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128. Davis, D. W., Chehroudi, B., and Tally, 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 Tally, 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.
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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.
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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.
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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.
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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.
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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, <https://www.crcpress.com/Graphene-Science-Handbook-Applications-and-Industrialization/Aliofkhaezei-Ali-Milne-Ozkan-Mitura-Gervasoni/p/book/9781466591332#googlePreviewContainer>, (ISBN 9781466591332 – CAT# K20508).
165. Ficarella, A., Carlucci, A. P., Chehroudi, B., Laforgia, D., and Strafella, L., 2017. Multi-Walled Carbon Nanotubes (MWCNTs) Bonded with Ferrocene Particles as Ignition Agents for Air-Fuel Mixtures, *Fuel*, Vol 208, pp. 734-745, Nov 15.
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167. Chehroudi, B., 2018. Spontaneous Raman Scattering Measurements in the Initial Region of a Cryogenic Jet under sub- and Supercritical Pressures, *AIAA J. of Propulsion and Power*. (submitted)

168. Chehroudi, B. and Hooshmand, M., 2019. Sustainability Analysis of the Biofuels, *The Virtual Journal of Environmental Sustainability*. (in preparation)
 169. Chehroudi, B. and Davis, D., 2019. Cryogenic and Supercritical Heat Transfer in Microtubes. (In preparation)
 170. Chehroudi, B., 2019. A Review of Lean-Burn Combustion in IC Engines, *Society of Automotive Engineers*. (In preparation)
 171. Chehroudi, B., 2019. Nanotechnology, Applications, and Undergraduate Engineering Education, *Journal of Engineering Education* (In preparation)
 172. Chehroudi, B., and M. Hooshmand, 2019. Energy, Environment, and Our Future, *Journal of Sustainable Energy and Environment*. (In preparation)
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SELECT NANOTECHNOLOGY ACTIVITIES:

1. Ficarella, A., Carlucci, A. P., Chehroudi, B., Laforgia, D., and Strafella, L., 2017. Multi-Walled Carbon Nanotubes (MWCNTs) Bonded with Ferrocene Particles as Ignition Agents for Air-Fuel Mixtures, *Fuel*, Vol 208, pp. 734-745, Nov 15.
2. Carlucci, A. P., Chehroudi, B., Ficarella, A., Laforgia D., and Strafella, L., 2017. Potential Application of Photo-Thermal Volumetric Ignition of Carbon Nanotubes in Internal Combustion Engines, *Carbon Nanotubes – Recent Progress*, Book Chapter, edited by M. M. Rahman and A. M. Asiri (ISBN 978-953-51-5707-6), <https://www.intechopen.com/books/carbon-nanotubes-recent-progress/potential-application-of-photo-thermal-volumetric-ignition-of-carbon-nanotubes-in-internal-combustio>.
3. 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, <https://www.crcpress.com/Graphene-Science-Handbook-Applications-and-Industrialization/Aliofkhazraei-Ali-Milne-Ozkan-Mitura-Gervasoni/p/book/9781466591332#googlePreviewContainer>, (ISBN 9781466591332 – CAT# K20508).
4. Chehroudi, B., 2016. *Invited Speaker* at the EMN Meeting on Carbon Nanostructure, Energy Materials Nanotechnology, Hawaii, USA, March 27-31, 2016.
5. 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.
6. Chehroudi, B., 2014. Minimum Ignition Energy of the Light-Activated Volumetrically-Distributed Ignition Using Nanostructured Materials, *Combustion and Flame*, 159, pp. 753-756.
7. 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.
8. 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.
9. 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.

10. Chehroudi, B., 2012. Minimum Ignition Energy of the Light-Activated Ignition of Single-Walled Carbon Nanotubes (SWCNTs), *Combustion and Flame*, 159, pp. 753-756.
11. Chehroudi, B., 2011. Forget Spark Plug, Run Your Engines With Carbon Nanotubes, Volkswagen R&D, Puebla, Mexico, October 13, (*Invited Speaker*).
12. 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.ingentaconnect.com/content/ben/rptst/2011/00000001/00000002/art00002> .
13. Chehroudi, B., 2011. Nanotechnology, Applications, and Undergraduate Engineering and Technology Education, University of Lugano, Lugano, Switzerland, July 11, (*Invited Speaker*).
14. 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*).
15. 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*).
16. 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*).
17. 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.
18. 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*).
19. 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.
20. 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)
21. 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).
22. 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.
23. 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.

24. Chehroudi, et al., 2009. Light-Activated Distributed Ignition of Nanostructured Materials, Air Force Research Laboratory, Program Review Presentation, July 4, 2009.
25. 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*).
26. 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>).
27. 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>).
28. 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.
29. Chehroudi, B. 2003. Nanotechnology and Its Interface with Automotive Industry, Powertrain International, Vol.6, No. 4., pp. 5-8.
30. Chehroudi, B., 2003. Nanotechnology: Big Markets, Small Spaces, *Invited Speaker*, University of California at San Diego Connect Program, Converging Technologies, September 16.
31. 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.
32. 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.
33. Chehroudi, B., 2003. Supercritical and Nanotechnology: Opportunities for Multidisciplinary research. Air Force Office of Scientific Research, March 10.
34. 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:

For my desire to stay abreast of advances in many areas of science, technology, and management/leadership for cross-pollination, interdisciplinary innovations, to interact with relevant industries, and as sources of R&D funding, I have been conducting several professional education seminars as listed below. These are specially designed to maximize interaction with practicing engineers, researchers, and technical managers and are sponsored through prestigious professional organizations such as the Society of Automotive Engineering (SAE), American Institute of Aeronautics and Astronautics (AIAA), American Society of Mechanical Engineers (ASME), Power International, and University of California (1997-Present).

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. Liquid Atomization, Sprays and Fuel Injection, SAE, Chicago, IL, July 16-18, 2001.
17. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, June 18-20, 2001.
18. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE, Costa Mesa, CA, August 20-22, 2001.
19. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE, Chicago, IL, November 12-14, 2001.
20. Gas Turbine Combustion, Emission of Pollutants, and Environmental Issues for Engineers, [NASA Glen Research Center](#), Cleveland, OH, September 17-19, 2001.
21. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, May 6-8, 2002.
22. Liquid Atomization, Sprays, and Fuel Injection, SAE, Troy, MI, June 24-26, 2002.
23. Liquid Atomization, Sprays, and Fuel Injection, *Invited Speaker*, US Environmental Protection Agency (EPA), Ann Arbor, MI, April 28-30, 2003.
24. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, May 19-21, 2003.
25. Advances in Internal Combustion Engines from Ignition to Emissions, *Invited Speaker*, Honeywell Spark Plug Division, Fostoria, OH, December 3-4, 2001.
26. Effective Management of R&D Teams and Organizations, June 2-4, 2003.
27. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, August 4-6, 2003.
28. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, *Invited Speaker*, Volkswagen de Mexico, Puebla, Mexico, August 25-27, 2003.
29. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, November, 17-19, 2003.
30. Liquid Atomization, Sprays and Fuel Injection Systems, SAE, Troy, MI, April 19-21, 2004.
31. Liquid Atomization, Sprays, Fuel Injection Systems, SAE, Troy, MI, April 19-21, 2004.
32. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, San Antonio, TX, September 24-26, 2001.
33. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, Motorsports Engineering Conference & Exposition, Indianapolis, IN, December 2-3, 2002.
34. 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.

35. Management of Research and Development Organizations, Global Powertrain Congress, Harrah's hotel, Las Vegas, NV, September 25, 2002.
36. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, Powertrain & Fluid Systems Conference & Exposition, San Diego, CA, October 21-23, 2002.
37. Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Center for Professional Education, Troy, MI, August 26-28, 2002.
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, **Institute of Aeronautics and Astronautics (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, 2105.
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, Additives, and Deposit Formation, Lubrizol Corporation (in-house training), Wickliffe, Ohio, sponsored by the SAE International, March 25-28, 2016.
126. Effective Management of R&D Teams and Organizations, [Mitr Phol Company](#) (the 4th sugar production company in the world), 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.
130. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), San Diego, CA, Nov 14-16, 2016.
131. Liquid Atomization, Sprays, and Fuel Injection in aircraft Gas Turbine Engines, Sponsored by the American **Institute of Aeronautics and Astronautics (AIAA)**, AIAA Science and Technology Forum and Exposition (SciTech 2017), Grapevine, Texas, Jan 9-13, 2017.

132. Gasoline Direct Injection Engines, Society of Automotive Engineers (SAE), Professional Education Center, Troy, Michigan, March 13-15, 2017.
133. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Office, Troy, Michigan, May 15-17, 2017.
134. Combustion and Emission of Pollutants from Gas Turbine Engines, sponsored by **American Society of Mechanical Engineers (ASME)**, Las Vegas, Nevada, May 22-24, 2017
135. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), San Diego, CA, Nov 13-15, 2017.
136. Combustion and Emission of Pollutants from SI and Diesel Engines, in-house presentation and consulting at [Environment Canada](#), Quebec, Canada, November 22-24, 2017.
137. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Office, Troy, Michigan, December 18-20, 2017.
138. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Education/Training Office, Troy, Michigan, May 14-16, 2018.
139. Ignition Issues and Their Impact on Engine Performance, Efficiency & Emissions, Society of Automotive Engineers, Professional Education Center, Shanghai, China May 24-25, 2018.
140. Gasoline Direct Injection Engines, Society of Automotive Engineers (SAE), Professional Education Center, Shanghai, China, May 28-30, 2018.
141. Gasoline Direct Injection Engines, Society of Automotive Engineers (SAE), Professional Education Center, Troy, Michigan, August 6-8, 2018.
142. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), San Diego, CA, Nov 5-7, 2018.
143. R&D Evaluation Approaches for Efficiency and Effectiveness, Sponsored by the R&D 100 Conference, Walorf Astoria Orlando, Orlando, Florida, Nov 15-16, 2018.
144. Liquid Atomization, Sprays, and Fuel Injection in Automotive Engines, Sponsored by the Delphi Technologies Inc, Blois, France, Nov 19-23, 2018.
145. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Training Office, Troy, Michigan, February 4-5, 2019.
146. Effective Management of Innovation in R&D Organizations & Groups, American Society of Mechanical Engineers (ASME), Las Vegas, NV, March 11-13, 2019.
147. Understanding Combustion, Emission of Pollutants, and Environmental Issues for Engineers, SAE Professional Education/Training Office, Troy, Michigan, May 13-15, 2019.
148. Combustion and Emission of Pollutants from Gas Turbine Engines, sponsored by American Society of Mechanical Engineers (ASME), Houston, Texas, June 10-12, 2019