



survey field to confidently produce their own soil map, at a more detailed map scale, to suit the project requirements. This book brings together discussions on soils and soil mapping units and up-to-date international techniques and technologies. It makes soils relevant to current political realities and national issues. As soil survey moves from a reductionist agricultural-development planning tool to a more holistic and integrated approach, to enable us to understand our dynamic and complex environment, The Soils of the Philippines will be the only source of authoritative and updated data on soil resources for macro-level resource management planning for decades to come. With a vanishing breed of experienced soil surveyors, not only in the Philippines but also worldwide, it may remain the only book on Philippine soils for the next hundred years or more. Since soils follow a geological and not a human time frame, the contents of this volume will stay relevant for soil surveyors even in a fast changing world. As the country leaps from an agricultural economy towards modernization and a more diversified economic base, some of the soil series in the Philippines, for example the Guadalupe series underlying the skyscrapers of Makati City, are becoming extinct as a result of urban development. Therefore, this book serves as the repository for the soils that we possess, the soils that have been lost through decades of urbanization while, at the same time, it creates a soil classification system for the soils we are yet to discover.

This book delves into the recent developments in the microscale and microfluidic technologies that allow manipulation at the single and cell aggregate level. Expert authors review the dominant mechanisms that manipulate and sort biological structures, making this a state-of-the-art overview of conventional cell sorting techniques, the principles of microfluidics, and of microfluidic devices. All chapters highlight the benefits and drawbacks of each technique they discuss, which include magnetic, electrical, optical, acoustic, gravity/sedimentation, inertial, deformability, and aqueous two-phase systems as the dominant mechanisms utilized by microfluidic devices to handle biological samples. Each chapter explains the physics of the mechanism at work, and reviews common geometries and devices to help readers decide the type of style of device required for various applications. This book is appropriate for graduate-level biomedical engineering and analytical chemistry students, as well as engineers and scientists working in the biotechnology industry.

Proceedings of the Thirteenth Latin American Conference on the Applications of the Mössbauer Effect, Medellin, Colombia, November 11-16, 2012. The broad scope of the Applications of the Mössbauer Effect to interdisciplinary subjects makes this volume an outstanding source of information to researchers and graduate students, who will find the unique results of Mössbauer spectroscopy a valuable aid and complement to their research in conjunction with other techniques. In this volume, applications to mineralogy, catalysis, soil science, amorphous materials, nanoparticles, magnetic materials, nanotechnology, metallurgy, corrosion, and magnetism, have been put together in original works produced by invited speakers and different research teams across the continent. Reprinted from Hyperfine Interactions (HYPE) Volume

This book covers the fundamentals of thermodynamics required to understand electrical power generation systems, honing in on the application of these principles to nuclear reactor power systems. It includes all the necessary information regarding the fundamental laws to gain a complete understanding and apply them specifically to the challenges of operating nuclear plants. Beginning with definitions of thermodynamic variables such as temperature, pressure and specific volume, the book then explains the laws in detail, focusing on pivotal concepts such as enthalpy and entropy, irreversibility, availability, and Maxwell relations. Specific applications of the fundamentals to Brayton and Rankine cycles for power generation are considered in-depth, in support of the book's core goal- providing an examination of how the thermodynamic principles are applied to the design, operation and safety analysis of current and projected reactor systems. Detailed appendices cover metric and English system units and conversions, detailed steam and gas tables, heat transfer properties, and nuclear reactor system descriptions.

This book contributes towards the integration of the R&D function with regard to societies, nations, industries and organizations, as well as to leaders within organizations. It covers the management aspects and approaches to R&D management and provides information on the major contexts of R&D such as in production, HR, marketing and finance – functions that are essential to attracting, developing and retaining scientific manpower. The book further elaborates on organizations' human strategic prospectives. It also suggests various types of practices to help organizations achieve their objectives and analyzes how R&D can contribute to technology, innovation and science to improve organizations' productivity. In closing, it discusses some of the challenges faced by developing countries and presents R&D management from a global perspective.

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