. 420 S., 191 Abb., DM 29,80.

Die erste Auflage dieses Taschenbuchs ist im Jahre 1975 erschienen (Buchbesprechung siehe *Biol. Plant.* 18 (3) : 189, 1976). Die Aufteilung des Textes in neun Kapitel ist auch in dieser Neuauflage beibehalten worden. Es sind: Die Zelle, Genetik, Entwicklung, Evolution, Prinzipien der vielzelligen Organisation, Der Organismus der Pflanzen, Der Organismus der Tiere, Ökologie und Verhalten. Der Gesamtumfang des Taschenbuchs ist nur sehr gering — um 9 Seiten und eine Abbildung — angewachsen. Der Text ist jedoch an vielen Stellen umgearbeitet, auf den neuesten Stand des Wissens gebracht und um neueste Erkenntnisse ergänzt worden, besonders z. B. auf dem Gebiet der Molekularbiologie, der Gentechnologie, Populationsökologie, Entwicklungssteuerung, der biologischen Rhythmen. Auch das Verzeichnis der weiterführenden Literatur ist aktualisiert worden.

Diese Neuauflage ist auf Papier besserer Qualität gedruckt, der Text durch häufigeren Fettdruck und grössere Buchstabentypen der Überschriften übersichtlicher gegliedert worden. Die neugestalteten Abbildungen in der Kombination orange-grau-weiss-schwarz sind ebenfalls übersichtlicher und verständlicher.

Möge die Neuauflage dieses Taschenbuchs erneut vielen Studenten und Lesern als gute Einführung in die Problematik der allgemeinen Biologie dienen, so wie es die erste Auflage getan hat.

INGRID TICHÁ (*Praha*)

SCHWEINGRUBER, F. H.: DER JAHRING, STANDORT, METHODIK, ZEIT UND KLIMA IN DER DENDROCHRONOLOGIE. — Paul Haupt Verlag, Bern-Stuttgart. 234 pp., Sw. fr. 105.—; DM 125.—.

The term dendrochronology or annual-rings analysis has recently appeared frequently in scientific and specialized journals and in popularizing literature as well. In essence, it denotes the deciphering of information coded in growth layers of woody axes of trees and shrubs, called annual rings.

The book contains five chapters, the first two of which deal with the sources and methods of analyses. A tree as an integrator of ecological growth conditions in diverse geographical areas, the characteristics of its habitat, the technique of wood sample preparation and measurement of ring widths, verification and dating together with statistical evaluation and electronic data treatment — all this shows how the approach to seemingly easy reading of tree rings is in reality complicated and demanding. In addition to the study of ring width, much attention is given to the modern evolution of radiodensometry; this makes it possible to extend the study by other parameters such as the portion of early and late wood layers and their density.

The third chapter summarized the basic knowledge of the anatomy, physiology and ecology of wood of different taxa in relation to the habitat factors, chiefly the climate.

The most comprehensive chapter presents the examples of dendrochronology applied in various fields, such as archeology and history, climatology and geomorphology, and in forestry and silviculture. The study of tree rings is also helpful in solving the problems of the protection of living environment by monitoring the changes in ecological conditions and the effects of deleterious substances on vegetation. The last chapter briefly informs on the history of dendrochronology and leading scientists in this field.

The book is written in a very concise style and contains a number of examples from the comprehensive literature. The selection of sources is limited and apparently subjective. However the brevity and strive after comprehensibility to a wide circle of readers does not lead to a superficial treatment of the problems and lowering of the scientific standard. The volume is richly illustrated by photographs, diagrams and schemes, and is complemented by the subject index.

This unique overview of annual-ring analyses and of wide possibilities of dendrochronology application can be unreservedly recommended to both specialists and laymen.

B. VINŠ (*Jiloviště-Strnady*)

SCHAEFER, M., TISCHLER, W.: ÖKOLOGIE. WÖRTERBÜCHER DER BIOLOGIE. 2. Aufl. UNI-Taschenbücher. — Gustav Fischer Verlag, Stuttgart 1983. 354 pp., 38 figs., 6 tabl., kart. DM 26.80.

The recent intensive development of ecology and its importance in various, not only biological fields has brought forth an expansion of ecological terminology. This increase is also due to the introduction of synonymous terms and terms applied in a somewhat differing sense or range. It is therefore extremely meritorious that in the UTB series 'Wörterbücher der Biologie' the second revised edition of the Ecological Dictionary was published. The dictionary contains 4300 terms, *i.e.* twice as many as the first edition, in particular from the biological branches, mainly the botanical and zoological ecology and chorology.

The items are not only defined in great detail but also thoroughly explained, some of them by graphic schemes. Of great value are, for example, graphic representations of the biogeochemical cycles of principal nutrients in the ecosystem. Detailed information provided on many entries makes the dictionary a useful ecological handbook.

The reader will appreciate the English translation of the German terms and especially the alphabetical list of English terms and their German equivalents.

The Ecological Dictionary under review will certainly be indispensable to all those concerned with ecological problems.

JIŘINA SLAVÍKOVÁ (*Praha*)

OBERDORFER, E.: SÜDDEUTSCHE PFLANZENGESELLSCHAFTEN. Teil III. 2. ed. — Gustav Fischer Verlag, Stuttgart—New York 1983. 455 pp., 7 figs., 101 tabl., DM 74.—.

The third part of the four-volume handbook devoted to plant associations of southern Germany has appeared in a new updated edition. This part contains the syntaxonomy of weed and ruderal vegetation, meadows and lawns, based on the Braun-Blanquet's classification method. The associations are arranged into categories ranging from classes to the level of association. Each syntaxon is defined by general characterization and documented by a syntaxonomic table. The book is supplemented with a comprehensive list of references.

As most of the plant associations of southern Germany also occur in Czechoslovakia, the syntaxonomic system presented in this book is also an important aid for classification of plants in our country. This is demonstrated by the wide use and appreciation of the handbook ever since its first appearance in 1957. The more so will the new, more comprehensive edition be sought for as a source of information on syntaxonomy by all phytocenologists and ecologists.

JIŘINA SLAVÍKOVÁ (*Praha*)

HOLME, D. J., PECK, H.: ANALYTICAL BIOCHEMISTRY. — Longman Group Ltd., London—New York 1983. £ 26.00 (net).

There are many books on analytical chemistry in general, and clinical chemistry in particular, but many omit the biochemical aspects of analysis such as enzymology and immunology while others do not cover the basic knowledge of the subject. Analytical Biochemistry brings together those topics and becomes thus a suitable and useful textbook.

The topics covered in the book fall into three main groups. The principles of analytical techniques such as spectroscopy, separation methods and electro-analytical methods, which are important in analytical chemistry in general, are explained and the scope and applications are discussed. Technical details given for many of the methods described can help the readers without practical experience.

Several chapters inform on enzymes, antigens and antibodies and radio-isotopes. These substances have to be detected and measured but they also can be very useful in a variety of analytical methods. The book provides the basic theory of their actions before discussing their application in analytical biochemistry.

Finally, there are four chapters devoted to chemical nature and methods of analysis of the major groups of biologically important compounds, namely carbohydrates, amino acids, proteins and lipids.

The book provides information enough to enable a chemist to select a technique or series of techniques that would be appropriate for a particular analytical problem and to develop a valid and reliable analytical method.

HELENA BENEŠOVÁ (*Praha*)