

101st Air and Waste Management Association Annual Conference and Exhibition 2008

**Portland, Oregon, USA
24-27 June 2008**

Volume 1 of 7

ISBN: 978-1-60560-788-7

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2008) by the Air and Waste Management Association
All rights reserved.

Printed by Curran Associates, Inc. (2009)

For permission requests, please contact the Air and Waste Management Association
at the address below.

Air and Waste Management Association
One Gateway Center, 3rd Floor
420 Fort Duzesne Blvd.
Pittsburgh, Pennsylvania 15222-1435

Phone: 800 270 3444
Fax: 412 232 3450

www.awma.org

TABLE OF CONTENTS

Volume 1

Internet Enforcement and Compliance Resources for the Air & Waste Management Professional.....	1
<i>C. Simonsen</i>	
Essentials of Environmental Law	17
<i>C. Simonsen</i>	
Using a Catalyst for Energy Reduction in a Regenerative Thermal Oxidizer, a Case Study.....	43
<i>Y. Matros, G. Bunimovich, K. Fry</i>	
Allergan's GHG Emissions Management Program	50
<i>M. Whaley</i>	
Dealing with Non-Detects in Air Emissions Testing.....	58
<i>S. Evans</i>	
Issues and Control of Sulfuric Acid Mist Emissions	81
<i>R. Nicolo, P. Carr</i>	
Modeling Approaches for Characterizing Pollutant Concentrations Near Roads.....	88
<i>R. Cook, C. Bailey, R. Baldauf</i>	
Photodegradation Kinetics of Toluene Using Ultraviolet A, Ultraviolet C and Ultraviolet Light Emitting Diode in the Presence of Ag/TiO₂ Photocatalyst.....	103
<i>J. Shie, C. Pai</i>	
The Evolution of Improved Baghouse Filter Media as Observed in the Environmental Technology Verification Program	119
<i>A. Trenholm, J. Mycock, M. Kosusko</i>	
Development of Nano-Engineered Carbon Adsorbents and Their Environmental Applications	130
<i>J. Atkinson, M. Rood, M. Rostam-Abadi, X. Chen, R. Chang</i>	
Effects of Diesel Sulfur Level on the Removal Efficiency of a Small-scale Electrostatic Precipitator	141
<i>A. Farnoud, A. Armendariz</i>	
Impact of Meteorology, Traffic Characteristics, and Distance from Roadway on Roadside Concentrations of Ultrafine Particulate Matter	151
<i>G. Hagler, E. Thoma, T. Long, R. Baldauf, R. Snow</i>	
A Portable Aircraft Counter Based on Sound Levels	157
<i>R. Peppin</i>	
Noise Impacts of Landfills and Surface Mines Turned into Landfills.....	162
<i>R. Peppin</i>	
PSD Increment Emission Inventory	167
<i>M. Hofacker, R. Picchioni</i>	
Particulate Air Pollution and Health Effects for Cardiovascular and Respiratory Causes in Temuco City, Chile.....	184
<i>P. Sanhueza, M. Torreblanca, L. Diaz-Robles, L. Shiappacasse, M. Silva, T. Astete</i>	
Teterboro Airport Air Quality Study	189
<i>A. Kao, C. Ng, S. Heath</i>	
Application of DUV-DOAS for Monitoring Emissions Associated with Airport Activity	203
<i>A. Kao, S. Heath, C. Ng</i>	
Guidance on Modeling Dermal Exposure to Latex Paint	217
<i>D. McCready</i>	

1,3-Butadiene Trends in California Ambient Air.....	231
<i>M. Poore, P. Rieger</i>	
Legal Aspects of Emissions Monitoring	236
<i>D. Morrison</i>	
Intra-community Variability in Ultrafine Particle Number Concentrations in an Urban Environment	249
<i>K. Moore, P. Pakbin, N. Hudda, C. Sioutas, M. Krudysz</i>	
Shell of Shrimp as an Adsorbent for Arsenic in Aqueous Solution	254
<i>M. Lin, Y. Chen, C. Liao</i>	
Metals with Analytical Detection Limits or Background Levels in Filter Media that Exceed Regulatory Screening Levels in Ambient Air	258
<i>G. Graening, N. Adkins, P. Duda</i>	
Development of EPA OTM 10 for Landfill Applications, Interim Report.....	276
<i>E. Thoma, S. Thorneloe, R. Green, G. Hater, R. Hashmonay, M. Chase, M. Modrak, D. Goldsmith</i>	
Considerations for an Environmental Management System Development, A Case Study Central Puget Sound Transit Authority, Sound Transit	286
<i>J. DeMuro</i>	
The Influence of Roadway Configuration on Near Road Air Quality.....	297
<i>R. Baldauf, G. Bowker, D. Heist, S. Perry, E. Thoma, T. Long, G. Hagler, A. Khlystov, L. Brixey</i>	
A Comparative Study for Destruction of Hydrophobic VOCs in Trickle Bed Air Biofilters.....	310
<i>A. Aly Hassan, G. Sorial</i>	
California's "Early Action Measures" To Reduce Greenhouse Gas Emissions.....	321
<i>T. Vandenburg</i>	
Detection and Environmental Consequences of Leaks from Geological Carbon Dioxide Storage Schemes	325
<i>J. Colls, M. Steven, K. Smith, J. West, J. Pearce</i>	
Emissions and the Shipping Industry: Emission Reduction Strategies for Ocean-Going Vessels in California.....	330
<i>M. DiBiase</i>	
Characterization of Rotating-Wing Aircraft Emissions	348
<i>M. Cheng, S. Mahurin, E. Corporan, C. Klingshirn, M. DeWitt</i>	
Applications of Nephelometers in Visibility and Fine Particulate Monitoring.....	357
<i>J. Carney, S. Cloran</i>	
Development and Evaluation of Chemical Filters Enhanced with Photocatalysis for Removing VOCs from Indoor Air	360
<i>W. Den, H. Chang, Z. Wang</i>	
Sustaining Environmental and Organizational Excellence through Management Systems.....	366
<i>A. Worrell, C. Pugh</i>	
Transforming the SIP Process: Finding a Better Approach to Cleaner Air in Texas.....	370
<i>J. Anderson</i>	
Retrofit of Air Pollution Control Equipment for Purdue University MACT Compliance Project.....	384
<i>T. Wagner</i>	
Case Study - PSD Permitting for Petcoke Fuel in a Lime Kiln	389
<i>P. Cobb, D. Buff</i>	
Thermal Oxidation of VOC Flash Emissions from Natural Gas Pipeline Pigging Operations	391
<i>S. Bassett</i>	
Metalorganic Synthesis of Cylindrical Titania Arrays and Their Photocatalytic Activity in Gas-Phase.....	397
<i>W. Den, C. Lin</i>	

Effect of Additive KNO₃ in the Procedure on Characteristics of Particulate Emissions from Burning Incense.....	403
<i>C. Yang, Y. Chang, F. Chang, T. Lin</i>	
Low NO_x Down-Fired Burners for Reforming Furnaces	409
<i>W. Bussman, C. Baukal</i>	
The Forensic Link Between Ambient Air Monitoring Filters and Radiation Detection Analysis to Benefit Homeland Security	429
<i>D. Musick</i>	
Global Climate Change and the Mitigation Challenge	438
<i>F. Princiotta</i>	
Characterization of Polar Organic Compounds from Atmospheric Transformations of Diesel Emissions	469
<i>S. Samy, B. Zielinska</i>	
Evaluation of the Differences Between Modeled and Estimated Pollutant Concentrations Using a Source-Receptor Relationship	474
<i>L. Prendi, X. Xu, J. Giroux</i>	
Comparing Waste Management Systems from a Systematic Perspective: Case Studies of the Region of Waterloo and Dalian.....	491
<i>X. Chen</i>	
Dispersion Model Validation for a Natural Gas Compression Facility in Complex Terrain	506
<i>P. Reid</i>	
The Study of Methyl Stearate (Biodiesel) Pyrolysis in a Flow Reactor	521
<i>M. Chai</i>	
Continuous Measurement of Ammonia Concentrations at Remote Sites Using Narrow-Bandwidth Open Path Tunable-Diode Laser Absorption Spectroscopy	527
<i>M. Boehm, R. Grant, J. Bauer</i>	
Quantification and Verification of Odour Impact from Fugitive Sources	532
<i>H. Liu, A. Bokowa</i>	
Analysis of Motorcycle Exhaust Regular Testing Data - A Case Study of Taipei City	543
<i>Y. Chen, F. Jeng, L. Chen</i>	
Study on Thermal Deactivation of Catalytic Converters on Motorcycles.....	552
<i>Y. Chen, Y. Yu, F. Jeng, L. Chen</i>	
Determining the Visible Opacity of Sulfuric Acid Aerosols Using the Digital Opacity Compliance System (DOCS)	566
<i>M. McFarland, J. Bosch, A. Olivas</i>	
The Effect of Moisture Content and Aeration on H₂S Production in C&D Debris Landfills.....	585
<i>J. ZHANG, B. Dubey, T. Townsend</i>	
Particulate Matters Component Profile of Exhaust Emission from Heavy Duty Diesel Vehicle at Tianjin, China.....	590
<i>J. Wang, Z. Bai, T. Jin, P. Zhang, F. Wang, Y. You</i>	
Causes of Summertime High Ozone in Alberta, Canada.....	600
<i>D. Fox, M. Kellerhals</i>	
The Compaction of Spark Discharge Generated Soot Particles in Toluene/NO_x/air Photooxidation System.....	615
<i>Z. LU, J. Hao, J. Li, H. Takekawa</i>	
Understanding Maintenance Startup and Shutdown (MSS) Permitting Issues in Texas	620
<i>S. Sampath</i>	
The Use of Optical Remote Sensing as Part of a Study to Evaluate Methods for Measuring Emission Factors from Military Aircraft Engines - Rotary Wing Engines.....	625
<i>R. Kagann, R. Hashmonay, M. Chase</i>	

An Analysis of the Cost of Disposal of Unwanted Pharmaceuticals from Pharmacies and GP Surgeries in a County in the East of England.....	642
<i>A. Woolridge</i>	
Spatially- and Temporally-Resolved Measurement of Roadway Air Pollution Using a Zero-Emissions Electric Vehicle.....	655
<i>G. Hagler, E. Thoma, W. Mitchell, E. Thompson, J. Kinsey, R. Baldauf</i>	
Volume 2	
Paint Shop Odor Control & Community Relations at Navistar Canada, Inc., Chatham Assembly Plant, Chatham, Ontario, Canada.....	660
<i>D. Lanoue</i>	
Onsite Powder Activated Carbon Production Using Hot Oxygen	665
<i>L. Boul</i>	
New Permitting Challenges: PM_{2.5} NAAQS and PSD Increment Modeling	669
<i>R. Paine</i>	
Utilization of Wasted Tea Leaves for Removal of Cr(VI) from Wastewater	674
<i>C. Weng, W. Huang</i>	
Public-Private Partnerships to Redevelop Industrial Waste Ponds in Toledo, Ohio	689
<i>B. White</i>	
Measurements of Polycyclic Aromatic Hydrocarbons in Different-size Airborne Particles from the Comarca Lagunera, Mexico	694
<i>R. Balan, A. Campos Trujillo, E. Herrera-Peraza, B. Valle, V. Múgica Alvarez, G. García-Vargas</i>	
Reduction of GHG Emissions by Mechanical Biological Treatment (MBT) of Wastes	699
<i>B. Raninger, R. Li, M. Nelles</i>	
NO_x Removal by Carbon Gasification using Fluidized Zero Valent Iron Process	709
<i>S. Chen, H. Hsu, W. Shiu, Z. Wen</i>	
Impacts of Climate and Emissions Changes on Nitrogen and Sulfur Deposition over the US	721
<i>E. Tagaris, K. Liao, K. Manomaiphiboon, A. Russell, S. He, J. Woo, P. Amar</i>	
Toward a More Cost Effective Air Compliance Budget	728
<i>M. Cybulski</i>	
Linked Responses of Ozone and PM_{2.5} to Emissions Controls Currently and in the Future	733
<i>K. Liao, E. Tagaris, S. Napelenok, A. Russell, K. Manomaiphiboon, J. Woo, P. Amar, S. He</i>	
Energy Production Options from Biosolids	738
<i>L. Lundberg</i>	
Dioxins Fate and Exposure Risk Assessment in Taipei Metropolitan	750
<i>L. Chen, C. Yang.</i>	
Management System for Air Emissions - SIGEA® - The Search for Corporate Sustainability	766
<i>V. Schmall, R. Oliveira, A. Souza, K. Ferreira, L. Ribeiro, R. Potolski, G. Lima</i>	
An Evaluation of Near-Field PM_{2.5} Impacts from a Coal-Fired Power Plant Using Ambient PM_{2.5} and SO₂ Measurements and AERMOD	772
<i>D. Shea, A. MacNutt, P. Campbell, D. Cramer</i>	
Biomass Power Plant Permitting Trends in the Northeast - Lessons Learned	791
<i>M. Holzman, D. Donovan</i>	
Meteorological Considerations for Nuclear Power Plant Siting and Licensing.....	807
<i>G. Howroyd, P. Snead</i>	
Regenerable Multi-Functional Sorbent Development for Sulfur and Chloride Removal from Coal-Derived Synthesis Gas	820
<i>R. Siriwardane, T. Simonyi, W. Batton, R. Eddy</i>	

Greenhouse Gas Management at a Wastewater Treatment Plant with Sludge Incineration: A Case Study.....	826
<i>S. Adams, K. Eldridge</i>	
Laboratory Validation of Sampling Methods in Support of Modeling and Permitting of Detonation Activities at the Utah Test and Training Range.....	841
<i>G. Palmer, C. Merrill, M. Lindsay</i>	
Mercury Vapor Release from Fluorescent Bulb Shipping Containers.....	856
<i>L. Brosseau, T. Glenz, R. Hoffbeck</i>	
MultiPhase Biosystem - New Technology for Meeting the MACT standards for the Wood Products Industry.....	861
<i>Rakesh Govind</i>	
Particulate Matter Concentrations at Public Schools Located Near Major Urban Roads in Bogotá, Colombia: Baseline Results	877
<i>J. Franco, E. Behrentz, N. Rojas, O. Sarmiento, E. Zapata</i>	
CO₂ Pyrolysis of Scrap Tires for the Enhancement of Pyrolytic Char Yields and Adsorbent Characteristics.....	890
<i>A. Quek, R. Balasubramanian</i>	
Green Accounting as an Auxiliary Waste Minimization Management Tool for Waste Electrical and Electronic Equipments.....	904
<i>C. Chang</i>	
Landfill Behavior of Chinese MSW and Its Impact on CDM Relevant Emission Reduction	914
<i>B. Raninger, R. Li, L. Feng, X. Luo, H. Zhang</i>	
Uncertainties in Estimating Mercury Emissions from Coal Power Plants in China.....	926
<i>Y. Wu, S. Wang, J. Hao, D. Streets</i>	
Source Apportionment of Fine Particles in Southeastern Pennsylvania and Comparison of Source Contribution Differences Across Region	931
<i>G. Biebuyck, M. Zeiders</i>	
Animal Emissions Analyzed by both Chemical and Odor Panel Methods.....	944
<i>S. Trabue, B. Kerr, C. Ziemer, B. Breason</i>	
A New Generation of Passive Sampling Technology: AMEC Multigas Passive Sampling System.....	953
<i>H. Tang, F. Apon</i>	
A Review of the Use of Differential Absorption Lidar for Industrial Emissions Monitoring	968
<i>R. Robinson, T. Gardiner, B.H. Scott, B. Lipscombe</i>	
Environmental Management Plans - Environmental Challenges in West Africa	983
<i>P. Brush, M. Burzinski, T. Haase</i>	
Evaluation of PM_{2.5} Organic Carbon Sampling Artifacts: Comparison of Data from Impactors and Quartz Fiber Filters	996
<i>D. Fitz</i>	
Atmospheric Deposition as a Source of Polychlorinated Biphenyls (PCBs) to the Willamette River (Oregon).....	1009
<i>B. Hope</i>	
Under-reporting VOC Emissions in Europe, Canada and the United States	1014
<i>A. Cuclis</i>	
New Receptor Modeling Methods for Routine and 1-Minute Air Quality Monitoring Data	1020
<i>C. Pan, R. Henry</i>	
Evaluation of Statistical Methodologies and Expert Qualifications Appropriate to Regulatory and Formal Administrative Actions	1030
<i>D. Blazey, T. Lutz</i>	
Development of a Quantitative, Predictive Mercury Model for a Cement Kiln.....	1034
<i>R. Schreiber, C. Kellett, F. Streitman</i>	

Defining Best Practice Strategies for Responsive Performance Management	1038
<i>M. Dillon</i>	
Data Quality and Implications for Risk-Based Remedial Actions	1041
<i>J. Hedgecock, S. Quiring, N. Darigo, H. Loso</i>	
Applicability of FIRE Emissions factors in State-Wide Emission Inventories	1058
<i>C. Wu, T. Velalis, A. Ostrander, J. Detling, C. Mancilla</i>	
Estimating Contaminated Stormwater Impacts on Sediment and Fish in Portland Harbor	1068
<i>B. Hope, K. Tarnow</i>	
Manufacture and Characterization of Carbonaceous Engineered Adsorbents from Waste Mesquite Plants for Air Pollution Control.....	1084
<i>D. Ramirez, A. Sakaray, J. Perez</i>	
Mercury Speciation and Distribution of a 660-MW Coal-Fired Power Plant in Taiwan	1098
<i>H. Lee, J. Hwang, W. Chen, H. His</i>	
GE's Eco-2 Training: Driving Employee Behaviors Toward Sustainability (AND Making it Fun!)	1103
<i>I. Santoscoy, L. Nakamura</i>	
Effects of Agriculture Wastes Components on the Gaseous Products of Microwave-Induced Pyrolysis	1108
<i>W. Kuan, C. Lu, Y. Huang</i>	
Hydrogen-Rich Fuel Gas from Biomass Waste via Microwave-Induced Pyrolysis.....	1114
<i>Y. Huang, S. Lo, C. Lin, W. Kuan, C. Lu</i>	
Algorithm Development of Visibility Monitoring Technique Using Digital Image Analysis.....	1126
<i>R. Pokhrel, H. Lee, C. Bong</i>	
Management System for Marine Air Emission in a Harbor Area	1140
<i>H. Lee, C. Bong</i>	
Air Emissions Inventory System in Oil Companies – Case Study: Implementation in PETROBRAS' Refining Plant	1150
<i>G. Rodrigues, R. Correa</i>	
Energy Efficiency and Control of Greenhouse Gases Emissions (Indicator for Avoided Emissions in Refineries).....	1167
<i>G. Rodrigues</i>	
Comparison of CALMET/CALPUFF Model Results to Existing ISC2 and CTDMPLUS Model Results in a Valley Location	1178
<i>J. Reed, P. Catizone, G. Hoffmagle</i>	
Area Source NESHAP Progress.....	1196
<i>T. Dillow</i>	
Residual Risk Update 3.....	1208
<i>T. Dillow</i>	
Estimating Landfill Greenhouse Gas Emissions from Measured Ambient Methane Concentrations and Dispersion Modeling.....	1217
<i>V. Figueroa, D. Cooper, K. Mackie</i>	
Condensational Amplification: A Novel Method for Improving Airborne Virus Sampling	1233
<i>L. Riemschneider, C. Wu, D. Lundgren, J. Lee, H. Li, J. Wander, B. Heimbuch, J. Hodge, A. Theodore</i>	
Impact of H₂S on Flare Performance and Emissions	1238
<i>A. Chambers, P. Smith</i>	
Bioaugmentation to Remediate Chlorinated Solvents Under Aerobic Conditions: Opportunities to Reduce Cost and Improve Remediation Effectiveness.....	1243
<i>M. Saul</i>	

Using Sediment Bioassay Testing as a Remedial Decision-making Tool at a Former Wood Treating Facility in St. Helens, Oregon.....	1247
<i>T. Fuji, P. Pinit, R. Rieke</i>	
Full Fuel Cycle Assessment of Alternative Transportation Fuels in California	1251
<i>L. Waterland, J. Pont, M. Hooks, M. Chan,; M. Addy</i>	
Gas-Phase Chemistry of Fragrance Compounds	1266
<i>C. Forester, J. Ham, J. Wells</i>	
Synoptic Evaluation of Regional PM_{2.5} Concentrations.....	1271
<i>M. Milligan, K. Walsh, J. Sherwell</i>	
Coupling of Power Dispatch and Air Quality Models to Estimate Emissions Reductions and Air Quality Benefits of Demand Side Management.....	1276
<i>J. O'Neal, R. Imhoff, S. Hadley, J. Condrey, S. Datta</i>	
Air Emissions and Exposure from Remediation of Former Manufactured Gas Plant Sites	1281
<i>W. Chan, J. Levy, B. Murphy, J. Lingle</i>	
Unprecedented RI/FS on Vapor Intrusion at a Superfund Site to Address Commercial and Residential Setttings.....	1292
<i>E. Haddad</i>	
PM_{2.5} Design Concentrations in High Background Regions.....	1305
<i>D. Murray</i>	

Volume 3

Stack Testing of Commercial / Institutional / Residential Combustion Sources under Alternate Conditions	1320
<i>N. Wilson</i>	
Residual Risk Analyses for Aerospace Facilities Derived from the EPA NEI Database	1333
<i>J. Ellor, C. Game</i>	
Development of Cupric Chloride-Impregnated Activated Carbon Sorbent Using a Pilot-Scale Entrained-Flow System.....	1338
<i>S. Lee, J. Lee, T. Keener</i>	
Concomitant Adsorption and Desorption for Dampening Fluctuations in Organic Vapors Concentrations for Use Upstream of Biofilters.....	1345
<i>Z. Hashisho, H. Emamipour, M. Rood, J. Hay, B. Kim</i>	
Overcoming the Challenges of Integrating Management Systems to Improve EHS Performance.....	1359
<i>P. Tesler</i>	
Field Evaluation of Portable Particulate Samplers.....	1364
<i>K. Stubbs</i>	
Regulatory Hurdles Encountered in Permitting an Underground Uranium Mine	1369
<i>M. Weakley, E. Farstad, M. Hacker, C. Woodward</i>	
Incorporating Greenhouse Gas Emissions in Environmental Impact Assessments for the Siting of New Facilities.....	1374
<i>P. Sinha</i>	
Local Source Modeling Using AERMOD for the Birmingham PM_{2.5} Non-Attainment Area	1386
<i>G. Schewe, J. Sims, G. Stella</i>	
Fugitive Dust - Physical Models and Wind Tunnel Testing	1399
<i>M. Milner</i>	
Thinking Outside the Tent: Revised Rules of Engagement for Experiential Education Programs at the Canadian National Scout Jamboree	1424
<i>L. Vitos, S. Meyn</i>	

Environmental and Occupational Exposure Compliance Elements Associated with Hydro-Power in the Pacific Northwest	1430
<i>D. Hancock</i>	
Ambient Air Quality Monitoring Network Reviews	1436
<i>G. Doerksen</i>	
Reconciling the Fugitive Dust Emission Inventory with the Fine Sediment Deposition Budget for Lake Tahoe	1449
<i>R. Countess</i>	
Feasibility of Monitoring Hazardous Metal Emissions from a Coal-Fired Thermal Hazardous Waste Incinerator Using a Multi-Metal Continuous Emissions Monitor	1461
<i>J. Cooper, C. Yanca, K. Petterson, D. Barth, M. Nakanishi</i>	
Damp Buildings and Bioaerosol Contamination: Assessment, Evaluation, and Proper Corrective Actions for Healthy Sustainable Buildings	1466
<i>B. Harr</i>	
Banishing the Dust in the Antelope Valley	1473
<i>R. Farber</i>	
Development of a Laboratory Based Sustainability Course for Environmental Engineers	1496
<i>S. Vigil</i>	
Examining Diesel Risk Reduction Efforts in California - Ten Years After Classification of Diesel Particulate Matter as a Toxic Air Contaminant.....	1506
<i>J. Koehler, H. Rous</i>	
Use of Photochemical Grid Models to Assess PSD Pollutant, Ozone, Visibility and Deposition Impacts due to Proposed New Sources.....	1524
<i>R. Morris, S. Kemball-Cook, E. Tai</i>	
Use of Hybrid Grid/Plume Modeling to Address PM_{2.5} Attainment in the St. Louis Nonattainment Area.....	1529
<i>R. Morris, B. Koo, B. Wang</i>	
Managing Compliance Critical Data during Software Transitions	1534
<i>G. Palmer, M. York, B. Jensen, M. Cary</i>	
Comparison of HEM3 Results using ISCST3 and AERMOD Dispersion Models	1538
<i>G. Palmer, S. Van Klooster, M. York</i>	
Biological Treatment of Acetone Waste Gases Using a Slurry-Phase Airlift with the PAA-Entrapped T. pantotropha Cell Beads.....	1550
<i>S. Hwang, K. Huang, C. Hou, Y. Lin</i>	
Photodegradation of Formaldehyde Using Composed N-doped Titanium Oxide Photocatalyst with the Light Source of Visible Light Lamp and Light Emitting Diode	1565
<i>J. Shie, C. Chiou, C. Chang, C. Chang, C. Lee, C. Chang, Y. Chen, C. Chang</i>	
Statistical Approach to the Development of a Microscale Model for Estimating Exhaust Emissions of a Light Duty Gasoline Vehicle	1581
<i>B. Afotey, M. Sattler, S. Mattingly</i>	
Diagnostic Model Evaluation of Forecasted PM_{2.5} Air Quality over New York State	1595
<i>P. Doraiswamy, C. Hogrefe, W. Hao, K. Civerolo, J. Ku, G. Sistla</i>	
Evaluation of Indoor Air Quality at Taipei City Hospital by Indoor CO₂ Concentration	1602
<i>S. Hwang, J. Lin, S. Chen</i>	
Ammonia Removal Technique by Electron Beam Irradiation.....	1619
<i>J. Kim, Y. Son, K. Kim, Y. Son, Y. Sunwoo</i>	
Intake Fraction of Mobile Sources in Beijing: Microenvironment Survey for Different Cohorts.....	1624
<i>X. Du, L. Fu, T. Jin</i>	

Study on Photocatalytic Degradation of Gaseous 1,2-Dichloroethane using TiO₂ and V/TiO₂ Prepared by a Sol-gel Method.....	1629
<i>W. Hung, H. Hsueh, Y. Chen, H. Chu</i>	
A Database Application for Building an Integrated Management System	1634
<i>L. Balogh</i>	
Restaurant Indoor Air Quality in Hsinchu County, Taiwan.....	1639
<i>S. Hwang, Y. Chung</i>	
Accelerating EMS Implementation as a Compliance Strategy	1650
<i>K. Adkins, K. Stiles</i>	
CO₂ Capture via Mesoporous Spherical Particles.....	1655
<i>F. Su, W. Chen, C. Lu, H. Bai, J. Hwang</i>	
Effect of Fractionation and Pyrolysis on Fuel Properties of Poultry Litter	1660
<i>K. Singh, M. Risse, K. Das, J. Worley, S. Thompson</i>	
Physical Transformation of Ultrafine Particles Near Three Texas Roadways.....	1677
<i>Y. Zhu, J. Pudota, A. DenBleyker, M. Fraser, D. Collins, Y. Jia, A. Clements, D. Allen</i>	
Air Pollutant Concentrations near Texas Roadways: Chemical Transformation of Pollutants	1682
<i>A. Denbleyker, D. Allen, E. Michel, E. McDonald-Buller, Y. Zhu, M. Fraser, D. Collins</i>	
40 CFR Part 63 – Where Are We Now?.....	1690
<i>B. Patterson</i>	
p-Dichlorobenzene in Homes: Sources and Risks.....	1700
<i>R. Corsi, A. Chatfield, P. Guerrero, D. Hun</i>	
p-Dichlorobenzene in Homes: Sources and Risks.....	1711
<i>R. Corsi</i>	
Economics, Industrial Environmental Risk Mitigation and Corporate Competitiveness	1722
<i>N. Khalili</i>	
Ethanol: Initiatives, Challenges and Lessons Learned	1736
<i>C. Ash</i>	
Bio-Oxidation Control of Air Emissions from a Phenol-Formaldehyde Resin Product Manufacturing Operation	1743
<i>J. Boswell, P. John, B. Sanders, M. Osborne, T. Hedstrom</i>	
Catalytic Oxidation of Vinyl Chloride Using a Pt/Al₂O₃ Catalyst With and Without Ozone	1752
<i>M. Yuan, W. Liao, C. Chang, C. Chang, W. Tu, J. Shie</i>	
Establishing Requirements to Develop a Greenhouse Gas Emissions Inventory for Compliance Reporting and Meeting Department of Energy Goals for Emissions Reductions at Los Alamos National Laboratory	1761
<i>D. Wilburn, S. Story, D. Paulson</i>	
Modification of CaO Adsorbent for Enhancing its Adsorption Capacity During Cyclic CO₂ Greenhouse Gas Capture.....	1765
<i>H. Bai, Y. Chen</i>	
Expanding MOBILE6 Rates To Accommodate High Speeds	1770
<i>J. Zietsman, M. Farzaneh, D. Lee, S. Park, H. Rakha</i>	
Quantification of Fine Particle Emissions From Petroleum Refining Operations in Houston, TX Using Rare Earth Elements as Markers.....	1792
<i>P. Kulkarni, S. Chellam, M. Fraser</i>	
Using Waste Organic Solvent Vapors as the Reducing Agent of deNO_x Process	1797
<i>H. Bai, M. Karthik, L. Lin</i>	
The Impact of Pollution from Power Plants, Cement Plants, Brick Kilns in the Greater Cairo and the Implementation of Control Strategies	1801
<i>M. Labib, A. Gertler</i>	

Environmental Impact Assessment Studies (EIA) in Egypt During Several Years with Discussing Its Guidelines	1814
<i>F. Abo Shouk, M. Allam</i>	
Environmental Management in Egypt	1829
<i>F. Abo Shouk, A. El-Khaial, A. El-Shafie, M. Farouk, M. Labib</i>	
Blood Lead Levels in the Vicinity of the Largest Lead Smelter in the Greater Cairo Area in Egypt	1844
<i>Z. Safar, M. Labib</i>	
Control Measures to Reduce Pollutant's Levels in the Greater Cairo Area.....	1858
<i>M. El-Azm, A. El-Soud, M.. Labib</i>	
Recent Trends in Particulate Matter and Lead Levels in the Greater Cairo Area	1871
<i>M. El-Azm, A. El-Soud, A. Saleh, M. Hagag, M. Labib</i>	
Ammonia Odor Adsorption and Sensing via a Simple Color Change Adsorbents Made by Mesoporous Silica Materials	1882
<i>H. Bai, H. Chiang, S. Li, J. Hsu</i>	
Characterization and Assessment of Pollutant Sources in the Riyadh City Aerosols	1887
<i>K. Almutlaq</i>	
Estimating Air Pollution Levels with Visibility	1890
<i>Y. Huang, D. Yang</i>	
Ergonomic Evaluation of the Urban Bus Driver in Medellín Colombia	1895
<i>J. Bedoya, C. Zapata-Sanchez, G. Jimenez</i>	
Air Quality in the Metropolitan Area of Medellín Colombia.....	1906
<i>J. Bedoya, E. Martinez</i>	
Particle Matter and NO_x Emission Factors for Industrial Furnaces Firing a Particular Set of Fuels in Combustion Systems Under the Brazilian Reality.....	1916
<i>E. Souza</i>	
Parameterization of Daytime Mixed Layer Growth for Air Dispersion Modeling in Tropical Conditions	1923
<i>D. Minh, M. Vach</i>	
One-Step Wastewater Nitrogen Removal by Rebuilt Wasted Activated Sludge Pellets	1933
<i>C. Chang</i>	
Estimating Wind Power Generation Potential in Maryland	1942
<i>A. Yegnan, P. Flynn, M. Garrison</i>	
Validation of the Modified USEPA Flux Chamber Technology for Assessing High Advection Flow Sources Such as Biofilters at Compost Sites	1948
<i>C. Schmidt</i>	
Spatial Distribution of Heavy Metals in Contaminated Agricultural Soils exemplified by Cr, Cu, and Zn.....	1961
<i>Y. Lin, S. Li</i>	

Volume 4

Sources of PM_{2.5} During Episodes in Santiago, Chile	1983
<i>P. Perez, L. Bartolo</i>	
Kinetics of the Formation of Sulfoaluminate at High Temperatures during Coal Combustion.....	1988
<i>T. Yang, R. Li, M. Gehring, B. Raninger, J. Zhou, K. Cen</i>	
Applying a Skewed Distribution as the Basis Function in the Radial Plume Mapping technique for Source Localization with the OP-FTIR	1995
<i>S. Chang, C. Chen, C. Wu, R. Shie, P. Chang</i>	

Leveraging Advances in Web Technology for Environmental Data Management, Visualization and Collaboration	2000
<i>J. Jaffe, M. Carr</i>	
Design of a Modern Dry Flue Gas Desulfurization System	2005
<i>M. Widico</i>	
Boiler Maximum Achievable Control Technology (MACT) Compliance after Court Vacature	2014
<i>J. Garrison, F. Webb</i>	
A Survey of Quality Management Systems for Emission Testing Firms.....	2019
<i>P. Turner</i>	
Growing Sustainably: An Inverse Method Approach to Designer Future Air Quality	2025
<i>F. Akhtar, A. Russell, M. Chang</i>	
Assessment of Mobile Emissions in The Athabasca Oil Sands Region - High Resolution Nonroad Emission Factor Model	2031
<i>R. Singh, M. Rawlings, G. Unrau</i>	
Understanding Air Toxics and Carbonyl Pollutant Sources at the Urban/Mountain Interface in Boulder County, Colorado.....	2037
<i>A. Eisele, M. Hannigan, J. Milford, D. Helmig, P. Milmoe</i>	
Evaluation Of Methods For Analysis Of Airborne Microbial Aerosols In Sewage Treatment Plants	2041
<i>R. Rylander, M. Reeslev, L. Rogers</i>	
Relative Humidity and Temperature Effect on Solid Phase Micro Extraction for the Monitoring of Volatile Organic Compounds	2046
<i>D. Ramirez, V. Chavan, S. Santos, K. Jones</i>	
Mitigation of Very-fine and Ultra-fine Aerosols by Vegetation	2059
<i>T. Cahill, D. Barnes, E. Fujii, J. Lawton</i>	
Assessing Environmental Equity Related to Local Air Pollution in Tampa, FL	2060
<i>A. Stuart, M. Zeager, N. Poor, S. Mudhasakul, W. Sriwatanapongse</i>	
Development of a Cost Effective and Efficient Sorbent for Mercury Emission Control	2064
<i>N. Khalili</i>	
Numerical Analysis for Effective Capture of Dust from Tilting Runner	2078
<i>D. Ko, K. Hwang</i>	
The New Nuclear Age - Challenges for Meteorology, Air Quality and Radiation Monitoring to Comply with 1980s Era Regulations	2083
<i>D. Anderson</i>	
NASA's Agency-Wide Strategy for Environmental Regulatory Risk Analysis and Communication	2087
<i>S. Scroggins, K. Duda</i>	
FTIR and Advanced Gas Emissions Detection Techniques: "They're Not Just for Breakfast (or Low-Level Emissions) Anymore."	2091
<i>M. Krall</i>	
Spatial and Temporal Variation of Hexavalent Chromium in Ambient PM₁₀ Measured During the Urban Community Air Toxics Monitoring Project, Paterson City, New Jersey	2097
<i>C. Yu, Z. Fan, B. Buckley, L. Bonanno, L. Korn</i>	
Evaluation Of Indoor Air Levels of a Mold Enzyme as an Indicator of Building Moisture Damage and Occupant Airway Symptoms	2102
<i>R. Rylander, T. Hulander, M. Reeslev, L. Rogers</i>	
Study of Dioxins and Furans Formation in Cement Kilns	2107
<i>L. Loyola, G. Mejia, IM. Vara</i>	

A Perspective on AAI, ASTM 1527-05 and the Implications of Vapor Intrusion in the Practice of Phase I ESAs.....	2118
<i>M. Traister, S. Spiegel</i>	
Wall Paint Exposure Model Predictions of Ethylene Glycol Vapor from Latex Paint	2127
<i>D. McCready, W. Snellings</i>	
Air Quality and Health Impacts of Emissions in the Border Region between Northeastern Mexico and Texas.....	2137
<i>P. Gor, A. Martinez, R. Reyna, G. Mejia, J. Santos, L. Guerrero</i>	
Development of LEED Documentation for a Head Start School in Oregon	2151
<i>K. Futornic</i>	
Effects of Acid and Oxidizing Gases on Removal of Mercury from Coal-Combustion Gas Streams with Sulfur-Impregnated Activated Carbon.....	2158
<i>H. Hsi, C. Chen</i>	
Patterns of Ambient Nano Particulate Matter (PM) deposition in the Lung Alveolar Surface Areas of the People Residing at a Heavy Traffic Intersection.....	2163
<i>J. Bang, Y. Anderson, J. Battle, A. Finley, A. Eley, F. Stefan</i>	
Rules of Thumb for the Mitigation of Vapor Intrusion	2166
<i>M. Traister</i>	
Evaluation of the Department of Defense Safety Program.....	2176
<i>S. Hassan, G. Marquardt</i>	
Issues and Challenges Facing Environmental Education and Outreach--Managing a Productive Engineers Without Borders Student Chapter	2187
<i>B. Wittig</i>	
Waste Fueled Power Plants - Not Thermochemical Conversion Nor Incineration	2192
<i>J. Rose</i>	
A Comprehensive Operating Certification Developed for the Central Artery/Tunnel Project in Boston, Massachusetts.....	2193
<i>A. Kasprak, R. McCullough, G. Schattanek, H. Ginzburg, P. Wan</i>	
Assessing Control Strategies for Ground Level Ozone	2210
<i>N. Sule, V. Chen, M. Sattler</i>	
Air Quality Monitoring of BTXs in the Valley of Aburra with Diffusive Tubes	2222
<i>C. Zapata, R. Quijano, M. Rubiano, E. Molina, G. Londono</i>	
Assessment of Hydrogen Sulfide Minimum Detection Limits of an Open Path Tunable Diode Laser	2233
<i>R. Hashmonay</i>	
Metal Concentrations from Industrial and Domestic Waste in a Reservoir in Mexico State: A Geographical Information System for Data Management	2246
<i>G. Singh, I. Ubaldo, E. Ortiz, I. Barcelo</i>	
Enhanced Plume Rise due to Closely Spaced Stacks.....	2260
<i>R. Petersen, J. Reifschneider</i>	
The 2005 Mobile Sources Emission Inventory for the MMA	2274
<i>M. Bautista, G. Mejia, A. Mendoza, R. Reyna</i>	
The Nighttime Chemistry of HONO Formation in an Ambient Urban Environment.....	2283
<i>B. Wittig, Q. Wang</i>	
The Role of Human Health Risk Visualization Techniques in Southern California Transportation Infrastructure Planning.....	2291
<i>M. Lobnitz</i>	
Assessing "Extremely Near-Field" Dispersion - Analytical, Computational Fluid Dynamics or Wind Tunnel Modeling	2299
<i>R. Petersen, J. Reifschneider</i>	

Study of Factors Affecting In-Vehicle Pollutant Levels in the City of Toledo Public Transport Buses Running on Biodiesel	2314
<i>A. Kadiyala, A. Kumar</i>	
Modeling the Consequences and Understanding the Uncertainties Associated with Releases from Emergency Vents	2326
<i>D. Heinold, M. Kaplan</i>	
Turning Garbage into Fuel.....	2340
<i>J. Schubert</i>	
Experimental Design for Hg⁰ Removal Using Enhanced Oxidation and Absorption	2357
<i>C. Osorio, A. Martinez</i>	
Risk Communication: Issues Surrounding Public Perception and Disclosing Risk in Environmental Documentation	2365
<i>J. Baldino, M. Hagmann</i>	
A Statistical Hybrid Predictive Emissions Monitoring System (PEMS) That Accurately Measures Pollutant Emission Rates from Gas Turbines, Boilers, Heaters, Ethanol Plants, Petroleum Refining Operations, and Other Continuous Processes	2373
<i>B. Swanson</i>	
Characteristics of Ambient Particulate Pollutants Near a Heavily Trafficked New Jersey Turnpike	2384
<i>K. Jung, J. Shin, F. Artigas</i>	
Aspects Related to Controlling and Quantifying Cr and Cr (6) from Arc Welding - An Overview.....	2397
<i>M. Serageldin</i>	
Continuous Measurements of Acid Dewpoint and Sulfur Trioxide in Stack Gases	2412
<i>D. Stuart, R. Whiteside</i>	
Deploying Hybrid Electric School Buses in Iowa	2423
<i>S. Hallmark, D. Kroeger, B. Hallmark</i>	
Opacity Monitoring at Very Low Levels.....	2428
<i>D. Stuart, R. Whiteside</i>	
Development of a Continuous Monitor for Toxic Metals in Ambient Air	2438
<i>J. Cooper, C. Yanca, K. Peterson, M. Nakanishi, D. Barth, P. Ginochio Sr.</i>	
Satellite-Enhanced Air Quality Monitoring in Central America	2443
<i>L. Friedl, E. Zell, J. Engel-Cox, D. Irwin, J. Metcalfe, E. Sempris</i>	
Determination of the Potential for Anaerobic Degradation of Unused Medications Disposed in Municipal Solid Waste Landfills	2448
<i>S. Musson, T. Townsend, T. Tolaymat</i>	
Continuous PM_{2.5} Speciation Measurements in New York	2453
<i>O. Rattigan, D. Felton, J. Schwab, K. Demerjian</i>	
Comparing MOBILE6.2 and Emfac2007 Emission Factors	2461
<i>M. Claggett, J. Houk</i>	
Economic Benefits of PM₁₀ Reduction in the MMA	2466
<i>V. Villa, G. Mejía, G. Gándara, R. Reyna</i>	
Using Technology to Improve Student Writing and Critiquing Skills	2477
<i>T. Thatcher</i>	
Compliance with the MON MACT: Case Study for a Complex Facility	2482
<i>J. Marteney</i>	
Asthma and Allergies in Childhood Survey (ISACC) in the Northeastern Mexico Border Region	2487
<i>L. Guerrero, R. Reyna-Caamaño, G. Mejía, J. Santos, A. Martinez, P. Gor</i>	

Analysis of the McCain-Lieberman (S.280) Climate Change Legislation Using the National Energy Modeling System (SAIC-NEMS).....	2502
<i>C. Waldron, C. Ellsworth, J. Ratafia-Brown, R. Irby</i>	
Spatial and Temporal Variations of Elements, EC, and OC Associated with PM₁₀ and Their Concentration Gradients by Land Use Type in Paterson City, NJ	2517
<i>C. Yu, Z. Fan, Q. Meng, L. Bonanno, L. Korn</i>	
The Efficacy of Land Use Projects in VMT and GHG Reductions.....	2522
<i>A. Kidd, H. Rous</i>	
Warming Up to Greenhouse Gas Issues.....	2527
<i>M. Dudasko</i>	
Evaluation of Commercially-Available Radiological Decontamination Technologies on Concrete Surfaces.....	2536
<i>R. James, J. Drake</i>	
High-Sensitivity PID Allows Direct Measurement of VOC's at Sub-ppb Levels without Pre-concentration	2541
<i>B. Dolgov, B. Bischof</i>	
Fine-Scale Variability in Particulate Matter Size Distributions in San Pedro Harbor Communities.....	2549
<i>M. Krudysz, K. Moore, M. Geller, C. Sioutas</i>	
Intercomparison of PMF Receptor Modeling Results Using Data From Collocated IMPROVE and CSN PM_{2.5} Chemical Speciation Sites	2554
<i>J. Flanagan, L. Michael, R. Jayanty, K. Baumann, P. Solomon</i>	
Replacement Schemes for Inputs to the Multi-layer Model (MLM) used by CASTNET	2567
<i>C. Rogers, T. Lavery, K. Mishoe</i>	
Tropospheric Ozone Production in the Metropolitan Area of Sao Paulo Associated to the Vehicular and Industrial Sources Emissions.	2580
<i>A. Moreira, M. Andrade, O. Sanchez Ccoylo, R. Y. Ynoue</i>	
Modeling Multi-Source Emissions in the James Bay Neighbourhood of Victoria, BC, Canada.....	2585
<i>K. Poplawski, E. Setton, P. Keller, B. McEwen</i>	
Impacts of Wildfires And Mobile Emissions on Ozone Concentrations in the Treasure Valley, Idaho.....	2596
<i>I. Kavouras, D. Dubois, V. Etyemezian, B. Louks, L. Herr, R. O'Brien</i>	
Estimating Uncertainties for Non-Independent Analytes--Thermal-Optical Analysis of Carbon in PM_{2.5}.....	2601
<i>M. Peterson, J. Flanagan, M. Richards</i>	
Predicted Effects Of The Expansion of the Panama Canal on Global GHG Emissions Due to Changes in Shipping Patterns.....	2609
<i>H. Ginzburg, G. Schattanek</i>	
Hydrogen Sulfide Emission from and Concentrations at a Texas Beef Cattle Feedyard	2628
<i>K. Casey, L. McDonald, D. Parker, M. Rhoades, J. Spears</i>	
Assessing the Impact in Air Quality due to Biomass Burning Using Aerosol Tracking from Harvested Areas	2636
<i>A. Moreira, J. Almeida, A. Silva Minho, E. Landulfo, G. Mariano, M. Pereira</i>	

Volume 5

Low Wind Speeds and AERMOD	2641
<i>G. Scott</i>	
Leveraging a Management Systems Approach for Sustainability Performance Improvement	2656
<i>J. Jobin</i>	

Sorbent Trap Mercury Emissions Monitoring - Ready for Primetime?	2661
<i>V. Schmid, J. Wright</i>	
Successful In-Situ Treatment of Chromium Contaminated Groundwater	2667
<i>M. Hamper, R. Bartelt, E. Ardiente</i>	
Uncertainty in the IMPROVE Measurements	2681
<i>N. Hyslop, C. McDade, W. White</i>	
Particulate Matter Pilot Data Collection Study	2686
<i>M. Harris, J. Glasgow, E. Stevenson, J. Marvin</i>	
Measurement of Atmospheric Polycyclic Aromatic Hydrocarbons During the Urban Community Air Toxics Monitoring Project, Paterson City, NJ (UCAMPP)	2695
<i>L. Lin, Z. Fan, L. Bonanno</i>	
Case Study - Edmonton Solid Waste Integrated Processing and Transfer Facility	2700
<i>S. Bukojemsky</i>	
Communication of Risk and Spatial Exposure to Air Toxics	2718
<i>K. Ruch, E. Yan</i>	
CO₂ Emission Related to Electricity Consumption in Mexico	2731
<i>R. Reyna-Caamaño, A. Llamas, J. Baez, L. Martinez-Gonzalez</i>	
Vehicle-Specific Emissions Modeling For Non-Road Construction Vehicles Based Upon Real-World Measurements	2743
<i>H. Frey, S. Pang, W. Rasdorf, K. Kim, P. Lewis</i>	
Dispersion Modeling of Ship Plume in West Vancouver, British Columbia, Canada	2750
<i>X. Xu, B. Zhang, J. Brook</i>	
Water Holding Capacity and Fungal Growth on Green and Non-Green Building Materials	2764
<i>C. Hoang, K. Kinney, R. Corsi, P. Szaniszlo</i>	
Development of a Sampling and Analytic Method for the Measurement of Hexavalent Chromium in Ambient Air	2769
<i>Z. Fan, Q. Meng, L. Lin, L. Huang, B. Buckley, L. Bonanno</i>	
Transportability Assessment of PM Emissions	2774
<i>C. Cowherd</i>	
Simulation of Radionuclides Dispersion in Chihuahua City	2784
<i>L. Rodriguez Vazquez, J. Carrillo, A. Campos, E. Ramírez, B. Trujillo, E. Herrera, A. García, A. Jazcilevich, E. Díaz, W. Vázquez</i>	
The Do's and Don'ts of Permitting and Siting Renewable Fuel Facilities	2789
<i>M. Traister</i>	
A Modeling Study: Understanding Particulate Matter Pollution in the San Francisco Bay Area	2795
<i>J. Kahyaoglu-koracin, C. Tran, Y. Jia, S. Soong, D. Fairley, J. Cordova, S. Tanrikulu</i>	
A Comparison of Modeled to Measured Soil Gas Concentrations for Chlorinated Solvent and Petroleum Hydrocarbon Contamination: Implications for Site Management Decision-Making	2801
<i>D. Marquez</i>	
Exploring the Use of Prognostic Model Meteorological Outputs with AERMOD	2808
<i>T. Wickstrom, A. Yegnan, M. Garrison, J. Sherwell</i>	
Time series study of PM_{2.5} source apportionment for use in health assessment in several California counties from 2001-2005	2815
<i>Z. Chowdhury, R. Anousheh, R. Broadwin, B. Malig, B. Ostro</i>	
Transportability Assessment of PM Emissions	2827
<i>C. Cowherd</i>	
NSR/PSD Issues Relating to Control Technology Installation at Power Plants in Maryland	2837
<i>A. Yegnan, J. Flannery, T. Weissinger, W. Paul, J. Sherwell</i>	

Review of BioFuels and Biodiesel Blended Fuels for Use in Power Generation	2851
<i>P. Flynn, D. Johnson, M. Chemweno</i>	
Measurement of Total Site Mercury Emissions from a Chlor-Alkali Plant Using Open-Path UV-DOAS.....	2861
<i>M. Modrak, R. Hashmonay</i>	
CFD Simulation of Building Downwash in the EPA Wind Tunnel	2867
<i>L. Schulman, C. DesAutels</i>	
Real-Time Characterization of Particle-Bound Polycyclic Aromatic Hydrocarbons in Ambient Aerosols and from Motor-Vehicle Exhaust.....	2874
<i>A. Polidori, S. Hu, S. Biswas, C. Sioutas, R. Delfino</i>	
The Effects of Climate Change on Emissions and Ozone in Central California	2879
<i>S. Soong, C. Tran, D. Fairley, Y. Jia, S. Tanrikulu</i>	
Emission Measurements in a Highly Stratified Stack.....	2888
<i>J. Willenberg</i>	
The Role of Calcium-based Reagents for Integrated Industrial Emissions Control Solutions	2895
<i>P. Nolan, J. Dickerman</i>	
Determining the Environmental Benefits of Implementing Continuous Descent Arrival Procedures	2902
<i>E. Dinges</i>	
Regional Visions of Urbanization in Austin, Texas and the Impacts on Air Quality and Population Exposure Metrics.....	2921
<i>E. McDonald-Buller, J. Song, A. Webb, D. Allen, B. Parmenter</i>	
Hazardous Communications Compliance at Hill AFB	2926
<i>K. Walter, B. Hobster, K. McQueen</i>	
A New Look at Fogging and Icing Impacts from a Wet Flue Gas Desulfurization (FGD) System	2930
<i>T. Wickstrom, M. Garrison, J. Sherwell</i>	
Economic Evaluation of Burning Bituminous and Western PRB Coals for Power Production based on Select Pollution Control Scenarios.....	2939
<i>J. Loftus, M. Rood, S. Chen, Y. Lu, M. Rostam-Abadi, R. Statnick</i>	
Harmonization of Data and Methods for Computing Aircraft Emissions and Noise	2955
<i>A. Nguyen, S. Benromdhane, T. Thrasher, R. Iovinelli</i>	
Compliance System Approach SOCMI 40 CFR PART 60, SUBPART YYY Proposed Regulation	2963
<i>J. Egli</i>	
Polymer Nanocomposite Based Chemiresistive Nitrogen Dioxide Gas Sensor.....	2967
<i>D. Meka, L. George, S. Prasad</i>	
Light- and Heavy-Duty Vehicle Emission Factors of PM Species Based on Freeway Measurements and Comparison with Tunnel and Dynamometer Studies.....	2975
<i>Z. Ning, A. Polidori, C. Sioutas, J. Schauer</i>	
Relationships between Indoor Air Contaminant Concentrations and Site and Climatic Conditions	2980
<i>P. EerNisse, D. Oliver, S. Steinmacher, J. Miller, B. Hall, J. Case</i>	
Characterization of Real-World Activity, Fuel Use and Emissions for Selected Motor Graders Fueled with Petroleum Diesel and B20 Biodiesel.....	2985
<i>H. Frey, K. Kim, S. Pang, W. Rasdorf, P. Lewis</i>	
The Standards, Assessments, and Tracking Module of APIMS	3003
<i>S. Rasmussen, D. Hansell</i>	
Evaluation of Visits to Hospitals with PM₁₀ and PM_{2.5} Concentration Levels in the MMA.....	3008
<i>A. Rojas, G. Mejia, J. Santos, B. Lapizco</i>	

DOCS: An Alternative to Method 9; Advancing the State of the Art	3019
<i>P. Grieco, S. Rasmussen</i>	
Long Range Transportation Planning Scenarios to Achieve Greenhouse Gas and Particulate Emission Targets	3023
<i>H. Brazil</i>	
EESOH-MIS Implementation Highlights	3038
<i>D. Bird, S. Rasmussen</i>	
Modeling Lung Function Decrement due to Repeated Ozone Exposure: Taking Adaptation into Account.....	3053
<i>J. Parra, L. George</i>	
Measurement and Modeling of Fuel Use and Exhaust Emissions from Idling Long-Haul Freight Truck and Auxiliary Power Unit Engines	3060
<i>H. Frey, P. Kuo, C. Villa</i>	
Nonroad Engine Clean Air Act Rulemaking Impacts.....	3065
<i>D. Hansell, S. Rasmussen</i>	
Use of Vertical Scanning Lidar to Quantify and Characterize Dust Plumes Generated from Flying Helicopters	3069
<i>K. Du, M. Rood, Kim, M. Kemme, R. Hashmonay</i>	
Residential Indoor and Outdoor Air Quality in Small Communities within the Oil Sands Developing Region of Northeastern Alberta	3081
<i>W. Kindzierski</i>	
Modification of Artifacts in Sulfuric Acid Mist Measurement Using NIOSH Method 7903.....	3095
<i>Y. Hsu, C. Wu, D. Lundgren, B. Birky</i>	
Unique Risk Communication Challenges Posed by Estimating Human Health Risks for Diesel Exhaust.....	3100
<i>R. Scofield</i>	
Transport and Dispersion Patterns for Particulate Matter in the San Francisco, CA Bay Area	3106
<i>S. Beaver, A. Singh, A. Palazoglu, S. Tanrikulu</i>	
Costs of In-Use Off-Road Diesel Vehicle Regulation	3123
<i>E. Yura</i>	
Estimating Light Duty Gasoline Vehicle Emission Factors at High Transient and Constant Speeds for Short Road Segments to Support Near-Roadway Air Quality Studies.....	3137
<i>H. Frey, H. Choi</i>	
Spatial and Seasonal Emissions of Road Dust in the Lake Tahoe Basin	3149
<i>D. Zhu, H. Kuhns, J. Gillies, V. Etyemezian, A. Gertler</i>	
A Simple and Economical Chemical Reactor System Oxidizes Aqueous Wastes to Produce Reusable Water, Heat and Other Byproducts.....	3164
<i>J. McGrew, K. Miller</i>	
International Environmental Technologies Advanced Pyrolysis System	3177
<i>S. Chakladar, H. Rous</i>	
Secondary Organic Aerosol Formation from Photooxidation of Toluene in the Presence of Inorganic Seed Aerosols.....	3184
<i>G. Cao, M. Jang</i>	
Concentration Value Uncertainty Estimates for Source Apportionment Modeling of Chemical Speciation Network Data.....	3189
<i>J. Turner, J. Garlock, K. Wade, S. Brown, H. Hafner</i>	
Predicting Human Exposure near Freeways: A Comparison of AERMOD and CAL3QHCR	3202
<i>M. Hou, M. Keinath, C. Helvestine, S. Libicki</i>	

Successful Greenhouse Gas Inventories: Developing Work Plans to Address Multiple Protocols	3216
<i>T. Raine, M. McCaughey</i>	
Petroleum Refinery Flaring Reductions Achieved in the Bay Area Air Quality Management District	3232
<i>K. Wee, A. Ezersky, D. Tolar</i>	
The Role of Process Engineering in Reducing Greenhouse Gas Emissions	3251
<i>J. Vetromile, M. Grossman</i>	
Comparison of Fuel Consumption and Tailpipe Emissions of Ethanol 85 and Gasoline for Flexible Fuel Vehicles	3262
<i>H. Frey, H. Zhai, N. Roushail, G. Gonçalves, T. Farias</i>	
Risk and Dispersion Modeling of Air Toxics Under California's AB2588 Hazardous Air Reporting Program (HARP) Protocol Using AERMOD and MM5 Meteorological Data	3277
<i>E. Yan</i>	
Estimation of VOCs Emissions and Reduction Potential for Commercial/Consumer Solvent Use in Seoul Metropolitan Area	3284
<i>Y. Ma, Y. Kim, J. Kim, S. Kim, O. Lim, R. Ryu, J. Woo, Y. Sunwoo, J. Cha, J. Hong</i>	
Characteristics of Mobile Source Air Toxics (MSATs) Across Filtration Systems at Three Schools Next To U.S. 95 in Las Vegas, Nevada	3290
<i>P. Roberts, M. McCarthy, J. Landreneau, D. Vaughn, J. Ludwig</i>	
Residential Vapor Intrusion to Indoor Air Comparative Study: Canisters vs. Sorbent Tubes vs. Passive Diffusion Samplers	3296
<i>S. Steinmacher, H. O'Neill, J. Odencrantz, J. Case, P. Johnson</i>	

Volume 6

Identification and Quantification of Nitrated Polycyclic Aromatic Hydrocarbons in Diesel Emissions with Gas Chromatography/Mass Spectrometry	3301
<i>V. Samburova, S. Samy, B. Zielinska</i>	
Organizational Boundaries and the Relationship With Carbon Footprints	3304
<i>G. Pelletier</i>	
Characteristics of Mobile Source Air Toxics (MSATs) at Several Schools Next To U.S. 95 in Las Vegas, Nevada	3313
<i>P. Roberts, M. McCarthy, J. Landreneau, D. Vaughn</i>	
Biofiltration of Aldehydes Emitted from Ethanol Production Facilities	3318
<i>L. Chen, K. Kinney, L. Katz, A. Seibert, K. Bangs</i>	
Recommendations for Data Reporting of Uncertainty and Measurement Process Characteristics	3323
<i>P. Roberts, H. Hafner, M. McCarthy</i>	
Defining a Regional Role in Greenhouse Gas Mitigation in Metro Vancouver, Canada	3329
<i>E. Hou, A. Ergudenler, R. Quan</i>	
High Collection Efficiency Electrostatic Precipitator for In Vitro Cell Exposure to Concentrated Ambient Particulate Matter (PM)	3334
<i>M. Sillanpää, M. Geller, H. Phuleria, A. Polidori, C. Sioutas</i>	
Evolution of Air Quality and Health Assessments for Three Major Road Projects	3339
<i>R. Humphries, A. Schutte, C. Koscher, J. Mallany</i>	
Comparison and Critical Review of Process Hazard Analysis Methods for Risk Management Plans at Flammable Fuel Storage Facilities	3345
<i>A. Chemburkar, J. Koehler, A. Estrada</i>	
Mitigation Measures and Early Actions under AB32	3356
<i>H. Balentine, K. Field</i>	

Will the Hg Cycle be Unbroken? An Air and a Waste Management Issue!	3366
<i>A. Linero, D. Read</i>	
Methods and Technologies for Demonstrating a Small Wood-Fired Boiler's Compliance with PM_{2.5} Air Quality Standards	3381
<i>J. Hinckley</i>	
Assessment of Carbon Sampling Artifacts in PM_{2.5} Chemical Speciation Networks	3390
<i>R. Tropp, A. Chen, J. Chow, J. Watson</i>	
Role of Local Mercury Emissions and Atmospheric Deposition in Rural West Central Alberta	3413
<i>W. Kindzierski</i>	
Physical and Chemical Properties of Particles Emitted from Heavy Duty Diesel Vehicles Operating with Advanced Emission Control Technologies	3425
<i>S. Hu, S. Biswas, V. Verma, C. Sioutas, A. Polidori</i>	
Measurement Error as a Context for Assessing Intraurban Variability in Chemical Speciation Network Data	3430
<i>J. Turner</i>	
Regulatory Strategies for Reducing VOC Emissions from Atmospheric PRDs at Refineries and Chemical Plants	3445
<i>J. Chen, T. Vo, B. Chandan</i>	
Lead Isotope Abundance Ratios for Ambient Particulate Matter in St. Louis	3453
<i>J. Turner</i>	
The Deployment of CO-WSNs for Monitoring Carbon Monoxide in the Enclosed Parking Garage	3461
<i>C. Chaiwatpongsakorn, T. Keener, M. Lu, D. Wang, D. Agrawal</i>	
Fractal Dimension and Lacunarity of Urban Aerosol in Chihuahua, MX	3472
<i>B. Trujillo-Navarrete, E. Herrera-Peraza, F. Paraguay-Delgado, R. Mamani-Paco, T. Castro</i>	
Design and Implementation of an Effective Environmental Management System for Stuart School of Business at Illinois Institute of Technology	3477
<i>W. Melaragno</i>	
Size-Segregated Inorganic and Organic Components of PM in the Communities of the Long Angeles Harbor	3492
<i>M. Arhami, M. Sillanpää, S. Hu, M. Geller, A. Polidori, C. Sioutas, J. Schauer</i>	
Evaluation of Source Selection and Representation for Mobile Emission Source Activities on Air Dispersion Modeling Setup Time, Run Time, and Modeling Results Using AERMOD	3497
<i>B. Payer, S. Lee, G. Hoch, D. Daugherty</i>	
Multivariate Statistical Identification Of Factors Affecting The Emission Behavior of Public Transport Buses	3507
<i>A. Vijayan, A. Kumar</i>	
Identification of Major Sources of PM_{2.5} in Three Cities of Ohio	3523
<i>C. Varadarajan, A. Kumar</i>	
Assessment of Mobile Emissions in The Athabasca Oil Sands Region - CALPUFF Modelling Case Study Using High Resolution Emission Estimates	3543
<i>R. Singh, R. Jain, K. Onder, G. Unrau</i>	
Development and Field Testing of a Small, Efficient, Photolytic Converter for Measurement of Ambient Nitrogen Dioxide (NO₂)	3550
<i>M. Buhr</i>	
Life Cycle Assessment - Evaluating Remediation Technology	3555
<i>H. Rao</i>	
Vapor Intrusion: How to Ensure Quality Data When Performing VI Investigations	3566
<i>W. Elcoate, L. Heathcote</i>	

Enterprise Best Practices for Strategic Environmental, Health and Safety Data Management	3569
<i>K. Modesitt</i>	
Estimates of the Environmental Burden of Disease Attributed to Outdoor Air Pollution in Jakarta, Indonesia.....	3573
<i>H. Yulinawati</i>	
Catalytic Removal of Elemental Mercury Using Nanostructured SiO₂-TiO₂ and SiO₂-TiO₂-V₂O₅ Composites	3578
<i>C. Wu, Y. Li</i>	
Physical Characterization of PM₁₀ at two sites of the MMA.....	3583
<i>A. Sánchez, G. Mejía, M. Martínez, R. Reyna, P. Caballero</i>	
Evaluation of Noise and Emission Levels Inside the Cab of Heavy-Duty Diesel Vehicles During Conditions of Parked Engine Idling and On-Road Driving	3594
<i>J. Fu, J. Calcagno, W. Davis, J. Wasserman, C. Campbell, B. Brown, L. Pan</i>	
Creating an Office Greenhouse Gas Emissions Inventory	3601
<i>G. Pelletier</i>	
Commuter Exposure to Particulate Matter (PM₁₀) in Jakarta, Indonesia.....	3609
<i>H. Yulinawati, P. Flachsbart, S. Saksena</i>	
Comparative Dry and Wet Depositions Modeling Using ISCST3 and AERMOD and the Impact On Combustion Health Risk Assessment.....	3615
<i>B. Sun</i>	
Use of Hourly Ozone Data in CALPUFF – A Pacific Northwest Case Study	3626
<i>R. Graw</i>	
Assessing Whole Building Performance.....	3639
<i>K. Fowler, E. Rauch</i>	
Mathematical Modeling of Concentration-Controlled Electrothermal Swing Adsorption System	3652
<i>H. Emamipour, M. Rood, D. Thurston, Z. Hashisho, P. Sullivan, K. Hay, B. Kim</i>	
Successful Corporate Strategies to Manage Greenhouse Gas Risks and Opportunities	3661
<i>A. Bedwell</i>	
Businesses Adopting Measures Addressing Climate Change and GHG Inventories	3671
<i>J. Ladner</i>	
Assessment of Indoor Air Quality in School Laboratory and Office.....	3676
<i>H. Hung, T. Yang, C. Yu, Y. Kuo</i>	
Capture and Concentration-Controlled Desorption of Organic Vapors with a Full-Scale Electrothermal Swing Adsorption System	3680
<i>H. Emamipour, M. Rood, P. Sullivan, D. Ramirez, K. Hay, B. Kim, R. Kennedy, R. Fisher, J. Morici</i>	
Source Apportionment Analysis of Volatile Organic Compounds in a Semi-Arid Coastal Urban Area	3686
<i>S. Karnaee, K. John</i>	
Source Apportionment of PM_{2.5} in Corpus Christi, Texas Using PCA/APCS and UNMIX.....	3691
<i>S. Karnaee, K. John</i>	
Isotopic Characteristics of Particulate Matter in Chihuahua Valley	3705
<i>E. Herrera, J. Carrillo, A. Campos, E. Ramírez, R. Gómez, M. Montero, M. Sosa, L. Rodríguez, B. Trujillo, R. Pérez</i>	
Potential Impact of Climate Perturbations on Ozone Episode over an Urban Area in South Texas	3710
<i>Z. Farooqui, J. Biswas, K. John</i>	
Greening Beijing for the 2008 Olympics: Can Lessons be Learned from China's Strategy for Urban Air Pollution?	3716
<i>K. Pham</i>	

Source Apportionment for Particulate Matter at the Houston Clinton Drive Monitoring Site	3721
<i>D. Sullivan, R. Tropp, J. Price</i>	
Hydrogen Production from Swine Wastewater	3728
<i>R. Wagner, J. Regan, D. Call, Y. Zuo, B. Logan, S. Oh</i>	
Multi-Stage Reburn for Improved Multipollutant Emissions Control.....	3733
<i>L. Swanson, G. Yu, G. Xu, W. Zhou</i>	
Possible Options for Managing Landfill Leachate in Urban Areas.....	3743
<i>N. Kuyucak</i>	
Passive Ozone Control Through Use of Reactive Indoor Wall and Ceiling Materials.....	3755
<i>D. Kunkel, R. Corsi, A. Novoselac, J. Seigel, G. Morrison</i>	
Aircraft Emissions Modeling Under Low Power Conditions	3767
<i>B. Kim, J. Rachami</i>	
Review of the Validation Process of Medical Waste Autoclaves	3778
<i>E. Krisiunas</i>	
Design and Characterization of a Two-stage Human Subject Exposure Chamber	3783
<i>R. Kuprov, J. Hansen, D. Eatough</i>	
Estimation of Diesel Particulate Matter Concentration Isopleths at 47 Marine Harbor Areas.....	3789
<i>S. Hartley, A. Rosenbaum, P. Rowley, L. Audette, K. Davidson</i>	
Source Apportionment of Mercury to the Cincinnati Ecosystem	3813
<i>P. Heckel</i>	
Plasma Gasification: A Proven Technology	3822
<i>S. Dighe</i>	
Next Generation Wet Electrostatic Precipitators	3826
<i>H. Shah, J. Caine</i>	
Evaluation of VOC Concentrations in Victoria, Texas.....	3841
<i>C. Durrenberger, J. Spinhirne, A. Webb, E. McDonald-Buller</i>	
Characteristic Study on Waste-Derived Thermite Treating Electric Arc Furnace Dust.....	3846
<i>K. Wang</i>	
Suzhou: A Preliminary Case Study of Ground-Level Ozone Pollution in a Middle Size Chinese City	3852
<i>F. Wang, H. Li, D. Fang, M. Ancora, F. Costabile, I. Allegrini, I. Liu, W. Hong</i>	
Developing a State-wide Windpower Assessment	3866
<i>J. Sherwell, A. Yegnan</i>	
Smart LDAR: Pipe Dream or Potential Reality?	3874
<i>W. Sadik, D. Reese, C. Melvin</i>	
Evaluation of Fine Particulate Emission Sources during Wild/Prescribed Fire Events	3895
<i>L. Mazzoleni, B. Zielinska, E. Fujita, T. Snorradottir</i>	
Future Emissions from Vehicle Fleets	3899
<i>F. Yan, T. Bond</i>	
Use of CALPUFF and AERMOD for Estimating PM_{2.5} Concentrations	3904
<i>S. Mohammad, S. Marks, R. McCann</i>	
RCRA Financial Assurance Issues - The Long View	3907
<i>P. Bailey</i>	
Using Existing Data Systems to Support Natural Infrastructure Asset Management	3917
<i>M. Baghoomian, S. Dolan</i>	
Preparing Greenhouse Gas Emissions Inventories at a Military Instillation Using Existing Air Data Systems	3921
<i>M. Cottle, M. Baghoomian.</i>	

Exposure Management Using the Defense Occupational and Environmental Health Readiness System (DOEHRS)	3924
<i>M. Baghoomian, S. Dolan</i>	
Photocatalytic Ionization's Role in Indoor Environmental Quality (IEQ)	3930
<i>H. Taback, Hal Taback Company</i>	
Application of Satellite Aerosol Optical Depth and Airborne Lidar Data for Monitoring Fine Particulate Formation and Transport in San Joaquin Valley, California	3940
<i>J. Al-Saadi, J. Hair, R. Ferrare, C. Hostetler, R. Rosen, C. Bohnenkamp, J. Szykman, D. Chu, G. Arcemont, A. Kaduwela</i>	
Performance Auditing of a Human Air Pollution Exposure System for Ultra Fine Particles.....	3945
<i>M. Ray</i>	
Citotoxicity Effects of the Water Soluble Fraction of Particulate Matter (PM) from the North of Mexico City	3949
<i>V. Mugica, A. Rozendaal, J. García, I. Barceló, A. De Vizcaya, M. Uribe-Ramírez</i>	
High Sensitivity CO₂ Monitor for CO₂ Geological Sequestration Efficiency Monitoring	3955
<i>C. Parker, J. Tulip</i>	

Volume 7

Fog Modeling - A Visibility Perspective	3960
<i>K. Morrison</i>	
Environmental Regulations and Nanotechnology: An Update	3969
<i>L. Theodore, L. Stander</i>	
Waste-to-Energy Facilities - A Viable Fuel Alternative in California?	3981
<i>D. Hooper</i>	
Particulate Matter (PM) Air Quality Standard in High Altitude Cities	3986
<i>H. Bravo Alvarez, P. Sanchez Alvarez, R. Sosa Echeverria</i>	
Results of Gas Technology Institute's ORS Methods Development Project for Perimeter Air Monitoring During MGP Site Cleanups.....	3990
<i>S. Takach, S. Schulz, T. Minnich, R. Scotto</i>	
Acid Wet Deposition Evaluation in the Coast of the Gulf of Mexico.....	4010
<i>R. Sosa Echeverria, H. Bravo Alvarez, P. Sanchez Alvarez, A. Alarcon Jimenez, C. Herrera Tolama</i>	
How Do You Define and Measure Progress Toward Sustainability? How Does the Current Climate Dilemma Fit Into Sustainable Practices?.....	4022
<i>T. Miller</i>	
Recovery of High-Purity Indium from Optoelectronic Wastes.....	4028
<i>F. Yang, Y. Chen</i>	
A Feasibility Study of Applying Lidar to Determine Extinction Profiles of Agriculture Burning Related Aerosols	4033
<i>C. Wu, C. Wu, S. Chang, W. Chen, K. Du, M. Rood</i>	
Environmental Issues in the Ship breaking Industry in India	4039
<i>A. Mahindrakar, S. Das, S. Asolekar, B. Kura</i>	
The Imminent Challenge of Hazardous Electronic Solid Posed by Urbanization in India	4052
<i>F. Pertillo, A. Sengupta, B. Kura,A. Mahindrakar, S. Asolekar</i>	
Solid and Hazardous Waste Management Status in India and Potential for Recycling	4062
<i>A. Mahindrakar, S. Asolekar,B. Kura</i>	
Design of a Field Portable Open-Path Ammonia and Ozone Sensor Using A Quantum Cascade Laser.....	4075
<i>P. Corrigan, B. Gross, F. Moshary, A. Michel, J. Yeung, M. Baeck, J. Smith</i>	

Composting in Mexico City. What Are We Waiting For?.....	4085
<i>L. Tovar Galvez, S. Bravo Witt, C. Rodriguez Tapia, R. Sosa Echeverria</i>	
High Octane Gasoline from Polyethylene Waste Using Catalytic Cracking.....	4089
<i>V. Mugica, L. Juarez-Hernández, J. Aguilar, L. Noreña, J. Perez-Pariente, E. Sastre, J. Perez-Pariente, E. Sastre</i>	
Portable Laser Gas Detector Systems for Landfill CH₄ and CO₂ Monitoring	4095
<i>H. Adam, C. Parker, J. Bauer, J. Tulip</i>	
The Lewiston Air Toxics Study: A High-Resolution Application of MM5/CMAQ Modeling.....	4103
<i>J. Vaughan, C. Ramos, Y. Xie, B. Lamb, M. Fauci</i>	
The NW-AIRQUEST Consortium AIRPACT-3 Air-Quality Forecasting System: Enhancements for Wildfires, Residential Wood Burning and NASA Satellite Data Integration	4108
<i>J. Vaughan, F. Thorpe, Y. Xie, S. Chung, B. Lamb, J. Chen, J. Avise, R. Kotchenruther, R. Solomon</i>	
Money-Saving Security Tips for your HazMat Transportation Program	4113
<i>I. Powell</i>	
Hazardous Materials, Homeland Security and International Requirements	4117
<i>T. Webber</i>	
Why World Class HazMat Compliance Doesn't Need to Cost a Fortune	4120
<i>T. Webber</i>	
Metals in Airborne Particulate Matter at Two sampling stations in Mexico City	4125
<i>A. Molina, E. Gutierrez, L. Tovar, M. Espinosa</i>	
A Method for Measuring Fugitive Dust Emissions Using Optical Remote Sensing and Point Monitor Techniques.....	4134
<i>R. Hashmonay</i>	
Summary of Post-Combustion CO₂ Capture Technologies for Existing Coal-Fired Power Plants.....	4139
<i>H. Krutka, C. Bustard, S. Sjostrom</i>	
A New Instrument for NO₃ Detection using Incoherent Broadband Cavity-Enhanced Spectroscopy..	4149
<i>R. Varma, A. Ruth, D. Venables, U. Heitmann, H. Dorn, T. Brauers, E. Schlosser</i>	
Permitting of Alternative Fuels and Raw Materials at Portland Cement Plants Post NSR Reform	4154
<i>A. Heinerikson, A. Tobia</i>	
AERMOD Sensitivity to the Choice of Surface Characteristics	4160
<i>R. Brode, K. Wesson, J. Thurman, C. Tillerson</i>	
New Carbopack X and Metal-Passivated Adsorbent Tube for 24-Hour Diffusive Sampling of 1,3-Butadiene and 24 Additional Volatile Organic Compounds	4192
<i>K. Schultz, J. Brown, W. Betz, L. Sidisky</i>	
APIMS in Natural Infrastructure Asset Management	4198
<i>S. Dolan</i>	
Performance of AERMOD vs. CALPUFF on Fugitive Emission Sources in the Nearfield	4202
<i>I. Donaldson, D. Harrison, J. Hill</i>	
Addressing Global Warming (Climate Change) in State and National Regulatory Documents: 2008 Update	4225
<i>T. Held, R. Walter, T. Rimpo, L. Lowry, T. Rivasplata, K. Bogdan, W. Leeman</i>	
Status of Condensable Particulate Matter Testing and Implications for the Cement Industry.....	4245
<i>J. Richards, D. Goshaw, T. Holder</i>	
Three Months Continuous, Speciated, VOC Measurements in the Treasure Valley of Southern Idaho	4254
<i>B. O'Brien</i>	
Industrial Waste Management at Saudi Aramco: Status, Opportunities and Challenges	4260
<i>R. Hejazi</i>	

Improving Overall Efficiency of RTOs	4270
<i>H. Hohl</i>	
Hazardous Materials Process Controls and Information Management	4276
<i>J. Coho, D. Kumar</i>	
Results of Temperature Gradient and Path-length Bias Modifications to NIST Ozone Reference Standards	4279
<i>J. Norris, NIST, Gaithersburg, MD.</i>	
Determining Visible Opacity of Emissions Using the Digital Opacity Compliance System II	4286
<i>S. Dolan</i>	
Continuous Air Toxics Monitoring Using Advanced Laboratory Equivalent Real-Time Gas Chromatography Technology in a Field Proven Configuration	4316
<i>A. Tolley</i>	
Source apportionment of Volatile Organic Compounds in Hong Kong by Positive Matrix Factorization	4321
<i>Z. Yuan, A. Lau, J. Yu, J. Fung, P. Louie</i>	
Impact of Inter-Annual Variability of the Large-Scale Circulation on the Intra-Seasonal Air Quality over Beijing and Hong Kong	4326
<i>A. Lau, Y. Li</i>	
A New GIS-based Approach for Spatially Allocating Regional Mobile Source Emission Inventories in the Pearl River Delta (PRD), China	4336
<i>J. Zheng, W. Che, Z. Wang, P. Louie, L. Zhong</i>	
Analysis of Spatial and Temporal Characteristics of 8hr-max Ozone in the Pearl River Delta (PRD) Region	4343
<i>L. Zhong, P. Louie, J. Zheng</i>	
Air Pollution in Hong Kong: Where it Comes From, Why the City Continues to Choke, and What Would Make a Real Difference.	4345
<i>B. Barron, A. Lau, C. Loh</i>	
Size-Differentiated Source Profiles for Fugitive Dust in the Chinese Loess Plateau	4356
<i>J. Cao, J. Chow, J. Watson</i>	
Continual Developments and Evaluations of Air Quality Modeling Systems in Hong Kong	4379
<i>C. Fung</i>	
Contributions of Isoprene, Monoterpenes, β-caryophyllene, and Toluene to Secondary Organic Aerosol in Hong Kong during the Summer of 2006	4381
<i>J. Yu, D. Hu, Q. Bian, A. Lau, T. Li</i>	
Street Canyon Effects on Roadside Air Pollution	4386
<i>J. Fung, S. Yim, A. Lau</i>	
Dicarboxylic Acids, Ketocarboxylic Acids and Dicarbonyls in the Urban Atmosphere of China	4391
<i>C. Lee, K. Ho, J. Cao, K. Kawamura</i>	
Emission Inventory Development for the Hong Kong Special Administrative Region	4393
<i>A. Pollack, R. Morris, D. Yeung, P. Sham, K. Leung, C. Fung</i>	
Development of a New Air Quality Modeling System for the Hong Kong Special Administrative Region	4397
<i>D. Yeung, P. Sham, R. Morris, A. Pollack, K. Leung, C. Fung</i>	
Using a Carbon Balance to Estimate Greenhouse Gas Emissions and Mitigation from Municipal Solid Waste Management	4403
<i>B. Bahor, K. Weitz, A. Szurgot</i>	
Variations in Worker Exposures to HAPs in Welding Fume: Challenges in Exposure Monitoring and Modeling in the Maritime Industry	4429
<i>B. Kura</i>	

Advantages of Collecting PM_{2.5} Particulate Today.....	4436
<i>T. Anderson</i>	
Innovative Open Path Fourier Transform Infrared Spectroscopy for Optical Remote Sensing	4441
<i>P. Zemek, S. Plowman</i>	
Temperature Determination from a Single Beam Open Path Fourier Transform Spectrum.....	4448
<i>R. Crampton</i>	
The Washington Orchard Spray Drift Study: Lidar Imaging of Pesticide Spray Drift from an Orchard Airblast Sprayer	4455
<i>M. Tsai</i>	
Gaining True Benefit from an Environmental Sustainability Audit	4462
<i>R. Pandullo, R. ter Kuile</i>	
Production of Alkanes and Alkenes with Catalytic Incineration of 1, 2- dichloroethane Over Pt and Fe₂O₃ catalyst	4473
<i>C. Tsai, C. Chang, Y. Wu, J. Shie</i>	
Regional Air Quality Study in Hong Kong and the Pearl River Delta Region in China.....	4486
<i>P. Louie, L. Zhong</i>	
Climate Change Impacts and Adaptation: The Gulf Coast Study.....	4489
<i>M. Savonis</i>	
Evolving Standards for the Voluntary Carbon Market, and Why a New Approach Makes Sense.....	4494
<i>M. Trexler</i>	
Let's Not Go Overboard with GHG Inventories; an 80-20 Approach Usually Works	4496
<i>M. Trexler</i>	
How Should Clean Energy and Green Buildings Play in the Carbon Market?.....	4498
<i>M. Trexler</i>	
Study of Peroxyacetyl Nitrate (PAN) in Suburban and Remote Areas of Western China	4500
<i>J. Zhang, T. Wang, A. Ding, X. Zhou, C. Poon, W. Wu, J. Gao</i>	
Overview of CAREBEIJING	4513
<i>T. Zhu, X. Tang, X. Li</i>	
Identification of Secondary Aerosol Formation in Bogota: A Preliminary Study.....	4514
<i>J. Pachon, A. Russell, H. Sarmiento, B. Galvis</i>	
Oil Sands Air Quality and Greenhouse Gas Management	4523
<i>J. Nagendran</i>	
GHG Management Using a Web-Based EMIS Platform - A Case Study from a Midwest Power Generation Utility.....	4528
<i>I. Javed</i>	
Direct Measurements of Minimum Detectable Vapor Concentrations Using Passive Infrared Optical Imaging Systems.....	4542
<i>R. Benson, J. Panek, P. Drayton</i>	
PM_{2.5} FEM Designation Testing for Multiple Continuous Methods.....	4556
<i>K. Goohs, J. Ambs</i>	
The Columbia River Gorge Visibility Study	4557
<i>Mark Green</i>	
Mercury and Power Generation, Technology and Control.....	4558
<i>Sharon Sjostrom, Brian Rupp, Jason Laumb, Connie Senior, Katherine Dombrowski, Mark Berry, Eugene Trisko, Ramsey Chang, Paul Farber</i>	
Carbon Dioxide: Control Options for the Power Generation Industry	4560
<i>Sharon Sjostrom</i>	
Timely and Effective Emission Factor Development	4566
<i>Larry Lucarelli</i>	

RPO PM and Haze Inventory Development - Experience and Lessons Learned.....	4567
<i>Bill Barnard</i>	
MACT Development	4568
<i>Paul Siebert</i>	
Air Quality Directors Forum	4569
<i>Richard Sprott</i>	
Western Climate Initiative - How Cap and Trade Works.....	4570
<i>Richard Sprott, C. Mathai</i>	
Ernesta Ballard: The Intersection of Science and Sustainability.....	4571
<i>Scott Freeman</i>	
Integrating Environment and Sustainability into the Company Culture	4572
<i>Ed Fox, Rick Kroon, Regina Hauser, Ruediger Vetter, Todd Brady</i>	
The Seasoned Professional's Guide to the Young Professional - Mature Audiences Only	4573
<i>Brad Waldron</i>	
Issues and Challenges Facing Environmental Education and Outreach.....	4574
<i>Ashok Kumar, R. Ramanan</i>	
Highlights of the A&WMA/WEF 2008 Odor Emissions Conference	4576
<i>Michael McGinley</i>	
Respect the Indian Way.....	4577
<i>Jerry Padilla, Mike Williams, Robert Gruenig, Lewis McLeod</i>	
Environmental Compliance and Enforcement Trends at Federal Facilities.....	4579
<i>Scott Dickinson, Joe Martone, David Kling, Paul Robert, David Kumar, Andy Fitz</i>	
Mercury Monitoring in the Power Generation Industry.....	4583
<i>Katherine Dombrowski, Michael Corvese, Mark Calloway, Terry Marsh, Sharon Sjostrom</i>	
IGCC with Carbon Capture and Storage: Technical, Legal and Policy Issues.....	4586
<i>Darlene Radcliffe, Frederick Johnson</i>	
Nuclear Energy - Implications for Domestic Energy Independence and Global Climate Change	4587
<i>Paul Libowski, Frank Princiotta, Lloyd Marbet, Jim Hardy, Beatrice Brailsford</i>	
Emission Control Issues in the Petrochemical & Refining Industries.....	4594
<i>Ed Fiesinger, Kelly Wee, Karen Olson, Mike Hansel, Ken Weiss</i>	
Attainment Strategies for the New Ozone Standard.....	4596
<i>Al Armendariz, Ramon Alvarez, Howard Feldman, Anna Garcia, Ken Lloyd</i>	
Recent Developments in Environmental Litigation	4600
<i>Harry Kłodowski Jr., Gary McCutchen, Geoff Tichenor, Paul Logan, Aubrey Baldwin</i>	
NSR Reform: Recent Developments and Issues	4601
<i>Gary McCutchen, Ken Weiss</i>	
Asian Countries: Climate Change Policies and Strategies	4602
<i>Jeanne Ng, Bill Barron, Alexis Lau, Sophie Punte</i>	
Trends in Air Permitting Enforcement	4603
<i>David Jordan, Patrick Traylor, Jane Hickman, Walker Smith</i>	
Policy Issues Surrounding Boiler MACT	4604
<i>David Jordan, S. William Becker, Tim Hunt</i>	
Legal Developments in Greenhouse Gas Regulations	4605
<i>Stephen Higgs, Tom Wood, Suzanne Lacampagne, Miller Nash, Lynne Parechan</i>	
Environmental Forensics: Use of Dispersion and Deposition Modeling in Litigation	4606
<i>Walt Shields, Julian Levy, Neil Weinfield, Kirk Winges</i>	
Trends in Environmental Enforcement	4607
<i>Aaron Courtney, Jane Hickman, Chris Rich</i>	

Renewable Energy Projects in the Pacific Northwest	4608
<i>Robert Grott, Nikola Davidson, Justin Klure, Sandra Walden, Troy Gagliano</i>	
Identifying Key Performance Metrics to Drive Environmental Performance.....	4609
<i>Tom Morahan, Greg Gasperez, Tod Christenson, Kerry Cooley, Marc Brynczka, Kim Stagg</i>	
Product Stewardship: REACH, Why it is Important to Your Company.....	4610
<i>Jeffrey Hunter, Kathi Futornick, Bill Stubblefield</i>	
Sustainable Forestry Considerations.....	4611
<i>Scott Freeburn, Marvin Brown, Deepak Tamang, Steve Brink, Hal Salwasser</i>	
Pollution Prevention in a Sustainable Region.....	4612
<i>N/A</i>	
National and State Performance Based Programs - EPA's Performance Track Program and State Program Approaches to Promoting Environmental Leadership Practices.....	4615
<i>John Foster</i>	
Research Needs in Global Climate Modeling	4617
<i>Julian Levy</i>	
Developing an Effective Climate Change Strategy.....	4618
<i>Rich Pandullo, Josh Margolis, Jeff Cole, Peter Tomasi</i>	
Think Globally, Act Locally -- Local Measures to Address Climate Change.....	4619
<i>John Holtzclaw, Walter Arenstein, David Burch, Linda Weiner, Gina Facca</i>	
Greenhouse Gas Regulatory and Voluntary Programs in the U.S.....	4620
<i>Howard Ellis, Peter Murchie, Robyn Camp, Richard Sprott,</i>	
Carbon Sequestration, Trading, and Production in Managed Forests	4621
<i>Scott Freeburn, Bruce Lippke, Mike Cloughesy, Gordon Smith, Robert Prolman</i>	
Global Impacts on Local Recycling	4622
<i>Mark Morford, Kristen Mitchell, David Allway, Stefan Bukojemsky, Jeff Murray</i>	
Making the Case for Waste to Energy.....	4623
<i>Jack Lauber, Harry Deweart, Phillip Pattman, Stephen Zemba, Joseph McCarthy, Brian Bahor, Floyd Hasselriis</i>	
Climate Change and Resource Management Issues.....	4624
<i>Cindy Bishop, Paul Fleming, Dan Mueller, Peter Gravatt</i>	
Environmental Implications of the Recent Energy Legislation	4625
<i>Dan Mueller, Jonathan Bull, Andrea Barbery</i>	
A Mandatory Young Professional Survival Guide.....	4626
<i>Brad Waldron, Lauren Peterson, Laurie Bates-Frymel</i>	

Author Index