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Nota di contenuto	Preface -- I. From the Plenary Talks -- Finite element methods for elliptic distributed optimal control problems with pointwise state constraints (S.C. Brenner) -- II. Algebraic Combinatorics and Graph Theory -- Some q-exponential formulas involving the double lowering operator for a tridiagonal pair (S. Bockting-Conrad) -- Distance graphs generated by five primes (D.D-F. Liu, G. Robinson, A. Chavez) -- Combinatorial characterization of queer supercrystals (M. Gillespie, G. Hawkes, W. Poh, A. Schilling) -- (Tenner) -- III. Algebraic Biology -- From chaos to permanence using control theory (S. Koshy-Chenthittayil, E. Dimitrova) -- Classification on large networks (A.

Haupt, T. Schultz, M. Kharami, N. Tran) -- Gröbner bases of convex neural code ideals (K. Phillipson, E.S. Dimitrova, M. Honecker, J. Hu, Q. Liang) -- Gröbner bases of convex neural code ideals (B. Stigler, A. Zhang) -- IV. Commutative Algebra -- Depth of powers of squarefree monomial ideals (L. Fouli, H.T. Hà, S. Morey) -- A note on the uniqueness of zero-divisor graphs with loops (A. Li, R. Miller, R.P. Tucci) -- Some combinatorial cases of the three matrix analog of Gerstenhaber's theorem (J. Rajchgot, M. Satriano, W. Shen) -- Structure of semigroup rings (H. Srinivasan) -- Using Monte Carlo particle methods to estimate and quantify uncertainty in periodic parameters (A. Arnold) -- A note on singularity formation for nonlocal transport equation (V. Hoang, M. Radosz) -- Prescribing initial values for the sticky particle system (R. Hynd) -- Towards directed collapsibility (R. Belton, R. Brooks, S. Ebli, L. Fajstrup, B.T. Fasy, C. Ray, N. Sanderson, E. Vidaurre) -- Contact Open Books and Symplectic Lefschetz Fibrations (B. Acu) -- A robust preconditioner for high-contrast problems (Y. Gorb, D. Kurzanova, Y. Kuznetsov) -- On the dimension reduction in prestrained elasticity (S. Jimenez Bolanos) -- Machine learning in crowd flow exit data (F.P. Medina) -- The matter of shape (M. Ozkar) -- Being research-based and research-minded in helping K-12 mathematics education (A. Ekmekci, A. Papakonstantinou) -- The Rice University school mathematics project (A. Papakonstantinou, A. Ekmekci).

Sommario/riassunto

This volume highlights the mathematical research presented at the 2019 Association for Women in Mathematics (AWM) Research Symposium held at Rice University, April 6-7, 2019. The symposium showcased research from women across the mathematical sciences working in academia, government, and industry, as well as featured women across the career spectrum: undergraduates, graduate students, postdocs, and professionals. The book is divided into eight parts, opening with a plenary talk and followed by a combination of research paper contributions and survey papers in the different areas of mathematics represented at the symposium: algebraic combinatorics and graph theory algebraic biology commutative algebra analysis, probability, and PDEs topology applied mathematics mathematics education .
