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The Electron-Ion Collider: Tackling QCD from the Inside (of Nucleons and Nuclei) Out

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After the development of quantum chromodynamics in the last quarter of the 20th century, the 21st century as it extends before us holds great promise for reaching a new era in understanding QCD's rich complexities, in particular confinement and asymptotic freedom. While there will be more than one front along which to advance our understanding, a key experimental facility, capable of colliding beams of electrons with a wide range of nuclei as well as polarized protons and light ions, has been proposed. This versatile facility will for example allow us to perform precision spatial and momentum mapping of the structure of the nucleons and nuclei of everyday matter, study the physics of strong color fields in nuclei, explore in detail the effects of soft scales on hard partonic processes, and confront the question of the transition from scattered quarks and gluons to final-state hadrons observable in the laboratory. An overview of the proposed Electron-Ion Collider will be presented.