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Nota di contenuto	Part I Introduction -- Gabriel R. Barrenechea, Franco Brezzi, Andrea Cangiani, Emmanuil H. Georgoulis: Building Bridges: Connections and Challenges in Modern Approaches to Numerical Partial Differential Equations -- Part II Invited Papers -- Assyr Abdulle: Numerical homogenization methods for parabolic monotone problems -- L. Beirao da Veiga, F. Brezzi, L.D. Marini, A. Russo: Virtual Element implementation for general elliptic equations -- Annalisa Buffa, Eduardo M. Garau, Carlotta Giannelli, and Giancarlo Sangalli: On quasi-interpolation operators in spline spaces -- Erik Burman: Stabilised finite element methods for ill-posed problems with conditional stability -- Bernardo Cockburn: Static condensation, hybridization, and the devising of the HDG methods -- Truman Ellis, Jesse Chan, and Leszek Demkowicz: Robust DPG Methods for Transient Convection-Diffusion -- Daniele A. Di Pietro, Alexandre Ern, and Simon Lemaire: A review of Hybrid High-Order methods: formulations, computational aspects, comparison with other methods -- Ralf Hiptmair, Andrea Moiola and Ilaria Perugia: A Survey of Trefftz Methods for the Helmholtz Equation -- Paola F. Antonietti, Andrea Cangiani, Joe Collis, Zhaonan Dong,

Emmanuil H. Georgoulis, Stefano Giani, and Paul Houston: Review of Discontinuous Galerkin Finite Element Methods for Partial Differential Equations on Complicated Domains -- Konstantin Lipnikov and Gianmarco Manzini: Discretization of mixed formulations of elliptic problems on polyhedral meshes -- Daniel Peterseim: Variational Multiscale Stabilization and the Exponential Decay of Fine-scale Correctors -- Chi-Wang Shu: Discontinuous Galerkin methods for time-dependent convection dominated problems: basics, recent developments and comparison with other methods -- Christopher Harder and Frédéric Valentin: Foundations of the MHM Method. .

Sommario/riassunto

This volume contains contributed survey papers from the main speakers at the LMS/EP SRC Symposium “Building bridges: connections and challenges in modern approaches to numerical partial differential equations”. This meeting took place in July 8-16, 2014, and its main purpose was to gather specialists in emerging areas of numerical PDEs, and explore the connections between the different approaches. The type of contributions ranges from the theoretical foundations of these new techniques, to the applications of them, to new general frameworks and unified approaches that can cover one, or more than one, of these emerging techniques.
