

Speaker of Session 09

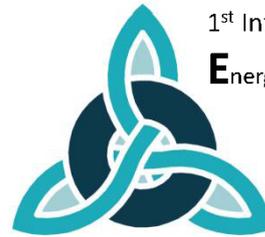
ENERGY CONVERSION AND FUELS



Dr. Bruce Chehroudi, has accumulated years of technical and leadership experiences in different capacities and organizations. This includes such positions as a Principal Scientist and Group Leader appointment at the Air Force Research Laboratory (AFRL) ERCInc, a Chief Scientist at Raytheon STX, a Visiting Technologist at Ford's Advanced Manufacturing Technology Development (AMTD) center, a tenured Professor of Mechanical Engineering at Kettering University and University of Illinois, and served as a Senior Research Staff/Research Fellowship at Princeton University. Dr. Chehroudi directed numerous multimillion dollar interdisciplinary projects in areas involving chemically reacting flows,

combustion and emission of pollutants, sustainable and alternative energy sources, distributed ignition, material/fuel injection, advanced pollution reduction technologies, propulsion concepts, gas turbine and liquid rocket engines, combustion instability, laser optical diagnostics, spectroscopy, supercritical fluids and applications in environmental and propulsion systems, advanced composites, MEMS, nanotechnology, and micro fluidics. He has won many merit and leadership awards by such prestigious organizations as the Society of Automotive Engineers (1. Arch. T. Colwell Merit Award for technical excellence only to top 1% yearly, 2. Ralph R. Teetor Award for outstanding teaching/research/leadership, 3. Forest R. McFarland Award for sustained leadership in professional and educational service and a key contributor to the Continuing Professional Development Group, 4. Appreciation Award for 10 years of dedicated and inspiring service and commitment to providing quality technical education, and 5. Outstanding Faculty Advisor), American Institute of Aeronautics and Astronautics (Best Publication Award of the Year), Air Force Research Laboratories (1. Outstanding Technical Publication Award, and 2. STAR Team Award for demonstrating world-class combined scientific and leadership achievements), Institute of Liquid Atomization and Sprays Systems (Marshall Award for best publication with lasting contributions), Liquid Propulsion Subcommittee of Joint Army-Navy-NASA-Air Force (JANNAF) (Best Liquid Propulsion Paper Award involving undergraduate/graduate students), and the 2nd International Symposium on Turbulence and Shear Flow Phenomena (Top 10 Technical Publication Award). He has been a consultant with many organizations such as, Ford, GM, Honda R&D, AFRL, Honeywell, NASA, AFOSR, VW, Bosch, Siemens, NGK, Cummins, and TRW. Through professional societies, Dr. Chehroudi delivers invited





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professional seminars on Management of R&D Teams and Organizations, Management of Innovation, Combustion and Emission of Pollutants in Automotive and Gas Turbine Engines, Ignition Issues, Gasoline Direct Injection engines, R&D on Homogeneously-Charged Compression Ignition (HCCI) engines, and Liquid Injection Technologies. He has a PhD in Mechanical & Aerospace Engineering and Post-Doctoral Fellow (Princeton University), MS in Mechanical Engineering (Southern Methodist University, Summa Cum Laude), MS in Economics (Swiss Finance Institute, Magna Cum Laude, and BS in Mechanical Engineering (Sharif University). He is a senior member of American Institute of Aeronautics and Astronautics Propellant & Combustion Committee (2008-present) and an Associate Fellow of American Institute of Aeronautics and Astronautics. Dr. Chehroudi acts as a reviewer for many scientific and engineering journals and publishers, has delivered over 200 presentations in technical meetings and to nontechnical audiences, over 20 technical reports (Princeton University, General Motors, Ford Motor Co, Department of Energy, NASA, Air Force Research Laboratory), five 600-plus-page monographs on combustion and emission of pollutants from mobile power plants, ignition technologies, liquid material injection, and nanotechnology, two book chapters on propulsion system combustion instability and applications of graphene (a nanotech product) in ignition and combustion of fuels, ground-breaking patents on applications and synergy between nanotechnology, light, and chemical reaction for a light-activated distributed ignition of fuel-air mixtures, and has more than 150 publications with extensive experience in both scientific and management areas and intensive trainings in finance and financial engineering.