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The 7-volume set LNCS 14832 – 14838 constitutes the proceedings of the 24th International Conference on Computational Science, ICCS 2024, which took place in Malaga, Spain, during July 2–4, 2024. The 155 full papers and 70 short papers included in these proceedings were carefully reviewed and selected from 430 submissions. They were organized in topical sections as follows: Part I: ICCS 2024 Main Track Full Papers; Part II: ICCS 2024 Main Track Full Papers; Part III: ICCS 2024 Main Track Short Papers; Advances in High-Performance Computational Earth Sciences: Numerical Methods, Frameworks and Applications; Artificial Intelligence and High-Performance Computing for Advanced Simulations; Part IV: Biomedical and Bioinformatics Challenges for Computer Science; Computational Health; Part V: Computational Optimization, Modelling, and Simulation; Generative AI and Large Language Models (LLMs) in Advancing Computational Medicine; Machine Learning and Data Assimilation for Dynamical Systems; Multiscale Modelling and Simulation; Part VI: Network Models and Analysis: From Foundations to Artificial Intelligence; Numerical Algorithms and Computer Arithmetic for Computational Science; Quantum Computing; Part VII: Simulations of Flow and Transport: Modeling, Algorithms and Computation; Smart Systems: Bringing Together Computer Vision, Sensor Networks, and Artificial Intelligence; Solving Problems with Uncertainties; Teaching Computational Science .
