## **BIBLIOGRAPHIC REFERENCES:**

## References

- [1]. Goyal P, Jaiswal N, Kumar A, Dadoo JK, Dwarakanath M. Air quality impact assessment of NOx and PM due to diesel vehicles in Delhi. Transp Res Part D Transp Environ 2010;15:298–303. doi:10.1016/J.TRD.2010.03.002.
- [2]. Jacobson MZ. Global direct radiative forcing due to multicomponent anthropogenic and natural aerosols. J Geophys Res Atmos 2001;106:1551–68.
- [3]. Lawal AO, Davids LM, Marnewick JL. Diesel exhaust particles and endothelial cells dysfunction: An update. Toxicol Vitr 2016;32:92–104. doi:10.1016/J.TIV.2015.12.015.
- [4]. Brown DM, Wilson MR, MacNee W, Stone V, Donaldson K. Size-Dependent Proinflammatory Effects of Ultrafine Polystyrene Particles: A Role for Surface Area and Oxidative Stress in the Enhanced Activity of Ultrafines. Toxicol Appl Pharmacol 2001;175:191–9. doi:10.1006/TAAP.2001.9240.
- [5]. Cheng Z, Liang X, Liang S, Yin N, Faiola F. A human embryonic stem cell-based in vitro model revealed that ultrafine carbon particles may cause skin inflammation and psoriasis. J Environ Sci 2020;87:194–204. doi:10.1016/J.JES.2019.06.016.
- [6]. Valavanidis A, Vlachogianni T, Fiotakis K, Loridas S. Pulmonary oxidative stress, inflammation and cancer: respirable particulate matter, fibrous dusts and ozone as major causes of lung carcinogenesis through reactive oxygen species mechanisms. Int J Environ Res Public Health 2013;10:3886–907.
- [7]. Niranjan R, Thakur AK. The Toxicological Mechanisms of Environmental Soot (Black Carbon) and Carbon Black: Focus on Oxidative Stress and Inflammatory Pathways. Front Immunol 2017;8:763. doi:10.3389/fimmu.2017.00763.
- [8]. Zhang Z-H, Balasubramanian R. Effect of oxygenated fuels on physicochemical and toxicological characteristics of diesel particulate emissions. Environ Sci Technol 2014;48:14805–13.
- [9]. Lapuerta M, Oliva F, Agudelo JR, Boehman AL. Effect of fuel on the soot nanostructure and consequences on loading and regeneration of diesel particulate filters. Combust Flame 2012;159:844–53. doi:https://doi.org/10.1016/j.combustflame.2011.09.003.
- [10]. Wei J, Lu W, Pan M, Liu Y, Cheng X, Wang C. Physical properties of exhaust soot from dimethyl carbonate-diesel blends: Characterizations and impact on soot oxidation behavior. Fuel 2020;279:118441. doi:https://doi.org/10.1016/j.fuel.2020.118441.
- [11]. Kooter IM, Vugt MATM van, Jedynska AD, Tromp PC, Houtzager MMG, Verbeek RP et al. Toxicological characterization of diesel engine emissions using biodiesel and a closed soot filter. Atmos Environ 2011;45:1574–80. doi:https://doi.org/10.1016/j.atmosenv.2010.12.040.
- [12]. Godri Pollitt KJ, Chhan D, Rais K, Pan K, Wallace JS. Biodiesel fuels: A greener diesel? A review from a health perspective. Sci Total Environ 2019;688:1036–55. doi:https://doi.org/10.1016/j.scitotenv.2019.06.002.
- [13]. Wei J, Fan C, Qiu L, Qian Y, Wang C, Teng Q et al. Impact of methanol alternative fuel on oxidation reactivity of soot emissions from a modern CI engine. Fuel 2020;268:117352. doi:https://doi.org/10.1016/j.fuel.2020.117352.
- [14]. Baldelli A, Trivanovic U, Sipkens TA, Rogak SN. On determining soot maturity: A review of the role of microscopy- and spectroscopy-based techniques. Chemosphere 2020;252:126532. doi:https://doi.org/10.1016/j.chemosphere.2020.126532.
- [15]. Kholghy MR, Veshkini A, Thomson MJ. The core-shell internal nanostructure of soot A criterion to model soot maturity. Carbon N Y 2016;100:508–36. doi:https://doi.org/10.1016/j.carbon.2016.01.022.
- [16]. Davis J, Molnar E, Novosselov I. Nanostructure transition of young soot aggregates to mature soot aggregates in diluted diffusion flames. Carbon N Y 2020;159:255–65. doi:https://doi.org/10.1016/j.carbon.2019.12.043.
- [17]. Cortés D, Morán J, Liu F, Escudero F, Consalvi J-L, Fuentes A. Effect of fuels and oxygen indices on the morphology of soot generated in laminar coflow diffusion flames. Energy & Fuels 2018;32:11802–13.
- [18]. Koziński JA, Saade R. Effect of biomass burning on the formation of soot particles and heavy hydrocarbons. An experimental study. Fuel 1998;77:225–37. doi:https://doi.org/10.1016/S0016-2361(97)00201-9.
- [19]. Fredrik Ahlström A, Ingemar Odenbrand CU. Combustion characteristics of soot deposits from diesel engines. Carbon N Y 1989;27:475–83. doi:https://doi.org/10.1016/0008-6223(89)90080-8.
- [20]. Pohl JH, Tichenor BA, Lee J, Payne R. Combustion Efficiency of Flares. Combust Sci Technol 1986;50:217–31. doi:10.1080/00102208608923934.
- [21]. Schulz F, Commodo M, Kaiser K, Falco G De, Minutolo P, Meyer G et al. Insights into incipient soot formation by atomic force microscopy. Proc Combust Inst 2019;37:885–92. doi:https://doi.org/10.1016/j.proci.2018.06.100.

- [22]. Toth P, Palotas AB, Ring TA, Eddings EG, Wal R Vander, Lighty JS. The effect of oxidation pressure on the equilibrium nanostructure of soot particles. Combust Flame 2015;162:2422–30. doi:https://doi.org/10.1016/j.combustflame.2015.02.009.
- [23]. Verma P, Jafari M, Guo Y, Pickering E, Stevanovic S, Bodisco TA et al. Experimental Analysis of the Morphology and Nanostructure of Soot Particles for Butanol/Diesel Blends at Different Engine Operating Modes. Energy & Fuels 2019;33:5632–46. doi:10.1021/acs.energyfuels.9b00368.
- [24]. Verma P, Pickering E, Jafari M, Guo Y, Stevanovic S, Fernando JFS et al. Influence of fuel-oxygen content on morphology and nanostructure of soot particles. Combust Flame 2019;205:206–19. doi:https://doi.org/10.1016/j.combustflame.2019.04.009.
- [25]. Singh M, Wal RL Vander. Nanostructure Quantification of Carbon Blacks. C—Journal Carbon Res 2019;5:2.
- [26]. Goulaouic S, Foucaud L, Bennasroune A, Laval-Gilly P, Falla J. Effect of Polycyclic Aromatic Hydrocarbons and Carbon Black Particles on Pro-Inflammatory Cytokine Secretion: Impact of PAH Coating Onto Particles. J Immunotoxicol 2008;5:337–45. doi:10.1080/15476910802371016.
- [27]. Ostiguy C, Lapointe G, Trottier M, Ménard L, Cloutier Y, Boutin M et al. Health effects of nanoparticles 2006.
- [28]. Nithyanandan K, Lin Y, Donahue R, Meng X, Zhang J, Lee CF. Characterization of soot from diesel-CNG dual-fuel combustion in a CI engine. Fuel 2016;184:145–52. doi:https://doi.org/10.1016/j.fuel.2016.06.028.
- [29]. Patiño F, Cruz JJ, Verdugo I, Morán J, Consalvi JL, Liu F et al. Soot primary particle sizing in a n-heptane doped methane/air laminar coflow diffusion flame by planar two-color TiRe-LII and TEM image analysis. Fuel 2020;266:117030. doi:https://doi.org/10.1016/j.fuel.2020.117030.
- [30]. Zhang Y, Liu F, Clavel D, Smallwood GJ, Lou C. Measurement of soot volume fraction and primary particle diameter in oxygen enriched ethylene diffusion flames using the laser-induced incandescence technique. Energy 2019;177:421–32. doi:https://doi.org/10.1016/j.energy.2019.04.062.
- [31]. Khosousi A, Dworkin SB. Detailed modelling of soot oxidation by O2 and OH in laminar diffusion flames. Proc Combust Inst 2015;35:1903–10. doi:10.1016/j.proci.2014.05.152.
- [32]. Khosousi A, Liu F, Dworkin SB, Eaves NA, Thomson MJ, He X et al. Experimental and numerical study of soot formation in laminar coflow diffusion flames of gasoline/ethanol blends. Combust Flame 2015;162:3925–33. doi:https://doi.org/10.1016/j.combustflame.2015.07.029.
- [33]. Leschowski M, Thomson KA, Snelling DR, Schulz C, Smallwood GJ. Combination of LII and extinction measurements for determination of soot volume fraction and estimation of soot maturity in non-premixed laminar flames. Appl Phys B 2015;119:685–96.
- [34]. Betrancourt C, Mercier X, Liu F, Desgroux P. Quantitative measurement of volume fraction profiles of soot of different maturities in premixed flames by extinction-calibrated laser-induced incandescence. Appl Phys B 2019;125:16. doi:10.1007/s00340-018-7127-2.
- [35]. Lapuerta M, Rodríguez-Fernández J, Sánchez-Valdepeñas J. Soot reactivity analysis and implications on diesel filter regeneration. Prog Energy Combust Sci 2020;78:100833. doi:10.1016/j.pecs.2020.100833.
- [36]. Amin HMF, Bennett A, Roberts WL. Morphology of soot sampled from N2-diluted methane/air counterflow flames at elevated pressures via TEM imaging. Combust Flame 2020;216:92–9. doi:https://doi.org/10.1016/j.combustflame.2020.02.017.
- [37]. Altenhoff M, Aßmann S, Teige C, Huber FJT, Will S. An optimized evaluation strategy for a comprehensive morphological soot nanoparticle aggregate characterization by electron microscopy. J Aerosol Sci 2020;139:105470. doi:https://doi.org/10.1016/j.jaerosci.2019.105470.
- [38]. Sun C, Martin J, Boehman AL. Nanostructure and reactivity of soot produced from a turbodiesel engine using post injection. Proc Combust Inst 2019;37:1169–76. doi:https://doi.org/10.1016/j.proci.2018.06.101.
- [39]. Song J, Alam M, Boehman AL, Kim U. Examination of the oxidation behavior of biodiesel soot. Combust Flame 2006;146:589–604. doi:https://doi.org/10.1016/j.combustflame.2006.06.010.
- [40]. He C, Li J, Wang Y, Tan J, Song G, Jia D et al. Size-segregated particulate matter emission characteristics of a heavy-duty diesel engine with oxygenated fuels. Appl Therm Eng 2017;125:1173–80. doi:10.1016/J.APPLTHERMALENG.2017.07.118.
- [41]. Bergthorson JM, Thomson MJ. A review of the combustion and emissions properties of advanced transportation biofuels and their impact on existing and future engines. Renew Sustain Energy Rev 2015;42:1393–417. doi:10.1016/J.RSER.2014.10.034.
- [42]. Guan B, Zhan R, Lin H, Huang Z. Review of the state-of-the-art of exhaust particulate filter technology in internal combustion engines. J Environ Manage 2015;154:225–58.

- doi:10.1016/j.jenvman.2015.02.027.
- [43]. Rodríguez-Fernández J, Oliva F, Vázquez RA. Characterization of the Diesel Soot Oxidation Process through an Optimized Thermogravimetric Method. Energy & Fuels 2011;25:2039–48. doi:10.1021/ef200194m.
- [44]. Sayes CM, Reed KL, Warheit DB. Assessing toxicity of fine and nanoparticles: comparing in vitro measurements to in vivo pulmonary toxicity profiles. Toxicol Sci 2007;97:163–80.
- [45]. Li X, Xu Z, Guan C, Huang Z. Oxidative reactivity of particles emitted from a diesel engine operating at light load with EGR. Aerosol Sci Technol 2015;49:1–10.
- [46]. Yehliu K, Armas O, Wal RL Vander, Boehman AL. Impact of engine operating modes and combustion phasing on the reactivity of diesel soot. Combust Flame 2013;160:682–91.
- [47]. Wang X, Wang Y, Bai Y, Wang P, Zhao Y. An overview of physical and chemical features of diesel exhaust particles. J Energy Inst 2019;92:1864–88. doi:10.1016/J.JOEI.2018.11.006.
- [48]. Hawley B, L'Orange C, Olsen DB, Marchese AJ, Volckens J. Oxidative stress and aromatic hydrocarbon response of human bronchial epithelial cells exposed to petro-or biodiesel exhaust treated with a diesel particulate filter. Toxicol Sci 2014;141:505–14.
- [49]. Kováts N, Ács A, Ferincz Á, Kovács A, Horváth E, Kakasi B et al. Ecotoxicity and genotoxicity assessment of exhaust particulates from diesel-powered buses. Environ Monit Assess 2013;185:8707–13.
- [50]. Liu Y-Y, Lin T-C, Wang Y-J, Ho W-L. Carbonyl compounds and toxicity assessments of emissions from a diesel engine running on biodiesels. J Air Waste Manage Assoc 2009;59:163–71.
- [51]. Skuland TS, Refsnes M, Magnusson P, Oczkowski M, Gromadzka-Ostrowska J, Kruszewski M et al. Proinflammatory effects of diesel exhaust particles from moderate blend concentrations of 1st and 2nd generation biodiesel in BEAS-2B bronchial epithelial cells—The FuelHealth project. Environ Toxicol Pharmacol 2017;52:138-42.
- [52]. Kowalska M, Wegierek-Ciuk A, Brzoska K, Wojewodzka M, Meczynska-Wielgosz S, Gromadzka-Ostrowska J et al. Genotoxic potential of diesel exhaust particles from the combustion of first-and second-generation biodiesel fuels—the FuelHealth project. Environ Sci Pollut Res 2017;24:24223–34.
- [53]. Lankoff A, Brzoska K, Czarnocka J, Kowalska M, Lisowska H, Mruk R et al. A comparative analysis of in vitro toxicity of diesel exhaust particles from combustion of 1st-and 2nd-generation biodiesel fuels in relation to their physicochemical properties—the FuelHealth project. Environ Sci Pollut Res 2017;24:19357–74.
- [54]. Landwehr KR, Hillas J, Mead-Hunter R, O'Leary RA, Kicic A, Mullins BJ et al. Soy biodiesel exhaust is more toxic than mineral diesel exhaust in primary human airway epithelial cells. Environ Sci Technol 2019;53:11437–46.
- [55]. Abbas M, Adil M, Ehtisham-ul-Haque S, Munir B, Yameen M, Ghaffar A et al. Vibrio fischeri bioluminescence inhibition assay for ecotoxicity assessment: A review. Sci Total Environ 2018;626:1295–309. doi:https://doi.org/10.1016/j.scitotenv.2018.01.066.
- [56]. Kaiser KLE, McKinnon MB, Fort FL. Interspecies toxicity correlations of rat, mouse and Photobacterium phosphoreum. Environ Toxicol Chem An Int J 1994;13:1599–606.
- [57]. Lin T-C, Chao M-R. Assessing the influence of methanol-containing additive on biological characteristics of diesel exhaust emissions using microtox and mutatox assays. Sci Total Environ 2002;284:61–74. doi:https://doi.org/10.1016/S0048-9697(01)00866-X.
- [58]. Vouitsis E, Ntziachristos L, Pistikopoulos P, Samaras Z, Chrysikou L, Samara C et al. An investigation on the physical, chemical and ecotoxicological characteristics of particulate matter emitted from light-duty vehicles. Environ Pollut 2009;157:2320–7. doi:https://doi.org/10.1016/j.envpol.2009.03.028.
- [59]. Pintér M, Utry N, Ajtai T, Kiss-Albert G, Jancsek-Turóczi B, Imre K et al. Optical properties, chemical composition and the toxicological potential of urban particulate matter. Aerosol Air Qual Res 2017;17:1515–26.
- [60]. Romano S, Perrone MR, Becagli S, Pietrogrande MC, Russo M, Caricato R et al. Ecotoxicity, genotoxicity, and oxidative potential tests of atmospheric PM10 particles. Atmos Environ 2020;221:117085. doi:https://doi.org/10.1016/j.atmosenv.2019.117085.
- [61]. Roig N, Sierra J, Rovira J, Schuhmacher M, Domingo JL, Nadal M. In vitro tests to assess toxic effects of airborne PM10 samples. Correlation with metals and chlorinated dioxins and furans. Sci Total Environ 2013;443:791–7.
- [62]. Chong CT, Chiong M-C, Teyo ZY, Ng J-H, Chong WWF, Tran M-V et al. Pool Fire Burning Characteristics of Biodiesel. Fire Technol 2020. doi:10.1007/s10694-020-00949-3.
- [63]. Liu F, Stagg BJ, Snelling DR, Smallwood GJ. Effects of primary soot particle size distribution on the temperature of soot particles heated by a nanosecond pulsed laser in an atmospheric laminar diffusion

- flame. Int J Heat Mass Transf 2006;49:777–88. doi:https://doi.org/10.1016/j.ijheatmasstransfer.2005.07.041.
- [64]. Liu F, Snelling DR, Thomson KA, Smallwood GJ. Sensitivity and relative error analyses of soot temperature and volume fraction determined by two-color LII. Appl Phys B Lasers Opt 2009;96:623–36. doi:10.1007/s00340-009-3560-6.
- [65]. Michelsen HA, Schulz C, Smallwood GJ, Will S. Laser-induced incandescence: Particulate diagnostics for combustion, atmospheric, and industrial applications. Prog Energy Combust Sci 2015;51:2–48. doi:https://doi.org/10.1016/j.pecs.2015.07.001.
- [66]. Michelsen HA, Tivanski A V, Gilles MK, Poppel LH Van, Dansson MA, Buseck PR. Particle formation from pulsed laser irradiation of soot aggregates studied with a scanning mobility particle sizer, a transmission electron microscope, and a scanning transmission x-ray microscope. Appl Opt 2007;46:959–77.
- [67]. Rohani B, Bae C. Morphology and nano-structure of soot in diesel spray and in engine exhaust. Fuel 2017;203:47–56. doi:https://doi.org/10.1016/j.fuel.2017.04.093.
- [68]. Lapuerta M, Rodríguez-Fernández J, Sánchez-Valdepeñas J, Salgado MS. Multi-technique analysis of soot reactivity from conventional and paraffinic diesel fuels. Flow, Turbul Combust 2016;96:327–41.
- [69]. Gao J, Ma C, Xing S, Sun L. Oxidation behaviours of particulate matter emitted by a diesel engine equipped with a NTP device. Appl Therm Eng 2017;119:593–602. doi:10.1016/J.APPLTHERMALENG.2017.03.101.
- [70]. Lee KO, Seong H, Choi SM. Detailed analysis of kinetic reactions in soot oxidation by simulated diesel exhaust emissions. Proc Combust Inst 2013;34:3057–65. doi:https://doi.org/10.1016/j.proci.2012.06.121.
- [71]. Coats AW, Redfern JP. Kinetic parameters from thermogravimetric data. Nature 1964;201:68-9.
- [72]. Varma AK, Mondal P. Physicochemical characterization and kinetic study of pine needle for pyrolysis process. J Therm Anal Calorim 2016;124:487–97.
- [73]. Sadezky A, Muckenhuber H, Grothe H, Niessner R, Pöschl U. Raman microspectroscopy of soot and related carbonaceous materials: Spectral analysis and structural information. Carbon N Y 2005;43:1731–42. doi:https://doi.org/10.1016/j.carbon.2005.02.018.
- [74]. Russo C, Ciajolo A. Effect of the flame environment on soot nanostructure inferred by Raman spectroscopy at different excitation wavelengths. Combust Flame 2015;162:2431–41. doi:https://doi.org/10.1016/j.combustflame.2015.02.011.
- [75]. Ge H, Ye Z, He R. Raman spectroscopy of diesel and gasoline engine-out soot using different laser power. J Environ Sci 2019;79:74–80. doi:https://doi.org/10.1016/j.jes.2018.11.001.
- [76]. Agudelo JR, Álvarez A, Armas O. Impact of crude vegetable oils on the oxidation reactivity and nanostructure of diesel particulate matter. Combust Flame 2014;161:2904–15. doi:https://doi.org/10.1016/j.combustflame.2014.05.013.
- [77]. Sun C, Martin J, Boehman AL. Impacts of advanced diesel combustion operation and fuel formulation on soot nanostructure and reactivity. Fuel 2020;276:118080. doi:https://doi.org/10.1016/j.fuel.2020.118080.
- [78]. Bescond A, Yon J, Ouf FX, Ferry D, Delhaye D, Gaffié D et al. Automated determination of aggregate primary particle size distribution by TEM image analysis: application to soot. Aerosol Sci Technol 2014;48:831–41.
- [79]. Anderson PM, Guo H, Sunderland PB. Repeatability and reproducibility of TEM soot primary particle size measurements and comparison of automated methods. J Aerosol Sci 2017;114:317–26. doi:https://doi.org/10.1016/j.jaerosci.2017.10.002.
- [80]. Brasil AM, Farias TL, Carvalho MG. A recipe for image characterization of fractal-like aggregates. J Aerosol Sci 1999;30:1379–89.
- [81]. Tian K, Thomson KA, Liu F, Snelling DR, Smallwood GJ, Wang D. Determination of the morphology of soot aggregates using the relative optical density method for the analysis of TEM images. Combust Flame 2006;144:782–91. doi:https://doi.org/10.1016/j.combustflame.2005.06.017.
- [82]. Morán J, Cuevas J, Liu F, Yon J, Fuentes A. Influence of primary particle polydispersity and overlapping on soot morphological parameters derived from numerical TEM images. Powder Technol 2018;330:67–79.
- [83]. Kováts N, Refaey M, Varanka B, Reich K, Ferincz Á, Ács A. Comparison of conventional and Vibrio fischeri bioassays for the assessment of municipal wastewater toxicity. Environ Eng Manag J 2012;11:2073–6.