1.	Record Nr.	UNISA996465361903316
	Titolo	Algorithmic combinatorics : enumerative combinatorics, special functions and computer algebra : in honour of Peter Paule on his 60th birthday / / Veronika Pillwein, Carsten Schneider, editors
	Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] ©2020
	ISBN	3-030-44559-3
	Edizione	[1st ed. 2020.]
	Descrizione fisica	1 online resource (XVII, 410 p. 55 illus., 19 illus. in color.)
	Collana	Texts and monographs in symbolic computation
	Disciplina	511.6
	Soggetti	Combinatorial analysis
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di contenuto	When the search for solutions can be terminated -- Euler's partition theorem and refinement without appeal to infinit -- Sequences in partitions, double q-series and the Mock Theta Function -- Refine q-trinomial coecients and two infinit hierarchies of q-series identities -- Large scale analytic calculations in quantum field theories -- An eigenvalue problem for the associated Askey–Wilson polynomials -- Context-free grammars and stable multivariate polynomials over Stirling permutations -- An interesting class of Hankel determinants -- A sequence of polynomials generated by a Kapteyn series of the second kind -- Comparative analysis of random generators.-Difference equation theory meets mathematical finance -- Evaluations as L-subsets -- Exact lower bounds for monochromatic Schur triples and generalizations -- Evaluation of binomial double sums involving absolute values -- On two subclasses of Motzkin paths and their relation to ternary trees -- A theorem to reduce certain modular form relations modulo primes -- Trying to solve a linear system for strict partitions in 'closed form' -- Untying the Gordian Knot via experimental mathematics.
	Sommario/riassunto	The book is centered around the research areas of combinatorics, special functions, and computer algebra. What these research fields share is that many of their outstanding results do not only have applications in Mathematics, but also other disciplines, such as

computer science, physics, chemistry, etc. A particular charm of these areas is how they interact and influence one another. For instance, combinatorial or special functions' techniques have motivated the development of new symbolic algorithms. In particular, first proofs of challenging problems in combinatorics and special functions were derived by making essential use of computer algebra. This book addresses these interdisciplinary aspects. Algorithmic aspects are emphasized and the corresponding software packages for concrete problem solving are introduced. Readers will range from graduate students, researchers to practitioners who are interested in solving concrete problems within mathematics and other research disciplines.