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12/09/15

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EDUCATION

Ph.D.	1998	Carnegie Mellon University	Environmental Engineering
M.S.	1994	Johns Hopkins University	Environmental Engineering
B.S.	1993	California Institute of Technology	Engineering & Applied Science
B.A.	1993	Occidental College	Physics

ACADEMIC APPOINTMENTS

1999–2000	Research Scientist, Atmospheric Sciences, DRI, Las Vegas, NV
2000–2004	Assistant Research Professor, Atmospheric Sciences, DRI
2004–2008	Associate Research Professor, Atmospheric Sciences, DRI
2008–Present	Research Professor, Atmospheric Sciences, DRI
2006–Present	Deputy Director, Division of Atmospheric Sciences, DRI

PUBLICATIONS IN PEER-REVIEWED JOURNALS

- Kavouras, I.G., D.W. DuBois, G. Nikolich, AYC Avittia, and V. Etyemezian (2016). Particulate dust emission factors from unpaved roads in the US-Mexico border semi-arid region. *Journal of Arid Environments* 124: 89-192.
- Kavouras, I.G., DW DuBois, G. Nikolich, and V. Etyemezian (2015). Monitoring, Source Identification and Health Risks of Air Toxics in Albuquerque, New Mexico, USA. *Aerosol and Air Quality Research* 15 (2): 556-571.
- Zhu, D. J.A. Gillies, V. Etyemezian, G. Nikolich, and W.J. Shaw (2015). Evaluation of the surface roughness effect on suspended particle deposition near unpaved roads. *Atmospheric Environment* 122, 541-551.
- Etyemezian, V., Gillies, J.A., Shinoda, M., Nikolich, G., King, J., and A.R. Bardis (2014). Accounting for surface roughness on measurements conducted with PI-SWERL: Evaluation of a subjective visual approach and a photogrammetric technique. *Aeolian Research* 13, p.13: 35 – 50.
- Chalbot, M-C., Nikolich, G., Etyemezian, V., DuBois, D.W., King, J., Shafer, D., da Costa, C.G., Hinton, J.F., and I.G. Kavouras (2013). Soil humic-like organic compounds in prescribed fire emissions using nuclear magnetic resonance spectroscopy. *Environmental Pollution* 181: 167 – 171. DOI: 10.1016/j.envpol.2013.06.008.
- Vargas, V., Chalbot, M-C, O'Brien, R., Nikolich, G., DuBois, D.W., Etyemezian, V., and I.G. Kavouras (2013). The effect of anthropogenic volatile organic compound sources on ozone in Boise, Idaho. *Environmental Chemistry* 11 (4): 445- 458.

- Kavouras, I.G., D.W. DuBois, V. Etyemezian, and G. Nikolich (2013). Spatiotemporal variability of ground-level ozone and influence of smoke in Treasure Valley, Idaho. *Atmospheric Research* 124: 44 – 52.
- Green, M.C., J.C. Chow, O.M. – C. Chang, L.W.A. Chen, H.D. Kuhns, V. Etyemezian, J.G. Watson (2013) . Source apportionment of atmospheric particulate carbon in Las Vegas, Nevada, USA. *Particuology* 11(1, SI): 110 – 118.
- Zhu, D.Z., H.D. Kuhns, J.A. Gillies, V. Etyemezian, S. Brown, and A.W. Gertler (2013). Analysis of the effectiveness of control measures to mitigate road dust emissions in a regional network. *Transportation Research Part D – Transport and Environment* 17 (4): 332 – 340.
- Kavouras, I.G., G. Nikolich, V. Etyemezian, D.W. DuBois, J. King, and D. Shafer (2012). In situ observations of soil minerals and organic matter in the early phases of prescribed fires. *Journal of Geophysical Research – Atmospheres* 117: D12313, DOI: 10.1029/2011JD017420.
- Englebrecht, J.P., J.A. Gillies, V. Etyemezian, H. Kuhns, S.E. Baker, D.Z., Zhu, G. Nikolich, and S. D. Kohl (2012). Controls on mineral dust emissions at four arid locations in the western USA. *Aeolian Research* 6: 41-54.
- Buck, B., J. King, and V. Etyemezian (2011). Effects of salt mineralogy on dust emissions, Salton Sea, California. *Soil Science Society of America Journal* 75, 1958 – 1972.
- King, J., V. Etyemezian, M. Sweeney, B. J. Buck, and G. Nikolich (2011). Dust emission variability at the Salton Sea, California, USA. *Aeolian Research* 3, 67 – 79.
- Sweeney, M. R., E. V. McDonald, and V. Etyemezian (2011). Quantifying dust emissions from desert landforms, eastern Mojave Desert, USA. *Geomorphology* 135, 21 – 34.
- Zhu, D., H.D. Kuhns, J.A. Gillies, V. Etyemezian, A. W. Gertler, and S. Brown (2011). Inferring deposition velocities from changes in aerosol size distributions downwind of a roadway. *Atmospheric Environment* 45, 957 – 966.
- Kuhns, H., J.A. Gillies, V. Etyemezian, G. Nikolich, J. King, D. Zhu, S. Uppapalli, J. Englebrecht, and S. Kohl (2010). Effect of Soil Type and Momentum on Unpaved Road Particulate Matter Emissions from Wheeled and Tracked Vehicles. *Aerosol Science and Technology* 44: 193–202.
- Gillies, J.A., V. Etyemezian, H. Kuhns, J.D. McAlpine, J. King, S. Uppapalli, and J. Englebrecht (2010). Dust emissions created by low-level rotary-winged aircraft flight over desert surfaces. *Atmospheric Environment* 44: 10431053.
- Zhu, D., H. D. Kuhns, S. Brown, J.A. Gillies, V. Etyemezian, and A.W. Gertler (2009). Fugitive Dust Emissions from Paved Road Travel in the Lake Tahoe Basin. *Journal of the Air and Waste Management Association* 59: 12191229.
- Kavouras, I.G., V. Etyemezian, G. Nikolich, M. Young, J. Gillies, and D. Shafer (2009). A new technique for characterizing the efficacy of fugitive dust suppressants. *Journal of the Air and Waste Management Association*, Vol 59, (5): 603-612.

- Kavouras, I.G., D.W. DuBois, and V. Etyemezian (2009) A geospatial screening tool to identify the sources of windblown dust. *Environmental Modeling and Software*, Vol 24: 1003 – 1011.
- Kavouras, I.G., V. Etyemezian, D.W. DuBois, J. Xu, and M. Pitchford (2009). Source reconciliation of atmospheric dust causing visibility impairment in Class I areas of the western United States. *Journal of Geophysical Research – Atmospheres*, 114, D02308, doi:10.1029/2008JD009923.
- Hualiang Teng, V. Kwigizle, M. Karakouzian, D. James, and V. Etyemezian (2008). Investigation of AP-42 Sampling Method. *Journal of the Air and Waste Management Association*, 58 (11): 1422 - 1433.
- Sweeney, M., V. Etyemezian, T. Macpherson, W. Nickling, J. Gillies, G. Nikolich, and E. McDonald (2008). Calibration of PI-SWERL with dust emission measurements from a straight-line field wind tunnel. *JGR- Earth Surface* 113 (F1): F01012.
- Macpherson, T., W.G. Nickling, J.A. Gillies, and V. Etyemezian (2008). Dust emissions from undisturbed and disturbed supply limited desert surfaces. *JGR- Earth Surface*, 113 (F2): F02S04.
- Gillies, J.A., H. Kuhns, J.P. Englebrecht, S. Uppapalli, V. Etyemezian, and G. Nikolich (2007). Particulate emissions from US Department of Defense artillery backblast testing. *Journal of the Air and Waste Management Association* 57 (5): 551-560.
- Etyemezian, V., G. Nikolich, S. Ahonen, M. Pitchford, M. Sweeney, R. Purcell, J. Gillies, and H. Kuhns (2007). The Portable In-Situ Wind Erosion Laboratory (PI-SWERL): A new method to measure PM₁₀ windblown dust properties and potential for emissions. *Atmospheric Environment* 41: 3789 – 3796.
- Kavouras, I.G., V. Etyemezian, J. Xu, D.W. DuBois, M. Green, and M. Pitchford (2007). Assessment of the local windblown component of dust in the western United States. *Journal of Geophysical Research*, 112, No D8: D08211.
- Etyemezian, V., H. Kuhns, and G. Nikolich (2006). Precision and repeatability of the TRAKER vehicle-based paved road dust emission measurement. *Atmospheric Environment* 40: 2953-2958.
- Xu, J., D. DuBois, M. Pitchford, M. Green, and V. Etyemezian (2006). Attribution of sulfate aerosols in federal Class I areas of the western United States based on trajectory regression analysis. *Atmospheric Environment* 40: 3433-3447.
- Gertler A, H. Kuhns, M. Abu-Allaban, C. Damm, J. Gillies, V. Etyemezian, R. Clayton, D. Profitt (2006). A case study of the impact of Winter road sand/salt and street sweeping on road dust re-entrainment. *Atmospheric Environment* 40 (31): 5976-5985.
- Etyemezian, V. E., M. Tesfaye, A. Yimer, J.C. Chow, D. Mesfin, T. Nega, G. Nikolich, J.G. Watson, and M. Wondmagegn (2005). Results from a pilot-scale air quality study in Addis Ababa, Ethiopia. *Atmospheric Environment* 39: 7849 - 7860.
- Moosmüller, H., R. Varma, W. P. Arnott, H.D. Kuhns, V. Etyemezian, and J.A. Gillies (2005). Scattering cross section emission factors for visibility and radiative transfer applications:

- Military vehicles traveling on unpaved roads. *J. Air and Waste Management Associations* 55 : 1743 – 1750.
- Gillies, J.A., V. Etyemezian, H. Kuhns, D. Nikolich, and DA. Gillette (2005). Effect of vehicle characteristics on unpaved road dust emissions. *Atmospheric Environment* 39: 2341 – 2347.
- Kuhns, H., V. Etyemezian, J. Gillies, D. DuBois, S. Ahonen, and D. Nikolic (2005). Spatial Variability of Unpaved Road Dust PM₁₀ Emission Factors near El Paso, Texas. *Journal of the Air and Waste Management Association*.55: 3-12.
- Etyemezian, V., S. Ahonen, D. Nikolic, J. Gillies, H. Kuhns, D. Gillette, and J. Veranth (2004). Deposition and Removal of Fugitive Dust in the Arid Southwestern United States: Measurements and Model Results. *Journal of the Air and Waste Management Association* 54: 1099 – 1111.
- Etyemezian V., H. Kuhns, J. Gillies, M. Green, M. Pitchford, and J. Watson (2003). Vehicle based road dust emissions measurements (I): Methods and Calibration. *Atm. Env* 37: 4559-4571.
- Etyemezian V., H. Kuhns, J. Gillies, J. Chow, K. Hendrickson, M. McGown , and M. Pitchford (2003). Vehicle based road dust emissions measurements (III): Effect of speed, traffic volume, location, and season on PM₁₀ road dust emissions. *Atm. Env* 37: 4583-4593.
- Kuhns, H., V. Bohdan, J. Chow, V. Etyemezian, M. Green, D. Herlocker, S. Kohl, M. McGown, J. Ramsdell, W. Stockwell, M. Toole, and J. Watson (2003). The Treasure Valley Secondary Aerosol Study I: Measurement and Equilibrium Modeling of Inorganic Secondary Aerosols and Precursors for Southwestern Idaho. *Atm. Env* 37: 4511-4524.
- Stockwell, W.R; H. Kuhns, V. Etyemezian, M. Green, J. Chow, and J. Watson (2003) The Treasure Valley secondary aerosol study II: modeling of the formation of inorganic secondary aerosols and precursors for southwestern Idaho. *Atm. Env.* 37: 4525-4534.
- Kuhns H., V. Etyemezian, M. Green, Karin Hendrickson, Michael McGown, Kevin Barton, Marc Pitchford (2003) Vehicle-based road dust emissions measurement (II): Effect of precipitation, winter time road sanding, and street sweepers on PM10 fugitive dust emissions from paved and unpaved roads. *Atm. Env.* 35: 4572-4583
- Chow, J., J. Watson, H. Kuhns, V. Etyemezian, D.H. Lowenthal, D. Crow, S. Kohl, J. Engelbracht, and M. Green (2004). Source Profiles for Industrial, Mobile, and Area Sources in the Big Bend Regional Aerosol Visibility Observational Study. *Chemosphere* 54: 185 - 208.
- Dai, W., C.I. Davidson, V. Etyemezian, and M. Zufall (2001). Wind Tunnel Studies of Particle Transport and Deposition in Turbulent Boundary Flows. *Aerosol Sci. & Tech.* 35:887-898.
- Kuhns, H., Etyemezian, V., Landwehr, D., MacDougall, C., Pitchford, M., and M. Green. (2001). Testing Re-entrained Aerosol Kinetic Emissions from Roads (TRAKER): A New Approach to Infer Silt Loading on Roadways. *Atm. Env.* 35: 2815-2825.
- Etyemezian, V., C.I. Davidson, M. Zufall, and W. Dai (2000). Impingement of Raindrops on a Tall Building. *Atm. Env.* 34: 2399 - 2412.

- Davidson, C.I., W. Tang, S. Finger, V. Etyemezian, M.F. Striegel, and S.I. Sherwood (2000). Soiling Patterns on a Tall Limestone Building: Changes over 60 Years. *Env. Sci. & Tech.* 34 (4): 560-566
- Zufall, M J; W. Dai, C.I. Davidson, and V. Etyemezian (1999). Dry deposition of particles to wave surfaces: I. Mathematical modeling: *Atm. Env.* 33: 4273-4272.
- Strader, R., C.I. Davidson, V. Etyemezian, and others Source (1998). Vertical gradients of airborne concentration and deposition of pollutants on buildings. *J. aerosol sci.* 29, Supp/1; PT/1: S117
- Etyemezian, V., C.I. Davidson, S. Finger, M. Striegel, N. Barabas, and J. Chow (1997). Vertical Gradients of Pollutant Concentrations and Deposition Fluxes on a Tall Limestone Building. *Journal of the American Institute for Conservation*, 37 (2): 187-210.

PATENTS AND INTELLECTUAL PROPERTY ACTIVITIES

Etyemezian, V. and G. Nikolich. (2015). Optical System and Method of Use. United States Patent No: 9,171,984 B2, awarded October 27, 2015.

Etyemezian, V., H. Kuhns, M. Pitchford, S. Ahonen, and D. Nikolic (2003). Wind Shear Inducing Soil Stability Measuring Device. United States Patent No: 7,155,966, awarded January 10, 2007.

SELECTED TECHNICAL REPORTS

- Mejia, J. L. Fenstermaker, V. Etyemezian, J. Miller, P. Jiang, G. Nikolich, J. Gillies, and E. Lomeli (2015). Strategies for climate change adaption at the Dryden flight research center and within the Mojave Desert region: Final report for NASA Award Number NNX12AF57G. August, 2015.
- Gillies, J., V. Etyemezian, D. Zhu, G. Nikolich, J.P. Engelbrecht, W. Shaw, L. Berg, E. Chapman, S. Clopton, M. Pekour, J. Rishell, and F. Rutz. Final Report for RC-1729 Characterizing and Quantifying Emissions and Transport of Fugitive Dust Emissions Due to Department of Defense Activities. September 18, 2015.
- Etyemezian, V., J. Gillies, D. Zhu, A. Pokharel, and G. Nikolich (2014). The 2013 intensive wind erodibility measurements at and near the Oceano Dunes State Vehicular Recreation Area: Report of Findings. Prepared for the California State Parks, July 9, 2014.
- Miller, J. J., V. Etyemezian, M.E. Cablk, R. Shillito, and D. Shafer (2013). Monitoring Soil Erosion on a Burned Site in the Mojave-Great Basin Transition Zone: Final Report for the Jacob Fire Site. Prepared for Nevada Field Office, National Nuclear Security Administration, U.S. Department of Energy, Las Vegas, Nevada. October, 2013.
- Miller, J. J., V. Etyemezian, M.E. Cablk, R. Shillito, L. Fenstermaker, and D. Shafer (2013). Monitoring Soil Erosion of a Burn Site in the Central Basin and Range Ecoregion: Final Report on Measurements at the Gleason Fire Site, Nevada. Prepared for Nevada Field Office, National Nuclear Security Administration, U.S. Department of Energy, Las Vegas, Nevada. October, 2013.
- Etyemezian, V., A. Johnson, S. Wells, and A. Gertler (2012). Enabling technologies for solar development in Nevada. Final report for subtask 2.8.2 prepared for Nevada Renewable Energy Consortium (award number: DE-EE0000272). October 24, 2012.
- Lancaster, N., J. Gillies, V. Etyemezian, and G. Nikolich (2011). Oceano Dunes Pilot Project: Final report. Prepared for the California State Parks, September 15, 2011.
- Etyemezian, V., J. King, S. Zitzer, G. Nikolich, J. Gillies, W. Nickling, and J. Mason (2010). Sediment Transport to White-Margined Penstemon Habitat (*Penstemon Albomarginatus*): Final report. Prepared for Department of Air Quality And Environmental Management, Desert Conservation Program, Clark County, Nevada. March 29, 2010.
- Gillies, J.A., V. Etyemezian, H. Kuhns, H. Moosmüller, J.P. Engelbrecht, J. King, S. Uppapalli, G. Nikolich, J.D. McAlpine, D. Zhu, M. Skiba, D.A. Gillette, and W. Shaw, and R. Hashmonay (2009). /Particulate Matter Emission for Dust from Unique Military Activities./ Final Report Prepared for Strategic Environmental Research and Development (SERDP), Arlington, VA, 22203-1821, December 2009.
- Kavouras, I.; Nikolich, G.; DuBois, D.W.; Etyemezian, V. (2009) Air toxics risk assessment for City of Albuquerque, New Mexico: Final Report. City of Albuquerque, New Mexico, Houston, Texas, 350 pages.
- Kavouras, I.; DuBois, D.W.; Etyemezian V. (2009) Precursors and sources of fine particulate matter in Treasure Valley, Idaho: Final Report. Idaho Department of Environmental Quality, Boise, Idaho. 100 pages

- Kavouras, I.; Nikolich, G.; DuBois, D.W.; Etyemezian, V.; Corral, A. (2009) Unpaved Roads Particulate Emissions in the Paso del Norte Region. US Environmental Protection Agency Region 6, Houston, Texas, 73 pages
- Langston, R., R.S. Merle Jr., D. Hart, V. Etyemezian, H. Kuhns, J. Gillies, D. Zhu, D. Fitz, K. Bumiller, D.E. James, and H. Teng (2008). The preferred alternative method for measuring paved road dust emissions for emissions inventories: "Mobile technologies vs. the traditional AP-42 methodology. Prepared for EPA OAQPS, March, 2008, 110 pages.
- Etyemezian, V., I.G. Kavouras, and J. King (2008). Preliminary Chemical Characterization of PM10 Samples from the New River Playa at the Salton Sea. Report prepared for California Department of Water Resources, November, 2008, 6 pages.
- Kavouras, I.G.; V. Etyemezian, D. DuBois, and G. Nikolich (2008) Ozone and its precursors in Treasure Valley: Final report. Prepared for Idaho Department of Environmental Quality, Boise, Idaho. February, 2008, 180 pages
- Etyemezian, V., H. Kuhns, J. Gillies, S. Uppapalli, G. Nikolich, and D. Zhu (2007). Clark County Alternative Technologies for Paved Road Dust Emissions Measurement: DRI Final Report. Prepared for Clark County Department of Air Quality and Environmental Management, January, 2007. 51 pages.
- Kavouras, I., V. Etyemezian, G. Nikolich, M. Young, D. Shafer, J. Gillies, and J. Goreham (2007). Soil Stabilization Study by Encapco Emulsion Treatment for Five Types of Soil Surfaces: Final Report. Prepared for Naval Facilities Engineering Research Center, Port Hume, California. January, 2007. 190 pages.
- Sweeney, M., E. McDonald, V. Etyemezian, T. Caldwell, S. Bacon, S. Baker, D. DuBois, and J. King (2007). Assessment of Potential Playa and Lake Analogues to the Salton Sea in Support of the Programmatic Environmental Impact Report: Final Report. Prepared for California Department of Water Resources, Glendale, California. February, 2007. 66 pages.
- King, J., V. Etyemezian, G. Nikolich, B. Buck, M. Howell, and J. Morton (2007). Preliminary Assessment of the Distribution of Salts at the Salton Sea. Prepared for California Department of Water Resources, Glendale, California. October, 2007. 52 pages.
- Lancaster, N., J.A. Gillies, V. Etyemezian, and G. Nikolich (2011). Oceano Dunes Pilot Projects: Final Report. Report Prepared for California State Parks and San Louis Obispo County Air Pollution Control District, July 2011.
- Kuhns, H., D. Zhu, J. Gillies, A. Gertler, V. Etyemezian, and S. Brown (2007). Measurement and modeling of fugitive dust emissions from paved road travel in the Lake Tahoe basin: Final Report. Prepared for USEPA Region 9, San Francisco, California. December, 2007. 91 pages.
- Etyemezian, V., M. Sweeney, E. MacDonald, T. Caldwell, J. Gillies, G. Nikolich, J. Xu, W. Nickling, and T. Macpherson (2006c). Measurement of windblown dust emission potential and soil characteristics at the Salton Sea: Final Report. Prepared for California Department of Water Resources, Glendale, California, August, 2006.
- Etyemezian, V., S. Ahonen, J. Gillies, J. Goreham, I. Kavouras, G. Nikolich, D. Shafer, M. Sweeney, and M. Young (2006). Plutonium Soil Stabilization Study at the Nevada test

- Site: Final Report. Prepared for Encapco Technologies LLC, Napa, CA, and the Naval Facilities Engineering Service Center, Port Hueneme, CA. March, 2006.
- Kavouras, I.G., V. Etyemezian, J. Xu, D. DuBois, and M. Pichford (2005). Preliminary Assessment of the Principal Causes of Dust-Resultant Haze at IMPROVE sites in the Western United States: Final report. Prepared for the Western Regional Air Partnership, Phoenix, AZ, November, 2005.
- Etyemezian, V., H. Kuhns, and G. Nikolich (2005). The Las Vegas Road Dust Emissions Technology Assessment, Phase II: Final Report. Prepared for the Clark County Department of Air Quality and Environmental Management, Las Vegas, NV. July, 2005.
- Green, M.C., O. Chang, J.C. Chow, H. Kuhns, L.-W. A. Chen, N. Nussbaum, D. Nikolic, P. Arnott, S. Kumar, V. Etyemezian, and J.G. Watson (2005). The Las Vegas Carbon Source Apportionment Study: Final report. Prepared for the Clark County Department of Air Quality and Environmental Management, Las Vegas, NV. December, 2004.
- Kuhns, H., M.-C. O. Chang, J.C. Chow, V. Etyemezian, L.-W. A. Chen, N. Nussbaum, S.K.K. Nathagoundenpalayam, D. Trimble, S. Kohl, M. MacLaren, M. Abu-Allaban, J. Gillies, A. Gertler, C. Damm, C. Denney, C. Gallery, and J. Skotnik (2004). DRI Lake Tahoe Source Characterization Study: Final Report. Prepared for California Air Resources Board, 1001 I Street, Sacramento, CA 95812, Oct. 2004.
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- Hampden Kuhns, Claudio Mazzoleni, M.-C. Oliver Chang , Judith C. Chow, Gayathri Parthasarathy , Vic Etyemezian, Hans Moosmuller, Peter Barber, Nicholas Nussbaum, Suresh Kumar K. Nathagoundenpalayam , Steve Kohl, Djordje Nikolic, John Watson (2004), Meridian School Bus Biodiesel Evaluation Study, report prepared for Community Planning Agency of Southwest Idaho by Desert Research Institute, Reno, NV, June 20.
- Green, M., M-c O. Chang, J.C. Chow, H. Kuhns, L-W Anthony Chen, N. Nussbaum, D. Nikolich, P. Arnott, S. Kumar, and V. Etyemezian (2004). Las Vegas Carbon Source Apportionment Study: Final Report. Prepared for Clark County Department of Air Quality Management, Las Vegas, NV. December 28, 2004.
- Etyemezian, V., H. Kuhns, G. Nikolich, and K. Graham (2004). The Las Vegas Road Dust Emissions Technology Assessment: Final Report. Prepared for Clark County Department of Air Quality Management, Las Vegas, NV. July, 2004.
- Chow, J.C., J.G. Watson, D. Crow, S. Kohl, H. Kuhns, V. Etyemezian, and J. Engelbrecht (2002). Source Profiles for the Big Bend Regional Aerosol Visibility and Observational (BRAVO) Source Characterization Study. Prepared for the Cooperative Institute for Atmospheric Sciences and Terrestrial Applications (CIASTA) Program c/o National Oceanic and Atmospheric Administration, Las Vegas, NV, by Desert Research Institute, Reno, NV. February 2002.

- Etyemezian, V.; J. Gillies, H. Kuhns, D. Nicolic, J. Varanth, R. Laban, G. Seshadri, and D. Gillette (2002) Field testing and evaluation of dust deposition and removal mechanisms: Final Report. Prepared by the Desert Research Institute, Las Vegas, NV for the WESTAR Council, Lake Oswego, OR, 11/15/02.
- Etyemezian, V., H. Kuhns, J. Gillies, M. Green, S. Kohl, and J. Chow (2002) Treasure Valley Road Dust Study: Final Report. Prepared by Desert Research Institute, Las Vegas, NV for Idaho Department of Environmental Quality. 01/31/02.
- Green, M.C., J.C. Chow, A. Hecobian, V. Etyemezian, H. Kuhns, and J.G. Watson (2002). Las Vegas Valley Visibility and PM2.5 Study. Final Report. Prepared for Clark County Department of Air Quality Management, Las Vegas, NV, by Desert Research Institute, Las Vegas, NV. 6 May 2002.
- Kuhns, H.; V. Etyemezian; W. Stockwell; S. Kohl; M. Green, J. Watson; and J. Chow (2000) Treasure Valley Secondary Aerosol Study: Final Report. Prepared by the Desert Research Institute for the Idaho Division of Environmental Quality. 11/15/00.

SELECTED PRESENTATIONS AT PROFESSIONAL MEETINGS

- Etyemezian, V., J. Engelbrecht, J. Gillies, I. Kavouras, and D. DuBois (2015). Overview of mineral dust as an air pollutant. Oral presentation at the 25th Annual Meeting of the International Society for Exposure Science, Henderson, Nevada, October 18 – 22, 2015.
- Miller, J.J., S.A. Mizell, G.D. McCurdy, G. Nikolich, V. Etyemezian, and J. Chapman. Fate and Transport of Contaminants at Soils Sites – 15512. 2015 Waste Management Conference, Phoenix, Arizona, March 14 – 20, 2015.
- Watson, J.G., J.C. Chow, X.L. Wang, J. A. Gillies, and V. Etyemezian (2015). Fugitive Dust Emission Characterization and Control. 12th National Aerosol Conference and 13th Cross Strait Workshop for Aerosol Science & Technology Chongqing, China, October 23, 2015.
- Beres, N. D., P. G. Piedra, V. R. Etyemezian, W. P. Arnott, and H. Moosmüller (2015). Mineral Dust Deposition and Solar Cell Spectral Performance. 34th Annual Conference of the American Association for Aerosol Research, Minneapolis, Minnesota, October 12-16, 2015.
- Etyemezian, V., J. Engelbrecht, J. Gillies, and G. Nikolich (2014). Dust measurement, characterization, inventory, and control. Invited presentation at the Dust Studies workshop 2014, Kuwait Institute of Science and Technology, Kuwait City, Kuwait, December 2, 2014.
- Etyemezian, V., J. Watson, J. Chow, J. Engelbrecht, J. Gillies, G. Nikolich, I. Kavouras, and I. Koturbash (2014). Particulate matter pollution in desert cities: Ambient measurements, source identification, and management options. Invited presentation at Carnegie Mellon University – Doha, Doha, Qatar, November 30, 2014.
- Etyemezian, V., G. Nikolich, J. Gillies, and W. Nickling (2014). SANTRI: A New Tool For Field Measurement of Sand Transport. Presented at the Eight International Conference on Aeolian Research (ICAR VIII), Lanzhou, China, July 20 – 23, 2014.
- Etyemezian, V (2013). Particulate matter pollution: Sources apportionment and identification. Presentation for the Environmental Management and Control Department, Royal Commission in Jubail, Jubail, Kingdom of Saudi Arabia, November 17, 2013.
- Etyemezian V. (2013). Techniques for measurement and characterization of sources of fugitive dust. Invited presentation at the Airborne Mineral Dust Contaminants: Impacts on Human Health and the Environment, Tucson, Arizona. May 20 – 21, 2013.
- Etyemezian, V. (2013). Windblown dust measurement (2013). Presented at The Southwest Border Symposium on Air Quality and Climate, Las Cruces, New Mexico, USA. April 22-23, 2013.
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RESEARCH ACTIVITY*Completed*

- *Testing Re-entrained Aerosol Kinetic Emissions from Roads (TRAKER)*, Clark County, Nevada Regional Transportation Commission, (02-SEP-99 to 01-DEC-99, \$24,600,Co-PI).
- *Treasure Valley Secondary Aerosol Formation Study*, State of Idaho Department of Environmental Quality, (25-OCT-99 to 15-NOV-00, \$297,315, Co-PI).
- *Big Bend Regional Aerosol and Visibility Observational Study (BRAVO)*, National Oceanic & Atmospheric Administration, (01-JUL-01 to 30-JUN-06, \$110,000, Co-I).
- *Big Bend Regional Aerosol and Visibility Observational Study*, National Oceanic & Atmospheric Administration, (01-MAY-98 to 30-APR-99, \$467,900,Co-I).
- *Treasure Valley/Boise Road Dust Study*, State of Idaho Department of Environmental Quality, (01-DEC-00 to 31-JAN-02, \$370,632,PI).
- *Field Testing and Evaluation of Dust Deposition and Removal Mechanisms*, WESTAR, (01-JAN-02 to 31-DEC-02, \$94,936, PI).
- *Las Vegas "Drive-Off" Project*, Clark County, Nevada. Department of Air Quality and Environmental Management, (01-OCT-04 to 30-SEP-05, \$44,675, PI)
- *Assessment of the Major Causes of Dust-Resultant Haze in the WRAP*, Western Governor's Association, (01-JUL-04 to 31-DEC-04, \$50,291, PI)
- *Alternate Technologies for Quantifying Pave Road Dust Emission Measurements (Drive-off Phase II)*, Clark County, Nevada, Department of Air Quality and Environmental Management, (01-OCT-04 to 30-SEP-05, \$30,301, PI)
- *Pollutant Emissions Study for Biodiesel (B20)*, Community Planning Association of Southwest Idaho, (03-NOV-03 to 31-OCT-04, \$111,000, Co-I).
- *Lake Tahoe Source Characterization Study*, State of California - Air Resources Board, (30-JUN-02 to 31-DEC-03, \$120,489,Co-I).
- *Particulate Matter Emissions Factors for Dust from Unique Military Activities*, DOD - Strategic Environmental R&D Program, (24-SEP-04 to 24-SEP-08, \$50,000, Co-I).
- *Las Vegas Air Study*, DOT - Federal Transit Administration, (14-MAY-99 to 30-SEP-05, \$2,212,728, Co-I).
- *Soils Equipment Preparation and Calibration for Ambient Monitoring*, DOE (01-OCT-03 to 30-SEP-04, \$113,243, PI)
- *Characterizing and Quantifying Local and Regional Particulate Matter Emissions from Department of Defense Installations*, DOD - Strategic Environmental R&D Program, (01-OCT-00 to 26-JAN-05, \$973,000, Co-PI).
- *Las Vegas Valley Carbon Source Apportionment Study*, Clark County, (01-JUN-02 to 30-JUN-03, \$141,289.79, Co-I).
- *Salton Sea Ecosystem Restoration – Air Quality: Peer-Review*, CA Department of Water Resources (01-JAN-05 to 31-MAR-05, \$13,000, PI)
- *Salton Sea Ecosystem Restoration – Air Quality: Preparation of Work Plan*, CA Department of Water Resources (01-JAN-05 to 31-MAR-05, \$71,000, PI)
- *Field Study of ENCAPCO Treatment Product at Smoky Site*, NTS, Nevada, ENCAPCO Inc (01-APR-03 to 31-DEC-05, \$196,789, PI)
- *Uranium Oxide Soil Stabilization Study in Yuma Proving Ground*, AZ, ENCAPCO Inc (01-JAN-05 to 31-DEC-2006, \$496,324, Co-I)
- *Salton Sea Ecosystem Restoration – Air Quality: Field Work*, CA Department of Water Resources (01-AUG-05 to 01-AUG-06, \$200,796, PI)
- *New Mexico SIP Pilot Study*, Western Governors Association, (01-OCT-05 to 31-DEC-05, \$20,000, Co-I)

- Air Quality Monitoring, Yucca Mountain Environmental Monitoring Program, Department of Energy, (01-OCT-05 to 31-SEP-06, \$341,841, Co-I)
- *Particulate Matter Emissions Factors for Dust from Unique Military Activities*, DOD - Strategic Environmental R&D Program, (24-SEP-04 to 24-SEP-08, \$2,100,000, Co-I).
- Pre-remediation Ambient Monitoring and PI-SWERL, DOE (01-JAN-06 to 31-SEP-06, \$153,000, PI)
- Measurement and Modeling of fugitive dust emissions from paved road travel in the Lake Tahoe Basin, EPA, (9/1/05 – 3/1/07, \$174,886, Co-I)
- Community-scale Monitoring of Air Toxics in Albuquerque, NM (CMATA), Albuquerque, Department of Environment (6/1/06 – 6/1/08, \$350,000, Co-I)
- Paved Road Dust Emissions Phase 4 Empirical Study, Clark County Department of Air Quality and Environmental Management (6/6/06 – 6/30/07, \$133,063, PI)
- Playa analogs to the Salton Sea, State of California Department of Water Resources, 2/1/06 – 6/30/06, \$73,475, Co-I)
- Sediment Transport to White-Margined Penstemon Habitat, BLM/ Clark County, (9/1/06 – 8/31/09, \$800,553, PI)
- Assessment of BMP Effectiveness to Reduce Resuspended Road Dust in the Lake Tahoe Basin, USDA- Forest Service (1/1/08 – 12/31/08, \$397,756, Co-I)
- Ozone Precursor Study in the Treasure Valley, Idaho, State of Idaho Department of Environmental Quality, (5/1/07 – 12/31/07, \$70,000, Co-I)
- PI-SWERL in support of USGS Field Measurements, DOI- USGS, (8/1/07 – 7/31/08, \$21,527, Co_I)
- Nellis Dunes Emissions Measurement Support, DOI – BLM, (9/1/07 – 10/1/08, \$22,330, Co-I)
- Characterization of Salt Crust at the Salton Sea, California, California Department of Water Resources, 2/1/07 – 11/1/07, Co-I)
- Analysis support for the Clark County Paved Road Dust Study, Clark County Department of Air Quality and Environmental Management (4/1/08 – 6/30/08, \$8,952, PI)
- Fire Erosion Monitoring at the Gleason Burn Site, DOE – Albuquerque, (9/30/08 – 9/30/09, \$173,885, PI)
- Portable In-situ Wind Erosion Lab (PI-SWERL): Testing and validation, NSF (9/1/08 – 8/31/09, \$44,469, Co-I)
- NVREC: Enabling Technologies for Solar Energy Development in Nevada, DOE, (10/1/10 – 9/31/11, \$61,365, PI)
- Salton Sea MgCl treatment evaluation support, Imperial Irrigation District, (5/15/11 – 7/15/11, \$48,570, PI)
- PI-SWERL Characterization of Emissions near Salt Lake City, Utah, (7/22/11 – 12/31/11, \$33,278, PI)
- Technical Review and Ozone Data Analysis, New Mexico State University, (9/1/12 – 10/30/12, \$24,000, PI)
- Fugitive Sources of PM10 and Laboratory Analysis of Airborne Samples, (9/1/2012 – 6/30/2013, \$35,028, PI)
- Technical, Training, and Field Support for Windblown Dust Emission Inventory for the International Border Region of Southern NM (ID: 14333) , New Mexico State University, (4/11/13 – 11/15/14, \$15,053)
- Using the Portable In-situ Wind Erosion Lab (PI-SWERL) to Characterize the Dust Emission Potential of the ODSVRA and Associated Dunes Natural Preserves (ID: 14332), California State Parks, (4/1/13 – 12/31/13, \$138,132, Co-I)
- Department of Energy Support for Contaminated Soils, DOE – Albuquerque, (10/1/13 – 9/30/14, \$1,353,333, Co-I)

- Characterizing IPETS, Great Basin Unified Air Pollution District, (7/1/14 – 6/30/15, \$56,927, Co-I)
- Department of Energy Support for Contaminated Soils, DOE – Albuquerque, (10/1/14 – 9/30/15, \$1,535,812, Co-I)

In Progress

- Ocotillo Wells SVRA: Dust Control Pilot Study Development, Implementation and Monitoring (ID: 14592), 9/10/13 – 9/1/16, \$518,217, PI)
- Testing Engineered Roughness to Control Dust Emissions from Owens Lake (ID: 14536). Great Basin Unified Air Pollution Control District, (7/1/13 – 6/30/14, \$423,000, Co-I)
- Oceano Dunes Dust Control Effectiveness Analysis, California State Parks, 5/1/14 – 6/30/16, (\$549,802, Co-I)
- Vertical Profiles, Size Distributions, and Intermittency in Aeolian Sediment Transport: Field Measurements with a Novel Instrument, NSF, (10/1/11 – 9/30/13, \$207,000, PI)