Presenters

David J. Carol
Project Director, Charlotte Transit Area System
BA, Amherst College; MA, Foreign Affairs, University of Virginia; JD, University of Virginia

David Carol is the project manager for the Charlotte-Mooresville North Corridor Commuter System, which can serve as a test-bed for a hydrogen-powered commuter locomotive. Mr. Carol previously worked for Amtrak as Vice President High Speed Rail, where he managed development and implementation of the Northeast corridor Acela program.

William P. Chernicoff
Hydrogen Engineer, US DOT Research and Innovative Technology Administration (RITA)
BS, MIT (Materials Engineering); MS, Boston University (Manufacturing Engineering)

William P. Chernicoff is a key member of the U.S. Department of Transportation's (USDOT) Research and Innovative Technology Administration (RITA) technical staff. As RITA's hydrogen engineer, his current responsibilities include keeping USDOT informed on issues involving hydrogen infrastructure and vehicle safety, and supporting transportation safety through the development of codes, standards, and best practices for vehicles and infrastructure.

Chernicoff is the lead USDOT staff member on the Department's Hydrogen Working Group. He also co-chairs the California Hydrogen Highway Implementation Team. Emphasizing hydrogen safety, RITA works with the National Association of State Fire Marshals and has established the Hydrogen Executive Leadership Panel.

Robert E. Johnson
Dean, The William States Lee College of Engineering, University of North Carolina at Charlotte
Ph.D., 1977; MS, 1974, Caltech (Engineering Sci.); B.S., 1973, SUNY at Buffalo (Engineering Sci.)

Bob Johnson collaborates with researchers at CAT and the Univ. of Missouri - Columbia on an NSF-funded project developing radial thrust bearings. Other research includes work with Alcoa and NSF on process models for aluminum rolling, extrusion and casting. He has published numerous articles on material processing, fluid mechanics, aerodynamics and asymptotic techniques in engineering analysis. Dean Johnson teaches racecar aerodynamics in the motorsports engineering program and engineering analysis in the graduate program.

David D. King
Deputy Secretary for Transit, North Carolina Department of Transportation

AB, Economics - Davidson College; MBA, UNC Chapel Hill

David King joined the North Carolina Department of Transportation in 1973. He currently serves on the Board of Directors of the High Speed Ground Transportation association and chairs the States for Passenger Rail Coalition, a 25-state organization that is working for improved rail passenger service. Mr. King has provided staff support to the Governor's International Travel Task Force and the Governor's Rail Council and Rail Passenger Task Force. Other involvement has included the Transportation Research Board Strategic Transportation Research Study for Transit, the Institute for Transportation Engineers, and the Board of Directors of the North Carolina Public Transportation Association.

Keiichiro Kondo
Senior Researcher, Drive System Laboratory, Railway Technical Research Institute, Japan
BE, Electrical Engineering Course, Waseda University; PhD. Electrical Engineering, Waseda University

Dr. Keiichiro Kondo is in charge of applying polymer exchange membrane type fuel cell (PEMFC) technolgy to railway vehicle traction at Japan's Railway Technical Research Institute, RTRI. An R&D team, including Dr. Kondo, has succeeded in demonstrating the first traction motors for a commuter rail train powered by 30 kW PEM fuel cells at a rolling stock test facility in Tokyo. At this first hydrail conference, Dr. Kondo will present general issues on the application of PEMFC technology to railway vehicle traction from a technical perspective. RTRI's experimental results justify a feasibility study for application of fuel cell technology to a commuter train for revenue service in rural areas of Japan. This equipment could also be made available to other parts of the world, including the North American market.

Prashant S. Chintawar
Executive Director of Marketing, Nuvera Fuel Cells, Inc.
PhD, Chemical Engineering, The University of Akron

Prashant Chintawar has over eight years of professional experience in program management, business development, and marketing. He represents Nuvera Fuels Cells, Inc. of Cambridge, Massachusets and Milan, Italy, a global developer of PEM fuel cell technologies and products. Nuvera supplied the fuel cells used in the world's first hydrail locomotive. Prashant is a Global Market Leader and manages Nuvera's government business. He is also responsible for marketing and sales of stationary fuel cell products in North America and India.

Michael Kuby
Associate Professor, Department of Geography, Arizona State University
PhD, 1988, Boston University (Geography); AB, 1980, University of Chicago (Geography)

Mike Kuby's current research focuses on models for optimal location of hydrogen refueling stations, funded by grants from the National Science Foundation and the Florida Hydrogen Initiative. He has published numerous articles on transportation, energy, optimal facility location, cost-environment tradeoffs, GIS, light-rail ridership in the US, and railway network design in China. Prior research has been supported by the US Army Corps of Engineers, the World Bank, the US Department of Energy, and National Science Foundation.

Alistair I. Miller
Senior Scientific Associate, Office of the Principal Scientist, Atomic Energy of Canada Limited
BSc, Applied Chemistry, University of Glasgow; PhD, Chemical Engineering, University of London-Imperial College

Alistair Miller presented a seminal paper in November, 1999, recommending that CO2 reduction policy should consider the relative ease with which railways could be converted from diesel fuel to liquid hydrogen using fuel cells. To be effective, the hydrogen would have to come from a source that did not emit much CO2. Electrolysis using electricity from a non-carbon source is the obvious source. The paper included a comparison of the relative ease of applying hydrogen to all common modes of transportation which showed that rail is the most attractive application. Within his career in nuclear power working for AECL on heavy water production and processing, he has also worked on the production and use of hydrogen as a high-quality fuel. He was President of the Canadian Society for Chemical Engineering in 1997-98 and a signatory to both the London and Melbourne Communiqu?s on Sustainable Development produced by the World's major chemical engineering societies.

Arnold R. Miller
President, Vehicle Projects LLC, President and Technical Director, Fuel Cell Propulsion Institute
PhD, Chemistry, U. of Illinois, Urbana-Champaign

Arnold R. Miller is President of Vehicle Projects LLC, a company leading the development and demonstration of industrial fuelcell vehicles. The company conceives projects, raises project funds, organizes projects, and manages consortia that execute project tasks. Its projects include a fuelcell mine locomotive, fuelcell mine loader, and fuelcell locomotive for commercial and military railways.

Although the current President of the Fuelcell Propulsion Institute, an international nonprofit project-based advocacy group, during most of Dr. Miller's career he was a research faculty member at several research-intensive universities, including the University of Illinois at Urbana-Champaign. From 1994 to 1998, he was founding Director of the Joint Center for Fuel-Cell Vehicles at Colorado School of Mines. From 1993 to 1998, he was Research Associate Professor of Chemistry at Colorado School of Mines, where he was co-principal investigator on a joint fuelcell project in the departments of

Chemistry and Physics. In 1993, Prof. Miller was Visiting Faculty Associate in the Electrochemistry Division of the U.S. Air Force Seiler Research Laboratory, where he conducted research on direct ammonia fuelcells.

Theodore (Ted) Motyka
Manager, Hydrogen Separation and Storage, Hydrogen Technology Section, Savannah River Site
BS, MS, PhD Chemical Engineering, Univ. of Colorado

Dr. Motyka joined the Savannah River Site after graduation. He has worked there as an R&D engineer in the areas of solid-liquid and gas separation systems. Since 1989 he has been a manager in the Hydrogen Technology Section, supporting the development of hydrogen storage and separation processes. During the past 10 years, Dr. Motyka and his group have been actively involved in the development and demonstration of hydrogen as an alternative energy carrier. He and his associates at Savannah River National Laboratory have published numerous papers and patents in the areas of advanced hydrogen storage and separation technology.

Linda Rimer
US Environmental Protection Agency, Liaison to North and South Carolina
BA, Nursing, UNC at Chapel Hill; MS, Rush University; PhD environmental policy, Univ. of Illinois at Chicago

From 1993 until 1998, Linda served as the Assistant Secretary for Environmental Protection for North Carolina within the Department of Environment, Health and Natural Resources. In this capacity, she had responsibility for the federally delegated and state environmental regulatory programs as well as for the Division of Radiation Protection, the Division of Pollution Prevention and Environmental Assistance, the Division of Water Resources and the Division of Land Resources.

Larry Shirley
Director of the State Energy Office, NC Department of Administration
BA, Political Science, University of North Carolina at Chapel Hill

Larry Shirley manages the energy efficiency, energy emergency and renewable energy programs for the State of North Carolina. He served for 13 years as the Executive Director of the NC Solar Center at NC State University. The Solar Center conducts professional training and outreach programs throughout NC, manages research and demonstration of new solar technologies, performs policy analysis on renewable energy issues, and provides educational services and information for students, teachers, consumers and other audiences. Mr. Shirley has served as Chairman of the American Solar Energy Society and on several national and state boards. He founded the Nonprofit Energy Management Program for the Advanced Energy Corporation and was Director of Field Operations for the Center for Renewable Resources in Washington, DC.

Bill Thunberg
Mayor, Town of Mooresville, N.C.
AB, Philosophy, East Carolina University; YEI, School of Business Administration, UNC Chapel Hill

Bill Thunberg was President of the Mooresville Chamber when he learned of Stan Thompson's interest in hydrogen fuel cell commuter rail technology. He recruited Thompson as Transportation Chairman to develop the Mooresville hydrail initiative. The Chamber and Town of Mooresville hope the line connecting Charlotte and Mooresville can eventually become the first in the US to operate hydrail commuter rail equipment. Bill Thunberg was recently elected to the position of Mayor for the Town of Mooresville, N.C.

Ronald J. Tober
Chief Executive Officer, Charlotte Area Transit System; Director of Public Transit, City of Charlotte
BS, Cornell University; MS, Case Western University, Cleveland, Ohio

Ronald J. Tober was named Chief Executive Officer of the Charlotte Area Transit System/Public Transit Director for the City of Charlotte in November 1999. In this position, he is primarily responsible for building an organization, which will support the development and operation of an integrated regional transit system. Tober has over 35 years in the public transit industry have worked for transit systems in Cleveland, Seattle, Miami and Boston. He is active on numerous transit industry organizations and is a Past Chair of the American Public Transportation Association. Tober was selected as 1990 Most Valuable Public Official-Special District by the publication City and State. In 1993, he was recognized by the transit industry's Women In Transit Committee for outstanding achievement in promoting and hiring women and minorities in the industry. In 1997, he received the Ernest J. Bohn Award for Excellence in Public Administration. In 1999, he received the Executive of the Year Award from the Conference of Minority Transit Officials in recognition for his efforts in hiring and promoting minorities and women.

Max Wyman
Principal Scientist, Terra Genesis, Inc.
BE, Astronautics; MS, Building Design; PhD, Economic Geography

Dr. Wyman conducted initial investigations into the benefits of hydrogen locomotives as low-cost insurance against unfavorable changes in foreign energy policies. Due to their great range, only a handful of railway fueling stations are needed compared to other forms of land-based transportation.

Rebecca Yarbrough
Regional Initiatives Program Administrator, Centralina Council of Governments (NC)
AB, Queens Unversity, Charlotte NC; County Administration School, UNC-Chapel Hill

Rebecca Yarbrough has worked in the Charlotte, N.C. area since 1973, developing and managing regional programs ranging from emergency services to transportation to the environment. As Regional Initiatives Program Administrator at Centralina, she works with the CCoG Executive Director and Board to identify regional needs and to develop COG's role in addressing those needs. She also serves as project manager for SEQL (Sustainable Environment for Quality of Life), the region's integrated environmental program.