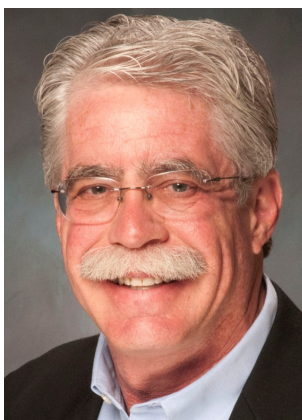


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Roger Aines is the Energy Program Chief Scientist in E Program, which conducts government and private sector research in clean energy technology. He is a Senior Scientist in the Chemistry, Materials, Earth and Life Sciences Directorate at LLNL. He holds a Bachelor of Arts degree in Chemistry from Carleton College, and Doctor of Philosophy in geochemistry from the California Institute of Technology. He has been at LLNL since 1984 working on nuclear waste disposal, environmental remediation, application of stochastic methods to inversion and data fusion, management of carbon emissions including separation technology, and monitoring and verification methods for sequestration.

Roger's career has involved a close coupling of scientific research, engineering, field demonstration, and assessment of future development needs for technology. His research interests include the chemistry of natural and engineered processes, including carbon dioxide separation and water treatment. Roger's current research includes application of 3-D printing to chemical reactors and gas separations, development of catalysts for carbon dioxide capture, management of pressure in geologic sequestration through brine withdrawal and treatment, and encapsulation of carbon dioxide capture solvents. He previously led LLNL's Carbon Management Program, which takes an integrated view of the energy, climate, and environmental aspects of carbon-based fuel production and use. It supports DOE projects in sequestration technology development for capture, and carbon recycling. Roger directs the LLNL program in developing better understanding of hydraulic fracturing and tools and methods around shale gas development. He holds twenty-two patents in the areas of carbon capture, shale gas production, *in situ* degradation of organic chemicals through heating, and the mechanisms of thermally assisted remediation, and has eighty publications.