

PUBLICATIONS:

1. Simpson, R. L., Chehroudi, B., and Shivaprasad, B. G., 1982. Pointwise and Scanning Laser Anemometer Measurements in Steady and Unsteady Separated Turbulent Boundary Layers, Proc., Int. Symp. Appl. Laser-Doppler Anemometry to Fluid Mech., Lisbon, July 5-7, paper 11.3.
2. Simpson, R. L. and Chehroudi, B., 1983. A Rapidly Scanning Laser Doppler Anemometer for Examining Flow Structure, Minisymposium on New Measurement Techniques, Houston, Nov. 22, 1983, Bulletin of American Physical Society, Vol. 28, No. 9, p. 1401.
3. Chehroudi, B. and Simpson, R. L., 1983. Scanning Laser Doppler Anemometer and its Application in Turbulent Separated Flow, Final report for the U.S. Office of Naval Research, Civil and Mechanical Engineering Department, Southern Methodist University. Report SMU-WT-7.
4. Chehroudi, B. and Simpson, R. L., 1983. Scanning Laser Doppler Velocimeter, 4th Symposium on Turbulent Shear Flows, Karlsruhe, West Germany, September 12-14.
5. Chehroudi, B. and Bracco, F. V., 1984. Measurements of the Length and Shape of the Intact Core of Diesel-Type Sprays, 20th DOE/DISC Cooperative Program Meeting, Sandia National Laboratories, Livermore, CA, September 27-28.
6. Chehroudi, B. and Simpson, R. L., 1984. A Rapidly Scanning Laser Doppler Anemometer, *J. Phys. E. Sci. Instrum.*, Vol. 17, 1984.
7. Chehroudi, B., Chen, S. H., Bracco, F. V., and Onuma, Y., 1985. On the Intact Core of Full-Cone Sprays, Society of Automotive Engineers, 1985 Congress and Exposition, *SAE Transaction Paper 850126*, February 25-March 1. Winner of the prestigious 1985 Arch. T. Colwell Merit Award.
8. Chehroudi, B. and Simpson, R. L., 1985. The Structure of a Separating Turbulent Boundary Layer: Space-Time Results Using a Rapidly Scanning Laser Anemometer, 2nd ASME Laser Anemometry Symposium, Miami, Florida, Nov. 17-21.
9. Chehroudi, B., and Simpson, R. L., 1985. Space-Time Results for a Separating Turbulent Boundary Layer Using a Rapidly Scanning Laser Anemometer, *J. Fluid Mech.*, 160, pp. 77-92.
10. Chehroudi, B., Lombardi, P., and Bracco, F. V., 1986. Injection Pressure, Pintle Lift, and Spray Photographs of the GM COPI Injector, 23rd DOE/DISC Cooperative Program Meeting, Los Alamos Scientific Laboratory, Los Alamos, NM, March 20-21.
11. Chehroudi, B., Lombardi, P., Felton, P. G., and Bracco, F. V., 1986. Injection Pressure, Poppet Lift, and Spray Photographs of the General Motors COPI Injector, Princeton University Report 1744-MAE.
12. Chehroudi, B. and Bracco, F. V., 1986. Comments on the Simultaneous Measurement of Drop Size and Velocity, 24th DOE/DISC Cooperative Group Meeting, General Motors Research Laboratories, Warren, MI, September 25-26.
13. Lombardi, P. and Chehroudi B., 1986. Comparison Between Mean Axial Velocity Obtained Using Phase Doppler Anemometer and a Dual Bragg-cell LDV, Princeton University Report 1755-MAE.
14. Chehroudi, B., 1986. Investigation on the Criterion for atomization and Measurements of

Intact Core by Positron Annihilation, Princeton University Report 1749-MAE.

15. Chehroudi, B., Lombardi, P., and Bracco, F. V., 1987. Velocity Measurements in a Hollow-Cone Spray, 25th DOE/DISC Cooperative Group Meeting, Sandia National Laboratories, Livermore, CA, March 26-27.
16. Chehroudi, B., Lombardi, P., Felton, P. G., and Bracco, F. V., 1987. Spray Photography and Measurements of Poppet Lift and Injection Pressure in an Oscillating Poppet Injector, *ASME J. of Fluids Engineering*, Vol. 109, No. 3, pp. 289-296. (This work has also been presented at the Central States Section/The Combustion Institute, 1987 Spring Technical Meeting.)
17. Chehroudi, B., Lombardi, P., and Bracco, F. V., 1987. Drop Velocities in Pulsating Hollow-Cone Spray, 108th ASME Winter Annual Meeting, Boston, Massachusetts, December 13-18.
18. Chehroudi, B. and Bracco, F. V., 1987. Drop Size and Velocity Measurements in Dense Fast Sprays, 7th ARO Engine/Fuels Workshop, Wayne State University, Dearborn, Michigan.
19. Chehroudi, B., 1987. A Brief Outline of Work on Steady Hollow-Cone Sprays, Princeton University Report 1796-MAE.
20. Chehroudi, B., Laforgia, D., and Bracco, F. V., 1988. Structure of Sprays from the Ford DFI-3 Fuel Injector, 27th DOE/DISC Cooperative Group Meeting, Princeton University, Princeton, NJ, September 22-23.
21. Chehroudi, B., Bardsley, M., Gajdeczko, B., and Bracco, F. V., 1988. Measurements of the Three Components of the Velocity in the Intake Ports of an I. C. Engine, 27th DOE/DISC Cooperative Group Meeting, Princeton University, Princeton, NJ, September 22-23.
22. Chehroudi, B. and Bracco, F. V., 1988. Structure of a Transient Hollow-Cone Spray, Society of Automotive Engineers, 1988 Congress and Exposition, *SAE Transaction Paper 880522*, February 29-March 4.
23. Felton, P. G., Onuma, Y., Chehroudi, B., and Bracco, F. V., 1988. LDV Measurement of Drop Velocity in Evaporating Diesel-Type Sprays, *AIAA Journal of Propulsion and Power*, Vol. 4, No. 5, pp.399-405, September - October.
24. Laforgia, D., Chehroudi, B., and Bracco, F. V., 1988. Injection Pressure, Poppet Lift, Spray Photographs and Malvern-Measured Drop Sizes for the Ford DFI-3 Fuel Injection system. Princeton University Report 1827-MAE.
25. Boulouchos, K., Chehroudi, B., and Bracco, F. V., 1988. Preliminary Velocity and Pressure Measurements in the Intake Ports of a Two-Stroke I.C. Engine, ASME Winter Annual Meeting, Flow Diagnostics in Industrial Applications. Chicago, Illinois, November 28 - December 2.
26. Laforgia, D., Chehroudi, B., and Bracco, F. V., 1989. Structure of Sprays from Fuel Injections - Part II, The Ford DFI-3 Fuel Injector, Society of Automotive Engineers, 1988 Congress and Exposition, *SAE Transaction Paper 890313*, February 27 - March 3.
27. Bardsley, M. E. A., Boulouchos, K., Gajdeczko, B., Chehroudi, B., and Bracco, F. V., 1989. Measurements of the Three Components of the Velocity in the Intake Ports of an I.C. Engine, Society of Automotive Engineers, 1989 Congress and Exposition, *SAE Transaction Paper 890742*, February 27-March 3.

28. Andrews, M. J., Chehroudi, B., Felton, P. G., and Bracco, F. V., 1989. Computed and Measured Drop Size and Velocity in a Steady Full-cone Spray, 29th Dept. of Energy DISC Working Group Meeting, Sandia National Laboratories, Livermore, CA, October.
29. Laforgia, D., Cheroudi, B., and Bracco, F. V., 1989. Structure of Spray from Fuel Injection: The Ford DFI-3 Fuel Injector, *Ingegneria Automotoristica (ATA)* - 43 - 5,6 e7; Pag. 26.
30. Chehroudi, B., 1990. Preliminary Drop Size Measurements in a Diesel-Type Spray by a Phase Doppler Technique, Society of Automotive Engineers, 1990 International Off-Highway Power Plant Congress & Exposition, Paper 901673, September 10-13.
31. Laforgia, D., Chehroudi, B., and Bracco, F. V., 1990. Structure of Spray from Fuel Injection-the FORD DFI-3 Fuel Injection (I & II Parte), ATA, Vol. 42-43 Maggio, Giugno-Luglio.
32. Chehroudi, B. and Ghaffarpour, M., 1991. Spray Drop Size and Velocity Measurements in a Swirl-Stabilized Combustor, 36th International Gas Turbine and Aeroengine Congress and Exposition, ASME Paper 91-GT-43, Orlando, Florida, June 1991.
33. Chehroudi, B. and Ghaffarpour, M., 1992. Structure of a Hollow-Cone Spray with and without Combustion, 37th International Gas Turbine and Aeroengine Congress and Exposition, Cologne, Germany 1992.
34. Schuh, D. and Chehroudi, B., 1992. LDV Measurement of Intake Port Flow in a Two-Stroke Engine with and without Combustion, Society of Automotive Engineers, 1992 Congress and Exposition, *SAE Transaction Paper 920424*, February 24-28.
35. Chehroudi, B. and Schuh, D., 1992. LDV Measurement in a Hard-to-Reach Intake Port of a Two-Stroke Engine, *Optics and Lasers in Engineering*, Vol. 17, pp. 241-258.
36. Ghaffarpour, M. and Chehroudi, B., 1993. Experiments on Spray Combustion in a Gas Turbine Model Combustor, *Combustion Science and Technology*. Vol. 92, pp. 173-200.
37. Chehroudi, B., 1993. Investigation of a Novel Feature for Prefilming Liquid Fuel Nozzles, *Combustion Science and Technology*, Vol. 83, pp. 1-8.
38. Schuh, D. and Chehroudi, B., 1993. Intake Port Flow in a Fired Two-Stroke Engine, Society of Automotive Engineers, 1993 Congress and Exposition. *SAE Transaction Paper 930495*, March 1-5. Also in *Advanced Two-Stroke Engines*, SAE Publication ISBN 1-56091-327-4, p.1.
39. Ghaffarpour, M. and Chehroudi, B., 1993. Species Concentrations in a Model Gas Turbine Combustor, 38th International Gas Turbine and Aeroengine Congress and Exposition, ASME Paper 93-GT-386, Cincinnati, Ohio.
40. Rohrer, R. and Chehroudi, B., 1993. Preliminary Heat Release Analysis in a Single-Cylinder Two-Stroke Production Engine, Society of Automotive Engineers, 1993 Congress and Exposition, *SAE Transaction Paper 930431*, March 1-5.
41. Chehroudi, B., 1993. Use of Natural Gas in Internal Combustion Engines. Proceedings of the First International Non-Renewable Energy Sources Congress, *Invited Speaker*, University of Science and Technology, Tehran, December 26-29.
42. Chehroudi, B. and Shi, X. J., 1994. Velocity Characteristics of a Highly-Turbulent Confined Swirling Flow Near a Swirl Plate, *ASME J. of Fluids Engineering*, Vol. 116,

pp.685-693, December. (Data Bank Contribution paper)

43. Chehroudi, B. and Simpson, R. L., 1994. A Rapidly Scanning Laser Doppler Anemometer. *SPIE Milestone Series in Laser Doppler Velocimetry*, Edited by Ronald J. Adrian and Brian J. Thompson, Vol. MS 78.
44. Pushka, D., Sinko, K., and Chehroudi, B., 1994. Engine-Based Image Acquisition for Piloted Diesel Fuel Spray Analysis. Society of Automotive Engineers, 1994 Congress and Exposition, *SAE Transaction Paper 940679*, February 28- March 3.
45. Campbell, P. H., Sinko, K. M., and Chehroudi, B., 1994. Engine-Based Visualization of Liquid and Vapor Phases in a Piloted Diesel Fuel Injection System, The Combustion Institute. Central States Meeting. University of Wisconsin, Madison, Wisconsin, pp. 15-20.
46. Chehroudi, B., 1994. Half a Century of Medicine. Knowledge & Vision, *The voice of Scholars, Scientists & Experts*, Vancouver, B. C., Canada, pp.4-6.
47. Chehroudi, B. and Schuh, D., 1995. Intake-Port Flow Behavior in a Motored and Fired Two-Stroke Research Engine, *Experimental Thermal and Fluid Sciences*, Vol. 10, pp. 86-100.
48. Sinko, K., Pushka, D., and Chehroudi, B., 1995. Visualization of Interacting Pilot and Main Diesel-Type Sprays in an Engine, *Journal of Flow Visualization and Image Processing*, Vol. 2, pp. 93-112.
49. Lee, K. and Chehroudi, B., 1995. Structure of a Swirl-Stabilized Flame relevant to Gas Turbine and Furnaces, *AIAA Journal of Propulsion and Power*, Vol. 11, No. 6, pp. 1110-1117.
50. Campbell, P. H., Sinko, K. M., and Chehroudi, B., 1995. Liquid and Vapor Phase Distributions in a Piloted Diesel Fuel Spray, Society of Automotive Engineers, 1995 Congress and Exposition, *SAE Transaction Paper 950445*, February 27-March 2.
51. Chehroudi, B., Chojnowski, D., and Kuhar, J., 1995. 1995 HEV Challenge Design Report (Neon Class). Society of Automotive Engineers, 1995 HEV Challenge, publication number SP-1170, pp. 147-157.
52. Chehroudi, B., Sinko, K., M., and Campbell, P. H., 1995. Simultaneous Visualization of the Liquid and Vapor Phases of Pilot-Injected Spray by Laser Induced Fluorescence (Exciplex), *Journal of Flow Visualization and Image Processing*, Vol. 2, Issue 4, pp 351-374.
53. Sinko, K. M., Shih, S., and Chehroudi, B., 1996. Emission Characteristics of a Dual-Injector Diesel Fuel Injection System, Society of Automotive Engineers, 1996 Congress and Exposition, *SAE Transaction Paper 960839*, February 26-29.
54. Chehroudi, B., Sinko, K. M., and Shih, S., 1996. Novel Approach for Simultaneous NO_x and Smoke Reduction: Interacting-Sprays Injection, Society of Automotive Engineers, 1996 SAE Future Transportation Technology Conference, Paper 961678, August 5-8, Vancouver, B. C., Canada.
55. Chehroudi, B. and Ghaffarpour, M., 1996. Anatomy of an Isothermal and a Burning Hollow-cone Spray, *Atomization and Sprays*, Vol. 6, pp. 145-166.
56. Chehroudi, B. and Barak, P., 1996. Conversion of an Engine Fuel System from Gasoline Injection to Liquid Propane Injection, Society of Automotive Engineers, 1996 LPG Challenge, publication number SP-1257, pp. 15-21.

57. Chehroudi, B., Sinko, K. M., Minkowycz, W. J., and Shih, S., 1998. "Interacting-Sprays Injection," a New Concept for NO_x and Smoke Reduction in Diesel Engines, *Atomization and Sprays*, vol. 8, pp. 673-690.
58. Chehroudi, B., Talley, D., and Coy, E., 1998. Behavior of a Round Cryogenic Jet at Below and Above the Critical Pressure, The Tenth Annual Propulsion Symposium, Propulsion Engineering Research Center (PERC) at Penn State, NASA Marshall Space Flight Center, Huntsville, Alabama, October 26-27.
59. Chehroudi, B., Sinko, K. M., and Shih, S., 1998. Interaction of Sprays from Two Injectors as a New Emission Reduction Strategy in Diesel Engines, The Second International Non-Renewable Energy Sources Congress, Tarbiat-Modarress University of Technology, Tehran, December 12-17,1998.
60. Chehroudi, B., 1998. Knock in IC Engines, *Powertrain International*, Vol.1, No.1, pp.6-10.
61. Chehroudi, B., Talley, D., and Coy, E., 1999. Initial Growth Rate and Visual Characteristics of a Round Jet into a Sub- to Supercritical Environment of Relevance to Rocket, Gas turbine, and Diesel Engines, 37th AIAA Aerospace Science Meeting and Exhibit, AIAA 99-0206, Reno, NV, January 11-14.
62. Chehroudi, B. and Kettlekamp, J., 1999. Efflux Angle of Flow Through the Intake Port of a Two-Stroke Research Engine with and without Combustion, Society of Automotive Engineers, 1999 Congress and Exposition, SAE Paper 99894, February 25-28.
63. Chehroudi, B., Talley, D., and Coy, E., 1999. Fluid Jet Injection into Supercritical Condition with Applications to Cryogenic Rocket Engines, 12th Annual Conference on Liquid Atomization and Spray Systems, Radisson Hotel City Center, Indianapolis, Indiana, May16-19, 1999.
64. Chehroudi, B., 1999. Cyclic Variability in SI Engines, *Powertrain International*, Vol. 2, No. 1, pp. 4-10.
65. Chehroudi, B., Talley, D., and Coy, E., 1999. Fractal Geometry and Growth Rate of Cryogenic Jets Near Critical Point, AIAA/SAE/ASME/ASEE Joint Propulsion Meeting, AIAA 99-2489, Los Angeles, CA, June 20-24. (Winner of the prestigious AIAA Outstanding Paper of the Year Award)
66. Chehroudi, B., 1999. Gasoline Direct Injection (GDI), *Powertrain International*, Vol. 2, No. 2, pp. 4-7.
67. Chehroudi, B., Talley, D., and Coy, E., 1999. Anatomical Changes of a Cryogenic Jet in Transition to the Thermodynamic Supercritical State, Invited Speaker at the 15th Annual Conference on Liquid Atomization and Spray Systems, Toulouse, France, July 5-7.
68. Chehroudi, B., 1999. Hydrocarbon Emission from Spark-Ignited Engines, *Powertrain International*, Vol. 2, No. 3, pp. 6-9.
69. Chehroudi, B., 1999. Hybrid electric vehicle (HEV), Reasons, Concepts, and Issues, *Powertrain International*, Vol. 2, No. 4, pp. 6-8.
70. Chehroudi, B., Cohn, R., Talley, D., and Badakhshan, A., 2000. Raman Scattering Measurements in the Initial Region of Sub- and Supercritical Jets, AIAA/SAE/ASME/ASEE Joint Propulsion Meeting, AIAA 2000-3392, Huntsville, AL, 17-19 July.

71. Chehroudi, B., and Talley, D., 2000. Injection into Supercritical Conditions in Cryogenic Liquid Rockets, Fourth International Symposium on Liquid Space Propulsion, DLR – Lampoldshausen, Germany, March 13 – 15.
72. Chehroudi, B., 2000. Balancing of Rotating and Reciprocating Systems in Engines: Basic Understanding Part I. *Powertrain International*, Vol. 3, No. 1, pp. 4-7.
73. Chehroudi, B., Cohn, R., and Tally, D., 2000. Spray/Gas Behavior of Cryogenic Fluids Under Sub- and Supercritical Conditions, Eighth International Conference on Liquid Atomization and Sprays Systems, ICLASS- 2000, Pasadena, California, USA, July 16-20.
74. Chehroudi, B., 2000. Balancing of Rotating and Reciprocating Systems in Engines: Basic Understanding Part II. *Powertrain International*, Vol. 3, No. 2, pp. 5-10.
75. Chehroudi, B., 2000. Balancing of Rotating and Reciprocating Systems in Engines: Basic Understanding Part III. *Powertrain International*, Vol. 3, No. 3, pp. 6-9.
76. Chehroudi, B., 2000. The Fuel Cell: Science and Technology. *Powertrain International*, Vol. 3, No. 4, pp. 8-12.
77. Chehroudi, B., 2001. Essentials of Compression Ignition Diesel Engine. *Powertrain International*, Vol. 4, No. 1, pp.8-12.
78. Chehroudi, B., 2001. Individual-Cylinder Pressure-Based Engine Control Strategy, *Powertrain International*, Vol. 4, No. 2, pp. 7-10.
79. Chehroudi, B., Cohn, R., and Talley, D., 2001. The Behavior of Cryogenic Shear Layers under Supercritical Conditions, *2nd International Symposium on Turbulence and Shear Flow Phenomena*, Stockholm, Sweden, June 27-29.
80. Chehroudi, B., 2001. Hydrogen Usage in Vehicles, 2001. Global Powertrain Congress, Detroit, Michigan, June 5-7.
81. Chehroudi, B., 2001. Injection Strategies for Compression Ignition Engines Part II: Pilot, Split, and Interacting Sprays Injections. *Powertrain International*, Vol. 4, No. 3, pp. 6-10.
82. Chehroudi, B. and Talley, D., 2002. Interaction of Acoustic Waves with a Cryogenic Nitrogen Jet at Sub- and Supercritical Pressures, 40th AIAA Aerospace Sciences Meeting & Exhibit, AIAA Paper 2002-0342, Reno, Nevada, January 14-17.
83. Chehroudi, B., Talley, D., and Coy, E., 2002. Visual Characteristics and Initial Growth Rates of Round cryogenic Jets at Subcritical and Supercritical Pressures, *Physics of Fluids*, Vol. 14, No. 2, February.
84. Chehroudi, B., 2002. A Review of Hydrogen Usage in Vehicles: Fuel Cell, HEV-H₂ Internal Combustion, and Mixture Operation. *Powertrain International*, Vol. 5, No.1, pp. 16-23.
85. Chehroudi B., and Talley, D., 2002. Acoustic Waves and Cryogenic Injection under Supercritical Conditions, 15th Annual Conference on Liquid Atomization and Spray Systems, Madison, Wisconsin, May 14-17.
86. Chehroudi, B., 2002. Homogeneous Charge Compression Ignition (HCCI) Engine, *Powertrain International*, Vol. 5, No.1, pp. 6-10.

87. Chehroudi, B., Cohn, R., and Talley, D., 2002. Cryogenic Shear Layers: Experiments and Phenomenological Modeling of the Initial Growth Rate Under Subcritical and Supercritical Conditions, *Invited Paper, International Journal of Heat and Fluid Flow*, 23, pp. 554-563. (This paper is revised, extended, stringently re-reviewed, and was one the 19 papers selected amongst 192 that was presented at the 2nd International Symposium on Turbulence and Shear Flow Phenomena (TSFP-2), held in Stockholm during 27-29 June 2001. The TSFP-2 attracted over 400 contributions from some 30 countries, from which eventually 192 were selected for presentation.)
88. Chehroudi, B., 2002. Telematics and Driver Distraction, *Powertrain International*, Vol. 5, No.2, pp. 7-11.
89. Chehroudi et al., 2002. Nanotechnology: Current State and Future Outlook, Global Nano Conference, NASA Ames, Moffett Field, October 17-18.
90. Chehroudi, B., Bellan, J., and Tally, D., 2002. Supercritical and Transcritical Shear flows in Microgravity: Experiments and Direct Numerical Simulations, Sixth Microgravity Fluid Physics and Transport Phenomena Conference: Exposition Topical Areas 1-6, Volume 2, 408-409. Also, NASA_JPL, technical Report ID 20030005587, NTRS: 2007-02-07.
91. Chehroudi, B., 2002. Metal Foams: A New Material ?, *Powertrain International*, Vol.5, No. 3 (to appear)
92. Chehroudi, B., 2002. Applications of Fiber Reinforced Polymer (FRP) Composite Materials in Marine Environment, Advanced Technology Consultants, May 25.
93. Chehroudi, B., Davis, D., and Talley, D., 2003. Initial Results from A Cryogenic Coaxial Injector In An Acoustic Field. 41st AIAA Aerospace Science Meeting and Exhibit, AIAA 2003-1339, Reno, NV, January 6-9.
94. Chehroudi, B., 2003. Supercritical and Nanotechnology: Opportunities for Multidisciplinary research. Air Force Office of Scientific Research, March 10 (<http://www.ingentaconnect.com/content/tandf/gcst/2006/00000178/F0030001/art00021>).
95. Chehroudi, B., Talley, D., Mayer, W., Branam, R., Smith, J. J., Schik, A., and Oswald, M., 2003. Understanding Injection Into High Pressure Supercritical Environment, Fifth International Symposium on Liquid Space Propulsion, Long Life Combustion Devices Technology, NASA Marshall Space Flight Center, Huntsville, Alabama, October 27-30.
96. Chehroudi, B. 2003. Nanotechnology and Its Interface with Automotive Industry, *Powertrain International*, Vol.6, No. 4., pp. 5-8.
97. Chehroudi, B., et al., 2003. Coaxial Injection under Supercritical Conditions, NASA Scientific and Technical Aerospace Reports (STAR), Report No.: AD-A410921, Vol 41, Issue 15, P.91, July 25.
98. Chehroudi, B., 2003. Laser Ignition: A Review, 2003. Air Force Office of Scientific Research, November 25.
99. Chehroudi, B., et al., 2003. Initial Results from a Cryogenic Coaxial Injector in an Acoustic Field, NASA Scientific and Technical Aerospace Reports (STAR), Report No.: AD-A410882, Vol 41, Issue 15, P.72, July 25.
100. Chehroudi, B., 2003. Nanotechnology: Big Markets, Small Spaces, *Invited Speaker*, University of California at San Diego Connect Program, September 16.

101. Chehroudi, B., et al., 2003. Interaction of Acoustic Waves with a Cryogenic Nitrogen Jet at Sub- and Supercritical Pressures, NASA Scientific and Technical Aerospace Reports (STAR), Report No.: AD-A410887, Vol 41, Issue 15, P.152, July 25.
102. Chehroudi, B. 2004. Liquid Fuels from Gases and Role of Catalysts, Powertrain International, Vol. 7, No.1., pp. 5-8.
103. Chehroudi, B., 2004. Laser Ignition for Combustion Engines, NASA Scientific and Technical Aerospace Reports (STAR), Report No.(s): AD-A427076, Vol 42, P.61, December. 17.
104. Chehroudi, B., 2004. The Effects of Pressure and Acoustic Field on a Cryogenic Coaxial Jet, NASA Scientific and Technical Aerospace Reports (STAR), Report No.(s): AD-A419454, Vol 42, Issue 4, P.192, February 27.
105. Chehroudi, B., 2004. Laser Ignition For Combustion Engines_ Part I, Powertrain International, Vol. 7, No.2., pp. 6-10.
106. Chehroudi, B. and Talley, D., 2004. Fractal Geometry of a Cryogenic Nitrogen Round Jet Injected into Sub- and Super-critical Conditions, *Atomization and Sprays*, vol. 14, pp. 81-91.
107. Davis, D. and Chehroudi, B., 2004. The Effects of Pressure and Acoustic Field on a Cryogenic Coaxial Jet, 42nd AIAA Aerospace Sciences Meeting and Exhibit, Paper No. AIAA-2004-1330, Reno, Nevada, January 5-8.
108. Chehroudi, B., 2004. Laser Ignition For Combustion Engines_ Part II, Powertrain International, Vol. 7, No.3.
109. Chehroudi, B., 2004. Laser Ignition For Combustion Engines, Advanced Laser Applications Conference and Exposition, *invited paper*, Ann Arbor, Michigan, September 20-22.
110. Chehroudi, B., 2004. Cylinder Deactivation: The Idea and Its Practice, Powertrain International, Vol. 7, No. 4.
111. Davis, D. and Chehroudi, B., 2005. Measurements in an Acoustically-Driven Coaxial Jet under Supercritical Conditions, 43rd AIAA Aerospace Sciences Meeting and Exhibit, Paper No. AIAA-2005-0736, Reno, Nevada, January 10-13.
112. Chehroudi, B., 2005. Management of Innovation in R&D Environment, Powertrain International Symposium, Las Vegas, Nevada, February 22-23.
113. Chehroudi, B., 2005. Strategies Towards Environmental and Fuel Economy Improvements, Powertrain International Symposium, Las Vegas, Nevada, February 22-23.
114. Chehroudi, B., and Danczyk, S. A., 2005. An Innovative Ignition Method using SWCNTs and a Camera Flash, 2005 Nano Science and Technology Institute (NSTI), Nanotechnology Conference and Trade Show, Anaheim, California, May 8-12.
115. Chehroudi, B., 2005. Design Rationales for Popular Engines, Powertrain International, Vol. 8, No.1, pp. 5-9.
116. Chehroudi, B., 2005. Composite Materials and Their Uses in Cars, Part I: What Is A Composite Material?, Powertrain International, Vol. 8, No.2, pp. 6-9.
117. Chehroudi, B., and Danczyk, S. A., Ketsdever, and G. L. Vaghjiani, 2005. A Low Power,

Novel Ignition of Fuels using Single-Walled Carbon Nanotubes (SWCNTs) and a Camera Flash, 53rd JANNAF Interagency Propulsion Committee Meeting, 2nd Liquid Propulsion, 1st Spacecraft Propulsion Subcommittee, Monterey, California, Dec. 5-8.

118. Davis, D. W., and Chehroudi, B., 2005. Experiments on a Coaxial Injector Under Externally-Forced Acoustic Field. 53rd JANNAF Interagency Propulsion Committee Meeting, 2nd Liquid Propulsion, 1st Spacecraft Propulsion Subcommittee, Monterey, California, Dec. 5-8. (*Recipient of LPS Best Student Paper Award*)
119. Chehroudi, B., 2005. Management of Innovation in R&D Environment, *Invited Speaker*, Global Automotive Management Council, Senior management Meeting, Ann Arbor, Michigan, September 19-21, 2005.
120. Chehroudi, B., Talley, D. G., Davis, D. W., Cohn, R. K., and Coy, E. B., 2005. Mixing Dynamics of Supercritical Droplets and Jets, Air Force Research Laboratory Report, AFRL-PR-ED-TR-2005-0023.
121. Davis, D. W., and Chehroudi, B., 2006. Shear-Coaxial Jets from a Rocket-Like Injector in a Transverse Acoustic Field at High Pressures. 44th AIAA Aerospace Sciences Meeting and Exhibit, Paper No. AIAA-2006-0758, Reno, Nevada, January 9-12.
122. Chehroudi, B., 2006. Supercritical Fluids: Nanotechnology and Select Emerging Applications, *Invited Review Paper*, special volume dedicated to Supercritical Fluids, *Combustion Science and Technology*, Vol. 178, No. 1-3, January 2006, pp. 555-621(67).
123. Chehroudi, B., Talley, D., Mayer, W., Branam, R., Smith, J. J., Schik, A., and Oschwald, M., 2006. Injection of Fluids into Supercritical Environments, *Invited Review Paper*, special volume dedicated to Supercritical Fluids, *Combustion Science and Technology*, Vol. 178, No. 1-3, January 2006, pp. 49-100(52).
124. Chehroudi, B., 2006. Synopsis On Issues raised & Comments Made at Combustion Stability Workshop, Proceedings of the Workshop on Advances in Combustion Stability for Liquid Rocket Engines, Annapolis, MD, Sept 27-28.
125. Chehroudi, B., 2006. Requirement Analysis: Based on Physically-Important Processes, Proceedings of the Workshop on Advances in Combustion Stability for Liquid Rocket Engines, Annapolis, MD, Sept 27-28.
126. Davis, D. W. and Chehroudi, B., 2006. Measurements in an Acoustically-Driven Coaxial Jet under Supercritical Conditions, *AIAA J. of Propulsion and Power*, Vol. 23, No. 2, March-April, pp. 364-374.
127. Chehroudi, B. and Danczyk, S. A., 2006. Ignition of Propellants Through Nanostructured Materials, The Second Eglin Symposium on Nano Energetics, REEF at The University of Florida, Shalimar, FL, March 22-23.
128. Davis, D. W., Chehroudi, B., and Talley, D. G., 2006. Behavior of a Rocket-Like Coaxial Injector in an Acoustic Field, ILASS Americas, 19th Annual Conference on Liquid Atomization and Spray Systems, Toronto, Canada, May 23-26. (*Winner of the Marshall Award from ILASS America*)
129. Davis, D. W., Chehroudi, B., and Talley, D. G., 2006. A Rocket-Like Coaxial Injector in an Acoustic Field at Supercritical Conditions, 10th International Conference on Liquid Atomization and Spray Systems, Kyoto, Japan, August 27 – Sept 1.
130. Chehroudi, B. and Danczyk, S., 2006. A novel distributed ignition method using single-wall

- carbon nanotubes (SWCNTs) and a low-power flash light. Global Powertrain Congress, World Powertrain Conference & Exposition, Novi, Michigan, September 19-21.
131. Chehroudi, B., 2006. Composite Materials and Their Uses in Cars, Part II: Applications, Powertrain International, Vol. 9, No.2, pp. 6-9.
 132. Chehroudi, B., et al., 2006. A Rocket-like coaxial Injector in an Acoustic Field under Sub- and Supercritical Conditions, NASA Scientific and Technical Aerospace Reports (STAR), Report No.: AD-A456610, Vol 44, No. 25, P.61, December 19.
 133. Chehroudi, B., et al., 2006. behavior of a Rocket-Like Coaxial Injector in an Acoustic Field, NASA Scientific and Technical Aerospace Reports (STAR), Report No.: AD-A456841, Vol 44, No. 25, P.61, December 19.
 134. Chehroudi, B., 2006. Diesel Engine Emissions: Hydrocarbons (HC), Powertrain International, Vol. 9, No. 3, pp.5-8.
 135. Leyva, I., Chehroudi, B., and Talley, D., 2007. Dark Core Analysis of Coaxial Injectors at Sub-, Near-, and Supercritical Conditions in a Transverse Acoustic Field, 54th Joint Army-Navy-NASA-Air Force (JANNAF) Propulsion Meeting (JPM) and 5th Modeling and Simulation / 3rd Liquid Propulsion / 2nd Spacecraft Propulsion Joint Sub-committee Meeting, Denver, CO, May 14-18.
 136. Leyva, I., Chehroudi, B., and Talley, D., 2007. Dark Core Analysis of Coaxial Injectors at Sub-, Near-, and Supercritical Conditions in a Transverse Acoustic Field, 43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, AIAA-2007-5456, Cincinnati, OH, July 8-11.
 137. Leyva, I. A., Rodriguez, J. I., Chehroudi, B., and Talley, D., 2008. Preliminary Results on Coaxial Jet Spread Angles and the Effects of Variable Phase Transverse Acoustic Field, 46th AIAA Aerospace Sciences Meeting and Exhibit, AIAA 2008-950, Reno, Nevada, 7-10 January.
 138. Chehroudi, B., et al., 2008. Interaction of Acoustic Waves with a Cryogenic Nitrogen Jet at Sub- and Supercritical Pressures, NASA Scientific and Technical Aerospace Reports (STAR), Report No.: AD-A410887, Vol 45, No. 26, P.152, January 5.
 139. Rodriguez, J. I., Leyva, I. A., Chehroudi, B., and Talley, D., 2008. Effect of Variable Phase Transverse Acoustic Fields on Coaxial Jet Forced Spread Angles, ILASS_Americas, Orlando, Florida, May 18-21.
 140. Leyva, I. A., Rodriguez, J. I., Chehroudi, B., and Talley, D., 2008. Effect of Phase Angle on Coaxial Jet Behavior Spanning Sub- to Supercritical Pressures, ILASS Europe 2008, Como Lake, Italy, Sept. 8-10.
 141. Chehroudi, B., 2008. Financial Impact of An Aesthetic and Architecturally-Compatible Ridge Park Road Fence in Ziani, A report submitted to the Board of Directors at Ziani Community, Newport Coast, California, January 28.
 142. Chehroudi, B., Badakhshan, A. Danczyk, S., and Morgan, C., 2008. Ignition Characteristics of Single-Walled Carbon Nanotubes (SWCNTs) Utilizing a Camera Flash for Distributed Ignition of Liquid Sprays. Joint Army-Navy-NASA-Air Force (JANNAF) Propulsion Meeting (JPM) and 6th Modeling and Simulation / 4th Liquid Propulsion / 3ed Spacecraft Propulsion Joint Sub-committee Meeting, Orlando, Florida, Dec 8-12.
 143. Chehroudi, B. 2008. A Unified Injector Sensitivity Theory. AFOSR/NASA Office of Chief

Engineer Joint Contractors/Strategic Planning Meeting in Chemical Propulsion, Vienna, Virginia, July 8-11.

144. Chehroudi, B. Rodriguez, J. I., Layva, I., and Tally, D., 2008. Preliminary Results on Coaxial Jets Spread Angles and Effects of Variable Phase Transverse Acoustic Fields, 2nd Southern California Symposium on Flow Physics, UCLA, April 12.
145. Chehroudi, B. 2009. A Unified Approach on Combustion Instability in Cryogenic Liquid Rockets, 47th AIAA Aerospace Sciences Meeting, AIAA-2009-237, Orlando, Florida, 5-8 January.
146. Chehroudi, B., Vaghjani, G. L., and Ketsdever, A. 2009. Method for distributed ignition of fuels by light sources, United States Patent Office, US 7,517,215 B1, April 14, 2009.
147. Chehroudi, B. and Hooshmand, M., 2009. Long-Term Capital Management (LTCM): A Multifactor Analysis of its Rise and Demise, Private Banking, Banking and Finance, University of Lugano, Lugano, Switzerland, April 22.
148. Chehroudi, B., Danczyk, S., Morgan, C., and Badakhshan, A., 2009. Ignition characteristics of single-walled carbon nanotubes (SWCNTs) utilizing a camera flash for distributed ignition of liquid sprays, 2009 Fall technical Meeting, Western Section of the Combustion Institute, UC Irvine, Irvine, California, Oct 26.
149. Chehroudi, B., et al., 2010. Ignition Characteristics of Single-Walled Carbon Nanotubes (SWCNTs) Utilizing a Camera Flash for Distributed Ignition of Liquid Sprays, NASA Scientific and Technical Aerospace Reports (STAR), Report No.: AD-A511240, Vol 48, No. 3, P.48, February 15.
150. Chehroudi, B., Vaghjani, G. L., and Ketsdever, A. 2010. Apparatus for distributed ignition of fuels by low-energy light sources, United States Patent Office, Patent 7,665,985 B1, February 23, 2010.
151. Chehroudi, B., 2010. Distributed Ignition Using Single-Walled Carbon Nanotube (SWCNTs) with Applications in Aerospace and Future Automotive Engines, *Recent Patents on Space Technology*, Open Access Journal, Vol 2, pp.67-75.
152. Chehroudi, B., 2010. Physical Hypothesis for the Combustion Instability in Cryogenic Liquid Rocket Engines, *AIAA Journal of Propulsion and Power*, Vol. 26, No 6, November-December, pp.1153-1161.
153. Chehroudi, B., Tally D., and Yang, V., 2010. Liquid propellants and combustion: fundamentals and classifications, *Wiley Encyclopedia of Aerospace Engineering*, John Wiley Publishing, Editors: Blockly R., and Shyy, W. , ISBN: 9780470686652 (http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470754400_descCd-description.html).
154. Chehroudi, B., 2011. Nanotechnology and Applied Combustion: Use of Nanostructured Materials for Light-Activated Distributed Ignition of Fuels with Propulsion Applications, *Recent Patents on Space Technology*, Vol. 1, Issue 2, pp. 107-122 (16), (<http://www.benthamdirect.org/pages/article//3171720/nanotechnology-and-applied-combustion-use-of-nanostructured-materials-for-light-activated-distributed-ignition-of-fuels-with-propulsion-applications.asp>).
155. Chehroudi, B., 2011. On-Demand Activation of Autoignition in HCCI Engines Using Distributed Ignition of Carbon Nanotubes, Global Powertrain Congress, Munich, Germany, September 19-20.

156. Chehroudi, B., 2012. Minimum Ignition Energy of the Light-Activated Ignition of Single-Walled Carbon Nanotubes (SWCNTs), *Combustion and Flame*, 159, pp. 753-756.
157. Chehroudi, B., 2012. Recent Experimental Efforts on High-Pressure Supercritical Injection for Liquid Rockets and Their Implications, *International Journal of Aerospace Engineering, Invited Review Article*, Vol 2012, Article ID 121802, 32 pages.
158. Chehroudi, B., 2012. Activation and Control of Autoignition in HCCI Engines Using Volumetrically-Distributed Ignition of As-Produced Single-walled Carbon Nanotubes, Fuel & Lubrication Meeting, Society of Automotive Engineers, Malmo, Sweden, SAE Paper 2012-01-1691.
159. Chehroudi, B., 2013. On-Demand Activation of Autoignition in HCCI Engines Using Distributed Ignition of Carbon Nanotubes, *Powertrain International*, Winter/Spring Issue, Vol 16, no.1.
160. Chehroudi, B., 2013. A Book Review. Diamondoid Molecules: With Applications in Biomedical Materials Science, Nanotechnology and Petroleum Sciences, by Mansoori et al., ISBN-10:9814291609, *Journal of Nanotechnology in Engineering and Medicine Journal*, Vol. 4, May 2013.
161. Chehroudi, B and Hoosh M. Technologies in Energy Storage for Electricity – Smart Grid Applications, Report No 15-ESE-2014, Advanced Technology Consultants, July 23, 2014.
162. Chehroudi, B., 2014. Light-Activated Volumetrically-Distributed Ignition of Lean Gaseous Fuel/Air Mixtures for HCCI Engines Using Nanostructured Materials, 2nd International Conference on Ignition Systems for Gasoline Engines, Berlin, Germany, Nov 24-25.
163. Chehroudi, B., 2014. A Review of the *Gas Turbine Emissions*, Cambridge University Press, Lieuwen T. C. and Yang, V., American Institute of Aeronautics and Astronautics, (*Invited Review*). (to appear)
164. Chehroudi, B. 2016. Applications of Graphene in Fuel/Propellant Combustion, CRC Handbook of Graphene Science, Taylor & Francis. The set includes contributions from top researchers in the field and a foreword written by two Nobel Laureates in Physics (to be published in May 1, 2016)
165. Chehroudi, B., 2016. Spontaneous Raman Scattering Measurements in the Initial Region of a Cryogenic Jet under sub- and Supercritical Pressures, *AIAA J. of Propulsion and Power*. (submitted)
166. Chehroudi, B. and Hooshmand, M., 2017. Sustainability Analysis of the Biofuels, *The Virtual Journal of Environmental Sustainability*. (in preparation)
167. Chehroudi, B. and Davis, D., 2017. Cryogenic and Supercritical Heat Transfer in Microtubes. (In preparation)
168. Chehroudi, B., 2017. A Review of Lean-Burn Combustion in IC Engines, Society of Automotive Engineers. (In preparation)
169. Chehroudi, B., 2016. Nanotechnology, Applications, and Undergraduate Engineering Education, *Journal of Engineering Education* (In preparation)
170. Chehroudi, B., and M. Hooshmand, 2017. Energy, Environment, and Our Future, *Journal of Sustainable Energy and Environment*. (In preparation)

SELECT NANOTECHNOLOGY ACTIVITIES:

1. Chehroudi, B. 2015. Applications of Graphene in Fuel/Propellant Combustion, CRC Handbook of Graphene Science, Taylor & Francis. (to be published)
2. Chehroudi, B., 2014. Light-Activated Volumetrically-Distributed Ignition of Lean Gaseous Fuel/Air Mixtures for HCCI Engines Using Nanostructured Materials, 2nd International Conference on Ignition Systems for Gasoline Engines, Berlin, Germany, Nov 24-25.
3. Chehroudi, B., 2014. Minimum Ignition Energy of the Light-Activated Volumetrically-Distributed Ignition Using Nanostructured Materials, *Combustion and Flame*, 159, pp. 753-756.
4. Chehroudi, B, 2013. Diamondoid Molecules: With Applications in Biomedical Materials Science, Nanotechnology and Petroleum Sciences, ISBN-10:9814291609, A *Book Review*, *Journal of Nanotechnology in Engineering and Medicine Journal*, Vol. 4, May 2013.
5. Chehroudi, B., 2013. On-Demand Activation of Autoignition in HCCI Engines Using Distributed Ignition of Carbon Nanotubes, *Powertrain International*, Winter/Spring Issue, Vol 16, no.1.
6. Chehroudi, B., 2012. Activation and Control of Autoignition in HCCI Engines Using Volumetrically-Distributed Ignition of As-Produced Single-walled Carbon Nanotubes, Fuel & Lubrication Meeting, Society of Automotive Engineers, Malmo, Sweden, SAE Paper 2012-01-1691.
7. Chehroudi, B., 2012. Minimum Ignition Energy of the Light-Activated Ignition of Single-Walled Carbon Nanotubes (SWCNTs), *Combustion and Flame*, 159, pp. 753-756.
8. Chehroudi, B., 2011. Forget Spark Plug, Run Your Engines With Carbon Nanotubes, Volkswagen R&D, Puebla, Mexico, October 13, (*Invited Speaker*).
9. Chehroudi, B., 2011. Nanotechnology and Applied Combustion: Use of Nanostructured Materials for Light-Activated Distributed Ignition of Fuels with Propulsion Applications, Recent Patents on Space Technology, Vol. 1, Issue 2, pp. 107-122 (16). <http://www.benthamdirect.org/pages/article//3171720/nanotechnology-and-applied-combustion-use-of-nanostructured-materials-for-light-activated-distributed-ignition-of-fuels-with-propulsion-applications.asp> .
10. Chehroudi, B., 2011. Nanotechnology, Applications, and Undergraduate Engineering and Technology Education, University of Lugano, Lugano, Switzerland, July 11, (*Invited Speaker*).
11. Chehroudi, B, 2011, Technology Development for Distributed Ignition and Combustion Enhancement of Fuels Using Nanostructured Materials, Pratt & Whitney Aircraft Company, Hartford, CT, April 8, (*Invited Speaker*).
12. Chehroudi, B., 2010. Applications of Nanostructured Materials in Propulsion Systems, Workshop on Internationalization and Management of Government & Industry Joint Research & Technology, University Svizzera Italiana (USI), Lugano, August 6-7, (*Invited Speaker*).
13. Chehroudi, B., 2010. Distributed Ignition Using Single-Walled Carbon Nanotubes (SWCNTs) with Applications in Aerospace and Future Automotive Engines, United Technology Research Center (UTRC), Hartford, CT, July 19, (*Invited Speaker*).

14. Chehroudi, B., Vaghjiani, G. L., and Ketsdever, A., 2010. Apparatus for Distributed Ignition of Fuels by Low-Energy Light Sources, United States Patent Office, US Patent 7,665,985 B, February 23, 2010.
15. Chehroudi, B., 2010. Distributed Ignition Using SWCNTs with Technology Applications, Joint School of Nanoscience and Nanoengineering, North Carolina A&T State University and the University of North Carolina, Greensboro, June 28 (*Invited Speaker*).
16. Chehroudi, B, 2010. Distributed Ignition Using Single-Walled Carbon Nanotubes (SWCNTs) with Applications in Aerospace and Future Engines, *Recent Patents on Space Technology*, Journal's website at (<http://www.benthamscience.com/open/rptst/openaccess2.htm> , <http://www.bentham.org/open/rptst/>), Vol 2, pp.67-75.
17. Chehroudi, B, and Ronney, P, 2010. Distributed Ignition of Nanostructured Materials for Future Environmentally-Clean and Energy-Efficient Engines, Proposal to US National Science Foundation, Nanotechnology, Advanced Materials, and Manufacturing, (\$ 150,000)
18. Chehroudi, B. and Yuan, F. G., 2010. Yarns, Ribbons, Sheets and Composites of Carbon Nanotubes for Space Exploration Applications, Proposal to Air Force Research Laboratory, Proposal # F093-188-1557; Topic # AF093-188, (\$ 100,000).
19. Chehroudi, B., Danczyk, S., Morgan, C., and Badashan, A., 2009. Ignition Characteristics of Single-Walled Carbon Nanotubes (SWCNTS) Utilizing a Camera Flash for Distributed Ignition of Liquid Sprays, 2009 Fall technical Meeting, Western Section of the Combustion Institute, UC Irvine, Irvine, California, Oct 26.
20. Chehroudi, B., Vaghjiani, G. L., and Ketsdever, A. 2009. Method for Distributed Ignition of Fuels by Light Sources, United States Patent Office, US Patent 7,517,215 B1, April 14, 2009.
21. Chehroudi, et al., 2009. Light-Activated Distributed Ignition of Nanostructured Materials, Air Force Research Laboratory, Program Review Presentation, July 4, 2009.
22. Chehroudi, B, 2009. Light-Activated Distributed Ignition of Nanostructured Materials, ONERA, Palaiseau Center, The French Aerospace Laboratory, BP 72 - 92322 Chatillon Cedex, France, February 1, (*Invited Speaker*).
23. Chehroudi, B., 2006. Supercritical Fluids: Nanotechnology and Select Emerging Applications, *Invited Review Paper*, published in a special volume of the Combustion Science and Technology dedicated to supercritical fluid phenomena, Vol. 178, No. 1-3, January 2006, pp. 555-621(67), (<http://www.ingentaconnect.com/content/tandf/gcst/2006/00000178/F0030001/art00021>).
24. Chehroudi, B., 2005. Coverage of nanotube ignition work by the New Scientist Magazine entitled, "Forget Spark Plugs, Start Your Engine with Nanotube", Nov 19, 2005 issue, (<http://www.singlearticles.com/forget-spark-plugs-start-a2560.html>).
25. Chehroudi, B., and Danczyk, S. A., 2005. An Innovative Ignition Method using SWCNTs and a Camera Flash, 2005 Nano Science and Technology Institute (NSTI), Nanotechnology Conference and Trade Show, Anaheim, California, May 8-12.
26. Chehroudi, B. 2003. Nanotechnology and Its Interface with Automotive Industry, Powertrain International, Vol.6, No. 4., pp. 5-8.

27. Chehroudi, B., 2003. Nanotechnology: Big Markets, Small Spaces, *Invited Speaker*, University of California at San Diego Connect Program, Converging Technologies, September 16.
28. Chehroudi, B., 2003. A recurring one-day seminar entitled "An Introduction to Nanotechnology: Present Status and Future Outlook" is approved by the University of California to be offered to engineers, scientists, entrepreneurs, and managers who are planning penetration into the nanotechnology. November.
29. Chehroudi, B., 2003, Supercritical Fluids and Nanotechnology: Opportunities for Multidisciplinary Collaborative Research, Energy Research Center, Mechanical Engineering Department, University of California, San Diego, August 3.
30. Chehroudi, B., 2003. Supercritical and Nanotechnology: Opportunities for Multidisciplinary research. Air Force Office of Scientific Research, March 10.
31. Chehroudi et al., 2002. *Invited panel discussion member*, Nanotechnology: Current State and Future Outlook, Global Nano Conference, NASA Ames, Moffett Field, October 17-18. (Moderator: *Steve Jurvetson* of Draper Fisher Jurvetson venture capital firm)

PROFESSIONAL EDUCATION SEMINARS:

Seminars are prepared for and delivered to professional design engineers, practitioners, technologists, R&D technical managers, and researchers. Seminars are from three to five days in a row and involve both presentations and group discussion sessions. Seminars come with up-to-date, targeted, tailored slides and hand-picked articles. The presentation style is to enhance understanding and build physical intuition on key issues and provide design and technology management guidelines based on experience. In many cases, the seminars were followed by, or packaged with, consulting opportunities on pressing R&D/technology needs of key players in variety of industries. For this and similar professional activities

Dr Chehroudi was honored with *the Forest R. McFarland Award* in recognition of the outstanding services and leadership in contributions to Continuing Professional Development, SAE (2002).

1. Liquid Sprays and Fuel Injections, Samsung Motors, October 20-21, 1997.
2. Understanding Knock in Engines, Honda R&D, Raymond, OH, May 15-16, 1997.
3. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE International Congress & Exposition, Detroit, MI, February 25-27, 1998.
4. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Fuel and Lubrication Conference, Dearborn, MI, May 4-6, 1998.
5. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Off Highway Conference, Milwaukee, WI, September 14-16, 1998.
6. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE, Costa Mesa, CA, August 17-19, 1999.
7. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE, Nashville, TN, May 1-3, 2000.
8. Liquid Atomization, Sprays, and Fuel Injection, SAE International Congress & Exposition, Detroit, MI, March, 6-8, 2000.
9. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, September 11-13, 2000.
10. Liquid Atomization, Sprays, and Fuel Injection, SAE Center for Professional Education, Troy, MI, July 17-19, 2000.
11. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, *Invited Speaker*, General Motors Technical Center, Warren, MI, April 26-28, 2000.
12. Liquid Atomization, Sprays, and Fuel Injection, SAE Center for Professional Education, Troy, MI, February 5-7, 2001
13. Progress in Combustion of Fuels in Engines: Selected Issues from Ignition to Emission, Powertrain International, Las Vegas, NV, February 14-15, 2001.
14. Management of Innovation, Powertrain International, Las Vegas, NV, February 16-18, 2001.
15. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE International Congress & Exposition, Detroit, MI, March 5-7, 2001.

16. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, June 18-20, 2001.
17. Liquid Atomization, Sprays and Fuel Injection, SAE, Chicago, IL, July 16-18, 2001.
18. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE, Costa Mesa, CA, August 20-22, 2001.
19. Gas Turbine Combustion, Emission of Pollutants, and Environmental Issues for Engineers, NASA Glen Research Center, Cleveland, OH, September 17-19, 2001.
20. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, San Antonio, TX, September 24-26, 2001.
21. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE, Chicago, IL, November 12-14, 2001.
22. Advances in Internal Combustion Engines from Ignition to Emissions, *Invited Speaker*, Honeywell Spark Plug Division, Fostoria, OH, December 3-4, 2001.
23. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, May 6-8, 2002.
24. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, August 26-28, 2002.
25. Liquid Atomization, Sprays, and Fuel Injection, SAE, Troy, MI, June 24-26, 2002.
26. Advanced in Internal Combustion Engines: From Ignition to Emissions – A Journey into a Combustion Engine, Global Powertrain Congress, Harrah's hotel, Las Vegas, NV, September 23-24, 2002.
27. Management of Research and Development Organizations, Global Powertrain Congress, Harrah's hotel, Las Vegas, NV, September 25, 2002.
28. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, Powertrain & Fluid Systems Conference & Exposition, San Diego, CA, October 21-23, 2002.
29. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, Motorsports Engineering Conference & Exposition, Indianapolis, IN, December 2-3, 2002.
30. Liquid Atomization, Sprays, and Fuel Injection, *Invited Speaker*, US Environmental Protection Agency (EPA), Ann Arbor, MI, April 28-30, 2003.
31. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, May 19-21, 2003.
32. Effective Management of R&D Teams and Organizations, June 2-4, 2003.
33. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, August 4-6, 2003.
34. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, *Invited Speaker*, Volkswagen de Mexico, Puebla, Mexico, August 25-27, 2003.

35. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, November, 17-19, 2003.
36. Liquid Atomization, Sprays and Fuel Injection Systems, SAE, Troy, MI, April 19-21, 2004.
37. Liquid Atomization, Sprays, Fuel Injection Systems, SAE, Troy, MI, April 19-21, 2004.
38. Liquid Atomization, Sprays and Fuel Injection, Karl Schmidt Unisia, Inc., Fort Wayne, IN, January 24-26, 2004.
39. From Ignition to Emission: A Journey into a Combustion Engine, *Invited Speaker*, PTI International, Saline, MI, March 4-5, 2004.
40. Management of Research & Development Teams and Organizations, *Invited Speaker*, PTI International, Saline, MI, March 6-7, 2004.
41. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, Detroit, MI, March 8-10, 2004.
42. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, SAE, Troy, MI, May 17-18, 2004.
43. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, July 19-21, 2004.
44. Effective Management of R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), Las Vegas, NV, March, 2005.
45. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE International Congress & Exposition, Detroit, MI, April 11-13, 2005.
46. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, SAE Center for Professional Education, Troy, MI, May 9-10, 2005.
47. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, *Invited Speaker*, Siemens, Newport News, VA, May 23-24, 2005.
48. Liquid Atomization, Sprays and Fuel Injection Systems, SAE Center for Professional Education, Troy, MI, August 15-17, 2005.
49. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, DTI-SAE Global Knowledge Center, Automotive Engineering Research Building, Tsinghua University, Beijing, China, August 29-31, 2005.
50. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, DTI-SAE Global Knowledge Center, Automotive Engineering Research Building, Tsinghua University, Beijing, China, September 1-2, 2005.
51. Management of Innovation in R&D Environment, *Invited Speaker*, Global Automotive Management Council, Ann Arbor, MI, September 26-28, 2005 (*By Invitation Only*).
52. Combustion, Emission of Pollutants, and Environmental Issues in Aircraft Engines, AIAA, Reno, NV, October 2005.

53. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, October 17-19, 2005.
54. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, *Invited Speaker*, Volkswagen de Mexico, Puebla, Mexico, November 10-12, 2005.
55. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, *Invited Speaker*, Volkswagen de Mexico, Puebla, Mexico, November 13-14, 2005.
56. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, February 13-15, 2006.
57. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, SAE, Troy, MI, May 8-9, 2006.
58. Liquid Atomization, Sprays, and Fuel Injection, SAE, Troy, MI, August 7-9, 2006.
59. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, November 13-15, 2006.
60. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, July 10-12, 2006.
61. Diesel Engine Combustion and Emission Issues: From Injection to Emission, *Invited Speaker*, Volkswagen de Mexico, Puebla, Mexico, October 16-20, 2006.
62. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, *Invited Speaker*, Nissan Mexicana SA de CV, Toluca de Edo, Mexico, April 2-4, 2007.
63. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, *Invited Speaker*, NGK Spark Plugs Inc., Wixom, MI, April 23-24, 2007.
64. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE International Congress & Exposition, Detroit, MI, April 16-18, 2007.
65. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, SAE Center for Professional Education, Troy, MI, May 7-8, 2007.
66. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, *Invited Speaker*, Delphi, Bascharge, Luxemburg, June 19-20, 2007.
67. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, July 16-18, 2007.
68. Liquid Atomization, Sprays, and Fuel Injection, SAE Center for Professional Education, Troy, MI, August 13-15, 2007.
69. Effective Management of R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), Chicago, IL, October 2-4, 2007.
70. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, November 12-14, 2007.
71. Effective Management of R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), Atlanta, GA, April 16-18, 2008.

72. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE, Troy, MI, February 11-13, 2008.
73. Liquid Atomization, Sprays, and Fuel Injection, SAE Center for Professional Education, Troy, MI, May 12-14, 2008.
74. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, July 14-16, 2008.
75. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, November 8-10, 2010.
76. Gasoline Direct Injection, SAE, Troy, MI, December 15, 2010.
77. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE, Troy, MI, February 28-March 2, 2011.
78. Gasoline Direct Injection, International Congress and Exposition, SAE, Detroit, MI, April 11-13, 2011.
79. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, July 18-20, 2011.
80. Gasoline Direct Injection, SAE Center for Professional Education, Troy, MI, August 22-24, 2011.
81. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, *Invited Speaker*, Volkswagen R&D, Puebla, Mexico October 10-12, 2011.
82. Effective Management of R&D Teams and Organizations, hosted by the American Society of Mechanical Engineers (ASME), Orlando, Florida, November 14-16, 2011.
83. Effective Management of R&D Teams and Organizations, hosted by the American Society of Mechanical Engineers (ASME), Portland, Oregon, April 16-18, 2012.
84. Gasoline Direct Injection, International Congress and Exposition, SAE, Detroit, MI, April 23-25, 2012.
85. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, *Invited Speaker*, Intertek Carnot Emission Services, San Antonio, Texas, May 15-17, 2012.
86. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Training Center, Troy, Michigan, May 21-23, 2012.
87. Gasoline Direct Injection Engines, International Congress and Exposition, SAE Europe, Politecnico Campus at Lingotto, Turino, Italy, June 20-23, 2012.
88. Gasoline Direct Injection Engines, *Invited Speaker*, Toyota Technical & R&D Center, 1630 West 186th Street, Gardena, Torrance, California, July 23-25, 2012.
89. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE China Office, 2012 Summer Technology Week, Tianjin, China, August 13-14, 2012.
90. Gasoline Direct Injection Engines, SAE China Office, 2012 Summer Technology Week, Tianjin, China, July 23-25, 2012.

91. Gasoline Direct Injection Engines, SAE Center for Professional Education, Troy, MI, October 29-31, 2012.
92. Gasoline Direct Injection Engines and Calibration Issues, *Invited Speaker*, Toyota Technical & R&D Center, 1555 Woodridge Ave, Ann Arbor, Michigan, January 7-9, 2013.
93. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Center, Troy, Michigan, March 11-13, 2013.
94. Effective Management of R&D Teams and Organizations, hosted by the American Society of Mechanical Engineers (ASME), Portland, Oregon, April 15-17, 2013.
95. Gasoline Direct Injection Engines, SAE China Office, Ramada Parkside Hotel, Beijing, China, July 8-10, 2013.
96. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE China Office, Ramada Parkside Hotel, Beijing, China, July 11-12, 2013.
97. Gasoline Direct Injection Engines, SAE Professional Training Center, Troy, Michigan, August 5-7, 2013.
98. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Center, Troy, Michigan, August 18-21, 2013.
99. Effective Management of R&D Teams and Organizations, hosted by the American Society of Mechanical Engineers (ASME), San Diego, California, November 6-8, 2013.
100. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, *Invited Speaker*, Chrysler Corporation, Auburn Hills, MI, December 9-10, 2013.
101. Management of Innovation, *Keynote Speaker*, 2nd Conference on R&D and Technology Managers, Innovation Management, Shahid Beheshti University, Tehran, February 17-18, 2014.
102. Management of R&D Teams and Organizations, *Invited Speaker*, Ministry of Petroleum, Tehran, February 28, 2014.
103. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Office, Troy, Michigan, March 10-12, 2014.
104. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), Orlando, FL, March 31 - April 2, 2014.
105. Gasoline Direct Injection Engines, SAE Professional Training Center, Troy, Michigan, May 18-20, 2014.
106. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, *Invited Speaker*, FAA William J. Hughes Tech Center, Atlantic City, New Jersey, August 11-13, 2014.
107. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Center, Troy, Michigan, August 18-21, 2014.

108. Gasoline Direct Injection Engines, [UCI Fram Group](#), in-house training and consultation, Orion Township, Michigan, September 8-9, 2014.
109. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Center, Troy, Michigan, March 2-4, 2015.
110. Effects of Fuel Composition on Combustion, Performance, and Emission of Pollutants in Engines, in-house presentation and consulting at [Environment Canada](#), Ottawa, ON, March 10-11, 2015.
111. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), Orlando, FL, March 30 - April 1, 2015.
112. Effective Management of R&D Teams and Organizations, American Society of Mechanical Engineers (ASME), Sacramento, CA, April 13 - 15, 2015.
113. Gasoline Direct Injection (GDI) Engines, SAE World Congress and Exhibit, Detroit, Michigan, April 20-22, 2015.
114. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Office, Troy, Michigan, September 21-23, 2015.
115. Gasoline Direct Injection (GDI) Engines, SAE Professional Training Office, Troy, Michigan, October 5-7, 2015.
116. Gasoline Direct Injection (GDI) Engines, SAE 2015 Energy Saving & Emission Reduction Forum, Shanghai, China, October 28-30, 2015.
117. Ignition Issues and their Impact on Engine Performance, Efficiency, and Emission, SAE 2015 Energy Saving & Emission Reduction Forum, Shanghai, China, November 2-3, 2015.
118. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), San Diego, CA, Nov 9-11, 2015.
119. R&D Alliances: Relational, Portfolio, and Network Factors Impacting Outcome, Invited Speaker, 2015 R&D 100 Awards & Technology Conference, R&D 100 Magazine, Las Vegas, NV, Nov 12-13, 2015.
120. Gasoline Direct Injection (GDI) Engines, Advanced Transportation Technology Center, Norwalk, CA, sponsored by SAE, January 25-27, 2016.
121. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, SAE International Professional Education, Shanghai, China, MI, March 3-4, 2016.
122. Gasoline Direct Injection (GDI) Engines, SAE International Professional Education, Shanghai, China, March 7-9, 2016.
123. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Office, Troy, Michigan, March 21-23, 2016.
124. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), Las Vegas, NV, May 2-4, 2016.

125. Gasoline Direct Injection (GDI) Engines, Lubrizol Corporation, Wickliffe, Ohio, sponsored by the SAE International, May 25-27, 2016.
 126. Effective Management of R&D Teams and Organizations, Mitr Phol Company, Bangkok, Thailand, June 12-15,2016.
 127. Gasoline Direct Injection Engines, SAE Professional Training Center, Troy, Michigan, July 25-27, 2016.
 128. Liquid Atomization, Sprays, and Fuel Injection Systems, US Army, Redstone Arsenal, Huntsville, Alabama, August 8-10, 2016
 129. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), San Diego, CA, Nov 14-16, 2016.
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