Selecta

This book is the third collection of articles from Kvant to be published by the AMS. The volume is devoted mainly to combinatorics and discrete mathematics. The articles are written so as to present genuine mathematics in a conceptual, entertaining, and accessible way. The books are designed to be used by students and teachers who love mathematics and want to study its various aspects, deepening and expanding upon the school curriculum.

The work of Hans Lewy (1904--1988) has touched nearly every significant area of functional analysis and has had a profound influence in the direction of applied mathematics and partial differential equations from the late 1920s. Famous for his originality and ingenuity, Lewy illustrated and revealed fundamental principles on the theory of partial differential equations, in particular, on elliptic equations and free boundary problems. The papers presented in this two-volume set represent a selection of his best work and are augmented by commentary from his students, colleagues, and family.

Masatoshi Fukushima is one of the most influential probabilists of our times. His fundamental work on Dirichlet forms and Markov processes made Hilbert space methods a tool in stochastic analysis and by this he opened the way to several new developments. His impact on a new generation of probabilists can hardly be overstated. These Selecta collect 25 of Fukushima's seminal articles published between 1967 and 2007.

This book results from a unique and innovative program at Pennsylvania State University. Under the program, the "best of the best" students nationwide are chosen to study challenging mathematical areas under the guidance of experienced mathematicians. This program,

Mathematics Advanced Study Semesters (MASS), offers an unparalleled opportunity for talented undergraduate students who are serious in the pursuit of mathematical knowledge. This volume represents various aspects of the MASS program over its six-year existence, including core courses, summer courses, students' research, and colloquium talks. The book is most appropriate for college professors of mathematics who work with bright and eager undergraduate and beginning graduate students, for such students who want to expand their mathematical horizons, and for everyone who loves mathematics and wants to learn more interesting and unusual material. The first half of the book contains lecture notes of nonstandard courses. A text for a semester-long course on p-adic analysis is centered around contrasts and similarities with its real counterpart. A shorter text focuses on a classical area of interplay between geometry, algebra and number theory (continued fractions, hyperbolic geometry and quadratic forms). Also provided are detailed descriptions of two innovative courses, one on geometry and the other on classical mechanics. These notes constitute what one may call the skeleton of a course, leaving the instructor ample room for innovation and improvisation. The second half of the book contains a large collection of essays on a broad spectrum of exciting topics from Hilbert's Fourth Problem to geometric inequalities and minimal surfaces, from mathematical billiards to fractals and tilings, from unprovable theorems to the classification of finite simple groups and lexicographic codes.

This book is the first part of a two volume anthology comprising a selection of 49 articles that illustrate the depth, breadth and scope of Nigel Kalton’s research. Each article is accompanied by comments from an expert on the respective topic, which serves to situate the article in its proper context, to successfully link past, present and hopefully future developments of the

theory, and to help readers grasp the extent of Kalton's accomplishments. Kalton's work represents a bridge to the mathematics of tomorrow, and this book will help readers to cross it. Nigel Kalton (1946-2010) was an extraordinary mathematician who made major contributions to an amazingly diverse range of fields over the course of his career.

SelectaSelected Papers of D. C. SpencerWorld ScientificErasmi Colloquia Selecta, Or, The Select Colloquies of ErasmusSelecta: Diophantine problems and polynomialsEuropean Mathematical Society

Heinz Bauer (1928-2002) was one of the prominent figures in Convex Analysis and Potential Theory in the second half of the 20th century. The Bauer minimum principle and Bauer's work on Silov's boundary and the Dirichlet problem are milestones in convex analysis. Axiomatic potential theory owes him what is known by now as Bauer harmonic spaces. These Selecta collect more than twenty of Bauer's research papers including his seminal papers in Convex Analysis and Potential Theory. Above his research contributions Bauer is best known for his art of writing survey articles. Five of his surveys on different topics are reprinted in this volume. Among them is the well-known article Approximation and Abstract Boundary, for which he was awarded with the Chauvenet Price by the American Mathematical Association in 1980.

The work of Hans Lewy (1904--1988) has had a profound influence in the direction of applied mathematics and partial differential equations, in particular, from the late 1920s. Two of the particulars are well known. The Courant--Friedrichs--Lewy condition (1928), or CFL condition, was devised to obtain existence and approximation results. This

condition, relating the time and spatial discretizations for finite difference schemes, is now universally employed in the simulation of solutions of equations describing propagation phenomena. Lewy's example of a linear equation with no solution (1957), with its attendant consequence that most equations have no solution, was not merely an unexpected fact, but changed the viewpoint of the entire field. Lewy made pivotal contributions in many other areas, for example, the regularity theory of elliptic equations and systems, the Monge-- AmpSre Equation, the Minkowski Problem, the asymptotic analysis of boundary value problems, and several complex variables. He was among the first to study variational inequalities. In much of his work, his underlying philosophy was that simple tools of function theory could help one understand the essential concepts embedded in an issue, although at a cost in generality. This approach was extremely successful. In this two-volume work, most all of Lewy's papers are presented, in chronological order. They are preceded by several short essays about Lewy himself, prepared by Helen Lewy, Constance Reid, and David Kinderlehrer, and commentaries on his work by Erhard Heinz, Peter Lax, Jean Leray, Richard MacCamy, Fran?ois Treves, and Louis Nirenberg. Additionally, there are Lewy's own remarks on the occasion of his honorary degree from the University of Bonn.

Ernst Specker has made decisive contributions towards shaping direc tions in topology, algebra, mathematical logic, combinatorics and algorith mic over the last 40 years. We have derived great pleasure from marking his seventieth birthday by editing the majority

of his scientific publications, and thus making his work available in a unified form to the mathematical community. In order to convey an idea of the richness of his personality, we have also included one of his sermons. Of course, the publication of these Selecta can pay tribute only to the writings of Ernst Specker. It cannot adequately express his originality and wisdom as a person nor the fascination he exercises over his students, colleagues and friends. We can do no better than to quote from Hao Wang in the 'Festschrift' Logic and Algorithmic I: Specker was ill for an extended period before completing his formal education. He had the leisure to think over many things. This experi ence may have helped cultivating his superiority as a person. In terms of traditional Chinese categories, I would say there is a taoist trait in him in the sense of being more detached, less competitive, and more under standing. I believe he has a better sense of what is important in life and arranges his life better than most logicians. We are grateful to Birkhauser Verlag for the production of this Selecta volume. Our special thanks go to Jonas Meon for sharing with us his intimate knowledge of his friend Ernst Specker.

Karl Menger, one of the founders of dimension theory, is among the most original mathematicians and thinkers of the twentieth century. He was a member of the Vienna Circle and the founder of its mathematical equivalent, the Viennese Mathematical Colloquium. Both during his early years in Vienna and, after his emigration, in the United States, Karl Menger made significant contributions to a

wide variety of mathematical fields, and greatly influenced many of his colleagues. These two volumes contain Menger's major mathematical papers, based on his own selection from his extensive writings. They deal with topics as diverse as topology, geometry, analysis and algebra, and also include material on economics, sociology, logic and philosophy. The Selecta Mathematica is a monument to the diversity and originality of Menger's ideas.

Andrzej Schinzel, born in 1937, is a leading number theorist whose work has had a lasting impact on modern mathematics. He is the author of over 200 research articles in various branches of arithmetics, including elementary, analytic, and algebraic number theory. He has also been, for nearly 40 years, the editor of Acta Arithmetica, the first international journal devoted exclusively to number theory. Selecta, a two-volume set, contains Schinzel's most important articles published between 1955 and 2006. The arrangement is by topic, with each major category introduced by an expert's comment. Many of the hundred selected papers deal with arithmetical and algebraic properties of polynomials in one or several variables, but there are also articles on Euler's totient function, the favorite subject of Schinzel's early research, on prime numbers (including the famous paper with Sierpinski on the Hypothesis H), algebraic number theory, diophantine equations, analytical number theory and geometry of numbers.

Selecta concludes with some papers from outside number theory, as well as a list of unsolved problems and unproved conjectures, taken from the work of Schinzel.

Articles selected for these two volumes are written by leading Russian mathematicians and expositors. The articles in these books are written so as to present genuine mathematics in a conceptual, entertaining, and accessible way. The volumes are designed to be used by students and teachers who love mathematics and want to study its various aspects, thus deepening and expanding the school curriculum.

Colección de treinta y seis artículos seleccionados por el autor, que constituyen su más selecta producción científica en el campo de la filología clásica, especialmente dedicados a la crítica textual y los problemas de los textos grecolatinos, publicados anteriormente en las mejores revistas de la especialidad y ahora reunidos en un solo volumen.

Although today Luis Palés Matos is virtually unknown to most American readers, the eminent U.S. poet and writer William Carlos Williams once praised his younger contemporary as "one of the most important poets out of Latin America." Palés Matos was a native, and lifelong resident, of Puerto Rico. Though he was not black, he became one of the Caribbeans leading advocates of poesía negra (black poetry). His landmark 1937 collection Tuntún de Pasa y Grifería: Poesía Afro-Antillana (Tom-Tom of Kinky Hair and Black Things: Afro-Caribbean Poetry) joyously celebrated the African aspects and sources of Puerto Ricos culture and

influenced later generations of writers throughout the Western hemisphere. Translator Julio Marzán has selected the best of Palés Matoss poems from throughout his career, among them "Prelude in Boricua," "Danza Negra," "Buccaneer Winds," and "Elegy on the Duke of Marmalade." He also provides a helpful glossary of obscure terms and an introduction that locates Palés Matos in the broader cultural context of his contemporaries and poetic influences including such North American poets as Walt Whitman, Edgar Allan Poe, and Vachel Lindsay.
Fated love? A destiny in the stars? Together for all eternity? It doesn’t work like that. At least not without a lot of blood, sweat, and tears behind the scenes where the Soul Selector spins her magical trickery. It is her job is to identify soul mates as they enter this world and somehow get them to fall in love. Aphrodite and all the other gods need this purest love of all. They feed on it.But soul mates are notoriously difficult to work with, and the Soul Selector has just found a particularly stupid pair.