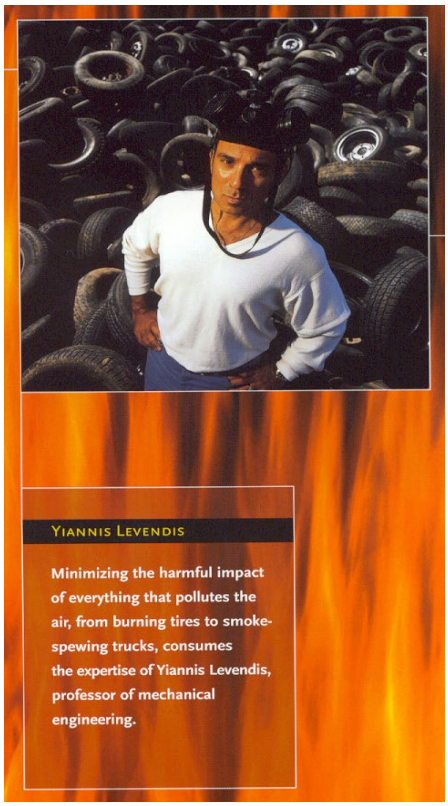
Curriculum Vitae
December 2025

YIANNIS ANGELO LEVENDIS

Distinguished Professor of Mechanical Engineering
Director of the Laboratory of Combustion and Air Pollution
334 Snell Engineering Center
Northeastern University
Boston, Massachusetts 02115
Office Phone # (617) 373-3806
FAX # (617) 373-2921
Email: y.levendis@northeastern.edu
Web Page: https://coe.northeastern.edu/people/levendis-yiannis/
https://www.wtert.net/member/3510/Yiannis-AngeloLevendis.html



EDUCATION:

- **Ph.D.**, Environmental Engineering Science, 1988
  California Institute of Technology (Caltech)
  Thesis Subject: "A Fundamental Study on Char Oxidation Using Model Materials"
  Thesis Advisor: Professor Richard C. Flagan

- **M.S**. Mechanical Engineering, 1982
  University of Michigan
  Thesis Subject: "Reduction of Diesel Particulate Emissions Using Oxygen-Enriched Air."
  Thesis Advisors: Professors John Hilliard and Jay Bolt

- **B.S.** Mechanical Engineering, Cum Laude, 1981
  University of Michigan
  Thesis Subject: "Design and Evaluation of Solar Stills"
  Thesis Advisor: Professor John Clark

WORK EXPERIENCE:

- **College of Engineering Distinguished Professor**, 2006 - present Northeastern University
- **Affiliated Professor**, 2012-2015 University of Ulster, Northern Ireland
- **Visiting Professor**, 2004 ΠΟΛΥΤΕΧΝΕΙΟ, the National Technical University of Athens
- **Professor**, 1998 – 2006 Northeastern University
- **Visiting Professor**, 1998 – 1999 Massachusetts Institute of Technology (MIT)
- **Associate Professor**, 1994 – 1998 Northeastern University
- **Assistant Professor**, 1988 – 1994 Northeastern University

- **Post-Doctoral Research Scientist**, 1988 California Institute of Technology (Caltech)
  Research Topics: Combustion of coal: (a) studies concerning the effects of catalysis on the reactivity of carbonaceous chars and (b) studies concerning the vaporization of coal-ash.
- **Graduate Research Assistant**, 1983 – 1987 California Institute of Technology (Caltech)
  Research Topic: Combustion of coal: Reactivity, temperature and heat release of burning pulverized coal. Development of a nearly ideal synthetic char materials (artificial coal) for controlled laboratory studies of coal properties and oxidation kinetics.
- **Graduate Research Assistant**, 1982 – 1983 University of Michigan
  Research topic: Investigated the effect of oxygen supercharging on the performance and exhaust emissions of various types of Diesel engines.
- **Teaching Assistant**, 1981 – 1982 University of Michigan
  Subject: Conducted internal and external combustion engines laboratories.
- **Other**: Tutor for freshman and sophomore science courses (Tau, Beta, Pi) and grader for an undergraduate manufacturing process course. Tutor for high school students through Caltech's secondary school project; taught electrical circuits - electronics.

TECHNICAL INTERESTS:

Technical interests include clean energy related problems, combustion of liquid, gaseous and solid fuels, internal and external combustion engines, turbomachinery, incineration of hazardous wastes, atmospheric pollution - acid rain, polynuclear aromatic hydrocarbons, soot, SO_2 and NO_x chemistry solar energy, pyrolysis and combustion generated materials and manufacturing processes.

COURSES TAUGHT:

Undergraduate: Thermodynamics I, II and III, Internal Combustion Engines, Gas Turbines, Fluid Mechanics, Refrigeration and Air Conditioning, Capstone Senior Design Projects, Technical Laboratories, etc. Also, Levendis developed and taught a course on Pre-engineering Design Experience for K-12 Science Teachers.
Graduate: Developed and taught Courses on Combustion and Air Pollution Fundamentals and on Gas Turbine Combustion.

MAJOR RESEARCH PROJECTS:

Current research is dealing with topics related to Clean Energy, Combustion, Air Pollution and Acid Rain Prevention, Incineration of Municipal Wastes, and Engine Performance and Emissions.

In particular the following projects have been funded:

(1) Studies on Incineration - Examination of the Combustion Characteristics of Solid Organic Municipal Wastes with Emphasis to Plastics. Project funded by a Research Initiation (RI) Award from the U.S. National Science Foundation, 1989-1991, Y.A. Levendis, P.I. *The NSF Research Initiation Award was the predecessor of the NSF Career Award*

(2) Studies on the Effects of Calcium Magnesium Acetate on the Combustion of Coal-Water Slurries - SO_2 emissions. Project funded by the U.S. Department of Energy and Stone & Webster Corp., 1989-1993, single investigator projects Y.A. Levendis, P.I.

(3) Studies on Calcium Magnesium Acetate Sorbent Injection in Furnaces to Control SO_2 and NO_x Emissions. Project funded by the U.S. Department of Energy, 1992-1994,

Single investigator project, Y.A. Levendis, P.I.

(4) Incineration of Selected Municipal Waste Plastics, Industrial Refuse Plastics and Used Automobile Tyres. Project funded by the U.S. EPA, 1993-1997. Single Investigator project Y.A. Levendis, P.I.

(5) Studies on the Reduction of Diesel Exhaust Particulate Emissions using Ceramic Monolith Filters. Project funded by Taft Environmental, CeraMem Corp. and the Massachusetts Transit Authority, 1990-2000, Y.A. Levendis, P.I.

(6) Studies of Diesel Particulate Filtration Using Fibrous Membrane Modules. Project funded by Pallflex Corp., 1994-1995, Y.A. Levendis, P.I.

(7) The Effect of Diesel Exhaust Temperature on the Refeneration Efficiency of Silicon Carbide Monoliths. Project funded by Ibiden Corp., 1997-1998, Y.A. Levendis, P.I.

(8) Simultaneous Control of SO_2, NO_x, HCl, PAH and Particulate Emissions of Combustion by In-Furnace Sorbent Injection Upstream of a Ceramic Filter. Project funded by NSF, 1997-2001. Single investigator project, Y.A. Levendis, P.I.

(9) On the Emissions of Polynuclear Aromatic Hydrocarbons, Particulate Matter and Other Pollutants from Burning Organic Wastes, Targeting Applications in Municipal/Medical Incinerators. Project funded by NSF, 2000-2004, Y.A. Levendis, P.I.

(10) Reduction of Sulfur Dioxide Emissions from the Combustion of Coal treated with Tall-Oil Pitch and Carboxylic Salts of Calcium and Magnesium. Project funded by Progress Materials Inc., 2002-2003, Single investigator project, Y.A. Levendis, P.I.

(11) Reduction of SO_2 and NO_x Emissions from the Combustion of Coal treated with Tall-Oil Pitch and 3-Hydroxy-Propionate Salts of Calcium. Project funded by Progress Materials Inc., 2005, Single investigator project, Y.A. Levendis, P.I.

(12) Boston Science Partnership conducted by a multi-university team (NU, UMass, Boston Public Schools, etc.), 5-year project funded by NSF, 2005-2010. Y.A. Levendis, Senior Personnel.

(13) Emergency Fire Extinction by Direct Application of Liquid Nitrogen. Project funded by the Institute of Hazardous Materials Management, 2007-2008, Y.A. Levendis, P.I.

(14) NU STEP-UP. Funded by NSF, 2007-2014. Y.A. Levendis, Co-PI.

(15) Flame Synthesis of Carbon Nanotubes. STTR project funded by NSF 2008-2009. Y.A. Levendis, University PI.

(16) Temperature measurements and Submicron Ash Formation in Oxy-Combustion of Coal. Funded by NSF, 2008-2013. Single investigator project, Y.A. Levendis, PI.

(17) A Versatile Self-Sustaining Device for Power Generation by Sequential Liquifaction, Gasification and "Clean Combustion" of Waste Plastics. Funded by the State of Massachusetts Clean Energy Center, 2011-2012. Single investigator project, Y.A. Levendis.

(18) Co-firing Illinois Bituminous Coals with Highly-Fragmenting Lignite Coals for SO_2/HCl Control. Funded by the State of Illinois through the Illinois Clean Coal Institute (ICCI), 2014-2015.

(19) Pyrolysis of Polyethylene Terephthalate (PET) wastes to MW-CNTs. Funded by Canon Virginia Inc., 2017.

(20) Hydrocarbon-CO_2 blends: An Environmentally-Benign Alternative Refrigerant. Funded by Qatar Shell Research and Technology Center, 2018-2020.

(21) Pyrolysis of Polyethylene (PE) wastes to MW-CNTs. Funded by Canon Virginia Inc., 2018.

(22) Containment of Greenhouse Gases through use of Refrigerants that are based on Petroleum-derived Products and Recycled CO_2. Funded by The American Chemical Society – Petroleum Research Fund, 2018-2021.

(23) On the Torrefied Biomass Grind Sizing for Firing or co-Firing with Coal in Existing Boilers, Funded by NSF, 2018-2022.

(24) Synthesis of Carbon Nanotubes from Waste Polymeric Materials using Various Catalysts. Funded by Canon Virginia Inc., 2019.

(25) Reuse of Catalyst Substrates to Enhance CNT Yield and on Planning the Process Scale-up. Funded by Canon Virginia Inc., 2020.

(26) Forest Fire Suppression/Extinction at the WUI with Sequential Applications of Liquid Nitrogen and Water. Funded by the Moore Foundation 2021-2025.

(27) An Educational Program on Concentrated Solar Power and Heliostats Power Generation and Industrial Process. Funded by DOE-NERL 2023-2025.

(28) A Study on Burning Iron Particles as Carbon-Free Circular Fuels with co-Generation of Value-Added Nanomaterials. Funded by the National Science Foundation 2023-2026.

(29) Advancing University Level Education on Heliostat Design and Operation. Funded by DOE-NERL 2024-2026.

(30) Methods to maximize the effectiveness of cryogenic extinction of wildfires. Funded by the Moore Foundation 2024-2026.

PROFESSIONAL HONORS:

- Robert G. Quinn Award, American Society of Engineering Education (ASEE) 2025
- Outstanding Mentoring Award, College of Engineering, Northeastern University 2025
- Recipient of the Jack Bono Award (with several other contributors) for Engineering Communication by the Society of Fire Protection Engineers (SFPE) 2024
- Elected Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA) 2023
- New England STEM Educator Award, American Institute of Aeronautics and Astronautics 2023
- Best Presentation Runner-up Award ASEE-NE Conference 2022
- Constantinos Mavroidis Translational Research Award (Northeastern University) 2022
- Ralph Coats Roe Award, American Society of Engineering Education (ASEE) 2021
- Admitted Senior Member of the American Institute of Aeronautics and Astronautics (AIAA) 2021
- Elected member of the Scientific Research Honor Society Sigma Xi (ΣX) 2020
- Elected Fellow of the National Academy of Inventors (NAI) 2019
- Elected Fellow of the Royal Society of Chemistry (RSC) 2019
- Became Lifetime Fellow of the Society of Automotive Engineers (SAE) 2019
- Elected Fellow of the Combustion Institute 2018
- Elected to the Steering Committee of the Greek Energy Forum 2016
- Percy Nicholls Award, Joint Award by the American Society of Mechanical Engineers (ASME) and the Society of Manufacturing Engineers (SME) 2015
- George Westinghouse Gold Medal, American Society of Mechanical Engineers (ASME) 2013
- Honorable Mention, co-advisor of best Engineering Thesis, Brazilian Ministry of Education, 2012
- AEA Environmental Award Brazilian Association of Automotive Engineering, 2012

- Outstanding Oral Presentation Award — SAE, 2010
- Outstanding Teaching Award — ASEE New England Section, 2007
- John J. McCambridge Award — Institute of Hazardous Materials Management, 2007
- Elected Fellow of the Society of Automotive Engineers — SAE, 2007
- Elected Fellow of the American Society of Mechanical Engineers — ASME, 2006
- Elevated to Distinguished Professor — College of Engineering, Northeastern University, 2006
- SAE Outstanding Faculty Advisor Award — SAE, 2005
- Outstanding Teaching Award — College of Engineering, Northeastern University, 2005
- Outstanding Research Award — College of Engineering, Northeastern University, 2001
- Admitted member of the Honor Society ΦΚΦ — 2000
- "Excellence in Teaching" Award — University-wide, Northeastern University, 1995
- Outstanding Mechanical Engineering Professor (students' choice) — 2010, 2002, 1998, 1995, 1993
- SAE Faculty Advisor Recognition Award — SAE, 1997
- SAE Outstanding Faculty Advisor Award — SAE, 1994
- Ralph E. Teetor Educational Award — SAE, 1993
- Charipar Fellow — Cummins Engine Company, 1982 and 1983
- Admitted member of the Honor Society ΤΒΠ — University of Michigan, 1981
- Admitted member of the Honor Society ΠΤΣ — University of Michigan, 1980
- Dean's honor list of University of Michigan, Ann Arbor — 6 consecutive semesters, 1978-80
- Five yearly excellence awards Greek-Italian High School — Athens 1970-76


The Percy Nicholls Award
For Notable Scientific or Practical Contributions
In the Field of Solid Fuels
In recognition of the outstanding Achievements of
Yiannis A. Levendis
In the field of solid fuels the Power Division of the American Society of Mechanical Engineers, and the Coal Division of the American Institute of Mining, Metallurgical and Petroleum Engineer jointly confer upon him the
Percy Nicholls Award for 2015
Dr. Yiannis A. Levendis has made outstanding contributions to the Field of solid fuel utilization and pollution abatement strategies by characterizing the products of the combustion of fossil fuels, such as coal and biomass, and of alternative fuels, such as waste post-consumer plastics and waste automobile tires. His major achievements include:
- Clean and efficient conversion of wastes, biomass and coal to thermal energy for use in power applications.
- Development of surrogate model fuels to facilitate the validation of pertinent mathematical models.
- Development of value added products from solid biomass fuels.
- Education and training of students and engineers from industry for sustained future workforce development.

In numerous publications, the institutions that he has served, and those that he has mentored, constitute a worthy legacy to the benefit of all who rely on solid fuels.


NAI
NATIONAL ACADEMY OF INVENTORS
Yiannis A. Levendis
Is inducted as a
FELLOW
in recognition of exceptional accomplishments in innovation and invention
to benefit society and is hereby entitled to use the designated letters FNAI
Presented this 10th day of April, 2020
Paul R. Sanberg, President
National Academy of Inventors
Anne H. Chasser, Chair
Fellows Selection Committee


Founded 1841
Incorporated by Royal Charter 1848
Patron Her Majesty the Queen
THIS IS TO CERTIFY THAT
Yiannis Levendis
HAS BEEN ADMITTED AS A
FELLOW
OF
THE ROYAL SOCIETY OF CHEMISTRY
and is entitled to use the designatory letters FRSC
President
Chief Executive
Date of admission
19 September 2019
Membership Number
672979
The certificate is issued subject to the provisions of the Charter and By-Laws
Registered Charity Number 207890.

PROFESSIONAL AFFILIATIONS:
Member of the honorary engineering societies: ΤΒΠ, ΠΤΣ, ΦΚΦ, ΣΧ. Member of the professional societies: SAE (Society of Automotive Engineers), SME (Society Manufacturing Engineering), ASME (American Society of Mechanical Engineers), ASEE (American Society of Engineering Education), AIAA (American Institute of Aeronautics and Astronautics), ACS (American Chemical Society), Air and Waste Management Association, Minerals Metals and Materials Society (TMS), American Association for the Advancement of Science (AAAS), the Combustion Institute, and the Royal Society of Chemistry.

PROFESSIONAL SERVICE:
Member of the organizing committee of the International Conference of Coal Utilization and Fuel Systems.
Senator at the Northeastern Faculty Senate.
Member of the University Financial Affairs and Financial Priorities Committees.
Member of the University Appeals Resolution Committee.
Reviewer for NSF, DOE, EPA, SAE, ASME, American Chemical Society, Combustion Institute
Reviewer for the Journals of Environmental Engineering, Solar Energy, ASME Journal of Heat Transfer, AIChE Journal, Energy Resources Technology, Dynamic Systems, Measurement and Control, Combustion & Flame, Combustion Science and Technology, Review of Scientific Instruments, Journal of the Air & Waste Management Association, Hazardous Wastes and Hazardous Materials, Atmospheric Environment, Energy & Fuels, Environmental Science and Technology, Fuel, Biomass and Biotechnology, etc.
Academic advisor in sixteen completed PhD theses, thirty completed Master's theses and twenty-five completed undergraduate research projects at NU.
Co-advisor in five completed PhD theses at MIT and one at the Polytechneion of Athens.
Co-advisor in two completed Masters theses at Tufts University.
Currently, academic advisor of 3 PhD students and 1 MS student.
Founder and faculty advisor of the NU - SAE Student Branch from 1994-2010.

LANGUAGES: Greek, English (Oxford's "Proficiency in English"), Italian (Diploma di Esperto in Lingua e Letteratura Italiana), working knowledge of Spanish, and some knowledge of Latin.

GENERAL INTERESTS: include: architecture and poleodomy, impact of pollution on modern cities, literature, arts, poetry, classical music, world affairs, human and animal rights (member of Amnesty International, Greenpeace, MSPCA, Sierra Club), amateur car racing (AROC, FCA, SCCA).

PATENTS:

1. "Rotating Diesel Particulate Trap." **U.S. Patent No. 5,013,340**, 1991. Co-inventor M. Taslim.

2. "Pulsed, Reverse-Flow Regenerated Diesel Trap Capturing Soot, Ash and PAH's." **U.S. Patent No. 5,253,476**, 1993. Co-inventor: N. Khalil.

3. "Production of Polymer Particles in Powder Form Using an Atomization Technique." **U.S. Patent No. 5,269,980**, 1993. Co-inventors: T. Panagiotou and R.C. Flagan.

4. "Method of Simultaneously Removing SO_2 and NO_x Pollutants from Exhaust of a Combustion System." **U.S. Patent No. 5,312,605**, 1994. Co-inventor: D. Wise.

5. "Use of Aromatic Salts for Simultaneously Removing SO_2 and NO_x Pollutants from Exhaust of a Combustion System." **U.S. Patent No. 5,352,423**, 1994. Co-inventor: D. Wise.

6. "A Flow-Through Incinerator Coupled to an Aerodynamically-Cleaned Diesel Particulate Trap for Diesel Engine Exhaust Gas." **U.S. Patent No. 5,390,492**, 1995.

7. "Control of NO_x Emissions from Diesel Engines Using Filtered EGR." **U.S. Patent No. 5,426,936**, 1995. Co-inventor: R. Abrams.

8. "Simultaneous Control of SO_2, NO_x, HCl and Particulates by In-Furnace High Temperature Sorbent Injection and Particulate Removal." **U.S. Patent No. 5,785,936**, 1998.

9. "Process for Producing Polymer Coatings with Various Porosities and Surface Areas." **U.S. Patent No. 6,143,370**, 2000. Co-inventor: T. Panagiotou.

10. "Carbon Nanostructures from Pyrolysis of Organic Materials." **U.S. Patent No: 9,051,185** B2, 2015. Co-inventors: C. Zhuo, H. Richter.

11. "Method and Device for Fuel and Power Generation by Clean Combustion of Organic Waste Materials." **U.S. Patent No. 9,664,382,** 2017. Co-inventors: Christopher Flanagan, Anna Craver, Brittney Rose Lynn, Mason Riley, Katherine Dixon, Wilbraham, MA; Chuanwei Zhuo.

12. "Carbon Nanostructures from Pyrolysis of Organic Materials." **U.S. Patent No: 9,738,524** B2, 2017. Co-inventors: C. Zhuo, H. Richter.

13. "Catalyst and Method for Synthesis of Carbon Nanomaterials." Co-inventor C. Zhuo, U.S. Patent Application Publication US 2016/0367971 A1, 2016.

14. "Generation of High Yields of Carbon Nanotubes (CNTs) Using Recycled Metal Catalysts" PCT/US2021/018776, International **Patent** Publication Number WO 2021/168246 A1, 2021. US Patent Application Publication # US 2023/0106811 A1, April 6 2023.

15. "Generation of Carbon Nanotubes (CNTs) from Polyethylene Terephthalate (PET) in the Presence of Additives" PCT/US2021/018776, International **Patent** Publication Number WO 2021/168247 A1 2021.

EDITED BOOKS:

"Calcium Magnesium Acetate. An Emerging Bulk Chemical for Environmental Applications." Co-editor with D.L. Wise and M. Metghalchi. Elsevier, Amsterdam, 1991.

BOOK CHAPTERS:

"A Waste-Derived Chemical for Acid Rain Control." in Environmental Biotechnology: Principles and Applications." Donald L. Wise, Judith Steciak and Yiannis A. Levendis. Moo-Young M., Anderson, W.A. and Chakrabarty, A.M. Editors, pp. 237-248. Kluwer Academic Publishers, Dordrecht/Boston/London, 1995.

"Control of Submicron Air Toxin Particles after Coal Combustion Utilizing Calcium Magnesium Acetate" Jianxi Zhao, Donald L. Wise, Edgar B. Gutoff, Joseph D. Gresser and Yiannis A. Levendis. Contributed chapter in the book Environmental Biotechnology and Cleaner Bioprocesses, Sanchez, G. and Hernandez, E., Editors, Taylor & Francis, London, 2000.

"Diesel Engines" by Theodore C. Zannis, Roussos G. Papagiannakis and Yiannis A. Levendis. Contributed chapter in the book "Oxygen-Enhanced Combustion." Second Edition, Charles E. Baukal, Editor, CRC Press, Taylor and Francis Group, Chapter 30, pages 681-710, 2013. Print ISBN: 978-1-4398-6228-5.

"Critical Review of the Effects of Diesel Fuel Composition and Properties on Engine Performance and Pollutant Emissions" by Theodore C. Zannis, Elias A. Yfantis, Dimitrios T. Hountalas, Roussos G. Papagiannakis and Yiannis A. Levendis. Contributed chapter in the book "Diesel Fuels: Characteristics, Performances and Environmental Impacts." Cristobal Silva and Agustin Rivera, Editors, Nova Publishers, Chapter 1, pages 1-60, 2013. Print ISBN: 978-1-62618-867-9 (eBook).

ENCYCLOPEDIA CHAPTERS: "Emission Purification Technologies," Invited Chapter in the volume of *Environmental and Ecological Chemistry* (A. Sabljic, Editor) of the UNESCO On-line Encyclopedia of Life Support Systems (**UNESCO-EOLSS**), 2004, updated in 2007.

ARCHIVAL PEER-REVIEWED JOURNAL PUBLICATIONS:

J1. "Effect of Oxygen Enrichment on the Performance and Emissions of I.D.I. Diesel Engines" J. Ghojel, J. C. Hilliard and Y. A. Levendis. *SAE publication 830245*, p.1-14, 1983.

J2. "Combustion of Uniformly Sized Glassy Carbon Particles" Yiannis A Levendis and Richard C. Flagan, *Combustion Science and Technology* **53**, 2-3, p.117-136, 1987.

J3. "Physical Properties and Oxidation Rates of Chars from three Bituminous Chars." Ranajit Sahu, Yiannis A. Levendis, Richard C. Flagan and George R. Gavalas. *Fuel* **67**, p.275-283, 1988.

J4. "Glassy Carbons from Poly(furfuryl alcohol) Copolymers: Structural Studies by High-Resolution Solid-State NMR Techniques." Helmut Eckert, Yiannis A. Levendis and Richard C. Flagan. *Journal of Physical Chemistry* **92**, p.5011-5019, 1988.

J5. "Synthesis, Formation and Characterization of Micron-Sized Glassy Carbon Spheres of Controlled Pore Structure." Yiannis A. Levendis and Richard. C. Flagan. *Carbon* **27**, 2,

p. 265-283, 1989.

J6. "Oxidation Kinetics of Monodisperse Spherical Carbonaceous Particles of Variable Properties" Yiannis A. Levendis, Richard C. Flagan and George R. Gavalas. *Combustion and Flame* **76**, p. 221-241, 1989.

J7. "Post-Ignition Phenomena in the Combustion of Single Coal Char Particles" Yiannis A. Levendis, Ranajit Sahu, Richard C. Flagan and George R. Gavalas. *Fuel* **68**, p.849-855, 1989.

J8. "Catalysis of the Combustion of Synthetic Char Particles by Various Forms of Calcium Additives" Yiannis A. Levendis, Sookwu Nam, Michael Loewenberg, Richard C. Flagan and George R. Gavalas. Journal of *Energy & Fuels* **3**, p.28-37, 1989.

J9. "Characterization of the Environment in a Laminar Flow Furnace with Applications to the Combustion of Coal and Coal-Water Slurries", John G. Cumper, Yiannis A. Levendis and Mohamad Metghalchi. *ASME publication HTD*-Vol **148**, p.89-96, 1990.

J10. "Development of a Self-Cleaning Particle Trap for Diesel Engine Particulate Control" Yiannis A. Levendis, Thomai Panagiotou and Mo E. Taslim. *SAE publication 900601*, Vol. SAE SP-816, p.195-201, 1990.

J11. "Evaluation of a Self-Cleaning Particulate Control System for Diesel Engines" Yiannis A. Levendis, Kevin McInerney and Thomai Panagiotou. *SAE publication 910333*, Vol. SAE SP-240, p.183-193, 1991.

J12. "Combustion Behavior and Kinetics of Synthetic and Coal-derived Chars: Comparison of Theory and Experiment" Michael Loewenberg and Yiannis A. Levendis. *Combustion and Flame* **84**, p. 47-65, 1991.

J13. "Combustion Characteristics of Carbonaceous Residues from Heavy Oil Fired Boilers" Paul S. Northrop, George R. Gavalas and Yiannis A. Levendis, *Energy and Fuels* **5**, p. 587-594, 1991.

J14. "Generation of Spherical and Monodisperse Particles of Poly(styrene) and Poly(methyl methacrylate) by Atomization of Monomers or Dissolved Polymer Precursors" Thomai Panagiotou and Yiannis A. Levendis. *Journal of Applied Polymer Science* **43**, p.1549-1558, 1991.

J15. "Development of a Diesel Particulate Control System with Wall-Flow Filters and Reverse Cleaning Regeneration." Najib Khalil and Yiannis A. Levendis, *SAE publication 920567*, Vol. SAE SP-896, p.217-231, 1992. Also selected for the **1992 SAE Transactions**.

J16. "Optimization of a Self-Cleaning Particulate Control System - Evaluation of the Retention of PACs and HC Emissions." Iraklis Pavlatos and Yiannis A. Levendis, *SAE publication 920568*, Vol. SAE SP-896, p.233-247, 1992.

J17. "Preparation of Monodisperse Carbonaceous Particles with Micro-, Meso-, and Macro-porous Structures" Khaled M. Daer and Yiannis A. Levendis. *Journal of Applied Polymer Science* **45**, p.2061-2073, 1992.

J18. "Development of Multi-Color Pyrometers to Monitor the Transient Response of Burning Carbonaceous Particles." Yiannis A. Levendis, Kelvin Rafael Estrada, and Hoyt C. Hottel. *Review of Scientific Instruments* **63** (7), p.3608-3622, 1992.

J19. "The Effectiveness of Calcium Magnesium Acetate (CMA) as a SO_x Sorbent in Coal Combustion" Yiannis A. Levendis, Wenqi Zhu, Donald L. Wise and Girard A. Simons. *AIChE Journal*, **63** (7), p.761-773, 1993.

J20. "Observations on the Combustion Behavior of Coal Water Fuels and Coal Water Fuels Impregnated with Calcium Magnesium Acetate" Ajay Atal and Yiannis A. Levendis. *Combustion and Flame*, **39** (5), p.61-89, 1993.

J21. "Design of a Diesel Particulate Trap-Incinerator with Simultaneous Filtration and Compressed-Air Regeneration (CAR)." Sung Ho Kim and Yiannis A. Levendis, *SAE publication 930367*, Vol. SAE SP-943, p.183-194, 1993. Also selected for the **1993 SAE Transactions**.

J22. "On-Road Testing of a Reverse Air-Flow Cleaning, Soot-Oxidizing Diesel Particulate Trap System." Sandeep Mehta Yiannis A. Levendis and Najib Khalil, *SAE publication 930368*, Vol. SAE SP-943, p.195-211, 1992. Also selected for the **1993 SAE Transactions**.

J23. "An Exploratory Study on the Combustion and PAH Emissions of Selected Municipal Waste Plastics" Lloyd Wheatley, Yiannis A. Levendis and Paul Vouros. *Environmental Science and Technology*, **27** (13) p.2885-2895, 1993.

J24. "Control of Diesel Soot and NO_x Emissions with a Particulate Trap and EGR." Yiannis A. Levendis, Iraklis Pavlatos and Richard Abrams. *SAE publication 940460*, Vol. SAE SP-1020, p.225-233, 1994.

J25. "An Aerodynamically Regenerated Diesel Particulate Trap with a Flow-through Soot Incinerator Section" Sandeep Mehta, Frederick Oey, Christianto Sumbung, Chester Li, and Yiannis A. Levendis. *SAE publication 940461*, Vol. SAE SP-1020, p.235-248, 1994.

J26. "Combustion of CWF Agglomerates from Pulverized or Micronized Bituminous Coal, Carbon Black and Diesel Soot." Ajay Atal and Yiannis A. Levendis. *Combustion and Flame*, **98** (4), p.326-349, 1994.

J27. "A Study on the Combustion Characteristics of PVC, Poly(styrene), Poly(ethylene) and Poly(propylene) Particles under High Heating Rates." Thomai Panagiotou and Yiannis A. Levendis. *Combustion and Flame*, **99** (1), p.53-74, 1994.

J28. "The Effectiveness of Calcium (Magnesium) Acetate and Calcium Benzoate as NO_x Reduction Agents in Coal Combustion." Judith Steciak, Yiannis A. Levendis and Donald L. Wise. *Combustion Science and Technology*, **102** (1-6), p.193-211, 1994.

J29. "Combustion Behavior of Poly(styrene) Particles of Various Degrees of Crosslinking and Styrene Monomer Droplets" Thomai Panagiotou, Yiannis A. Levendis and Michael A. Delichatsios. *Combustion Science and Technology*, **103** (1-6), p.63-84, 1994.

J30. "Combustion and SO_2-NO_x Emissions of Bituminous Coal Particles Treated with CMA" Ajay Atal, Judi Steciak and Yiannis A. Levendis. *Fuel*, **74** (4), p.495-506, 1995.

J31. "Diesel Vehicle Application of an Aerodynamically Regenerated Trap and EGR System." Frederick Oey, Sandeep Mehta and Yiannis A. Levendis. *SAE publication 950370*, Vol. SAE SP-1073, p.103-116, 1995.

J32. "An Aerodynamically Regenerated Diesel Particulate Trap Coupled to an Electric Soot Incinerator with Dual Wall-Flow Filters." Jorge Caceres and Yiannis A. Levendis. *SAE publication 950371*, Vol. SAE SP-1073, p.117-126, 1995.

J33. "Reducing Diesel Particulate and NO_x Emissions via Filtration and Particle-Free Exhaust Gas Recirculation." Najib Khalil, Yiannis A. Levendis and Richard Abrams. *SAE publication 950736*, Vol. SAE SP-1073, p.165-174, 175-186, 1995.

J34. "A Thermally Regenerated Diesel Particulate Trap Using High-Temperature Glass-Fiber Filters." Sandeep Mehta, Yiannis A. Levendis and Joseph Adiletta. *SAE publication 950737*, Vol. SAE SP-1073, p.175-186, 1995.

J35. "The Effectiveness of Calcium Magnesium Acetate as a Dual SO_2-NO_x Emission Control Agent." Judith Steciak, Yiannis A. Levendis and Donald L. Wise, *AIChE Journal*, **41**, 3, p.712-722, 1995.

J36. "Dual SO_2-NO_x Concentration Reduction by Calcium Salts of Carboxylic Acids." Judith Steciak, Yiannis A. Levendis, Donald L. Wise and Gerard Simons. *Journal of Environmental Engineering*, **121**, 8, p.595-604, 1995.

J37. "Comparison of the Combustion Behavior of Pulverized Waste Tires and Coal." Ajay Atal and Yiannis A. Levendis. *Fuel*, **74** (11), p.1570-1581, 1995.

J38. "NO_x and SO_2 Emissions from Pulverized Coal and Waste Tire: The Role of Devolatilization and Char Combustion Phases." Ajay Atal, Judi Steciak and Yiannis A. Levendis. IMECE *Proceedings of the ASME Heat Transfer Division*, HTD-Vol. **317**-2, p.1-9, 1995.

J39. "An Optimization Study on the Control of NO_x and Particulate Emissions from Diesel Engines." Chris Larsen, Frederic Oey and Yiannis A. Levendis. *SAE publication 960473*, Vol. SAE SP-1140, p.175-191, 1996.

J40. "Measurements of Particle Flame Temperatures Using Three-Color Optical Pyrometry" Thomai Panagiotou, Yiannis A. Levendis and Michael A. Delichatsios. *Combustion and Flame*, **104**, (3), p.272-277, 1996.

J41. "Control of Air Toxin Particulate and Vapor Emissions after Coal Combustion Utilizing Calcium Magnesium Acetate." Judith I. Shuckerow, Judith A. Steciak, Donald L. Wise, Yiannis A. Levendis, Girard A. Simons, Joseph D. Gresser, Edgar B. Gutoff and C. David Livengood. *Resources, Conservation and Recycling*, **16**, p.15-69, 1996.

J42. "Observations on the Combustion of Pulverized PVC and Poly(ethylene)" Thomai Panagiotou and Yiannis A. Levendis. *Combustion Science and Technology*, **112**, p.117-140, 1996.

J43. "Comparative Study on the Combustion and Emissions of Waste Tire Crumb and Pulverized Coal" Yiannis A. Levendis, Ajay Atal, Joel Carlson, Yuriy Dunayevskiy and Paul Vouros. *Environmental Science and Technology*, **30**, 9, p.2742-2754, 1996.

J44. "Aromatic Hydrocarbon Emissions from Burning Poly(styrene), Poly(ethylene) and PVC Particles at High Temperatures" Thomai Panagiotou, Yiannis A. Levendis, Joel Carlson, Yuriy M. Dunayevskiy and Paul Vouros. *Combustion Science and Technology*, **116-117** (1-6), p.91-128, 1996.

J45. "The Effect of Bulk Equivalence Ratio on the PAH Emissions from the Combustion of PVC, Poly(styrene) and Poly(ethylene)." Thomai Panagiotou, Yiannis A. Levendis, Joel Carlson and Paul Vouros. *Proceedings of the Combustion Institute*, **26**, p. 2421-2430, 1996.

J46. "On the Survivability and Pyrosynthesis of PAHs during Combustion of Pulverized Coal and Tire Crumb" Ajay Atal, Yiannis A. Levendis, Joel Carlson, Yuriy Dunayevskiy and Paul Vouros. *Combustion & Flame*, **110**, 4, p.462-478, 1997.

J47. "An Integrated Diesel Engine Particulate ART-EGR Retrofit System with Engine Sensory Inputs." Chris Larsen and Yiannis A. Levendis. *SAE publication 970477*, Vol. SAE SP-1140, p. 183-201, 1997.

J48. "A Laboratory Study on the NO, NO_2, SO_2 and CO Emissions from the Combustion of Pulverized Coal, Municipal Waste Plastics and Tires" Bonnie Courtemanche and Yiannis A. Levendis, *Fuel*, **77**(3), p. 183-196, 1998.

J49. "Burning Characteristics and Gaseous/Solid Emissions of Blends of Pulverized Coal with Waste Tire-Derived Fuel" Yiannis A. Levendis, Ajay Atal, Bonnie Courtemanche and Joel Carlson. *Combustion Science and Technology*, **131**, 1-6, p. 147-185, 1998.

J50. "Control of the HCl Emissions from the Combustion of PVC, by In-Furnace Injection of Calcium/Magnesium Based Sorbents" Bonnie Courtemanche and Yiannis A. Levendis. *Environmental Engineering Science*, **15**, 2, pp. 123-135, 1998.

J51. "On the Effectiveness and Economy of Operation of ART-EGR Systems that Reduce Diesel

Emissions." Chris Larsen and Yiannis A. Levendis. *SAE publication 980537*, Vol. SAE SP-1313, p. 97-115, also selected for the **SAE Transactions**, 1998.

J52. "PAH and Soot Emissions from Combustion of Coal and Waste Tire-Derived-Fuel in Fixed Beds" Yiannis A. Levendis, Ajay Atal and Joel Carlson. *Combustion Science and Technology*, **134**, 1-6, p. 407-432, 1998.

J53. "Observations on the Combustion of Polymers (Plastics): from Single Particles to Groups of Particles." Thomai Panagiotou and Yiannis A. Levendis. *Combustion Science and Technology*, **137**, 1-6, p. 121-148, 1998.

J54. "On the Correlation of CO and PAH Emissions from the Combustion of Pulverized Coal and Waste Tires" Yiannis A. Levendis, Ajay Atal and Joel Carlson. *Environmental Science and Technology*, **32**, p. 3767-3777, 1998.

J55. "Filtration Assessment and Thermal Effects on Aerodynamic Regeneration in Silicon Carbide and Cordierite Particulate Filters." Chris Larsen, Yiannis A. Levendis and Koji Shimato. *SAE Publication 1999-01-0466*, Vol. SAE SP-1414, 1999.

J56. "Use of Ozone-Enriched Air for Diesel Particulate Trap Regeneration" Chris Larsen and Yiannis A. Levendis. SAE, *SAE publication 1999-01-0114*, Vol. SAE SP-1414, 1999.

J57. "Particulates Generated from Combustion of Polymers (Plastics)" Brooke Shemwell and Yiannis A. Levendis. *Journal of the Air & Waste Management Association*, 50, pp. 94-102, 2000. Also, first-place winner of the student paper competition of the 1999 ASME, Power Generation Division.

J58. "A Laboratory Investigation on Combined In-Furnace Sorbent Injection and Hot Flue-Gas Filtration to Simultaneously Capture SO_2, NO_x, HCl and Particulate Emissions" Brooke Shemwell, Ajay Atal, Yiannis A. Levendis and Girard A. Simons. *Environmental Science and Technology*, **34**, pp. 4855-4866, 2000.

J59. "Laboratory Study on the High-Temperature Capture of HCl Gas by Dry-Injection of Calcium-Based Sorbents" Brooke Shemwell, Yiannis A. Levendis and Girard A. Simons. *Chemosphere*, **42**, 5-7, pp.783-794, 2001.

J60. "PAH and Soot Emissions from Burning Components of Medical Waste: Examination/ Surgical Gloves and Cotton Pads" Yiannis A. Levendis, Ajay Atal, Joel B. Carlson and Maria del Mar Esperanza Quintana. *Chemosphere*, **42**, 5-7, pp.773-781, 2001.

J61. "Polycyclic Aromatic Hydrocarbon and Particulate Emissions from Two-Stage Combustion of Polystyrene. The Effect of the Primary Furnace Temperature" Jun Wang, Yiannis A. Levendis, Henning Righter, Jack B. Howard and Joel B. Carlson. *Environmental Science and Technology*, **35**, pp. 3541-3552, 2001.

J62. "Polycyclic Aromatic Hydrocarbon and Particulate Emissions from Two-Stage Combustion of

Polystyrene. The Effects of (a) the Secondary Furnace (Afterburner) Temperature and (b) Soot Filtration" Jun Wang, Yiannis A. Levendis, Henning Righter, Jack B. Howard and Joel B. Carlson. *Environmental Science and Technology*, **36**, pp. 797-808, 2002.

J63. "Economics of an Integrated Approach to Control SO_2, NO_x, HCl and Particulate Emissions from Powerplants" Brooke Shemwell, Ali Ergut and Yiannis A. Levendis. *Journal of the Air & Waste Management Association*, **52**, 521-534, 2002.

J64. "A Study on Toxic Organic Emissions from Butch Combustion of Styrene" Charlotte Westblad, Yiannis A. Levendis, Henning Righter, Jack B. Howard and Joel B. Carlson. *Chemosphere*, **49** (4), 395-412, 2002.

J65. "Comparative Study on Destruction of Polycyclic Aromatic Hydrocarbons from Combustion of Waste Polystyrene." Jun Wang, Gerardo Ferreiro, Henning Richter, Jack B. Howard, Yiannis A. Levendis, and Joel B. Carlson. *Proceedings of the Combustion Institute*, **29**, pp. 2477-2484, 2002.

J66. "High-Temperature Injection of Sorbent-Coal Blends Upstream of a Ceramic Filter for SO_2, NO_x and Particulate Pollutant Reductions" Ali Ergut, Yiannis A. Levendis and Girard A. Simons. *Combustion Science & Technology*, **175**, pp. 579-617, 2003.

J67. "Emissions from Batch Combustion of Waste Tire Chips: The Afterburner Effect." Jeferson Caponero, Jorge Alberto Soares Tenorio, Yiannis A. Levendis and Joel Carlson *Energy & Fuels*, **17**, pp. 225-239, 2003.

J68. "Comparative Study on Polycyclic Aromatic Hydrocarbon, Light Hydrocarbon, CO and Particulate Emissions from the Combustion of Polyethylene, Polystyrene and PVC." Zhenlei Wang, Jun Wang, Henning Righter, Jack B. Howard, Joel B. Carlson and Yiannis A. Levendis. *Energy & Fuels*, **17**, pp. 999-1013, 2003.

J69. "Emissions from Batch Combustion of Waste Tire Chips: The Hot Flue-Gas Filtering Effect." Jeferson Caponero, Jorge Alberto Soares Tenorio, Yiannis A. Levendis and Joel Carlson. *Energy & Fuels*, **18**, pp. 102-115, 2004.

J70. "Laboratory Investigation on the Products of Incomplete Combustion of Waste Plastics and on Techniques for their Minimization." Zhenlei Wang, Henning Righter, Jack B. Howard, Joel B. Carlson, Jude Jordan and Yiannis A. Levendis. *Industrial & Engineering Chemistry Research*, **43**, pp. 2873-2886, 2004.

J71. "PAH and other Emissions from Burning of JP-8 and Diesel Fuels in Diffusion Flames." Murat Topal, Jun Wang, Yiannis, A. Levendis, Joel B. Carlson, Joseph Jordan. *Fuel*, **83**, pp. 2357-2368, 2004.

J72. "Comparative Environmental Evaluation of JP-8 and Diesel Fuels Burned in Direct Injection (DI) or Indirect Injection (IDI) Diesel Engines and in a Laboratory Furnace." Constantinos D. Rakopoulos, Dimitrios T. Hountalas, Dimitrios D. Rakopoulos and Yiannis A. Levendis.

Energy & Fuels, **18**, pp. 1302-1308, 2004.

J73. "Operational and Environmental Evaluation of Diesel Engines Burning Oxygen-Enriched Intake Air or Oxygen-Enriched Fuels: A Review." Constantinos D. Rakopoulos, Dimitrios T. Hountalas, Theodore Zannis and Yiannis A. Levendis. *SAE, publication 2004-01-2924*, also selected for the **SAE Transactions,** *Journal of Fuels and Lubricants*, **113**, pp. 1723-1743, 2004. This paper was granted the Thomaidion Award of the Polytechneion of Athens.

J74. "Soot Surface Area Evolution during Air Oxidation as Evaluated by Small Angle X-Ray Scattering and CO_2 Adsorption." Angelo Kandas, Ghokan Senel, Yiannis A. Levendis and Adel F. Sarofim. *Carbon,* **43**, pp. 241-251, 2005.

J75. "Emissions of Batch Combustion of Waste Tire Chips: The Pyrolysis Effect." Jeferson Caponero, Jorge Alberto Soares Tenorio, Yiannis A. Levendis and Joel Carlson. *Combustion Science & Technology*, **177**, pp. 347-381, 2005.

J76. "Experimental and Numerical Study of Emissions from Fuel-Rich Combustion of Pulverized Polystyrene" Jennifer Pantalone, Ali Ergut, Yiannis A. Levendis, Henning Righter, Joel B. Carlson and Jude Jordan. *Combustion Science & Technology*, **178(7),** pp. 1297-1324, 2006.

J77. "PAH Formation in One-Dimensional Premixed Fuel-Rich Atmospheric Pressure Ethyl Benzene and Ethyl-Alcohol Flames" Ali Ergut, Silvia Granata, Jude Jordan, Joel Carlson, Jack B. Howard, Henning Richter and Yiannis A. Levendis. *Combustion and Flame*, **144**, pp. 757-772, 2006.

J78. "PAH Emissions from High-Temperature Oxidation of Vaporized Anthracene" Jennifer Decoster, Ali Ergut, Yiannis A. Levendis, Henning Richter, Jack B. Howard and Joel B. Carlson. *Proceedings of the Combustion Institute*, **31**, 491-499, 2007**.**

J79. "Emissions from the Combustion of Polystyrene, Styrene and Ethylbenzene under Diverse Conditions" Ali Ergut and Yiannis A. Levendis. *Fuel*, **86** (12-13), 1789-1799, 2007**.**

J80. "Combustion of Coal Chars at Elevated Oxygen Partial Pressures." Paula Bejarano and Yiannis A. Levendis. *Combustion Science & Technology*, **179**, 1569-1587, 2007.

J81. "The Effect of Equivalence Ratio on the Soot Onset Chemistry in One-Dimensional, Atmospheric Pressure, Premixed Ethylbenzene Flames" Ali Ergut, Yiannis A. Levendis, Jack B. Howard, Henning Richter and Joel B. Carlson. *Combustion and Flame*, **151** (1-2), 173-195, 2007.

J82. "Theoretical Study of DI Diesel Engine Performance and Pollutant Emissions Using Comparable Air-Side vs. Fuel-Side Oxygen Addition" Theodore C. Zannis, Efthimios G. Pariotis, Dimitrios T. Hountalas, Constantinos D. Rakopoulos and Yiannis A. Levendis. *Energy Conversion and Management,* **48** (11), 2962-2970, 2007.

J83. "Emissions from Premixed Combustion of Gasified Poly***ethylene***" Cecilia K. Gonçalves,

Jorge A. S. Tenório, Yiannis A. Levendis, Joel B. Carlson. *Energy and Fuels*, **22**, 372-381, 2008.

J84. "Emissions from Premixed Combustion of Gasified Poly***styrene***" Cecilia K. Gonçalves, Jorge A. S. Tenório, Yiannis A. Levendis, Joel B. Carlson. *Energy and Fuels*, **22**, 354-362, 2008.

J85. "Single Coal Particle Combustion in O_2/N_2 and O_2/CO_2 Environments" Paula Bejarano and Yiannis A. Levendis. *Combustion and Flame*, **153**, 270-287, 2008.

J86. "The Effect of Temperature on the Soot Onset Chemistry in One-Dimensional Atmospheric Pressure, Premixed Ethylbenzene Flames" Ali Ergut, Richard Therrien, Yiannis A. Levendis, Jack B. Howard, Henning Richter and Joel B. Carlson. *Combustion and Flame*, **155**, 232-246, 2008.

J87. "Effect of Fuel Chemical Structure and properties on Diesel Engine Performance and Pollutant Emissions: Review of the Results of Four European Research Programs." Theodore Zannis, Dimitrios T. Hountalas, R.G. Papagiannakis and Yiannis A. Levendis. *SAE, publication 2008-01-0838.* Also selected for the **SAE Transactions,** *SAE International Journal of Fuels and Lubricants* 1(1):384-419, 2008.

J88. "Chemical Speciation of Premixed Ethylbenzene Flames at the Soot Onset Limit at Various (ϕ, T) Pairs" Ali Ergut, Richard Therrien, Yiannis A. Levendis, Jack B. Howard, Henning Richter and Joel B. Carlson. *Combustion and Flame*, **156**, 1014-1022, 2009.

J89. "Investigation of Critical Equivalence Ratio and Chemical Speciation in Flames of Ethylbenzene - Ethanol Blends" Richard Therrien, Ali Ergut, Yiannis A. Levendis, Jack B. Howard, Henning Richter and Joel B. Carlson. *Combustion and Flame*, **157**, 296-312, 2010.

J90. "Cryogenic Extinguishment of Liquid Pool Fires." Yiannis A. Levendis, Ali Ergut and Michael A. Delichatsios. *AIChE Journal of Process Safety Progress*, **29**, 79-86, 2010.

J91. "Design and Testing of a Novel Environmentally-Benign Automotive Oil Filter." Yiannis A. Levendis. *SAE publication 2010-01-0272*, 2010.

J92. "Synthesis of Carbon Nanotubes from Sequential Pyrolysis and Combustion of Polyethylene" Chuanwei Zhuo, Brendan Hall, Henning Richter and Yiannis A. Levendis. *Carbon*, **48**, 2024-2034, 2010.

J93. "Combustion Behavior in Air of Single Particles from Three Different Coal Ranks and from Biomass" Yiannis A. Levendis, Kulbhushan Joshi, Reza Khatami and Adel Sarofim. *Combustion and Flame*, **158**, 452-465, 2011.

J94. "Influence of the Fuel Structure on the Flame Synthesis of Carbon Nanomaterials" Brendan Hall, Chuanwei Zhuo, Henning Richter and Yiannis A. Levendis. *Carbon*, **49**, 3412-3423, 2011.

J95. "On the Deduction of Single Coal Particle Combustion Temperature from Multi-Color Optical Pyrometry." Reza Khatami and Yiannis A. Levendis. *Combustion and Flame*, **158**, 1822-1836, 2011.

J96. "Recent Developments in the Design of a Ceramic Automotive Oil Filter" Yiannis A. Levendis and Lars Tinggaard Johannesen. *SAE publication 2011-01-1153*, 2011.

J97. "Pool Fire Extinction By Remotely-Controlled Application of Liquid Nitrogen" Yiannis A. Levendis and Michael A. Delichatsios. *AIChE Journal of Process Safety Progress*, **30**, 164-167, 2011.

J98. "Catalytic Conversion of Wastes from the Bio-ethanol Production into Carbon Nanomaterials" Joner O. Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A.S. Tenorio. *Applied Catalysis B. Environmental*, **106**, 433-444, 2011.

J99. "Emissions of NO_x and SO_2 from Coals of Various Ranks, Bagasse and Coal-Bagasse Blends Burning in O_2/N_2 and O_2/CO_2 Environments." Feyza Kazanc, Reza Khatami, Paula Manoel-Crnkovic and Yiannis A. Levendis. *Energy and Fuels*, **25** (7), 2850–2861, 2011.

J100. "Microstructural Analysis of Carbon Nanomaterials Produced from Pyrolysis/Combustion of Styrene-Butadiene-Rubber (SBR)" Joner O. Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A.S. Tenorio. *Materials Research*, **14** (4), 499–504, 2011.

J101. "Combustion Behavior of Single Particles from Three Different Coal Ranks and from Sugar Cane Bagasse in O_2/N_2 and O_2/CO_2 Atmospheres." Reza Khatami, Chris Stivers, Kulbhushan Joshi, Yiannis A. Levendis and Adel F. Sarofim. *Combustion and Flame,* **159**, 1253-1271, 2012.

J102. "Combustion of Coal, Bagasse and Blends thereof. Part I: Emissions from Batch Combustion of Fixed Beds of Fuels." Marcia Bragato, Kulbhushan Joshi, Joel B. Carlson, Jorge A.S. Tenorio and Yiannis A. Levendis, *Fuel*, **96**, 43-50, 2012.

J103. "Combustion of Coal, Bagasse and Blends thereof. Part II: Speciation of PAH Emissions." Marcia Bragato, Kulbhushan Joshi, Joel B. Carlson, Jorge A.S. Tenorio and Yiannis A. Levendis, *Fuel*, **96**, 51-58, 2012.

J104. "Synthesis of Carbon Nanomaterials through Up-Cycling Agricultural and Municipal Solid Wastes" Chuanwei Zhuo, Joner O. Alves, Jorge A.S. Tenorio and Yiannis A. Levendis. *Industrial & Engineering Chemistry Research*, **51**(7), 2922-2930, 2012.

J105. "Synthesis of Nanomaterials using Post-Consumer PET Bottles as Raw Material." Joner O. Alves, Chuanwei Zhuo, Yiannis. A. Levendis, Jorge A.S. Tenorio, *Tecnologia em Metalurgia, Materiais e Mineração* (a journal of the Brazilian Association of Metallurgy, Materials and Mining), **9**(1), 59-63, 2012.

J106. "Synthesis of Carbon Nanotubes from Sugarcane Bagasse." Joner O. Alves, Chuanwei

Zhuo, Yiannis A. Levendis and Jorge A.S. Tenorio. *Revista Escola de Minas: Metallurgy and Materials*, **65**(3), 313-318, 2012.

J107. "Synthesis of carbon nanomaterials from corn waste (DDGS)." Joner O. Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A.S. Tenorio. *Química Nova*, 35(8), 1534-1537, 2012.

J108. "Characterization of Nanomaterials Produced from Sugarcane Bagasse." Joner O. Alves, Jorge A.S. Tenorio, Chuanwei Zhuo and Yiannis A. Levendis. *Journal of Materials Research and Technology*, **1**(1), 31-34, 2012.

J109. "Ignition Characteristics of Single Coal Particles from three Different Ranks in O_2/N_2 and O_2/CO_2 Atmospheres." Reza Khatami, Chris Stivers and Yiannis A. Levendis. *Combustion and Flame*, **159**, 3554-3568, 2012.

J110. "Use of Stainless Steel AISI 304 for Catalytic Synthesis of Carbon Nanomaterials from Solid Wastes." Joner O. Alves, Jorge A.S. Tenorio, Chuanwei Zhuo and Yiannis A. Levendis. *Journal of Materials Research and Technology*, **1**(3), 128-133, 2012.

J111. "Physical Properties of Particulate Matter Emitted from Combustion of Coals of Various Ranks in O_2/N_2 and O_2/CO_2 Environments." Feyza Kazanc and Yiannis A. Levendis. *Energy and Fuels*, **26**, 7127−7139, 2012.

J112. "Analysis and Control of Hydrocarbons Generated in the Combustion of PET Wastes." Joner O. Alves, Jorge A.S. Tenorio, Chuanwei Zhuo and Yiannis A. Levendis. *Tecnologia em Metalurgia, Materiais e Mineração* (the journal of the Brazilian Association of Metallurgy, Materials and Mining), **9**(4), 279-283, 2012.

J113. "Alternative Porous Media and Designs for Automotive Oil Filters." Yiannis A. Levendis, *SAE International Journal of Fuels and Lubricants*, **6**(2), 320-328, 2013.

J114. "Experimental and Modeling Study of Single Coal Particle Combustion in O_2/N_2 and Oxy-fuel (O_2/CO_2) Atmospheres" Tiziano Maffei, Reza Khatami, S. Pierucci, Tiziano Faravelli, Eliseo Ranzi and Yiannis A. Levendis, *Combustion and Flame*, **160**, 2559-2572, 2013.

J115. "Pyrolytic Gasification of Post-Consumer Polyolefins to Allow for "Clean" Premixed Combustion" Rasam Soheilian, Andrew Davies, Saber Talebi Anaraki, Chuanwei Zhuo and Yiannis A. Levendis, *Energy and Fuels*, **27**(8), 4859-4868, 2013.

J116. "Chemical Composition of Submicron Particulate Matter Emitted from Combustion of Coals of Various Ranks in O_2/N_2 and O_2/CO_2 Environments." Feyza Kazanc, Yiannis A. Levendis and Tiziano Maffei, *Energy and Fuels*, **27**(8), 4984-4998, 2013.

J117. "Ignition Behavior of Coal and Biomass Blends under Oxy-Firing Conditions with Steam Additions" Juan Riaza, Lucía Álvarez, María Victoria Gil, Reza Khatami, Yiannis A. Levendis, Jose Juan Pis, Covadonga Pevida and Fernando Rubiera, *Greenhouse Gases:*

Energy and Technology, **3**, 397-414, 2013.

J118. "Pyrolytic Conversion of Biomass Residues to Gaseous Fuels for Electricity Generation" Andrew Davies, Rasam Soheilian, Chuanwei Zhuo and Yiannis A. Levendis, *Journal of Energy Resources Technology*, Transactions of ASME, 136(2), 021101-021107, 2014.

J119. "Up-cycling Waste Plastics into Carbon Nanomaterials: A Review." Chuanwei Zhuo and Yiannis A. Levendis, *Journal of Applied Polymer Science*, **131**, 39931-39944, 2014.

J120. "Single Particle Ignition and Combustion of Anthracite, Semi-Anthracite and Bituminous Coals in Air and Simulated Oxy-Fuel Conditions" Juan Riaza, Reza Khatami, Yiannis A. Levendis, Lucía Álvarez, María Victoria Gil, Covadonga Pevida, Fernando Rubiera and Jose Juan Pis, *Combustion and Flame*, **161**, 1096-1108, 2014.

J121. "Characterization of Particulate Matter Emitted from Combustion of Various Biomasses in O_2/N_2 and O_2/CO_2 Environments" Amanda Ruscio, Feyza Kazanc and Yiannis A. Levendis, *Energy and Fuels,* **28**, 685-696, 2014.

J122. "Combustion of Single Particles of Waste Biomasses in Air and in Oxy-Fuel Conditions" Juan Riaza, Reza Khatami, Yiannis A. Levendis, Lucía Álvarez, María Victoria Gil, Covadonga Pevida, Fernando Rubiera and Jose Juan Pis. *Biomass & Bioenergy*, **64**, 162-174, 2014.

J123. "Oxidative Heat Treatment of 316L Stainless Steel for Effective Catalytic Growth of Carbon Nanotubes" Chuanwei Zhuo, Welville Nowak and Yiannis A. Levendis, *Applied Surface Science*, **313**, 227-236, 2014.

J124. "A Feasibility Study on Power Generation from Waste Plastics with Partial Pre-Combustion Carbon Capture and Conversion" John Chase, Chuanwei Zhuo and Yiannis A. Levendis, *Journal of Energy Engineering (ASCE),* 141(2): C4014004-1 - C4014004-9, 2015.

J125. "Soot Loading, Temperature and Size of Single Coal Particle Envelope Flames in Conventional- and Oxy-Combustion Conditions (O_2/N_2 and O_2/CO_2)" Reza Khatami, Yiannis A. Levendis, Michael A. Delichatsios, *Combustion and Flame*, **162**, 2508-2517, 2015.

J126. "Comparison of Fine Ash Emissions Generated from Biomass and Coal Combustion and Valuation of Predictive Furnace Deposition Indices: A Review" Amanda Ruscio, Feyza Kazanc, and Yiannis A. Levendis, *Journal of Energy Engineering (ASCE),* **142**(2): E4015007-1 - E4015007-12, 2016.

J127. "Reduction of Sulfur Dioxide Emissions by Burning Coal Blends" Emad Rokni, Aidin Panahi, Xiaohan Ren and Yiannis A. Levendis, *Journal of Energy Resources Technology*, Transactions of ASME, **138**(3), 032204-1 - 032204-8, 2016.

J128. "An Overview of Coal Rank Influence on Ignition and Combustion Phenomena at the Particle Level" Reza Khatami, Yiannis A. Levendis, *Combustion and Flame*, **164**, 22-34, 2016.

J129. "Curtailing the Generation of Sulfur Dioxide and Nitrogen Oxide Emissions by Blending and Oxy-Combustion of Coals" Emad Rokni, Aidin Panahi, Xiaohan Ren and Yiannis A. Levendis, *Fuel*, **181**, 772-784, 2016.

J130. " Carbon, Sulfur and Nitrogen Oxide Emissions from Combustion of Pulverized Raw and Torrefied Biomass" Xiaohan Ren, Rui Sun, Xiaoxiao Meng, Nikita Vorobiev, Martin Schiemann and Yiannis A. Levendis, *Fuel*, **188**, 310–323, 2017.

J131. "In-Furnace Sulfur Capture by co-Firing Coal With Alkali-Based Sorbents" Emad Rokni, Hsun-Hsien Chi and Yiannis A. Levendis, *Journal of Energy Resources Technology*, **139**, 042204 - 1-7, Transactions of ASME, 2017.

J132. "Hydrogen Chloride Emissions from Combustion of Pulverized Raw and Torrefied Biomass" Xiaohan Ren, Rui Sun, Hsun-Hsien Chi, Xiaoxiao Meng and Yiannis A. Levendis, *Fuel*, **200**, 37-46, 2017.

J133. "Direct Observations on the Combustion Characteristics of Miscanthus and Beechwood Biomass Including Fusion and Spherodization" Aidin Panahi, Yiannis A. Levendis, Nikita Vorobiev and Martin Schiemann, *Fuel Processing Technology*, **166**, 41-49, 2017.

J134. "Utilization of a High-Alkali Lignite Coal Ash for SO_2 Capture in Power Generation" Emad Rokni and Yiannis A. Levendis, *Journal of Energy Engineering (ASCE),* **143**(4): 04016067-1 - 04016067-7, 2017.

J135. "Particle Shape and Stefan Flow Effects on the Burning Rate of Torrefied Biomass" Nikita Vorobiev, A. Becker, H. Kruggel-Emden, Aidin Panahi, Yiannis A. Levendis and Martin Schiemann. *Fuel*, **210**, 107-120, 2017.

J136. "Emissions of SO_2, NO_x, CO_2, and HCl from Co-firing of Coals with Raw and Torrefied Biomass Fuels" Emad Rokni, Xiaohan Ren, Aidin Panahi and Yiannis A. Levendis. *Fuel*, **211**, 363-374, 2017.

J137. "Evolution of Chlorine-bearing Gases during Corn Straw Torrefaction at Different Temperatures" Xiaohan Ren, Emad Rokni, Rui Sun, Xiaoxiao Meng and Yiannis A. Levendis, *Energy and Fuels*, **31**, 13713-13723, 2017.

J138. "HCl Release from Combustion of Corn Straw in a Fixed Bed" Xiaohan Ren, Xiaoxiao Meng, Aidin Panahi, Emad Rokni, Rui Sun and Yiannis A. Levendis, *Journal of Energy Resources Technology*, **140**, 051801-1-9, Transactions of ASME, 2018.

J139. "A Method to Assess Downward Flame Spread and Dripping Characteristics of Fire-Retardant Polymer Composites." Chuchu Wen, Jiyue Zhang, Yiannis A. Levendis and

Michael A. Delichatsios *Fire and Materials*, **42**:347–357. DOI:10.1002/fam.2498, 2018.

J140. "Carbon Nanotube Production from Ethylene in CO_2/N_2 Environments" Chuanwei Zhuo, Henning Richter and Yiannis A. Levendis, *Journal of Energy Resources Technology*, **140**(8), 085001-1-9, Transactions of ASME, 2018.

J141. "Reduction of HCl Emissions from Combustion of Biomass by Alkali Carbonate Sorbents or by Thermal Pretreatment" Xiaohan Ren, Emad Rokni, Yu Liu and Yiannis A. Levendis, *Journal of Energy Engineering (ASCE),* **144**(4): 04018045-1-9, 2018.

J142. "On the Particle Sizing of Torrefied Biomass for Co-firing with Pulverized Coal" Aidin Panahi, Mahmut Tarakcioglu, Martin Schiemann, Michael Delichatsios and Yiannis A. Levendis, *Combustion and Flame*, **194**, 72-84, 2018.

J143. "Use of Alkali Carbonate Sorbents for Capturing Chlorine-Bearing Gases from Corn Straw Torrefaction." Xiaohan Ren, Emad Rokni, Lei Zhang, Zhuozhi Wang, Yu Liu, and Yiannis A. Levendis, *Energy and Fuels*, **32**(11), 11843-11851, 2018.

J144. "Effects of Air Flowrate on the Combustion and Emissions of Blended Corn Straw and Pinewood Wastes." Xiaoxiao Meng, Wei Zhou, Emad Rokni, Honghua Zhao, Rui Sun and Yiannis A. Levendis, *Journal of Energy Resources Technology*, **141**(8), 042205-1-9, Transactions of ASME, 2019.

J145. "Comparison of Single Particle Combustion Behaviors of Raw and Torrefied Biomass with Turkish Lignites" Diego Magalhães, Aidin Panahi, Feyza Kazanç, Yiannis A. Levendis. *Fuel*, **241,** 1085–1094, 2019.

J146. "Nitrogen-Bearing Emissions from Burning Corn Straw in a Fixed-Bed Reactor: Effects of Fuel Moisture, Torrefaction and Air Flowrate." Emad Rokni, Yu Liu, Xiaohan Ren and Yiannis A. Levendis. *Journal of Energy Resources Technology*, **141**, 082202-1-10, Transactions of ASME, 2019.

J147. "Release of Alkalis and Chlorine from Combustion of Waste Pinewood in a Fixed Bed." Xiaoxiao Meng, Wei Zhou, Emad Rokni, Honghua Zhao, Rui Sun and Yiannis A. Levendis, *Energy and Fuels*, **33**, 1256−1266, 2019.

J148. "Effect of Carbon Dioxide on the Laminar Burning Speed of Propane-Air Mixtures" Sai C. Yelishala, Ziyu Wang, Hameed Metghalchi, Yiannis A Levendis, Kumaran Kannaiyan, Reza Sadr. *Journal of Energy Resources Technology*, **141**, 082205-1-9, Transactions of ASME, 2019.

J149. "Influence of Stainless-Steel Catalyst Substrate Type and Pretreatment on Growing Carbon Nanotubes from Waste Postconsumer Plastics." Aidin Panahi, Zixiang Wei, Guangchao Song and Yiannis A. Levendis. *Industrial & Engineering Chemistry Research*, **58**, 3009−3023, 2019.

J150. "Fuel Flexible Power Stations: Utilization of Ash Co-Products as Additives for NO_x Emissions Control" Richard, I. Birley, Jenny M. Jones, Leilani I. Darvell, Alan Williams, D.J. Waldron, Yiannis A. Levendis, Emad Rokni, Aidin Panahi, *Fuel*, **251**, 800-807, 2019.

J151. "Temperature and Oxygen Partial Pressure Dependencies of the Coal-Bound Nitrogen to NO_x Conversion in O_2/CO_2 Environments" Aidin Panahi, Sai Krishna Sirumalla, Richard H. West, Yiannis A. Levendis, *Combustion and Flame*, **206**, 98-111, 2019.

J152. "Combustion Details of Raw and Torrefied Biomass Fuel Particles with Individually-Observed Size, Shape and Mass" Aidin Panahi, Nikita Vorobiev, Martin Schiemann, Mahmut Tarakcioglu, Michael Delichatsios and Yiannis A. Levendis. *Combustion and Flame*, **207**, 327-341, 2019.

J153. "Effects of Carbon Dioxide on Laminar Burning Speed and Flame Instability of Methane/Air and Propane/Air Mixtures: A Literature Review" Ziyu. Wang, Sai C. Yelishala, Guangying Yu, Hameed Metghalchi, Yiannis A. Levendis, *Energy and Fuels*, **33**, 9403-9418, 2019.

J154. "Spectral Emissivity and Temperature of Heated Surfaces Based on Spectrometry and Digital Thermal Imaging - Validation with Thermocouple Temperature Measurements" Weijie Yan, Aidin Panahi, Yiannis A. Levendis, *Experimental Thermal and Fluid Science*, **112**, 110017, 2020.

J155. "On the Minimum Oxygen Requirements for Oxy-Combustion of Torrefied Biomass" Aidin Panahi, Neil Toole, Xinyu Wang, Yiannis A. Levendis, *Combustion and Flame*, **213**, 426-440, 2020.

J156. "Thermodynamic Study on Blends of Hydrocarbons and Carbon Dioxide as Zeotropic Refrigerants" Sai C. Yelishala, Kumaran Kannaiyan, Ziyu Wang, Hameed Metghalchi, Yiannis A. Levendis, Reza Sadr. ASME Transactions *Journal of Energy Resources Technology*, **142**, 082307-1 – 082307-8, Transactions of ASME, 2020.

J157. "A Numerical and Experimental Study on the Effects of CO on Laminar Diffusion Methane-Air Flames" Lei Zhang, Xiaohan Ren, Rui Sun, Yiannis A. Levendis, *Journal of Energy Resources Technology*, **142**, 082304-1 – 082304-10, Transactions of ASME, 2020.

J158. "Laminar Burning Speeds and Flame Instabilities of Isobutane Carbon Dioxide Air Mixtures at High Pressures and Temperatures" Ziyu Wang, Zhenyu Lu, Sai C Yelishala, Hameed Metghalchi, Yiannis A Levendis. *Fuel*, **268**, 117410, 2020.

J161. "Emissions From Oxy-Combustion of Raw and Torrefied Biomass." Xiaoxiao Meng, Emad Rokni, Wei Zhou, Hongliang Qi, Rui Sun and Yiannis A. Levendis, ASME Transactions, *Journal of Energy Resources Technology*, **142**, 122307-1 – 122307-9, 2020.

J160. "Simulation of Product Compositions from Sequential Biomass Pyrolysis and Gasification of its Char Residue" Xinyu Wang, Aidin Panahi, Haoxuan Qi, Ming Zhai, Peng Dong, Yiannis A. Levendis, ASCE Transactions, *Journal of Environmental Engineering*, 146(5),

04020049-1-11, 2020.

J161. "On the Impact of Carrier Gas Type and Flowrate on the Catalytic Growth of Carbon Nanotubes on Stainless Steel." Aidin Panahi, Xiao Sun, Guangchao Song and Yiannis A. Levendis, *Industrial & Engineering Chemistry Research*, **59**, 31, 14004–14014, 2020.

J162. "A Simple Experiment on Global Warming". Yiannis A. Levendis, Gregory Kowalski, Yang Lu and Gregory Baldassarre, *Royal Society Open Science*, **7**, 192075, 1-11, 2020.

J163. "Performance Maximization by Temperature Glide Matching in Energy Exchangers of Cooling Systems Operating with Natural Hydrocarbon/CO_2 Refrigerants" Sai C. Yelishala, Kumaran Kannaiyan, Reza Sadrb, Ziyu Wang, Yiannis A. Levendis, Hameed Metghalchi, *International Journal of Refrigeration*, **119**, 294-304, 2020.

J164. "Torrefaction of Corn Straw in Oxygen and Carbon Dioxide Containing Gases: Mass and Energy Yields and Emissions of Carbon-, Chlorine-, Nitrogen- and Sulfur-bearing Gases." Xiaohan Ren, Emad Rokni, Ruilei Yang, Xiaoxiao Meng, Rui Sun and Yiannis A. Levendis, *Fuel*, **285**, 119044, 2021.

J165. "High-temperature pyrolysis of biomass pellets: The effect of ash melting on the structure of the char residue" Xinyu Wang, Ming Zhai, Hongkun Guo, Aidin Panahi, Peng Dong, Yiannis A. Levendis, *Fuel*, **285**, 119084, 2021.

J166. "Sulfur and Nitrogen release from co-pyrolysis of coal and biomass under oxidative and non-oxidative conditions" Yukun Li, Lingfeng Li, Yu Liu, Xiaohan Ren, Juan Chen and Yiannis A. Levendis, *Journal of Energy Resources Technology*, **143**, 062306- 1-8, Transactions of ASME, 2021.

J167. "Ash Fusion during Combustion of Single Corn Straw Pellets" Ming Zhai, Xinyu Wang, Yichi Zhang, Aidin Panahi, Peng Dong, Yiannis A. Levendis, *Journal of Energy Resources Technology*, **143**, 061304- 1-12, Transactions of ASME, 2021.

J168. "Determination of Flame Temperatures and Soot Volume Fractions during Combustion of Biomass Pellets." Weijie Yan, Kuangyu Li, Tianze, Yu, Xianliang, Huang, Lingbo Yu, Aidin, Panahi, Yiannis A. Levendis, *Energy and Fuels*, **35**, 3, 2313–2325, 2021.

J169. " Flame Characteristics of Propane-Air-Carbon Dioxide Blends at Elevated Temperatures and Pressures." Ziyu Wang, Zhenyu Lu, Sai C. Yelishala, Hameed Metghalchi, Yiannis A. Levendis, *Energy*, **228**, 120624, 2021.

J170. "Activated Coke Preparation by Physical Activation of Coal and Biomass co-Carbonized Chars." Yukun Lia, Lin Lu, Shuang Lyu, Huanhuan Xu, Xiaohan Ren, Yiannis A. Levendis, *Analytical and Applied Pyrolysis,* **156**, 105137, 2021.

J171. "Effects of Carbonization on the co-Activation of Sludge and Biomass to Produce Activated Coke." Liwei Wang, Lin Lu, Minghua Li, Yulin Liu, Xiaohan Ren, Yiannis A. Levendis.

Journal of Energy Resources Technology, **143**, 102305 1-11, Transactions of ASME, 2021.

J172. "Effects of Activation Conditions on the Properties of Sludge-based Activated Carbon." Liwei Wang, Minghua Li, Guang,Kui Liu, Shaofeng Xu, Juan Chen, Xiaohan Ren, Yiannis A. Levendis. *ACS Omega*, **6**(34), 22020-22032, 2021.

J173. "Evolution of Gases From the Pyrolysis of Raw and Torrefied Biomass and From the Oxy-Combustion of Their Bio-Chars." Xiaoxiao Meng, Emad Rokni, Wei Zhou, Hongliang Qi, Rui Sun and Yiannis A. Levendis, ASME Transactions *Journal of Energy Resources Technology*, **144**, 021901-1– 122307-13, 2022.

J174. "Preparation of Activated Coke by One-step Activation Method, Ammonization and K_2CO_3 Modification of Coal and Biomass" Shaofeng Xu, Minghua Li, Yukun Li, Xiaohan Ren, Wenkun Zhu and Yiannis A. Levendis, ASME Transactions, *Journal of Energy Resources Technology*, **144**, 012303-1– 012301-11, 2022.

J175. "Preparation of Activated Coke by Carbonization, Activation, Ammonization Treatment of Sewage Sludge and Waste Biomass for SO_2 Absorption Applications" Liwei Wang, Long Sha., Shuhui Zhang, Fan Cao, Xiaohan Ren and Yiannis A. Levendis. *Fuel Processing Technology*, **231**, 107233-1 – 107233-15, 2022.

J176. "On the Trajectory and Reach of Liquid Nitrogen Droplets Released from a Spray Nozzle." Aobo Liu, Michael A. Delichatsios and Yiannis A. Levendis. *Process Safety and Environmental Protection*, **161**, 273-284, 2022. Preprint in https://hdl.handle.net/2047/D20688910

J177. "Determination of size and porosity of chars during combustion of biomass particles" Yuan Yao, Aidin Panahi, Martin Schiemann, Yiannis A. Levendis, *Combustion and Flame*, **242**, 112182, 2022.

J178. "Combustion Behavior of Single Iron Particles–Part I: An Experimental Study in a Drop-Tube Furnace under High Heating Rates and High Temperatures." Aidin Panahi, Di Chang, Martin Schiemann, Aki Fujinawa, Xiaochen Mi, Jeffrey Bergthorson, Yiannis A. Levendis. *Applications in Energy and Combustion Science*, **13**, 100097, 2023.

J179. "Combustion Behavior of Single Iron Particles–Part II: A Theoretical Analysis based on a Zero-Dimensional Model" Aki Fujinawa, Leon C. Thijs, Joel Jean-Philyppe, Aidin Panahi, Di Chang, Martin Schiemann, Yiannis A. Levendis, Jeffrey M. Bergthorson, XiaoCheng Mi. *Applications in Energy and Combustion Science*, **14**, 100145, 2023.

J180. "Experiments and modelling of liquid nitrogen jet release and dispersion for fire-related applications." Alexandros Venetsanos, Aobo Liu, Michael A. Delichatsios and Yiannis A. Levendis. *Process Safety and Environmental Protection*, **175**, 414-425, 2023. Preprint located in https://hdl.handle.net/2047/D20688910

J181. "Use of Unmanned Aerial Systems in Outdoor Firefighting." Brian Lattimer; Xinyan,

Huang; Michael A. Delichatsios; Yiannis A. Levendis; Kevin Kochersberger; Samuel Manzello; Peter Frank; Tombo Jones; Jordi Salvador; Conrad Delgado; Eduard Angelats; Eulàlia Parès; David Martín; Sara McAllister; Sayaka Suzuki. *Fire Technology*, **59**, 2961-2988, 2023. https://doi.org/10.1007/s10694-023-01437-0
Share link: https://rdcu.be/dYRWz
This paper was conferred the Jack Bono Award for Engineering Communication by the Society of Fire Protection Engineers (SFPE).

J182. "Comparative radiative property measurements of single biomass and coal particles burning at high reactor temperatures" Yuan Yao, Aidin Panahi, Yiannis A. Levendis, *Combustion and Flame*, **263**, 113406, 2024.

J183. "On the Temperature and Emissivity of Torrefied Biomass and Coal in Group Particle Combustion" Yuan Yao, Aidin Panahi, Martin Schiemann, Yiannis A. Levendis, *Bioresource Technology*, **406**, 113406, 2024. https://doi.org/10.1016/j.biortech.2024.131040

J184. "Comparative Extinction of Pine Needle Fires by Gravity-fed Release of Inert Cryogen or Water" Aobo Liu, Michael A. Delichatsios, Yiannis A. Levendis, *Fire Safety Journal*, **147**, 104203, 2024. https://doi.org/10.1016/j.firesaf.2024.104203

J185. "E-Fuels as Reduced Carbon Emission Options" Carolyn Huey, Hameed Metghalchi, Yiannis A. Levendis, *ASME Open Journal of Engineering*, **3**, 031017 (5 pages), 2024. https://doi.org/10.1115/1.4065731

J186. "Spectral Emissivities and Temperatures of Burning Iron as Single Particles or Groups of Particles." Yuan Yao, Di Chang, Aidin Panahi, Yiannis A. Levendis, *Fuel*, **375**, 132537, 2024, https://doi.org/10.1016/j.fuel.2024.132537

J187. "On Gravity-driven Liquid Nitrogen Jets Reach and Horizontal Spread for Extinction of Ground Fires by Aerial Means." Aobo Liu, Alexandros Venetsanos, Michael A. Delichatsios and Yiannis A. Levendis. *Fire Safety Journal*, **150**, 104278, 2024. https://doi.org/10.1016/j.firesaf.2024.104278
Preprint located in https://hdl.handle.net/2047/D20688910

J188. "Optical measurements of emissivity, flame and char temperatures of pulverized pine needles in a drop tube furnace" David Tarlinski, Yuan Yao, Di Chang, Yiannis Levendis, Martin Schiemann, Viktor Scherer. *International Journal of Energy for a Clean Environment,* **26**(8), 2025. https://doi.org/10.1615/InterJEnerCleanEnv.2025055498

J189. "Effects of oxygen concentration on nanoparticle formation during combustion of iron powders." Di Chang, Leon C. Thijs, Aidin Panahi, Xiaocheng Mi, Jeffrey M. Bergthorson, Yiannis A. Levendis. *Fuel*, **397**, 135366, 2025.

J190. "Carbon Nanoparticle Effects on PAN Crystallization for Higher-Performance Composite Fibers" Xiao Sun, Xiaoli Li, Varunkumar Thippanna, Conor Doyle, Ying Mu, Thomas Barrett, Lindsay B. Chambers, Churan Yu, Yiannis A. Levendis, Kenan Song, Marilyn

Minus. *ACS Polymers Au*, **5**(3), 270-281, 2025. https://doi.org/10.1021/acspolymersau.5c00006

J191. "Energy and Exergy Analyses of Power Generation Cycles Using Powdered Iron as a Fuel Source." Suchi Patel, Hameed Metghalchi, Yiannis A. Levendis. *ASME Open Journal of Engineering*, **4**, 041021-1-10, 2025. https://doi.org/10.1115/1.4068871

J192. "Inclusion of Concentrated Solar Thermal Power in Northeastern' University's Mechanical Engineering Curriculum" Benjamin Lynch, Umid Coskun, Gregory Kowalski, Laurent Lassard, Yiannis A. Levendis, Bala Maheshwaran, Hameed Metghalchi, Hossein Nurian, Rifat Sipahi, Yustianto Tjptowidjojo, Yasin Yazicioglu. *ASME Open Journal of Engineering,* **4**, 041030(1-13), 2025. https://doi.org/10.1115/1.4069389

J193. "Experimental and numerical investigations on the use of liquid nitrogen streams to suppress alcohol pool fires" Aobo Liu, Michael A. Delichatsios, Yiannis A. Levendis, *Fire Safety Journal*, **158**, 104522, 2025. https://doi.org/10.1016/j.firesaf.2025.104552

J194. "Concentrating Solar Thermal Power in China: 2025 Review and Outlook" Benjamin Lynch, Yiannis A. Levendis, Hameed Metghalchi. *ASME Open Journal of Engineering,* **4**, 040807(1-13), 2025. https://doi.org/10.1115/1.4070013

J195. "An experimental study on the ignition temperature of iron particles in an electrically-heated drop-tube furnace." Di Chang, Echo St. Germain, Randal Erb, Xiaocheng Mi, Jeffrey M. Bergthorson, Yiannis A. Levendis. *Fuel*, **404**, 135199, 2026.

J195. "Circular Carbon Nanotube Production for Advanced Structural Fiber Applications" Xiao Sun, Di Chang, Varunkumar Thippanna, Xiaoli Li, Aidin Panahi, Huidong Dai, Hongyi Wang, Jianlin Li, Yunzheng Yang, Arunachalam Ramanathan, Wentao Liang, Yiannis Levendis, Kenan Song and Marilyn Minus. *ACS Applied Materials &Interfaces*, **17**, 65848-65861, 2025. https://doi.org/10.1021/acsami.5c16868

J196. "Experimental and numerical investigations on the use of liquid nitrogen streams to suppress alcohol pool fires" Aobo Liu, Michael A. Delichatsios, Yiannis A. Levendis, *Fire Safety Journal*, **158**, 104522, 2025. https://doi.org/10.1016/j.firesaf.2025.104552

J197. "A Remotely Controlled Robotic Vehicle System for Fire Extinction With Liquid Nitrogen" Hyden Hishmeh, Aobo Liu, Yiannis A. Levendis. *ASME Open Journal of Engineering,* **4**, 051002(1-7), 2025. https://doi.org/10.1115/1.4070443

J198. "An experimental study on the ignition temperature of iron particles in an electrically-heated drop-tube furnace." Di Chang, Echo St. Germain, Randal Erb, Xiaocheng Mi, Jeffrey M. Bergthorson, Yiannis A. Levendis. *Fuel*, **404**, 135199, 2026. https://doi.org/10.1016/j.fuel.2025.136199

CONFERENCE PUBLICATIONS/PRESENTATIONS and OTHER PUBLICATIONS:

C1. "Construction of a Solar Still, an Indoor Simulation." and "Solar Still, Outdoor Experiments." Yiannis A. Levendis and John Clark. University of Michigan, Mechanical Engineering Departmental Reports, 1980 and 1981.

C2. "Monodisperse, Spherical Synthetic Char Particles for Studies of Char Oxidation", Yiannis A. Levendis and Richard Flagan. Proceedings of the First Joint Technical Meeting of the Canadian and Western States Sections of the Combustion Institute, Banff, Alberta, Canada, April 28-30, 1986.

C3. "Oxidation Kinetics of Synthetic Chars of Variable Properties", Yiannis A. Levendis and Richard C. Flagan. Proceedings of the Spring Meeting of the Western States Section of the Combustion Institute, Provo, Utah, April 6-7, 1987.

C4. "Combustion Behavior of Single Coal-Water Slurry Droplets. Part I: Experimental Techniques", Yiannis A. Levendis, Hameed Metghalchi M., and Donald L. Wise, Proceedings of the 15th Coal and Slurry Conference, Clearwater, Florida, April 23-26, 1990.

C5. "Construction of a Three-Color Pyrometer for Applications in Coal Combustion" Yiannis A. Levendis, and Kelvin Rafael Estrada. Proceedings of the Fall Meeting of the Eastern Section of the Combustion Institute, Dec. 3-5, 1990.

C6. "Combustion Behavior of Carbon Cenospheres Derived from Pyrolysis of Residual Oil in Furnaces." Paul S. Northrop, Yiannis A. Levendis and George R. Gavalas. Proceedings of the Fall Meeting of the Eastern Section of the Combustion Institute, Dec. 3-5, 1990.

C7. "Catalysis of the Combustion of Carbonaceous Particles (Synthetic Chars and Coal) by Addition of Calcium Acetate." in **Calcium Magnesium Acetate, an Emerging Bulk Chemical for Environmental Applications**. Don L. Wise, Yiannis A. Levendis and Mohamad Metghalchi, Editors. Elsevier, Amsterdam, 1991.

C8. "Experimental Techniques to Study the Combustion Characteristics of Two Plastics Commonly Found in Municipal Wastes." Yiannis A. Levendis and Thomai Panagiotou. Proceedings of the Second International Conference on Municipal Waste Combustion, Tampa, Florida, April 16-19, 1991.

C9. "Studies on the Combustion Behavior of Single Coal-Water Slurry Droplets." Yiannis A. Levendis. Proceedings of the 16th Coal and Slurry Conference, Clearwater, Florida, April 22-25, 1991.

C10. "Generation of Spherical and Monodisperse Polymer Particles by Atomization of Monomers or Dissolved Polymer Precursors" Thomai Panagiotou and Yiannis A. Levendis. Proceedings of the Fifth International Conference on Atomization and Sprays, NIST, July 15-18, 1991. NIST Special Publication 813.

C11. "Preparation of Porous Carbonaceous Particles from Poly(furfuryl alcohol) and Poly (vinyl acetate)" Khaled M. Daer and Yiannis A. Levendis. Proceedings of the 20th Biennial Conference on Carbon, Santa Barbara, CA, June 23-28, 1991.

C12. "Production of Spherical and Monodisperse Particles of Commonly Encountered Plastics." Thomai Panagiotou and Yiannis A. Levendis. Presented at the 10th Annual Meeting of the American Association for Aerosol Research. Raverse City, Michigan, October 8-11, 1991.

C13. "Combustion Rates of Coal-Water Slurry Droplets." Yiannis A. Levendis and Ajay Atal. Proceedings of the 17th Coal and Slurry Conference, Clearwater, Florida, April 27-30, 1992.

C14. "Evaluation of a Self-Cleaning Diesel Particulate System" Yiannis A. Levendis and Iraklis K. Pavlatos. Proceedings of the Eco-World Conference & Exhibition, Washington D.C., June 14-17, 1992.

C15. "Production of Higher Valued Chemicals from Organic Wastes: Calcium Magnesium Acetate, a Case Example." Donald L. Wise and Yiannis A. Levendis. Presented at the International Conference on Environmental Biotechnology in Waste Treatment and Recycling, Hong Kong, 12-14 January, 1993.

C16. "Calcium Magnesium Acetate (CMA) as a NO_x Reduction Agent in Coal Combustion." J. Steciak, W. Zhu, Y.A. Levendis and D.L. Wise. Proceedings of the Joint Technical Meeting of the Central and Eastern Sections of the Combustion Institute, New Orleans, LA, March 15-17, 1993.

C17. "Combustion of Single CWF Droplets of either Pulverized or Micronized Coal" Yiannis A. Levendis and Ajay Atal. Proceedings of the 18th Coal Utilization & Fuel Systems International Conference, Clearwater, Florida, April 26-29, 1993.

C18. "Development of Novel Systems for Simultaneous Control of Diesel Engine Hydrocarbons and Soot Emissions" Yiannis A. Levendis. Presented at the International Symposium on Heat and Mass Transfer in Energy Systems and Environmental Effects, Cancun, Mexico, August 22-25, 1993.

C19. "Effects of CMA on the Combustion of CWF Agglomerates" Yiannis A. Levendis and Ajay Atal. Proceedings of the Tenth Annual International Pittsburgh Coal Conference, Pittsburgh, PA, September 20-24, 1993.

C20. "Removal of SO_2 by Reaction with Calcium Magnesium Acetate: Comparison of Sulfation Model and Experiment" Judith Steciak, Yiannis A. Levendis and Girard A. Simons. Proceedings of the Tenth Annual International Pittsburgh Coal Conference, Pittsburgh, PA, September 20-24, 1993.

C21. "A Study on the Combustion Behavior of Crosslinked Poly(styrene) Particles at High Heating Rates" Thomai Panagiotou and Yiannis A. Levendis. Proceedings of the Technical Meeting of the Eastern Sections of the Combustion Institute, Princeton University, Princeton, NJ,

October 25-27, 1993.

C22. "SO_2 Emissions from CMA-Treated Coal" Ajay Atal, Judith Steciak and Yiannis A. Levendis. Proceedings of the Technical Meeting of the Eastern Sections of the Combustion Institute, Princeton University, Princeton, NJ, October 25-27, 1993.

C23. "The Removal of SO_2 by Calcium Magnesium Acetate of Different Ca to Mg Ratios" Judith Steciak and Yiannis A. Levendis. Proceedings of the Technical Meeting of the Eastern Sections of the Combustion Institute, Princeton University, Princeton, NJ, October 25-27, 1993.

C24. "Reduction of Combustion-Generated SO_2-NO_x by Fine Mists of CMA" Yiannis A. Levendis, Judith Steciak and Donald L. Wise. Proceedings of the 19th Coal Utilization & Fuel Systems International Conference, Clearwater, Florida, March 22-26, 1994.

C25. "A Waste-Derived Chemical for Acid Rain Control" Donald L. Wise, Judith Steciak and Yiannis A. Levendis. Presented at the International Symposium/Workshop on Environmental Biotechnology, University of Waterloo, Ontario, Canada, July 8, 1994.

C26. "On the Combustion of Poly(styrene) Particles" Thomai Panagiotou, Yiannis A. Levendis, and Michael Delichatsios. Poster Presentation at the Twenty-Fifth International Symposium on Combustion, Irvine, California, July 31 - August 5, 1994.

C27. "Emission and Absorption Measurements for Soot Concentration in Diffusion Flames" Thomai Panagiotou, Yiannis A. Levendis, and Michael Delichatsios. Proceedings of the Fall Technical Meeting of the Eastern States Section of the Combustion Institute, Clearwater, Fl, December 5-7, 1994.

C28. "Combustion of Ground Waste Tires" Ajay Atal and Yiannis A. Levendis. Proceedings of the Fall Technical Meeting of the Eastern States Section of the Combustion Institute, Clearwater, Fl, December 5-7, 1994.

C29. "Dry Injection of Calcium Carboxylic Acid Salts and Waste Plastics for Dual SO_2 and NO_x Emission Control." Judith Steciak and Yiannis A. Levendis. Proceedings of the 20th Coal Utilization & Fuel Systems International Conference, Clearwater, Florida, March 20-23, 1995.

C30. "Combustion and Inorganic Emissions from Ground Waste Tires." Yiannis A. Levendis, Ajay Atal and Judith Steciak. Proceedings of the 20th Coal Utilization & Fuel Systems International Conference, Clearwater, Florida, March 20-23, 1995.

C31. "A Study of Semi-Volatile Organic Emissions of Polymer Combustion by GS/MS." Joel Carlson, Yury Dunayevskiy, Ajay Atal, Thomai Panagiotou, Paul Vouros and Yiannis A. Levendis. Presented at the 43rd ASMS Conference on Mass Spectrometry and Allied Topics, Atlanta, Georgia, May 21-26, 1995.

C32. "Emissions from Burning Poly(styrene), Poly(ethylene) and PVC Particles." Thomai Panagiotou, Ajay Atal, Yiannis A. Levendis, Joel Carlson, Yury Dunayevskiy and Paul Vouros. Presented at the 4th International Congress on Toxic Combustion Byproducts, Berkeley, California, June 5-7, 1995.

C33. "Combustion and Organic Emissions of Waste Tire Crumb and Pulverized Coal." Ajay Atal, Yiannis A. Levendis, Joel Carlson, Yuriy Dunayevskiy and Paul Vouros. Presented at the 4th International Congress on Toxic Combustion Byproducts, Berkeley, California, June 5-7, 1995.

C34. "Combined Wet Injection of Sorbents and Dry Injection of Waste Plastics for SO_2-NO_x Control." Judith Steciak and Yiannis A. Levendis. Proceedings of the AIChE 1995 Summer National Meeting, Boston, Mass., July 30 - August 2, 1995.

C35. "A Waste-Derived Chemical for Acid Rain Control." in Environmental Biotechnology: Principles and Applications. Donald L. Wise, Judith Steciak and Yiannis A. Levendis. Moo-Young M., Anderson, W.A. and Chakrabarty, A.M. Editors, pp. 237-248. Kluwer Academic Publishers, Dordrecht/Boston/London, 1995.

C36. "Toxic Emissions from the Combustion of Pulverized Coal." Yiannis A. Levendis, Ajay Atal and Bonnie Courtemance. Proceedings of the 21st Coal Utilization & Fuel Systems International Conference, Clearwater, Florida, March 18-21, 1996.

C37. "Control of the Emissions of Transportation and Stationary Diesel Engines." Yiannis A. Levendis. Proceedings of the 2st Coal Utilization & Fuel Systems International Conference, Clearwater, Florida, March 18-21, 1996.

C38. "A Study of the Equivalence Ratio on Polymer Combustion Emissions by GS/MS." Joel Carlson, Yuriy Dunayevskiy, Paul Vouros, Ajay Atal, Thomai Panagiotou and Yiannis A. Levendis. Presented at the 44th ASMS Conference on Mass Spectrometry and Allied Topics, Portland, Oregon, May 12-16, p. 517, 1996.

C39. "Regeneration of a Glass Fiber Filter Diesel Particulate Trap with a Cerium-Based Additive." Sandeep Mehta, M. Gautam, Yiannis A. Levendis and Joseph Adiletta. Paper number 96EN063. Proceedings of the 29th ISATA Conference, Florence, Italy, June 3-6, 1996.

C40. "Toxic Gas Phase Emissions from the Combustion of Pulverized Coal Mixed with Powders of Waste Plastics or Tire Crumb." Yiannis A. Levendis, Ajay Atal and Bonnie Courtemance. Proceedings of the 22nd Coal Utilization & Fuel Systems International Conference, Clearwater, Florida, March 16-19, 1997.

C41. "NO-NO_2 Emissions from the Combustion of Solid Fuels." Yiannis A. Levendis and Bonnie Courtemance. Proceedings of the 22nd Coal Utilization & Fuel Systems International Conference, Clearwater, Florida, March 16-19, 1997.

C42. "Reduction of the Emissions of Diesel Engines by a Novel Exhaust Aftertreatment System."

Yiannis A. Levendis, Iraklis Pavlatos and Chris Larsen. Proceedings of the 1st European Conference on Clean Cars, pp. 325-338, Athens, Greece, May 15-18, 1997.

C43. "Aromatic Hydrocarbon Emissions from Mixtures of Coal and Tire Derived Fuels." Joel Carlson, Ajay Atal, Yiannis A. Levendis and Paul Vouros. Presented at the 45th ASMS Conference on Mass Spectrometry and Allied Topics, Palm Springs, California, June 1-6, 1997.

C44. "PAH and Soot Emissions from Batch Combustion of Coal and Tire-Derived-Fuels." Ajay Atal, Yiannis A. Levendis and Joel Carlson. Presented at the 5th International Congress on Toxic Combustion Byproducts, Dayton, Ohio, June 25-27, 1997.

C45. "Soot Emissions from the Combustion of Municipal Waste Plastics." Brooke E. Shemwell and Yiannis A. Levendis. Presented at the 5th International Congress on Toxic Combustion Byproducts, Dayton, Ohio, June 25-27, 1997.

C46. "Combustion of PVC: HCl Emissions and their Capture by Calcium and Magnesium-Based Sorbents." Bonnie Courtemanche and Yiannis A. Levendis. Presented at the 5th International Congress on Toxic Combustion Byproducts, Dayton, Ohio, June 25-27, 1997.

C47. "On the Combustion/Emissions of Tire-Derived Fuel and Pulverized Coal" Ajay Atal and Yiannis A. Levendis. Proceedings of the Fall Technical Meeting of the Eastern States Section of the Combustion Institute, pp.407-410. Hartford, CT, October 27-29, 1997.

C48. "Emissions from Burning Tire-Derived Fuel (TDF): Comparison of Batch Combustion of Tire Chips and Continuous Combustion of Tire Crumb." Yiannis A. Levendis and Ajay Atal. of the 23rd Coal Utilization & Fuel Systems International Conference, pp. 95-106, Clearwater, Florida, March 9-12, 1998.

C49. "Combustion Behavior of Black Liquid Fuel." Pirita Mikkanen, Esko Kauppinen, Ajay Atal and Yiannis A. Levendis. Proceedings of the 23rd Coal Utilization & Fuel Systems International Conference, pp. 1144-1156, Clearwater, Florida, March 9-12, 1998.

C50. "Reduction of HCl, SO_2 and NO_x Emissions of Powerplants using Organic Salts of Calcium." Yiannis A. Levendis, Bonnie Courtemanche, Judith Steciak and Donald L. Wise. Proceedings of the 23rd Coal Utilization & Fuel Systems International Conference, pp. 469-479, Clearwater, Florida, March 9-12, 1998.

C51. "Capture and Destruction of Soot Emissions from Diesel Engines used in Power Generation." Yiannis A. Levendis, Jorge Caceres and Sung Ho Kim. Proceedings of the 23rd Coal Utilization & Fuel Systems International Conference, pp.1075-1086, Clearwater, Florida, March 9-12, 1998.

C52. "Up-date of Using "CMA" as a Sorbent in Stationary Combustion Systems." Donald L. Wise and Yiannis A. Levendis. Presented at the 1998 meeting if the International Society of Biotechnology, The Queens University of Belfast, Northern Ireland, June 22-27, 1998.

C53. "A Model for CO and PAH Production in Non-Premixed Combustion Systems Such as Incineration and Fires." Yiannis A. Levendis, Ajay Atal and Michael A. Delichatsios. Presented at the 1998 Annual Conference of Fire Research, National Institute of Standards and Technology, Washington DC, November 2-5, 1998.

C54. "Effects of the Furnace Temperature on the CO, CO_2, NO_x and Unburned Hydrocarbon Emissions from the Combustion of Coal and Alternative Fuels." Yiannis A. Levendis, Ajay Atal and Bonnie Courtemanche. Proceedings of the 24th Coal Utilization & Fuel Systems International Conference, pp. 69-81, Clearwater, Florida, March 8-11, 1999.

C55. "Hot Flue Gas Filtration: A New Development." Yiannis A. Levendis and Ajay Atal. Proceedings of the 24th Coal Utilization & Fuel Systems International Conference, pp. 647-659, Clearwater, Florida, March 8-11, 1999.

C56. "The Effects of Sorbent Properties and Process Parameters on the Capture of HCl Gas by Dry-Injection of Calcium-Based Sorbents." Brooke Shemwell, Yiannis A. Levendis and Girard A. Simons, Presented at the 6th International Congress on Toxic Combustion Byproducts, Karlsruhe, Germany, June 27-30, 1999.

C57. "PAH and Soot Emissions from Burning Components of Medical Waste: Examination/Surgical Gloves and Cotton Pads." Yiannis A. Levendis, Ajay Atal, Joel B. Carlson and Maria del Mar Esperanza Quintana. Presented at the 6th International Congress on Toxic Combustion Byproducts, Karlsruhe, Germany, June 27-30, 1999.

C58. "On the Combustion and Emissions of Typical Waste Plastics." Proceedings of the REWAS'99, Global Symposium on Recycling, Waste Treatment and Clean Technology, pp. 879-888, San Sebastian, Spain, September 5-9, 1999.

C59. "Hot Flue Gas Filtration: Laboratory Tests and Projected Cost of a Combined Sorbent Injection Filtration Technique." Yiannis A. Levendis, Brooke E. Shemwell and Ajay Atal. Proceedings of the 25th Coal Utilization & Fuel Systems International Conference, pp. 253-264, Clearwater, Florida, March 6-9, 2000.

C60. "The Efficiency of Afterburners In Reducing Semivolatile Combustion Emissions." Joel Carlson, Jun Wang and Yiannis A. Levendis. Presented at the 48th ASMS Conference on Mass Spectrometry and Allied Topics, Long Beach, CA, June 11-15, 2000.

C61. "Control of Submicron Air Toxin Particles after Coal Combustion Utilizing Calcium Magnesium Acetate" Jianxi Zhao, Donald L. Wise, Edgar B. Gutoff, Joseph D. Gresser and Yiannis A. Levendis. In Environmental Biotechnology and Cleaner Bioprocesses Sanchez, G. and Hernandez, E., Eds., Taylor & Francis, London, 2000.

C62. "Formation of Toxic Byproducts in the Incineration of Polystyrene-Containing Waste." Jun Wang, Francesco Sanchez-Ayala, Henning Richter, Ajay Atal, Jack B. Howard, Yiannis A. Levendis and Joel Carlson. Poster Presentation at the 28th International Symposium on

Combustion, Edinburgh, Scotland, July 30 - August 4, 2000.

C63. "Sorbent/Coal Injection in a Ceramic Filter to Control Powerplant Emissions - Acid Rain Precursors." Yiannis A. Levendis and Ali Ergut. Proceedings of the 26th Coal Utilization & Fuel Systems International Conference, pp. 483-494, Clearwater, Florida, March 5-8, 2001.

C64. "Toxic Emissions from Burning Waste Tire Chips" Yiannis A. Levendis, Jefferson Caponero, Jorge Alberto Soares Tenorio and Joel Carlson. Proceedings of the 26th Coal Utilization & Fuel Systems International Conference, pp. 703-713, Clearwater, Florida, March 5-8, 2001.

C65. "Caracterizacao Das Emissoes Da Pirolise De Pneus Descartados" Jeferson Caponero, Yiannis A. Levendis, Ajay Atal, Joel Carlson and Jorge Alberto Soares Tenorio, 56th Congresso Anual a Associacao Brasileira de Metalurgia Material, Rio De Jenero, Brazil, February 2, 2001.

C66. "Extinction of Fires by Direct Dumping of Liquid Nitrogen." Yiannis Levendis, Michael Delichatsios, Justin Leonard, H-Z Yu and H-C Kung. Proceedings of the 9th International Fire Science & Engineering Conference (InterFlam 2001), pp. 279-290, Edinburgh, Scotland, September 17-19, 2001.

C67. "An Integrated Technique to Reduce SO_2, NO_x and Particulate Emissions from Commercial Power Plants." Ali Ergut, Yiannis A. Levendis and Girard A. Simons. Proceedings of the Fall Meeting of the Eastern Section of the Combustion Institute, pp. 49-52, Hilton Head Island, SC, Dec. 3-5, 2001.

C68. "The Effect of Coal Type in Dry-Sorbent/Coal Injection for Control of SO_2 and NO_x Emissions." Yiannis A. Levendis and Ali Ergut. Proceedings of the 27th Coal Utilization & Fuel Systems International Conference, pp. 875-885, Clearwater, Florida, March 4-7, 2002.

C69. "Comparative Emissions of the Modern Burner Unit Used in US Army Combat Field Feeding Kitchens" Joel Carlson, Justin Jordan, Jun Wang and Yiannis A. Levendis. Procedings of the 50th ASMSConference on Mass Spectrometry and Allied Topics, Orlando, Florida, June 2-6, 2002.

C70. "Toxic Emissions from Pyrolysis and Combustion of Waste Tire Chips." Jeferson Caponero, Yiannis A. Levendis, Joel Carlson and Jorge Alberto Soares Tenorio, Procedings of the Conference on Recycling and Waste Treatment in Mineral and Metal Processing: Technical and Economic Aspects, Lulea, Sweden, 16-20 June 2002.

C71. "A Low Emission Powerplant: An Integrated Technique to Remove Major Pollutnats." Ali Ergut and Yiannis A. Levendis. Proceedings of the International Mechanical Engineering Congress and Exposition, CD-ROM, New Orleans, Luisiana, USA, 17-22 November 2002.

C72. "Temperature Measurements in Pulverized Coal Combustion." Yiannis A. Levendis. Proceedings of the 28th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, March 9-13, 2003.

C73. "Capture of SO_2 Emissions from Combustion of Coal Treated with Tall Oil Pitch and Carboxylic Salts of Calcium and Magnesium." Vince Giampa, Ali Ergut and Yiannis A. Levendis. Proceedings of the 28th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, March 9-13, 2003.

C74. "PAH Emissions from Atmospheric-Pressure Premixed Combustion of Ethyl-Benzene using a Flat Flame Burner." Ali Ergut, Yiannis A. Levendis, Henning Richter, Jack B. Howard, Joel Carlson and Jude Jordan. Proceedings of the Third Joint Meeting of the US Sections of the Combustion Institute, CD-ROM, Chicago, IL, March 16-19, 2003.

C75. "Emissions from Burning of Jet Fuel JP-8 and Diesel Oil in Diffusion Flames." Murat Topal, Yiannis A. Levendis, Joel Carlson and Jude Jordan. Proceedings of the Third Joint Meeting of the US Sections of the Combustion Institute, CD-ROM, Chicago, IL, March 16-19, 2003.

C76. "PAH Generation in Fuel-Rich Ethanol Flames." Ali Ergut, Yiannis A. Levendis, Joel Carlson and Jude Jordan. Proceedings of the 2004 Spring Meeting of the Central States US Sections of the Combustion Institute, CD-ROM, University of Texas at Austin, Austin, TX, March 21-23, 2004.

C77. "Emissions from Combustion of Pulverized Polystyrene at a High Equivalence Ratio." Jennifer Pantalone, Ali Ergut, Yiannis A. Levendis, Joel Carlson and Jude Jordan. Proceedings of the 2004 Spring Meeting of the Central States US Sections of the Combustion Institute, CD-ROM, University of Texas at Austin, Austin, TX, March 21-23, 2004.

C78. "Comparison of the Products of Incomplete Combustion of Polystyrne and Styrene in Diffusion Flames and Ethyl-Benzene in Fuel-Rich Flames." Ali Ergut, Yiannis A. Levendis and Joel Carlson. Proceedings of ASME POWER 2004, March 30 - April 3, Baltimore, Maryland USA, 2004.

C79. "On the Measurement of Flame Temperatures Using Thermocouples." Ali Ergut and Yiannis A. Levendis. Proceedings of the Fourth International Symposium on Radiative Heat Transfer, CD-ROM, Istanbul, Turkey, June 20-25, 2004.

C80. "Liquid Nitrogen as a Fire Extinction Agent." Yiannis A. Levendis. Proceedings of the First Joint Meeting of the Italian and Greek Sections of the Combustion Institute, CD-ROM, Corfu, Greece, June 17-20, 2004.

C81. "Emissions from the Combustion of Ethyl Alcohol, Comparizon with Other Fuels." Yiannis A.Levendis Ali Ergut, Joel Carlson and Jude Jordan. Proceedings of the First Joint Meeting of the Italian and Greek Sections of the Combustion Institute, CD-ROM, Corfu, Greece, June 17-20, 2004.

C82. "On the Evolution of the Surface Area of Combustion-Generated Soot." Angelo W. Kandas, Gokhan Senel, Yiannis A. Levendis and Adel Sarofim. Proceedings of the First Joint Meeting of the Italian and Greek Sections of the Combustion Institute, CD-ROM, Corfu, Greece, June

17-20, 2004.

C83. "Investigation of Soot Onset Threshold in One-Dimensional, Laminar, Atmospheric Pressure, Premixed, Ethylbenzene Flames" Ali Ergut, Yiannis A. Levendis, Henning Richter and Joel Carlson. Proceedings of the Fourth Joint Meeting of the US Sections of the Combustion Institute, Drexel University, Philadelphia PA, March 20-23, 2005.

C84. "Pyrolysis and Oxidation of Anthracene in a Two-Stage Laminar-Flow, Drop-Tube Furnace Jennifer DeCoster, Ali Ergut, Yiannis A. Levendis, Henning Richter and Joel Carlson. Proceedings of the Fourth Joint Meeting of the US Sections of the Combustion Institute, Drexel University, Philadelphia PA, March 20-23, 2005.

C85. "Capture of SO_2 Emissions from Combustion of Coal Treated with Tall Oil Pitch and Calcium 3-Hydroxy Propionate." Vince Giampa, Douglas Cameron, Timothy Abraham, Paris Tsobanakis, Ali Ergut and Yiannis A. Levendis. Proceedings of the 30th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, April 17-21, 2005.

C86. "Oxygen-Enriched Combustion of Coal Chars." Yiannis A. Levendis. Proceedings of the 30th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, April 17-21, 2005.

C87. "Emissions of Batch Combustion of Waste Tire Chips: Effects of Chemical Additives" Yiannis A. Levendis, Jefferson Caponero, Jorge A. S. Tenório, Joel B. Carlson, Proceedings of the 30th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, April 17-21, 2005.

C88. "An Investigation on Thermocouple-based Temperature Measurements in Sooting Flames" Ali Ergut and Yiannis A. Levendis. Proceedings of the 2005 ASME International Mechanical Engineering Congress and Exposition (IMECE2005), Orlando, Florida, November 5-11, 2005.

C89. "Recycling of Waste Tires into a `Clean-Burning' Pyrolysis Gas" Yiannis A. Levendis. Invited lecture at the 2005 International Chemical Congress of Pacific Basin Societies (PacifiChem 2005), Honolulu, Hawaii, December 15-20, 2005.

C90. "Reaction Times of Burning Bituminous Chars at High O_2 Partial Pressures." Yiannis A. Levendis and Paula Bejarano. Proceedings of the 31st Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, May 21-25, 2006.

C91. "Emissions of SO_2 and NO_x from Bituminous Coal Volatile Flames and Burning Chars." Yiannis A. Levendis. Proceedings of the 31st Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, May 21-25, 2006.

C92. "Diesel Engine Performance and Pollutant Emissions with Air-Side vs. Fuel-Side Oxygen Addition" Theodore C. Zannis, Efthimios G. Pariotis, Dimitrios T. Hountalas, Constantinos D. Rakopoulos and Yiannis A. Levendis. Proceedings of the 19th International Conference on

Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS), CD-ROM, Aghia Pelagia, Crete, Greece, July 12-14, 2006.

C93. "On Soot Formation/Emissions from Ethyl-Alcohol Flames" Ali Ergut, Yiannis A. Levendis, Henning Richter, Jack B. Howard and Joel Carlson, Poster Presentation at the 31st International Symposium on Combustion, Heidelberg, Germany, August 6-11, 2006.

C94. "Soot Threshold in Premixed Ethyl-benzene Flames" Ali Ergut, Yiannis A. Levendis, Henning Richter, Jack B. Howard and Joel Carlson, Poster Presentation at the 31st International Symposium on Combustion, Heidelberg, Germany, August 6-11, 2006.

C95. "Avaliação das Emissões Gasosas na Pirólise Seguida de Combustão do Polistireno em Fluxo Contínuo" Cecília Korber Gonçalves, Jorge Alberto Soares Tenório and Yiannis A. Levendis, Proceedings of the Congresso ICTR 2006 (Gestao Ambiental e Desenvolvimento Sustentavel. Residuo : Desafio Brasileiro - Environmental Management and Sustainable Development. Residues: Brazilian Challenge) Sao Pedro, Brazil, 6-9 August 2006.

C96. "Emission Yields from Pyrolysis Followed by Combustion of Polyethylene in Steady Flow." Cecília Korber Gonçalves, Jorge Alberto Soares Tenório and Yiannis A. Levendis. Presented at the 2007 TMS Annual Meeting and Exhibition, Orlando Fl, 25 February - 1 March, 2007.

C97. "Effects of Replacing N_2 with CO_2 Gas in Coal Combustion at Various O_2 Partial Pressures" Paula Bejarano and Yiannis A. Levendis. Proceedings of the 5th US Combustion Meeting of the Combustion Institute, San Diego, March 25-28, 2007.

C98. "Temperature Dependence of Soot Onset Threshold in Premixed Ethylbenzene Flames" Ali Ergut, Rick Therrien, Yiannis A. Levendis. Proceedings of the 5th US Combustion Meeting of the Combustion Institute, San Diego, March 25-28, 2007.

C99. "Pool Fire Extinction by Direct Application of Liquid Nitrogen" Yiannis A. Levendis and Michel A. Delichatsios. Proceedings of the 5th US Combustion Meeting of the Combustion Institute, San Diego, March 25-28, 2007.

C100. "A Vertically-Aligned Contextualized Pre-Engineering Design Course for Middle- and High-School Science Teachers" Yiannis A. Levendis, Christos Zahopoulos, Cheryl Hall and Jonathan McLaughlin. Proceedings of the ASEE New England Section Meeting, CD-ROM, University of Rhode Island, Kingston, April 20-21, 2007.

C101. "Comparative Analysis of Lignite and Bituminous Coal Particles Burning in O_2-N_2 & O_2-CO_2 Environments" Paula Bejarano and Yiannis A. Levendis. Proceedings of the 32nd Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, June 10-15, 2007.

C102. "Study on the Particulate Emissions from Indirect Combustion of Polyethylene Wastes." Cecília Korber Gonçalves, Jorge Alberto Soares Tenório and Yiannis A. Levendis.

Proceedings of the the 62nd International Annual Congress of ABM (Associaçào Brasilieira de Metalurgia e Materiais), Vitoria, Brazil, 23-27 July, 2007.

C103. "Volatile Emissions from Indirect Combustion of Municipal Waste Plastics" Cecília Korber Gonçalves, Jorge Alberto Soares Tenório and Yiannis A. Levendis. Proceedings of the 62nd International Annual Congress of ABM (Associaçào Brasilieira de Metalurgia e Materiais), Vitoria, Brazil, 23-27 July, 2007.

C104. "Liquid Assets" Yiannis A. Levendis and Michel A. Delichatsios. Fire Prevention Fire Engineers Journal of the British Fire Protection Association. Sept. 2007 issue, pp.54-56.

C105. "Introduction of the Engineering Design Process to Middle- and High-School Science Teachers through the Re-Design of a Toy" Yiannis A. Levendis and Christos Zahopoulos. Presented at the NSTA National Conference, Boston, March 27-30, 2008.

C106. "Combustion of two Lignite Coals in O_2-N_2 & O_2-CO_2." Yiannis A. Levendis and Kulbhuhshan Joshi. Proceedings of the 33rd Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, June 2-6, 2008.

C107. "Chemical Speciation of Premixed Ethylbenzene Flames at the Soot Onset Limit at various (ϕ, *T*) pairs." Ali Ergut, Richard J. Therrien, Yiannis A. Levendis, Henning Richter, Jack B. Howard and Joel Carlson, Presented at the 32nd International Symposium on Combustion, Montreal, Canada, August 3-8, 2008.

C108. "Cryogenic Extinction of Liquid Pool Fires." Yiannis A. Levendis and Michael Delichatsios, Presented at the 32nd International Symposium on Combustion, Montreal, Canada, August 3-8, 2008.

C109. "Emissions Generated during the Co-Combustion of Coal and Biomass Fuel Blends." Marcia Bragato, Kulbhushan Joshi, Joel Carlson, Jorge A. S. Tenorio and Yiannis A. Levendis, Presented at the 32nd International Symposium on Combustion, Montreal, Canada, August 3-8, 2008.

C110."Emergency Fire Extinction by Direct Application of Liquid Nitrogen." Yiannis A. Levendis, Invited presentation at the ACHMM 2008 National Conference and Exposition, Minneapolis, Minnesota, Canada, September 7-10, 2008.

C111. "Emissions from Direct or Indirect Combustion of Tire-Derived Fuel." Yiannis A. Levendis, Proceedings of the 2008 ASME International Mechanical Engineering Congress and Exposition (IMECE2008), Boston, Massachusetts, October 31-November 6, 2008.

C112. "Cryogenic Extinction of Liquid Pool Fires" Yiannis Levendis, Ali Ergut and Michael Delichatsios. Invited paper presented at the 2009 AIChE Spring National Meeting and 5th Global Congress on Process Safety, Tampa, Fl., April 26-30, 2009.

C113. "Comparative emission yields from Combustion of beds of various solid fuels."

Yiannis A. Levendis. Proceedings of the 34th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, June 1-6, 2009.

C114."Intake-Air Oxygen-Enrichment of Diesel Engines as a Power Enhancement Method and Implications on Pollutant Emissions" Theodoros C. Zannis, Dimitrios T. Houndalas, Elias Yphantis, Roussos Papagiannakis and Yiannis A. Levendis. Proceedings of the Internal Combustion Engine Division Fall Technical Conference (ICE FTC 09), Lucerne, Switzerland, Sept. 27-30, 2009.

C115. "Influence of Reactant Fuel Class on the Flame Synthesis of Carbon Nanostructures." Brendan Hall, Chuanwei Zhuo, Henning Richter and Yiannis A. Levendis, Presented at the Eastern Section Meeting of the Combustion Institute, College Park , Maryland, October 18-21, 2009.

C116. "Analysis of Light Hydrocarbon Gases in the Pyrolysis and Combustion Processes of Waste Tires" Joner O. Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Presented at the 2010 TMS Annual Meeting and Exhibition. Seattle, WA, February 14-18, 2010.

C117. "Ignition of Single Coal Particles in $O_2/N_2/CO_2$ Atmospheres." Chris Stivers and Yiannis A. Levendis. Proceedings of the 35th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, June 7-10, 2010.

C118. "Analysis of Light Hydrocarbon Gases in the Pyrolysis Process of Sugarcane Bagasse." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the 65th International ABM Congress; Jul 26-30, 2010; Rio de Janeiro, Brazil.

C119. "Assessment and Control of Gaseous Emissions Generated during the Pyrolysis Process of wastes from Bio-Ethanol Industry." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the 5th International Bioenergy Congress; Aug. 10-13, 2010; Curitiba, Brazil.

C120. "Feasibility Study of the Use of Sugarcane Bagasse as Raw Material to Produce Nanomaterials" Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the 5th International Bioenergy Congress; 2010 Aug. 10-13, 2010; Curitiba, Brazil.

C121. "Analysis of Gaseous Emissions Generated in the Pyrolysis Process of DDGS." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the XXVIII National Congress of Maize and Sorghum; Aug. 30-Sep. 02, 2010; Goiania, Brazil.

C122. "Recovery of Waste Tires in the Synthesis of Carbon Nanotubes." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the XVIII International Symposium on Automotive Engineering; Sep 22-23, 2010; Sao Paulo, Brazil.

C123. "Microstructural analysis of carbon nanotubes produced from pyrolysis-combustion of styrene-butadiene-rubber (SBR)" Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the 19th CBECiMat - Brazilian Congress of Materials Science and Engineering. Campos do Jordão - SP, Brazil, November 21-25 2010, p.188-196.

C124. "A Novel Technology for Green(er) Manufacturing of CNTs via Recycling of Waste Plastics" Chuanwei Zhuo, Brendan Hall, Henning Richter and Yiannis A. Levendis, Proceedings of the 2010 MRS Fall Meeting, Boston, November 29 – December 2, 2010.

C125. "Converting Plastic Waste into Sustainable Clean Power." Chuanwei Zhuo, Jeff Young, Shane McElroy, David Laskowski, Jason Lee, Paul Conroy, Brendan Hall and Yiannis A. Levendis, Presented at the NSF CMMI Contractors Conference, themed Engineering for Sustainability and Prosperity, Atlanta, Georgia, January 3-7, 2011.

C126. "NO_x and SO_2 Emissions of Coal/Biomass Blend from Combustion in CO_2/O_2 and N_2/CO_2 Environments" Paula Manoel Crnkovic, Fayza Kazanc, Reza Khatami and Yiannis A. Levendis. Proceedings of the 14th Annual Energy, Utility & Environment Conference – EUEC 2011; Phoenix Arizona, Jan.31-Feb 2, 2011.

C127. "Microstructural Characterization of Nanomaterials Produced from co-products of the Ethanol Production (DDGS)." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the 2011 TMS Annual Meeting & Exhibition. San Diego, CA, February 27 – March 3, 2011.

C128. "Microstructural Analysis of Nanomaterials Synthesized from Unserviceable Tires." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the 2011 TMS Annual Meeting & Exhibition. San Diego, CA, Febr. 27–March 3, 2011.

C129. "Analysis and Control of Light Hydrocarbon Gases in the Pyrolysis and Combustion Process of Several Solid Wastes" Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A. S. Tenorio. Proceedings of the 2011 TMS Annual Meeting & Exhibition. San Diego, CA, February 27 – March 3, 2011.

C130. "Cryogenic Suppression of Fires." Yiannis A. Levendis and Michael A. Delichatsios. Proceedings of the Suppression Detection and Signaling Conference SUPDET 2011, of the Fire Protection Research Foundation, pages 130-138, Orlando, Florida, March 22-25, 2011.

C131. "Cryogenic Suppression of Liquid Pool Fires and Wooden Crib Fires." Yiannis A. Levendis and Michael A. Delichatsios. Featured article in the Fire and Safety Magazine (FS-Word.com), pages 4-8, Spring 2011 edition.

C132. "In-Furnace Behavior and Emissions from Conventional Combustion and Oxy-Combustion of Coal." Yiannis A. Levendis, Reza Khatami and Feyza Kazanc. Proceedings of the 36th

Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, June 5-9, 2011.

C133. "Power Generation by Sequential Liquefaction, Gasification and *Clean* Combustion of Waste Plastics" Yiannis A. Levendis. Invited Presentation at the TechConnect World Summit, Conference and Expo, Boston, Massachusetts, June 14-15, 2011.

C134. "Microstructural Characterization of Nanomaterials Synthesized from Pyrolysis Gases of Sugarcane Bagasse." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A.S. Tenorio. Brazilian Association of Metallurgy, Materials and Mining. Proceedings of the 66th ABM Congress, Sao Paulo, Brazil, p.1592-1598, ISSN 1516-392X, 18-22 July 2011.

C135. "Characterization of Light Hydrocarbon Emissions from the Combustion Process of PET Bottles." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A.S. Tenorio. Brazilian Association of Metallurgy, Materials and Mining. Proceedings of the 66th ABM Congress, Sao Paulo, Brazil, p. 1584-1591, ISSN 1516-392X, 18-22 July 2011.

C136. "Feasibility Study of the Use of PET bottles as Raw Material to Produce Nanomaterials." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis and Jorge A.S. Tenorio. Brazilian Association of Metallurgy, Materials and Mining. Proceedings of the 66th ABM Congress, Sao Paulo, Brazil, p. 2253-2259, ISSN 1516-392X, 18-22 July 2011.

C137. "Raman Spectroscopy of Nanomaterials Obtained from Solid Wastes." Joner Oliveira Alves, Chuanwei Zhuo, Yiannis A. Levendis, Jorge A.S. Tenorio, L.H.F. Lima and P. Corio, Brazilian Association of Metallurgy, Materials and Mining. Proceedings of the 66th ABM Congress, Sao Paulo, Brazil, p. 1897-1903, ISSN 1516-392X, 18-22 July 2011.

C138. "Gaseous and Particulate Emissions from Conventional Combustion and Oxy-Combustion of a Lignite Coal." Feyza Kazanc and Yiannis Levendis. Proceedings of the 2011 Fall Technical Meeting of the Eastern States Section of the Combustion Institute, University of Connecticut, Storrs, CT, October 9-12, 2011.

C139. "Differences in Single Coal Particle Ignition Mechanisms in N_2 and CO_2-rich Environments" Reza Khatami and Yiannis Levendis. Proceedings of the 2011 Fall Technical Meeting of the Eastern States Section of the Combustion Institute, University of Connecticut, Storrs, CT, October 9-12, 2011.

C140. "Synthesis of Carbon Nanomaterials via Up-Cycling Several Solid Wastes." Chuanwei Zhuo, Joner Oliveira Alves, Jorge A.S. Tenorio and Yiannis A. Levendis. Presented at the Materials Science & Technology 2011 Conference & Exhibition, Columbus, Ohio, October 16-20, 2011.

C141. "Pool Fire Extinction by Remotely-Controlled Application of Liquid Nitrogen." Yiannis A. Levendis and Michael A. Delichatsios. Invited talk at the 2011 FIRESEAT Conference at the National Museum of Scotland, Edinburgh, UK, November 9, 2011.

C142. "Waste-to-Energy Conversion by Stepwise Liquefaction, Gasification and "Clean Combustion" of Waste Plastics." Saleb Talebi Anaraki, Andrew Davis, Chuanwei Zhuo and Yiannis A. Levendis. Proceedings of the 20th Annual North American Waste-to-Energy Conference, Portland, Maine, April 23-25, 2012.

C143. "Ignition, Combustion and Emissions from Sugarcane Bagasse Burning under Conventional and Oxy-Fuel Conditions." Yiannis A. Levendis, Reza Khatami and Feyza Kazanc. Proceedings of the 37th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, June 4-7, 2012.

C144. "Up-cycling of Solid Polymer Wastes and Biomass Residues to Carbon Nanomaterials" Chuanwei Zhuo, Joner Alves, Jorge Tenorio, Henning Richter and Yiannis A. Levendis. Proceedings of the 2012 MRS Fall Meeting, Boston, November 25 – 30, 2012.

C145. "Flame Synthesis of Carbon Nanomaterials Using Polyethylene, Ethylene, Ethyl-Benzene and Ethyl-Alcohol as Fuels" Chuanwei Zhuo, Brendan Hall, Henning Richter and Yiannis A. Levendis. Proceedings of the 2012 MRS Fall Meeting, Boston, November 25–30, 2012.

C146. "Physical and Chemical Characteristics of Particulate Matter (PM1) Emitted from Combustion of a Bituminous Coal in Air and Oxy-Fuel Environments." Feyza Kazanc and Yiannis Levendis. Proceedings of the 8th US National Meeting of the Combustion Institute, Salt Lake City –UT, USA, 19-22 May 2013.

C147. "Comparative Radiative Transfer from Burning Single Particles of Coal and Biomass in Conventional and in Oxy-Combustion Conditions." Yiannis A. Levendis, and Reza Khatami. Proceedings of the 38th Coal Utilization & Fuel Systems International Conference, CD-ROM, Clearwater, Florida, June 3-6, 2013.

C148. "Soot Volume Fractions in Volatile Matter Envelope Flames of Bituminous Coal Particles in Air and Oxy-Fuel Combustion" Reza Khatami and Yiannis A. Levendis. Proceedings of the ASME 2013 Power Conference, Boston, Massachusetts, July 29 - August 1, 2013.

C149. "Environmentally-Benign Conversion of Biomass Residues to Electricity" Andrew Davis, Rasam Soheilian, Chuanwei Zhuo and Yiannis A. Levendis. Proceedings of the ASME 2013 Power Conference, Boston, Massachusetts, July 29 - August 1, 2013.

C150. "Rank-Dependent Combustion Behavior of Pulverized Coals." Yiannis A. Levendis, and Reza Khatami. Proceedings of the 39th Coal Utilization & Fuel Systems International Conference CD-ROM, Clearwater, Florida, June 1-4, 2014.

C151. "Fine Ash Particle Emissions from Combustion of Coals and Biomass Process Residues" Feyza Kazanc, Amanda Ruscio and Yiannis A. Levendis, Presented at the 36th International Symposium on Combustion, San Francisco, USA, August 4-8, 2014.

C152. "Effects of CO_2 on Carbon Nanotube Formation from Thermal Decomposition of Ethylene"

Chuanwei Zhuo, Fariba Seyedzadeh Khanshan, Richard West, Henning Richter and Yiannis A. Levendis. Proceedings of the 2014 MRS Fall Meeting, Boston, December 1-5, 2014.

C153. "Coal and Biomass Combustion Study under Air and Oxy-Fuel Atmospheres." Juan Riaza, Reza Khatami and Yiannis A. Levendis, Presented at the 5th International Workshop on Co-firing Biomass with Coal by the IEA Clean Coal Centre, CD-ROM, Drax, UK, September 16-17, 2015.

C154. "Use of Recycled Plastic Wastes Instead of Premium Gaseous Hydrocarbons as Feedstocks for Sustainable Synthesis of Carbon Nanotubes." Chuanwei Zhuo and Yiannis A. Levendis Proceedings of the **144th** TMS 2015 Annual Meeting & Exhibition. Orlando, FL, March 15-19, 2015.

C155. "Emissions from Co-firing Coals." Yiannis A. Levendis, Aidin Panahi, Emad Rokni and Xiaohan Ren. Proceedings of the 40th Coal Utilization & Fuel Systems International Conference CD-ROM, Clearwater, Florida, May 31-June 4, 2015.

C156. "Oxygen Concentration in Oxy-fuel Combustion." Yiannis A. Levendis and Reza Khatami. Proceedings of the 41st Coal Utilization & Fuel Systems International Conference CD-ROM, Clearwater, Florida, June 5-9, 2016.

C157. "Combustion Behavior of Herbaceous and Woody Biomass." Aidin Panahi, Yiannis A. Levendis, Nikita Vorobiev, Martin Schiemann and Viktor Scherer. Proceedings of the 41st Coal Utilization & Fuel Systems International Conference CD-ROM, Clearwater, Florida, June 5-9, 2016.

C158. "Cryogen Capsules to Suppress Wildfires." Craig W. Martland, David P. Marchessault, Andrew McGarey, Diego Rivas, Kevin W. Stanley and Yiannis A. Levendis. Featured article in Fire and Safety Magazine (FS-Word.com), pages 30-33, Fall 2016 edition.

C159. "In-Furnace Sulfur Capture by Co-Firing Coal with Alkali-based Sorbents." Emad Rokni, Hsun-Hsien Chi, Emad Rokni and Yiannis A. Levendis. Proceedings of the ASME 2018 IMECE International Mechanical Engineering Congress & Exposition CD-ROM, Phoenix, Arizona, November 14-18, 2016.

C160. "Conversion of Waste Plastics into Nano-Carbons and Fuels" Zixiang Wei, Connell Dsouza, Chuanwei Zhuo and Yiannis A. Levendis. Presented at the 2016 MRS Fall Meeting, Boston, November 28 – December 2, 2016.

C161. "Design of Liquid Nitrogen Capsules for Forest Fire Suppression" Craig W. Martland, David P. Marchessault, Andrew McGarey, Diego Rivas, Kevin W. Stanley and Yiannis A. Levendis, *Embark*, 1, 12-21, 2016. http://issuu.com/northeastern/docs/embark_volume_1/43?e=4455913/40861924

C162. "Torrefied Biomass Size for Combustion in Existing Boilers." Aidin Panahi, Mahmut

Tarakcioglu and Yiannis A. Levendis, Proceedings of the 10th US National Meeting of the Combustion Institute, April 23-26, Maryland, USA, 2017.

C163. "Coal and Biomass Combustion and Gasification." Emad Rokni, Aidin Panahi and Yiannis Levendis. Proceedings of the 10th US National Meeting of the Combustion Institute, April 23-26, Maryland, USA, 2017.

C164. "Fuel Nitrogen to NO_x Conversion in O_2/CO_2 Atmospheres." Aidin Panahi, Andrew Baugher, Belinda Slakman, Richard West and Yiannis A. Levendis, Proceedings of the 10th US National Meeting of the Combustion Institute, April 23-26, Maryland, USA, 2017.

C165. "Nitrogen Oxide Evolution in Oxy-Coal Combustion." Aidin Panahi, Andrew Baugher, Belinda Slakman, Richard West and Yiannis A. Levendis, Presented at the 2018 Eastern Sections of the Combustion Institute Spring Technical Meeting, March 4-7, Penn State, State College, Pennsylvania, USA, 2018.

C166. "Laminar burning Speed of Propane/CO_2 – Air Mixtures" Sai C Yelishala, Ziyu Wang, Hammed Metghalchi, Yiannis A Levendis Proceedings of the 3rd Thermal and Fluids Engineering Conference (TFEC) March 4–7, 2018 Fort Lauderdale, FL, USA.

C167. "Assessment of Blends of Hydrocarbons and CO_2 as Alternative Natural Refrigerants" Sai C Yelishala, Xiao Ma, Ziyu Wang, Hammed Metghalchi, Yiannis A Levendis Proceedings of the 3rd Thermal and Fluids Engineering Conference (TFEC) March 4–7, 2018 Fort Lauderdale, FL, USA.

C168. "The Impact of Biomass Ash as an Additive on the Nitrogen Partitioning and NO_x Emissions from Coal Combustion". Richard I. Birley, Jenny M. Jones, L.I Darvell, Allan Williams, D. Waldron, Yiannis A. Levendis, Presented at the 2018 Combustion Institute British Section Spring Meeting, April 5, Manchester, UK, 2018.

C169. "A Comprehensive Study on Optimizing Conversion of Waste Plastics Using Diverse Catalysts, Carrier Gases, Flow-Rates and Pre-Treatment Methods into Nano-Carbons and Fuels" Aidin Panahi, Xiao Sun, Guangchao Song and Yiannis A. Levendis. Presented at the 2018 MRS Fall Meeting, Boston, November 25–30, 2018.

C170. "Laminar Burning Speed of Isobutane/Air/Carbon Dioxide Mixtures at Various Pressures and Temperatures" Sai C Yelishala, Ziyu Wang, Zhenyu Lu, Hammed Metghalchi, Yiannis A Levendis Proceedings of the 11th US National Meeting of the Combustion Institute, March 24-27, Pasadena, CA, USA, 2019.

C171. "Oxy-Combustion Behavior of Torrefied Biomass Particles." Aidin Panahi, Neil Tool, Xinyu Wang, Martin Schiemann and Yiannis A. Levendis. Proceedings of the 11th US National Meeting of the Combustion Institute, March 24-27, Pasadena, CA, USA, 2019.

C172. "Pyrolysis and Combustion of Raw and Torrefied Biomass. Aidin Panahi, Yang Yang, Martin Schiemann and Yiannis A. Levendis. Proceedings of the 11th US National Meeting

of the Combustion Institute, March 24-27, Pasadena, CA, USA, 2019.

C173. "On the Oxidative Torrefaction of Corn Straw." Emad Rokni, Ruilei Yang and Yiannis Levendis. Proceedings of the 11th US National Meeting of the Combustion Institute, March 24-27, Pasadena, CA, USA, 2019.

C174. "The Effects of Carbon Dioxide on Laminar Burning Speed and Flame Instability of Isobutane Air Mixture at High Temperature and Pressures" Ziyu Wang, Zhenyu Lu, Sai C. Yelishala, Hameed Metghalchi, Yiannis A. Levendis. Proceedings of the 2020 Spring Technical Meeting of the Eastern States Section of the Combustion Institute, Columbia, SC, March 8 –11, 2020.

C175. "Effects of Temperature Glide Matching on the Performance of Hydrocarbon + Carbon Dioxide Refrigerants" Sai C. Yelishala, Kannaiyan Kumaran, Reza Sadr, Hameed Metghalchi, Yiannis A. Levendis. Accepted for presentation by the 18th International Refrigeration and Air Conditioning Conference at Purdue, West Lafayette, Indiana, July 13-16, 2020.

C176. "Conversion of Waste Plastic into CNTs using Stainless Steel Catalyst - An Optimization Approach to Maximize the Yield." Aidin Panahi, Xiao Sun, Di Chang and Yiannis A. Levendis. Presented at the MRS Fall Conference, Boston, Massachusetts, November 2020.

C177. "Measurement of Laminar Burning Speed of Propylene, Carbon Dioxide and Air Mixtures" Zhenyu Lu, Ziyu Wang, Hameed Metghalchi, Yiannis A. Levendis. Proceedings of the 2022 Spring Technical Meeting of the Eastern States Section of the Combustion Institute, Orlando, Fl., March 6 –9, 2022.

C178. "Use of Capstone Engineering Design Projects to Construct a Teaching Laboratory" Yiannis A. Levendis. Proceedings of the 2022 ASEE Northeast Section Conference: Inclusive Excellence in Engineering Education, Boston, MA, April 22-23, 2022. Awarded Best Runner-up presentation.

C179. "Spectroscopic and Pyrometric Temperature Measurements of Heated Type-B and Type-S Thermocouples." Yuan Yao, Aidin Panahi, and Yiannis A. Levendis. Proceedings of the 7TH Thermal and Fluids Engineering Conference, University of Nevada, Las Vegas, NV, May, 16-18, 2022.

C180. "Spectral Emissivity of Burning Iron Particles" Yuan Yao, Aidin Panahi, and Yiannis A. Levendis. Proceedings of the 13th U.S. National Meeting of the Combustion Institute, College Station, TX, March 19–23, 2023.

C181. "Concurrent Spectroscopic Measurement of Emissivity and Temperature of Burning Single Coal Particles" Yuan Yao, Di Chang, Aidin Panahi, and Yiannis A. Levendis. Proceedings of the 8th Thermal and Fluids Engineering Conference (TFEC) of the American Society of Thermal and Fluids Engineers, University of Maryland, MD, May 2023.

C182. "Spectral Emissivity of Burning Iron Particles" Yuan Yao, Aidin Panahi, and Yiannis A. Levendis. Proceedings of the 13th U.S. National Meeting of the Combustion Institute, College Station, TX, March 19–23, 2023.

C183. "Byproduct Generation in the Iron Fuel Cycle: Research and Outreach" Echo St. Germain, Randall Erb, and Yiannis Levendis. Presented at the ASEE-NE Northeast Section Conference hosted at Fairfield University, Fairfield, CT, April 19–20, 2024.

C184. "Optical Measurements of Pulverized Pine Needles Burning in a Drop Tube Furnace" David Tarlinski, Martin Schiemann, Victor Scherer, Yuan Yao, Di Chang, Yiannis A. Levendis. Proceedings of the 48th International Technical Conference on Clean Energy, Clearwater, Florida, June 16 to 19, 2024. This paper was awarded the Best Student Paper Award at this conference.

C185. "Effects of Heating Rate and Oxide Layer Growth on the Ignition of Iron Powder" Echo St. Germain, Randall Erb, Yiannis A. Levendis. Proceedings of the 14th U.S. National Meeting of the Combustion Institute, Boston, MA, March 16–19, 2025.

C186. "Experimental investigation of iron combustion in O_2-containing mixtures of different inert gases." Di Chang, Randall Erb, Yiannis A. Levendis. Proceedings of the 14th U.S. National Meeting of the Combustion Institute, Boston, MA, March 16–19, 2025.

C187. "Experimental and numerical investigations on the suppression/extinction of alcohol pool fires using liquid nitrogen." Aobo Liu, Alexandros G. Venetsanos, Michael A. Delichatsios, Yiannis A. Levendis. Proceedings of the 14th U.S. National Meeting of the Combustion Institute, Boston, MA, March 16–19, 2025.

C188. "Developing a Sustainable Engineering Mindset Through Heliostat Activities in Project-Based Learning" Bala Maheswaran, Meghna Sridhar, Yiannis A. Levendis, Hameed Metghalchi. Proceedings of the 2025 ASEE Northeast Section Conference, University of Bridgeport, Bridgeport, CT, March 22, 2025.

C189. "Integrating concentrating solar power technologies into the Northeastern University Engineering curriculum" Gregory Kowalski, Hameed Metghalchi and Yiannis A. Levendis. Proceedings of the SPIE Optics + Photonics 2025 Meeting, Denver, CO, 3-7 August 2025. SPIE Digital Library DOI: http://dx.doi.org/10.1117/12.3063205

Scientific Journal Reviews

Reviewer for the *AChE Journal*
Reviewer for the Journal of *Aerosol Science*
Reviewer for the Journal of *Analytical and Applied Pyrolysis Biomass and Bioenergy*
Reviewer for the journal *Asia Pacific Journal of Chemical Engineering*
Reviewer for the journal *Applied Energy*
Reviewer for the journal *Applied Catalysis*
Reviewer for the journal *Atmospheric Environment*
Reviewer for the journal *Atmosphera*
Reviewer for the journal *Biomass and Bioenergy*
Reviewer for the journal *Bioresource Technology*
Reviewer for the *Brazilian Journal of Chemical Engineering*
Reviewer for the journal *Combustion and Flame*
Reviewer for the journal *Combustion Science and Technology*
Reviewer for the journal *Environmental Development and Sustainability*
Reviewer for the journal *Environmental Science and Technology*
Reviewer for the journal *Fuel*
Reviewer for the journal *Fuel Processing Technology*
Reviewer for the *Journal of Energy Engineering*
Reviewer for the journal *Energy & Fuels*
Reviewer for the *Journal of Energy Resources Technology*
Reviewer for the journal *Industrial Engineering and Chemistry Research*
Reviewer for the journal *Polycyclic Aromatic Compounds*
Reviewer for the journal *Fuel Processing Technology*
Reviewer for the *Proceedings of the Combustion Institute*
Reviewer for the journal *Progress in Polymer Science*
Reviewer for the journal *Progress Safety Process*
Reviewer for the journal *Renewable and Sustainable Energy Review*
Reviewer for the journal *Scientific Instruments*
Reviewer for the journal *Waste Management*
Reviewer for the *Journal of Cleaner Production*

Highlights of past activities include invited talks at the Chemical and Mechanical Engineering departments of MIT (1989 and 1998), Tufts University (1990) and University of Connecticut (1992), as well as serving as co-organizer, chairman and speaker at the International Symposium on CMA held at Northeastern University, April 11-14 1991. Invited speaker at a workshop on “How Elastic is Technology to Regulatory Pressure?” held at Tufts University on May 13, 1994. Presentations were given at three University Coal Research Contractors' Review Conferences at DOE-PETC in Pittsburgh. Presentations were also made at Northeastern University's Science Days (6), at the High School Science Teachers program (3), at the NU Presidential Inauguration week, January 1997 (1), at the NU Centennial Poster Session, May 1998 (2), at the first Materials Showcase, September 1998 (2). A multitude of presentations were made at the NU Research & Scholarship EXPO Showcases 2001-2013. In 2010 and in 2011 our presentations won in the Undergraduate Research category whereas in 2013 one of our presentations was runner up. Served

as member of the Scientific Committee of the 4th International Symposium on Feedstock Recycling of Plastics and Other Polymer Materials, September 2007, Jeju, Korea.

- Invited presentation on "The Effect of Temperature of Premixed Flames on their Critical Equivalence Ratio for Soot Formation" at the University of Ulster, Northern Ireland, in May of 2008.
- Invited presentation on a "Self-Sustaining Pyrolyzer/Combustor for Waste Plastics" at the 2010 MIT Energy Conference.
- Invited presentation on "Laboratory Studies on the Ignition and Burning Behavior of Coal under Conventional and Oxy-Combustion Conditions" at the Department of Chemical Engineering of MIT, September 27, 2011.
- Two invited presentations at Showcases of the Massachusetts Clean Energy Center, 2011, 2012.
- Multiple invited presentations at the MIT Energy Showcases of 2010, 2011, 2012, 2013.
- Invited presentation, entitled: "A First Course in Engineering Design Based on an Energy-Centered Thematic Approach," at the inaugural STEP to Success Conference held at MassBay College, Massachusetts April 12, 2013.
- Delivered an invited public lecture to the NU School of Architecture on Understanding Design: https://www.youtube.com/watch?v=ji6dNJyW20g&list=PLWV41YoXRdK-cAtawa0EfXEqU15NAyWbC

K-12 Education Outreach

A NSF-BSP 2-week summer course on Pre-engineering Design experience (NU Graduate School of Education course GSE3601) was developed and has been conducted for 6 years. Over the 2005-2010 period approx. 100 high- and middle-school STEM teachers took this course, most of them received credit towards a graduate Masters degree in STEM Education. The NSF-funded Boston Science Partnership (BSP) is a partnership between UMass Boston, Northeastern University and Boston Public Schools, as core partners, and the Education Development Center, Harvard Medical School, The College Board and Lesley University as supporting partners. A few highlights are presented below to illustrate the success of the BSP:

i. **Broad reaching BSP Impact** – BSP included teachers from more than 80% of the 28 middle schools and 30 high schools in the district.

ii. **Increased Student Achievement is Attributable to BSP Participation** - High-participation schools demonstrate a 43% increase in the number of students passing the state MCAS compared to nonparticipating schools.

iii. **Contextualized Content Courses (CCC)** - Eleven unique CCC courses have been offered multiple times. For example, 240 teachers in Year 4 exhibited increases in their content knowledge by between 26 and 97% on pre/post content tests. Students of these teachers realized increases of 8 to 13% over students of the same teachers the previous year on the district's end-of-year science exams. One of these eleven courses was a novel course, entitled, "From Science to Engineering: Pre-Engineering design experience" developed and taught by Professor Yiannis Levendis.

iv. **Vertical Teaming (VT) -** In Year 5, 52 participants from middle and high school, university and community college examined relationships between and among concepts in grades 6-13 through an improved College Board model and created articulation maps that demonstrate the learning of concepts from middle school through AP exams and freshman college science courses.

v. **Collaborative Coaching and Learning in Science (CCLS) -** In Year 5 alone, 182 teachers in 30 middle and high schools in BPS engaged in 10-12 week learning cycles composed of identification of a course of study on inquiry topics, peer observations, and follow-up reflection. Facilitation was provided by classroom teachers, with coaching by 2 staff equivalents supported by the BSP.

vi. **Faculty Seminars (SUP)** - 40 STEM faculty members at UMass Boston, Northeastern University, and Roxbury Community College (RCC) have participated in PD to improve their college teaching.

vii. **AP Science Support (SUP) -** In Year 5, 308 students (up from 73 in 2006) from 11 schools participated in our AP Science Support Program, 337 students from 14 schools took AP science exams, and 234 passed. 46 AP teachers participated in BSP-supported Urban-Focused AP Institutes.

viii. **Highly Qualified Teachers -** In the past three years, the number of science courses taught by teachers with the appropriate science license increased by 47%. The number of science courses taught by teachers with no license or a non-relevant license decreased by 22%. The number of licensed physics teachers has increased from 7 to 28 in the last 6 years, and 25% of all the teachers of science added a STEM license to their credentials.

ix. **Sustainability** - All 11 CCC courses have been approved at the Universities; two science education Centers (The Center of Science and Mathematics In Context (COSMIC) at UMass

Boston and the Center for STEM Education at Northeastern) have been established; BPS has established staff positions that support CCLS; an M.Ed. in middle school science has been established at Northeastern; and $1.35M in additional related science education grants have been received by the three core partners to continue aspects of the BSP.

x. **Dissemination** - Over 20 presentations based on BSP work and research have been presented at national conferences, 2 peer-reviewed journal papers have been submitted, 1 is in preparation, and 1 book is in press. One of them is: "*A Vertically-Aligned Contextualized Pre-Engineering Design Course for Middle- and High-School Science Teachers*", by Yiannis. A. Levendis, Christos Zahopoulos, Cheryl Hall and Jonathan McLaughlin. Proceedings of the ASEE New England Section Meeting, CD-ROM, University of Rhode Island, Kingston, April 20-21, 2007.

xi. **Cultural Change** - The BSP made tremendous progress at shifting the culture of University and District participants. University professors have gained respect for K-12 teachers for their skills and pedagogical content knowledge, teachers have benefited from working with content knowledgeable University faculty, and teachers look forward to working together across grade bands and across disciplines. PD is much more efficient and effective when all participants "play well in the sand box". The involvement of university faculty is critical to maintaining the accuracy of the scientific content, vertically aligning knowledge with university-level expectations, and maintaining the excitement that the new discoveries of science bring to all participants.

As of December 2025