# Roger Aines

**Position/Department/Division/Institution/Organization**

Lawrence Livermore National Laboratory (LLNL)

Energy Program Chief Scientist for Global Security E Program, Energy and Homeland Security

**Country**

United States

**Career history**

Dr. Aines leads the Carbon Initiative at LLNL, which aims to understand, develop, and implement technologies for the removal of carbon dioxide from the atmosphere, so-called negative emissions technologies. 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.

Dr. Aines' career has involved a close coupling of scientific research, engineering, field demonstration, and assessment of future development needs for technology. Research interests include the chemistry of natural and engineered processes, including carbon dioxide separation and water treatment and 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. 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 Department of Energy projects in sequestration technology development for capture, and carbon recycling.

**Awards/Publications**

Recently authored Championing Science, a book that he wrote with his wife, Amy Aines, that helps scientists communicate more effectively with decision makers. Dr. Aines currently has twenty-two patents in the areas of carbon capture and environmental cleanup, and has over eighty publications.

**Areas of expertise**

Nuclear waste storage, groundwater cleanup, and stochastic modeling.