

Hector Erik VELASCO SALDAÑA

Research Scientist

Air quality and climate change mitigation

Email: evelasco@mce2.org | he_velasco2003@yahoo.com

Personal website: <https://erikvelasco.weebly.com/>

Citizenship: Mexican

Languages: Spanish (native), English (advanced), Japanese (basic training)

ORCID ID: 0000-0002-1870-5565

Scopus author ID: 57219425459

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EDUCATION

- 2002 – 2005 PhD, Civil and Environmental Engineering, Washington State University, USA.
Advisors H Westberg and B Lamb.
- 1998 – 2000 MSs (Hons), Environmental Engineering, National Autonomous University of Mexico,
Mexico. Advisor JR Varela.
- 1992 – 1997 BSc, Mechanical Engineering, National Autonomous University of Mexico, Mexico.
Advisor JR Varela.

EMPLOYMENT

- 2020 – Research Associate, Molina Center for Energy and the Environment (MCE2), USA.
- 2019 – 2020 Research Fellow, Centre for Urban Greenery and Ecology (CUGE), National Parks Board
(NParks), Singapore.
- 2010 – 2018 Research Scientist Grade 2, Center for Environmental Sensing and Modeling
(CENSAM), Singapore – MIT Alliance for Research and Technology (SMART), Singapore.
- 2008 – 2010 Postdoctoral Fellow, Department of Geography, National University of Singapore,
Singapore.
- 2006 – 2008 Postdoctoral Associate, Molina Center for Energy and the Environment (MCE2) and
Massachusetts Institute of Technology (MIT), Department of Earth, Atmospheric and
Planetary Sciences, USA.
- 2000 – 2002 Junior Scientist (Air Quality and Meteorology), National Center for Environmental
Research and Training (CENICA), National Institute of Ecology and Climate Change
(INECC), Mexico.

RESEARCH INTERESTS

- Air quality
- Personal exposure
- Urban micrometeorology
- Urban carbon sequestration
- Climate change
- Sustainability

The primary purpose of my research work is to provide reliable scientific information for devising effective solutions to improve the atmospheric environment while enhancing sustainability and livability. Most of my research activities involve *in-situ* measurements, data analysis and to a lesser degree, numerical modeling. I am a scientist who enjoys field work and understands the need of experiencing problems firsthand to be able to propose practical solutions based on scientific information. In a nutshell, I investigate the impact of urbanization and climate change on the atmospheric environment and biogeochemical cycles, and the conjuncture of these with the construction of sustainable, equitable and inclusive cities. I am interested in the interactions between the urban surface and overlying atmosphere in terms of mass and energy exchange, in the chemical and physical processes driving air pollution and the accumulation of greenhouse gases, in the exposure to pollutants and heat in public spaces, and the impact of urbanization on the carbon cycle.

Articles in Referred Journals [52 total]

corresponding author, (impact factor)

2021 and after

1. Lipson M, Grimmond S, Best M, Chow W, Christen A, Chrysoulakis N, Coutts A, Crawford B, Earl S, Evans J, Fortuniak K, Heusinkveld BG, Hong J-W, Hong J, Järvi L, Jo S, Kim Y-H, Kotthaus S, Lee K, Masson V, McFadden JP, Michels O, Pawlak W, Roth M, Sugawara H, Tapper N, **Velasco E**, Ward HC. [Harmonized gap-filled datasets from 20 urban flux tower sites](#). *Earth System Science Data* (11.815), 14, 5157-5178, 2022.
2. **Velasco E**, Hieu HH, Pham AD, Rastan S. [Effectiveness of wearing face masks against traffic particles on the streets of Ho Chi Minh City, Vietnam](#). *Environmental Science: Atmospheres* (---), 2, 1450-1468, 2022.
3. Roth M, Sanchez B, Li R, **Velasco E**. [Spatial and temporal characteristics of near-surface air temperature across local climate zones in a tropical city](#). *International Journal of Climatology* (3.651), doi: 10.1002/joc.7862, 2022.
4. Retama A, Ramos-Céron M, Rivera-Hernández O, Allen G, **Velasco E**. [Aerosol optical properties and brown carbon in Mexico City](#). *Environmental Science: Atmospheres* (---), 2, 315-334, 2022.
5. Nicolini G, Antoniella G, Carotenuto F, Christen A, Ciais P, Feigenwinter C, Gioli B, Stagakis S, **Velasco E**, Vogt R, Ward HC, Barlow J, Chrysoulakis N, Karl T, Graus M, Helfter C, Heusinkveld B, Järvi, L, Marras S, Masson V, Matthews B, Meier F, Nemitz E, Sabbatini S, Scherer D, Schume H, Sirca C, Spano D, Steeneveld GJ, Vagnoli C, Wang Y, Zaldei A, Zheng B, Papale D. [Direct observations of CO₂ emission reductions due to COVID-19 lockdown across European urban districts](#). *Science of the Total Environment* (10.754), 830, 154662, 2022.
6. Jongen HJ, Steeneveld GJ, Beringer J, Christen A, Fortuniak K, Honh J, Hong JW, Jacobs CMJ, Järvi L, Meier F, Pawlak W, Roth M, Theeuwes NE, **Velasco E**, Vogt R, Teuling AJ. [Urban water storage capacity inferred from observed evapotranspiration recession](#). *Geophysical Research Letters* (5.576), 49(3), e2021GL096069, 2022.
7. Sánchez B, Roth M, Simón-Moral, Martilli A, **Velasco E**. [Assessment of a meteorological mesoscale model's capability to simulate intra-urban thermal variability in a tropical city](#). *Urban Climate* (6.663), 40, 101006, 2021.
8. **Velasco E**, Segovia E. [Determining a commuters' exposure to particle and noise pollution on double-decker buses](#). *Aerosol and Air Quality Research* (4.530), 21(12), 210165, 2021.
9. **Velasco E**. [Impact of Singapore's COVID-19 confinement on atmospheric CO₂ fluxes at neighborhood scale](#). *Urban Climate* (6.663), 37, 100822, 2021.
10. Bloss W, Brimblecombe P, Chen Y, Coe H, Gani S, Grimmond S, Harrison R, McFiggans G, Mihaylova L, Pfrang C, Shi Z, Slater J, Srivastava D, Styring P, **Velasco E**, Wang P, Yu. JZ. [General discussion: Urban air quality; Meteorological influences and air quality trends](#). *Faraday Discussions* (4.394), 226, 191-206, 2021.
11. Alam MS, Bloss W, Brean J, Brimblecome P, Chan C, Chen Y, Coe H, Fu P, Gani S, Hamilton J, Harrison R, Jiang J, Kulmala M, Lugon L, McFiggans G, Mehra A, Milsom A, Nelson B, Pfrang P, Sartelet K, Shi Z, Srivastava D, Stewart G, Styring P, Su H, van Pinxteren D, **Velasco E**, Yu JZ. [General discussion: Aerosol formation and growth; VOC sources and secondary aerosols](#). *Faraday Discussions* (4.394), 226, 479-501, 2021.
12. Meili N, Manoli G, Burlando P, Carmeliet J, Chow W, Coutts A, Roth M, **Velasco E**, Vivoni E, Fatichi S. [Tree effects on urban microclimate: diurnal, seasonal and climatic temperature differences explained by separating radiation, evapotranspiration, and roughness effects](#). *Urban Forestry & Urban Greening* (5.766), 58, 126970, 2021.
13. **Velasco E**, Segovia E, Choong AMF, Lim, BKY, Vargas R. [Carbon dioxide dynamics in a residential lawn of a tropical city](#). *Journal of Environmental Management* (8.910), 280, 11752, 2021.

14. **Velasco E**, Retama A, Zavala M, Guevara M, Rappenglück B, Molina LT. [*Intensive field campaigns as a means for improving scientific knowledge to address urban air pollution*](#). **Atmospheric Environment (5.755)**, 246, 118094, 2021.

2020-2016

15. **Velasco E**. [*Comment on 'High-resolution, multi-layer modelling of Singapore's urban climate incorporating local climate zones' by Mughal et al. \(2019\)*](#). **Journal of Geophysical Research – Atmospheres (5.220)**, 125, e2020JD033301, 2020.
16. Zavala M, Brune WH, **Velasco E**, Retama A, Cruz-Alavez LA, Molina L.T. [*Changes in ozone production and VOC reactivity in the atmosphere of the Mexico City Metropolitan Area*](#). **Atmospheric Environment (5.755)**, 238, 117747, 2020.
17. Meili N, Manoli G, Burlando P, Bou-Zeid E, Chow WTL, Coutts AM, Daly E, Nice KA, Roth M, Tapper NJ, **Velasco E**, Vivoni ER, Fatichi S. [*An urban ecohydrological model to quantify the effect of vegetation on urban climate and hydrology \(UT&C v.1.0\)*](#). **Geoscientific Model Development (6.892)**, 13, 335-362, 2020.
18. Simón-Moral A, Dipankar A, Roth M, Sánchez C, **Velasco E**, Huang H. [*Application of MORUSES single urban canopy model in a tropical city: results from Singapore*](#). **Quarterly Journal of the Royal Meteorological Society (7.237)**, 146, 576-597, 2020.
19. **Velasco E**, Retama A, Segovia E, Ramos R. [*Particle exposure and inhaled dose while commuting in Mexico City by public transport*](#). **Atmospheric Environment (5.755)**, 15, 117044, 2019.
20. Molina LT, **Velasco E**, Retama A, Zavala M. [*Experience from integrated air quality management in the Mexico City Metropolitan Area and Singapore*](#). **Atmosphere (3.110)**, 10, 512, 2019.
21. **Velasco E**, Chen K.W. [*Carbon storage estimation of tropical urban trees by an improved allometric model for aboveground biomass based on terrestrial laser scanning*](#). **Urban Forestry & Urban Greening (5.766)**, 44, 126387, 2019.
22. Lee J, Hong JW, Lee K, Hong J, **Velasco E**, Lim YJ, Lee JB, Nam K, Park J. [*Ceilometer monitoring of boundary layer height in Seoul and its application to evaluate the dilution effect on air pollution*](#). **Boundary Layer Meteorology (3.471)**, 172, 435-455, 2019.
23. Retama A, Neria-Hernández A, Jaimes-Palomera M, Rivera-Hernández O, Sánchez-Rodríguez M, López-Medina A, **Velasco E**. [*Fireworks: a major source of inorganic and organic aerosols during Christmas and New Year in Mexico City*](#). **Atmospheric Environment X (5.952)**, 2, 100013, 2019.
24. **Velasco E**. [*Go to field, look around, measure and then run models*](#). **Urban Climate (6.663)**, 24, 231-236, 2018.
25. Harshan S, Roth M, **Velasco E**, Demuzere M. [*Evaluation of an urban land surface scheme in a tropical suburban neighborhood*](#). **Theoretical & Applied Climatology (3.409)**, 133, 867-886, 2018.
26. Tan SH, Roth M, **Velasco E**. [*Particle exposure and inhaled dose during commuting in Singapore*](#). **Atmospheric Environment (5.755)**, 170, 245-258, 2017.
27. Liu X, Li XX, Harshan S, Roth M, **Velasco E**. [*Evaluation of an urban canopy model in a tropical city: the role of tree evapotranspiration*](#). **Environmental Research Letters (6.947)**, 12, 094008, 2017.
28. Demuzere M, Harshan S, Järvi L, Roth M, Grimmond CSB, Masson V, Oleson KW, **Velasco E**, Wouters H. [*Impact of urban canopy models and external parameters on the modelled urban energy balance in a tropical city*](#). **Quarterly Journal of the Royal Meteorological Society (7.237)**, 143, 1581-1596, 2017.
29. **Velasco E**, Retama A. [*Ozone's threat hits back Mexico City*](#). **Sustainable Cities and Society (10.696)**, 31, 260-263, 2017.
30. Roth M, Jansson C, **Velasco E**. [*Multi-year energy balance and carbon dioxide fluxes over a residential neighborhood in a tropical city*](#). **International Journal of Climatology (3.651)**, 37, 2679-2698, 2017.
31. **Velasco E**, Tan SH. [*Particles exposure while sitting at bus stops of hot and humid Singapore*](#). **Atmospheric Environment (5.755)**, 142, 251-263, 2016.

32. Jaimes-Palomera M, Retama A, Elias-Castro G, Neria-Hernandez A, Rivera-Hernandez O, **Velasco E**. [Non-methane hydrocarbons in the atmosphere of Mexico City: results of the 2012 ozone-season campaign](#). **Atmospheric Environment (5.755)**, 132, 258-275, 2016.
33. **Velasco E**, Roth M, Norford L, Molina LT. [Does urban vegetation enhance carbon sequestration?](#) **Landscape and Urban Planning (8.119)**, 148, 99-107, 2016.

2015-2011

34. **Velasco E**, Rastan S. [Air quality in Singapore during the 2013 smoke-haze episode over the Strait of Malacca: Lessons learned](#). **Sustainable Cities and Society (10.696)**, 17, 122-131, 2015.
35. Moosavi V, Aschwanden G, **Velasco E**. [Finding candidate locations for aerosol pollution monitoring at street level using a data-driven methodology](#). **Atmospheric Measurement Techniques (4.184)**, 8, 3563-3575, 2015.
36. **Velasco E**, Perrusquia R, Jiménez E, Hernández F, Camacho P, Rodríguez S, Retama A, Molina LT. [Sources and sinks of carbon dioxide in a neighborhood of Mexico City](#). **Atmospheric Environment (5.755)**, 97, 226-238, 2014.
37. **Velasco E**, Roth M, Tan SH, Quak M, Nabarro S, Norford L. [The role of vegetation in the CO₂ flux from a tropical urban neighbourhood](#). **Atmospheric Chemistry and Physics (7.197)**, 13, 10185-10202, 2013.
38. **Velasco E**, Ho KJJ, Ziegler AD. [Commuter exposure to black carbon, carbon monoxide, and noise in the mass transport khlong boats of Bangkok, Thailand](#). **Transportation Research Part D: Transport and the Environment (7.041)**, 21, 62-65, 2013.
39. Vargas R, Yépez EA, Andrade JL, Ángeles G, Arredondo T, Castellanos AE, Delgado J, Garatuza-Payan J, González-del-Castillo E, Oechel W, Sánchez-Azofeifa A, **Velasco E**, Vivoni ER, Watts C. [Progress and opportunities for water and greenhouse gases flux measurements in Mexican ecosystems: the MexFlux network](#). **Atmósfera (1.128)**, 26(3), 325-336, 2013.
40. **Velasco E**, Roth M. [Review of Singapore's air quality and greenhouse gas emissions: current situation and opportunities](#). **Journal of the Air & Waste Management Association (2.636)**, 62(6), 625-641, 2012.
41. Zalakeviciute R, Alexander ML, Allwine E, Jimenez JL, Jobson BT, Molina LT, Nemitz E, Pressley SN, VanReken T, Ulbrich IM, **Velasco E**, Lamb BK. [Chemically-resolved aerosol eddy covariance flux measurements in urban Mexico City during MILAGRO 2006](#). **Atmospheric Chemistry and Physics (7.197)**, 12, 7809-7823, 2012.
42. **Velasco E**, Pressley S, Allwine E, Grivicke R, Molina LT, Lamb B. [Energy balance in urban Mexico City: observation and parameterization during the MILAGRO/MCMA-2006 field campaign](#). **Theoretical and Applied Climatology (3.409)**, 103, 501-517, 2011.

2010-2006

43. **Velasco E** and Roth M. [Cities as net sources of CO₂: Review of atmospheric CO₂ exchange in urban environments measured by eddy covariance technique](#). **Geography Compass (4.141)**, 4(9), 1238-1259, 2010.
44. Jobson BT, Volkamer RA, **Velasco E**, Allwine G, Westberg H, Lamb B, Alexander ML, Berkowitz CM, Molina LT. [Comparison of aromatic hydrocarbon measurements made by PTR-MS, DOAS and GC-FID in Mexico City during the MCMA-2003 field experiment](#). **Atmospheric Chemistry and Physics (7.197)**, 10, 1981-2005, 2010.
45. **Velasco E**, Pressley S, Grivicke R, Allwine E, Coons T, Foster W, Jobson T, Westberg H, Ramos R, Hernández F, Molina LT, Lamb B. [Eddy covariance flux measurements of pollutant gases in urban Mexico City](#). **Atmospheric Chemistry and Physics (7.197)**, 9, 7325-7342, 2009.
46. **Velasco E**, Márquez C, Bueno E, Bernabé RM, Sánchez A, Fentanes O, Wöhrnschimmel H, Cárdenas B, Kamilla A, Wakamatsu S, Molina LT. [Vertical distribution of ozone and VOCs in the low boundary layer of Mexico City](#). **Atmospheric Chemistry and Physics (7.197)**, 8, 3061-3079, 2008.

47. **Velasco E**, Lamb B, Westberg H, Allwine E, Sosa G, Arriaga-Colina JL, Jobson BT, Alexander M, Prazeller P, Knighton WB, Rogers TM, Grutter M, Herndon SC, Kolb CE, Zavala M, de Foy B, Volkamer R, Molina LT, Molina MJ. [*Distributions, magnitudes and diurnal pattern of volatile organic compounds in the Valley of Mexico during the MCMA-2002 & MCMA-2003 field campaigns*](#). **Atmospheric Chemistry and Physics (7.197)**, 7, 329-353, 2007.
48. Shirley TR, Brune WH, Ren X, Mao J, Leshner R, Cardenas B, Volkamer R, Molina LT, Molina MJ, Lamb B, **Velasco E**, Jobson T, Alexander M. [*Atmospheric oxidation in the Mexico City Metropolitan Area \(MCMA\) during April 2003*](#). **Atmospheric Chemistry and Physics (7.197)**, 6, 2753-2765, 2006.

2005 and before

49. **Velasco E**, Lamb B, Pressley S, Allwine E, Westberg H, Jobson BT, Alexander M, Prazeller P, Molina L, Molina M. [*Flux measurements of volatile organic compounds from an urban landscape*](#). **Geophysical Research Letters**, (5.580), 32(20), L20802, 2005.
50. **Velasco E**, Pressley S, Allwine E, Westberg H, Lamb B. [*Measurements of CO₂ fluxes from the Mexico City urban landscape*](#). **Atmospheric Environment (5.755)**, 39(38), 7433-7446, 2005.
51. **Velasco E**, Siegmann P, Siegmann HC. [*Exploratory study of particle-bound polycyclic aromatic hydrocarbons in different environments of Mexico City*](#). **Atmospheric Environment (5.755)**, 38(29), 4957-4968, 2004.
52. **Velasco E**. [*Estimates for biogenic non-methane hydrocarbons and nitric oxide emissions in the Valley of Mexico*](#). **Atmospheric Environment (5.755)**, 37(5), 625-637, 2003.

Articles under Review or in Press [5 total]

1. **Velasco E**, Segovia E. [*Effectiveness of equipping bus stop shelters with cooling and filtering systems in a city with tropical climate*](#). **Journal of Transportation Engineering, Part A: Systems**, TEENG-7983, Mar 2023.
2. Wu S, Lin X, Bian Z, Lipson M, Laforteza R, Liu Q, Grimmond S, **Velasco E**, Christen A, Masson V, Crawford B, Ward HC, Chrysoulakis N, Fortuniak K, Parlow E, Pawlak W, Tapper N, Hong J, Hong JW, Roth M. [*Satellite observations reveal a decreasing albedo trend of global cities over the past 35 years*](#). **Remote Sensing of Environment**, RSE-D-22-02406, Nov. 2022.
3. Retama A, **Velasco E**. [*Chemical characterization of winter PM₁ pollution in Mexico City*](#). **Environmental Science: Atmospheres**, EA-ART-11-2022-000147, Nov. 2022.
4. **Velasco E**, Segovia E, Roth M. [*High-resolution maps of carbon dioxide and moisture fluxes over an urban neighborhood*](#). **Environmental Science: Atmospheres**, EA-ART-08-2022-000108, Aug 2022.
5. **Velasco E**. [*Circular economy in Singapore: waste management food and agriculture, energy, and transportation*](#). Under commission of the **Economic Research Institute for ASEAN and East Asia (ERIA)**. ERIA-PDD/PI-1-2-2-2103/10/F21, Jun 2022.

Books / Chapters in Books [4 total]

1. [*Eddy covariance flux observations. Chapter B.i.: IG3IS Urban Greenhouse Gas Emission Observation and Monitoring Good Research Practice Guidelines*](#). Papele D, Christen A, Davis K, Feigenwinter C., Gioli B, Järvi L, Matthews B, **Velasco E**, Vogt R. Edited by Turnbull J, DeCola P, Gurney K, Mueller K, Vogel F. Gaw Report No. 275, pp 114-123, Global Atmospheric Watch, World Meteorological Organization, Geneva, Switzerland, 2022.
2. [*Atmospheric Aerosols, Clouds and Climate Change. Chapter 6: Mexican Report on Climate Change Vol. I Scientific Basis, Models and Modeling*](#). Montero-Martínez G, Mendoza-Ortega BE, **Velasco-Saldaña HE**, Garcia-Garcia F, Miranda-Martín del Campo J, Castro-Romero T, Peralta-Rosales O. Edited by C. Gay C, Rueda-Abad JC. Universidad Nacional Autónoma de México, Mexico, 2015, pp. 133-155. ISBN 978-607-02-7522-7.
3. [*Biogeochemical Cycles. Chapter 7: Biogeochemical Cycles, in Mexican Report on Climate Change Vol. I Scientific Basis, Models and Modeling*](#). Espinosa-Fuentes ML, Peralta-Rosales O, Castro-

Romero T, Alvarez-Borrego S, Arredondo-Moreno JT, Benard-Romero RA, Martínez-Bravo R, Masera-Cerutti O, Muñoz-Villers LE, Valdespino-Castillo PM, Vargas-Ramos R, **Velasco-Saldaña HE**. Edited by C. Gay C, Rueda-Abad JC. Universidad Nacional Autónoma de México, Mexico, 2015, pp. 157-176. ISBN 978-607-02-7522-7.

4. [*Biogenic Emissions: Emissions of volatile organic compounds no methane from vegetation and nitric oxide from soil \(in Spanish\)*](#). **Velasco E** and Bernabe RM. National Institute of Ecology of Mexico. Mexico, DF, 2004. ISBN 968-817-699-0.

Non-peer Reviewed Articles in Science Magazines and Newsletters [11]

1. Lipson M, Grimmond S, Best M, Chow W, Christen A, Chrysoulakis N, Coutts A, Crawford B, Earl S, Evans J, Fortuniak K, Heusinkveld BG, Hong J-W, Hong J, Järvi L, Jo S, Kim Y-H, Kotthaus S, Lee K, Masson V, McFadden JP, Michels O, Pawlak W, Roth M, Sugawara H, Tapper N, **Velasco E**, Ward HC. [*A new collection of 20 flux tower datasets from global cities*](#). **International Association for Urban Climate Newsletter** 86, 2022.
2. Papale D, Antoniella G, Nicolini G, Gioli B, Zaldei A, Vogt R, Feigenwinter C, Stagakis S, Chrysoulakis N, Järvi L, Nemitz E, Helfter C, Barlow J, Meier F, **Velasco E**, Christen A, Masson V. [*Clear evidence of reduction in urban CO₂ emissions as a result of COVID-19 lockdown across Europe*](#). **Integrated Carbon Observation System (ICOS)**. May 13, 2020.
3. **Velasco E**, Retama A. [*Air pollution: a threat to public health \(in Spanish\)*](#). **Universitarios Potosinos** 233, 12-17, 2019.
4. **Velasco E**, Segovia E. [*Why do our cities need trees and green spaces? \(in Spanish\)*](#). **Universitarios Potosinos** 223, 16-21, 2018.
5. **Velasco E**. [*How to battle air pollution in Singapore & Mexico \(in Spanish\)*](#). **Universitarios Potosinos** 190, 10-17, 2015.
6. **Velasco E** and Roth M. [*Measuring emissions of greenhouse gases and air pollutants in cities*](#). **Innovation Magazine** 9(1), 15-17, 2009.
7. **Velasco E**. [*Eddy covariance measurements of pollutant gases in an urban area: A new valuable technique to evaluate emission inventories*](#). **MCE2 Newsletter**, 8-9, Fall 2007/Winter 2008.
8. **Velasco E**. [*Measurements at the SIMAT site*](#). **MCE2 Newsletter**, 8-9, Fall 2006.
9. **Velasco E**, Pressley S, Lamb B, Westberg H, Allwine E, Jobson T, Alexander M, Molina L, Molina M. [*Eddy covariance measurements of urban fluxes of VOCs and CO₂ from a Mexican neighborhood*](#). **International Association for Urban Climate Newsletter** 15, 2006.
10. Kolb C, Lamb B, Knighton B, Herndon S, **Velasco E**, Zavala M. [*Easter Season Iztapalapa Ester Plumes*](#). **Integrated Program on Urban Regional and Global Air Pollution – Newsletter**, 1 & 14-16 Fall 2003.
11. **Velasco E**, Bueno E., Sanchez-Soto CA, Fentanes O, Kamiya A, Ikeda S. [*Vertical profiles of pollutants and meteorological parameters in the Metropolitan Area of the Valley of Mexico \(in Spanish\)*](#). **Cuadernillo Especial 5**, SEMARNAT, CENICA, JICA, 2001

Technical Reports [4 total]

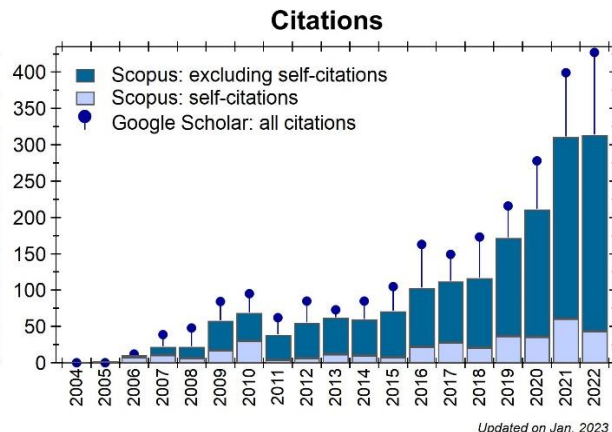
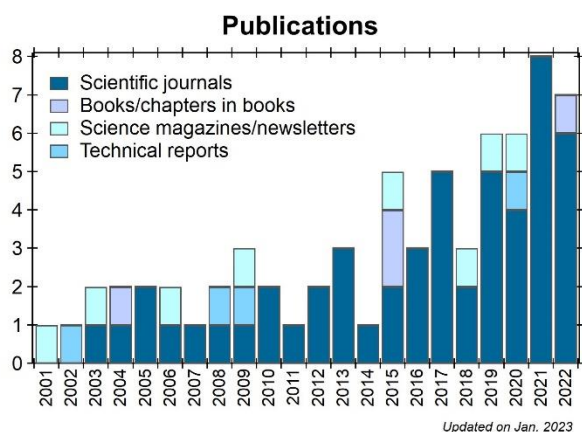
1. **Velasco E**. *Urban carbon sequestration*. Submitted to Centre for Urban Greenery and Ecology (CUGE) of Singapore's National Park Board (NParks), Mar. 2020.
2. **Velasco E** and Molina LT. *Final Report: Continuous measurements of CO₂ fluxes from an urban district of Mexico City (in Spanish)*. MCE2 and FUMEC, Mexico. Submitted to INE, 2009.
3. Molina LT, Volkamer R, de Foy R, Lei W, Zavala M, **Velasco E**, Molina M. *Final technical report: Characterization of fine particulate matter (PM) and secondary PM precursor gases in the Mexico City Metropolitan Area*. Submitted to USA Department of Energy (Award DE-FG02-05ER63980). Oct 31, 2008.

4. Gutierrez V, García, A, Rosas A, **Velasco E**, Gómez J, Ramos GG. *Report of the situation and current knowledge of the main sources and emissions of dioxins in Mexico. Second report.* CENICA, UAM, Mexico, DF, 2002.

RESEARCH PERFORMANCE INDICATORS

Statistics based on Scopus (Google Scholar)

1911 (2618)	Sum of times cited
1529	Sum of times cited excluding self-citations of all authors
163 (212)	Most cited publication (Shirley et al., 2006, <i>Atmospheric Chemistry and Physics</i>)
127 (201)	Second most cited publication (Velasco and Roth., 2010, <i>Geography Compass</i>)
313 (426)	Most citations in one year (2022)
52	International refereed publications
37 (50)	Average citations per article
36 (42)	i10-index (number of publications with at least 10 citations)
27 (29)	h-index
5	Number of articles under peer-review
4	Books/chapters in books



PRESENTATIONS

Invited Presentations [62 total]

2021 and after

1. Air quality management and climate change monitoring in Singapore. *Asia Summit on Global Environment & Monitoring (GEMM Asia)*. National University of Singapore, 5-6 Dec 2022.
2. Urban carbon sequestration: myth or fact. *Enhancing Biodiversity & Ecosystem Services on Buildings. Symposium*. Nanyang Technological University, Singapore, 24 Nov 2022.
3. Urban carbon sequestration: myth or fact. *MexFlux Webinars*, Mexico, 26 Aug 2022 (remote).
4. Urban flux tower: applications & challenges. *Hydrogen and Fuel Cell Center ZBT GmbH*, Duisburg, Germany, 4 Aug 2022 (remote).
5. Smart & not so smart cities need clean air. *School of Business, Smart Cities, Singapore Management University*, Singapore, 5 Jul 2022.
6. Urban flux towers: Mexico City. Let's know the observatories of Mexico. *MexFlux -AmeriFlux Webinars*, Mexico, 1 April 2022 (remote).
7. The future if air quality in Singapore. *Bachelor of Environmental Studies, National University of Singapore*, Singapore, 24 Mar 2022 (remote).
8. Services and limits of urban vegetation to mitigate climate change. *Dept. of Architecture, National University of Singapore*, Singapore, 14 Jan 2022 (hybrid).
9. The geography in the context of 21st century environmental challenges. *Dept. of Geography, Trinity College University*, Ireland, 8 Nov 2021 (remote).
10. Climate change conversations. *Tembusu College, National University of Singapore*, Singapore, 27 Oct 2021 (remote).
11. Urban greenery: source or sink of atmospheric CO₂. *Dept. of Geography, National University of Singapore*, Singapore, 22 Oct 2021 (remote).
12. Carbon sequestration potential of our urban landscape. *Dept. of Earth and Atmospheric Sciences, University of Houston*, Houston, USA, 3 Sep 2021 (remote).
13. Discussion panel: Challenges to Disseminate Science. *Universitarios Potosinos, Autonomous University of San Luis Potosí*, México, 26 May 2021 (remote).
14. Smart cities need clean air. *School of Business, Sustainable Digital Cities, Singapore Management University*, Singapore, 9 Mar 2021.

2020 - 2016

15. Carbon sequestration potential of our urban landscape. *CUGE Live Webinar, Centre for Urban Greenery and Ecology*, Singapore, 6 Nov 2020 (remote).
16. Anthropogenic climate change. *Tembusu College, National University of Singapore*, Singapore, 23 Sep 2020 (remote).
17. Does Singapore have clean air? *School of Business, Sustainable Digital Cities, Singapore Management University*, Singapore, 21 Jul 2020 (remote).
18. Air pollution: a matter of public health. *Universidad La Salle Oaxaca*, Mexico, 6 May 2020, (remote).
19. Urban flux tower: applications & challenges. *Centre for Urban Greenery and Ecology, NParks*, Singapore, 27 Aug 2019.
20. Carbon sequestration and other environmental services provided by urban vegetation. *Centre for Urban Greenery and Ecology, NParks*, Singapore, 10 May 2019.
21. Air pollution: a matter of public health and an economic problem. *School of Business, Sustainable Digital Cities, Singapore Management University*, Singapore, 7 Mar 2019.
22. Air pollution and public health. *School of Public Health, SPH2105 Introduction to Global Health, National University of Singapore*, Singapore, 18 Oct 2018.

23. Air pollution: A matter of public health. *School of Public Health, SPH2105 Introduction to Global Health, National University of Singapore, Singapore, 3 Apr 2018.*
24. How to battle air pollution and climate change in Singapore? *Centre for Climate Research Singapore, Singapore, 31 Jan 2018.*
25. Air pollution: A matter of public health. *School of Public Health, SPH2105 Introduction to Global Health, National University of Singapore, Singapore, 9 Nov 2017.*
26. Air pollution in Singapore: challenges and opportunities. *Green Drinks Singapore. NTUC Centre, Singapore, 26 Oct 2017.*
27. Air quality along the Strait of Malacca. *Urban Meteorology, Environment and Climate Services. University of Reading, Gelang Patah, Malaysia, 31 Aug 2017.*
28. Evaluation of fluxes of pollutants and greenhouse gases in urban environments. *Urban Meteorology, Environment and Climate Services. University of Reading, Gelang Patah, Malaysia, 31 Aug 2017.*
29. Flux towers in cities: Applications and challenges. *Instituto Mexicano del Petróleo, Mexico City, Mexico, 14 Sep 2017.*
30. How to battle air pollution and climate change in Singapore. *10th Annual Workshop - Center for Environmental Sensing and Modeling, Singapore, 29 Jun 2017.*
31. Particle exposure and dosage in public transport. *Urban Meteorology and Climate Conference, City University of Hong Kong, Hong Kong, 27 May 2017.*
32. Air pollution in Singapore: challenges and opportunities. *InterMet Asia Conference, Singapore, 21 Mar 2017.*
33. Bus, subway, taxi, bicycle or walking: Particles exposure in Mexico City's streets. *Centro de Ciencias de la Atmósfera, Sección de Contaminación Ambiental, Universidad Nacional Autónoma de México, Mexico City, Mexico, 1 Mar 2017.*
34. Air pollution. *School of Public Health, SPH2105 Introduction to Global Health, National University of Singapore, Singapore, 17 Feb 2017.*
35. Air pollution & smoke haze. *School of Public Health, SPH2105 Introduction to Global Health, National University of Singapore, Singapore, 13 Oct 2016.*
36. Urban flux towers: challenges and opportunities. *Department of Ecosystem-Atmosphere Processes, Yonsei University, Seoul, Korea, 26 Aug 2016.*
37. Bus, MRT, taxi or walking: Particles exposure in Singapore's streets. *Future Urban Mobility Symposium 2016. Singapore-MIT Alliance for Research and Technology – Future Mobility IRG, Singapore, 25 Jul 2016.*
38. Understanding and critiquing sustainability - Dialogue. *National University of Singapore, Ridge View Residential College, Singapore 24 Mar 2016.*
39. Urban flux measurements by eddy covariance. *Ton Duc Thang University, Faculty of Environment and Labor Safety, Ho Chi Minh City, Vietnam, 25 Feb 2016.*
40. Airborne particles in transport microenvironments. *CREATE Symposium 2016: Creating Frontiers in Environmental Protection. Campus for Research Excellence and Technological Enterprise, Singapore National Research Foundation, Singapore, 14 Jan 2016.*

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41. Air quality in Singapore during the 2013 smoke-haze episode over the Strait of Malacca: lessons learned. *Singapore Perspective on Urban Air Quality and Public Health, Nanyang Polytechnic, Singapore, 15 Sep 2015.*
42. Smart approaches for using portable sensors in air quality research. *8th Annual Workshop - Center for Environmental Sensing and Modeling, Singapore, 29 Jun 2015.*
43. Atmospheric research in a tropical city. *Norwegian Institute for Air Research, Kjeller, Norway, 24 Oct 2014.*

44. Vehicular traffic: A main source of urban pollution. *Public Lecture - Center for Environmental Sensing and Modeling*, Singapore, 20 Oct 2014.
45. Carbon sequestration at neighborhood scale, *7th Annual Workshop - Center for Environmental Sensing and Modeling*, Singapore, 25 Jun 2014.
46. Urban flux measurements by eddy covariance, *Department of Earth System Science, University of California – Irvine*, Irvine CA, USA, 13 Jun 2014.
47. Safety issues with air pollution and smoke-haze. *Science Safety Day, Faculty of Sciences, National University of Singapore*, Singapore, 27 Sept 2013.
48. Urban air quality and greenhouse gas emissions research at CENSAM. *Public Lecture - Center for Environmental Sensing and Modeling*, Singapore, 19 Aug 2013.
49. Measuring fluxes of pollutant and greenhouse gases from urban neighborhoods. *Public Lecture - Center for Environmental Sensing and Modeling*, Singapore, 25 Jun 2012.
50. Vehicles-sourced pollutant concentrations in air quality at different spatial scales: Panel discussion. *Fifth Annual Workshop - Center for Environmental Sensing and Modeling*, Singapore, 12 Jan 2012.
51. Does Singapore have clean air? Review of Singapore's air quality and greenhouse gas emissions. *Singapore-Delft Water Alliance*, Singapore, 30 Nov 2011.
52. Review of Singapore's air quality and greenhouse gas emissions. *Energy Studies Institute, National University of Singapore*, Singapore, 27 Oct 2011.

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53. Review of mass and energy flux measurements over urban surfaces using eddy covariance technique. *Center for Environmental Sensing and Modeling*, Singapore, 13 October 2010.
54. Proposal writing in anticipation of qualifying examination. Graduate research seminar, Geography, National University of Singapore, Singapore, 14 Jan 2010.
55. Air quality assessment and research in a tropical megacity. *Dep. of Geography, National University of Singapore*, Singapore, 11 Sep 2009.
56. Volatile organic compounds in the atmosphere of Mexico City: ambient concentrations and emissions (in Spanish). *Centro Interdisciplinario de Investigaciones y Estudios sobre Medio Ambiente y Desarrollo, Instituto Politécnico Nacional, DF, México*, 27 Nov 2007.
57. Evaluation of Mexico City VOC emissions inventory (in Spanish). *Centro de Investigaciones Químicas, Universidad del Estado de Morelos, Cuernavaca, México*, 31 May 2006.
58. Evaluation of Mexico City VOC emissions inventory (in Spanish). *Facultad de Química, Universidad Autónoma de Querétaro, Querétaro, México*, 29 May 2006.
59. Real time measurements of particles-bound polycyclic aromatic hydrocarbons (pPAHs) in different environments of Mexico City (in Spanish). *Universidad Autónoma Metropolitana Azcapotzalco, DF, México*. 15 Mar 2006.

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60. Atmospheric pollution (in Spanish). *Escuela Preparatoria Oficial Núm. 30, Chalco, México*. 25 Oct 2001.
61. Air pollution in Mexico City (in Spanish). *Week of the Environment. CIA Mexicana de Aviación, SA de CV, D.F., México*, 7 Jun 2001.
62. Air pollution (in Spanish). *Rangers of the planet, Mexican Secretary of Public Education, DF, México*, Jul 1999.

Conference & Workshop Presentations [114 total]

2021 and after

1. Molina LT, Retama A, **Velasco E**, Rivera O, Jaimes-Palomera M. *Technical challenges and research needs of applying atmospheric modeling in air quality management of megacities: Experience*

- from Mexico City. 3rd Street-in-Grid and Urban Air Quality Modeling Symposium, France, Paris, 6-10 Mar 2023.
2. **Velasco E.** *Urban carbon sequestration: myth or fact.* Oral. iLEAPS-OzFlux Conference 2023, Auckland, New Zealand, 30 Jan – 4 Feb 2023.
 3. **Velasco E.** *Urban flux towers: applications and challenges.* Oral. XII International Carbon Symposium in Mexico. Xalapa, Veracruz, Mexico. 26-28 Oct 2022.
 4. **Velasco E**, Segovia E, Roth M. *High-resolution maps of carbon dioxide over an urban neighborhood.* Poster [T2-B26]. Metrology for Climate Action, BIPM and WMO, 26-30 Sep 2022.
 5. **Velasco E.** *Impact of Singapore's COVID-19 lockdown on atmospheric CO₂ fluxes at neighborhood scale.* Poster [T2-B19]. Metrology for Climate Action, BIPM and WMO, 26-30 Sep 2022.
 6. Nicolini G, Antoniella G, Carotenuto F, Christen A, Ciais P, Feigenwinter C, Gioli B, Stagakis S, **Velasco E**, Vogt R, Ward HC, Barlow J, Chrysoulakis N, Karl T, Graus M, Helfter C, Heusinkveld B, Järvi, L, Marras S, Masson V, Matthews B, Meier F, Nemitz E, Sabbatini S, Scherer D, Schume H, Sirca C, Spano D, Steeneveld GJ, Vagnoli C, Wang Y, Zaldei A, Zheng B, Papale D. *Monitoring of urban CO₂ emission during the COVID-19 lockdowns and of their subsequent evolutions.* Oral [T2-23]. Metrology for Climate Action, BIPM and WMO, 26-30 Sep 2022.
 7. **Velasco E.** *Personal exposure to particulate pollution in public transport.* Oral [online]. Diagnosis on the Current Knowledge of the Scientific Basis for Air Quality Management in the Mexico City Megalopolis Region, Mexico City, Mexico, 20-21 Apr 2022.
 8. Retama A, **Velasco E.** *Atmospheric aerosols in Mexico City: update in their formation and properties.* Oral [online]. Diagnosis on the Current Knowledge of the Scientific Basis for Air Quality Management in the Mexico City Megalopolis Region, Mexico City, Mexico, 20-21 Apr 2022.
 9. Zavala M, **Velasco E.** *Summary session on Atmospheric chemistry, and urban and regional photochemistry.* Oral [online]. Diagnosis on the Current Knowledge of the Scientific Basis for Air Quality Management in the Mexico City Megalopolis Region, Mexico City, Mexico, 20-21 Apr 2022.
 10. Olabosipo OO, Rappenglueck B, Retama A, **Velasco E.** *Climatology of planetary boundary layer height variation and its relation to ozone exceedances.* Oral [22AIRPOL]. American Meteorological Society 102nd Annual Meeting, Houston, TX USA, 23-27 Jan 2022.
 11. **Velasco E.** *Carbon sequestration potential of urban greenery.* Oral [S2-03]. AsiaFlux Online Conference, 20-21 Dec 2021.
 12. **Velasco E.** *Carbon sequestration potential of urban greenery.* Oral [Parallel 10E]. INNOVATE4CITIES UN-Habitats, 13 Oct 2021.
 13. **Velasco E.** *Impact of Singapore's COVID-19 lockdown on atmospheric CO₂ fluxes at neighborhood scale.* Poster [COVID-3C]. 16th IGAC Scientific Conference, 13-17 Sep 2021.
 14. Retama A, **Velasco E.** *Assessing brown carbon light absorption from aerosol optical properties in Mexico City.* Poster [AMERICAS-11B]. 16th IGAC Scientific Conference, 13-17 Sep 2021.
 15. Molina LT, Camacho P, Zirath S, Jaimes M, Retama A, Rivera O, **Velasco E**, Zavala M. *Perspectives on air quality in Mexico City: Challenges and lessons learned.* WMO Global Atmosphere Watch Symposium 2021. Online 28 Jun – 3 Jul 2021.
 16. **Velasco E**, Segovia E, Choong AMF, Lim BKY, Vargas R. *Carbon fluxes from a grassy manicured tropical lawn.* Poster [P23]. AmeriFlux's Land Atmosphere Interactions workshop. Online, 10-11 Jun 2021.
 17. Sanchez B, Roth M, Simon-Moral A, Martilli A, **Velasco E.** *Assessment of a meteorological mesoscale model's capability to simulate intra-urban thermal variability in a tropical city.* Online [EGU21-4336]. EGU General Assembly, Vienna, Austria, 19-30 Apr 2021.
 18. Jongen H, Steeneved G-J, Beringer J, Fortuniak K, Hong J, Hong J-W, Jacobs C, Järvi L, Meier F, Roth M, Theeuwes N, **Velasco E**, Teuling R. *Urban water storage capacity inferred from observed evapotranspiration recession.* Online [EGU21-2765]. EGU General Assembly, Vienna, Austria, 19-30 Apr 2021.

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19. Retama, A, **Velasco E**. *Chemical characterization of winter PM₁ pollution in Mexico City*. Poster [P6 - online]. Air quality in megacities Faraday Discussion, United Kingdom, 17-20 Nov 2020.
20. Lee J, Hong J, Hong J-W, Lee K, **Velasco E**, Lim YJ, Lee J-B, Nam K, Park J. *Ceilmeter retrieval of boundary layer height in Seoul and evaluation of the dilution effect on air pollution*. Oral [AS15-A005]. 16th Annual Meeting AOGS, Singapore, 28 Jul -2 Aug 2019.
21. Meili N, Fatichi S, Manoloi G, Burlando P, Roth M, **Velasco E**, Daly E, Nice KA, Tapper NJ, Coutts AM, Chow W, Vivone E. *Vegetation biophysical and ecophysiological properties mediating urban microclimate and water fluxes: a modelling study*. Poster [AS24-A013]. 16th Annual Meeting AOGS, Singapore, 28 Jul -2 Aug 2019.
22. **Velasco E**. *The unbearable presence of VOCs in the atmosphere of Mexico City*. Oral. Workshop for the evaluation of the ProAire 2011-2020 and identification of strategies to improve the air quality of Mexico City. Ciudad de México, Clima, MCE2, México City, 26-27 Sep 2018.
23. **Velasco E**. *The unbelievable story of Singapore's air quality management*. Oral. Workshop for the evaluation of the ProAire 2011-2020 and identification of strategies to improve the air quality of Mexico City. CDMX Ciudad de México, Clima, MCE2, Mexico City, 26-27 Sep 2018.
24. Schubert S, Roth M, **Velasco E**, Schneider C. *Effects on heavy precipitation events on near-surface climate in Singapore*. Poster [1D-96]. 10th International Conference on Urban Climate, New York, USA, 6-10 Aug 2018.
25. **Velasco E**. *High spatial resolution mapping of urban emissions at neighborhood scale*. Poster. 18th GEIA Conference, Hamburg, Germany, 13-15 Sep 2017.
26. Demuzere M, Harshan S, Järvi L, Roth M, Grimmond CSB, Masson V, Oleson K, **Velasco E**, Wouters H. *Impact of urban canopy models and external parameters on the modelled urban energy balance in a tropical city*. Poster [EGU2017-9270]. EGU General Assembly, Vienna, Austria, 23-28 Apr 2017.
27. Roth M, Jansson C, **Velasco E**, Harshan S. *Long-term observations of energy balance fluxes over a tropical residential neighborhood and application to urban microclimate modeling*. Oral [13th Symposium of the Urban Environment, Session 6, #6.2]. 97th AMS Annual Meeting, Seattle, USA, 22-26 Jan 2017.
28. Liu X, Li X, **Velasco E**, Harshan S, Roth M. *Evaluation of an urban canopy model with enhanced hydrologic processes in a tropical city: the role of tree evapotranspiration*. Poster [13th Symposium of the Urban Environment, Poster Session 1, #268]. 97th AMS Annual Meeting, Seattle, USA, 22-26 Jan 2017.
29. **Velasco E**, Retama A, Guzman D. *Ozone's threat hits back Mexico City*. Oral [A14A-02]. AGU Fall Meeting, San Francisco, USA, 12-16 Dec 2016.
30. **Velasco E**, Tan SH. *Particles exposure in the public transport of Singapore*. Oral [Breakout session: Traffic related air pollution]. 17th IUAPPA World Clean Air Congress and 9th CCA Better Air Quality Conference, Busan, Korea, 29 Aug – 2 Sep 2016.

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31. **Velasco E**, Retama Jaimes M, Retama A, Neria A, Rivera O, Elias G. *VOC monitoring to understand changes in secondary pollution in Mexico City*. Poster [A21A-53]. AGU Fall Meeting, San Francisco, USA, 14-18 Dec 2015.
32. **Velasco E**, Roth M. *Energy balance observations in two residential neighborhoods of Singapore and Mexico City*. Poster [AS11-5]. Changing Urban Climate & the Impact on Urban Thermal Environment and Urban Living. The Chinese University of Hong Kong, Hong Kong, 7-11 Dec 2015.
33. **Velasco E**, Tan SH, Roth M. *Commuter exposure to aerosol pollution on public transport and at bus stops in Singapore*. Poster [P21-5]. 13th International Conference on Atmospheric Sciences and Applications to Air Quality, Kobe, Japan, 11-13 Nov 2015.

34. Retama A, Jaimes-Palomera, Elias-Castro G, Neria-Hernández A, Granados-Gutiérrez G, Rivera-Hernández O, **Velasco E**. *Design and testing of the VOC monitoring network of Mexico City: results of the 2012 Ozone-season Campaign*. Oral [2-7]. 13th International Conference on Atmospheric Sciences and Applications to Air Quality, Kobe, Japan, 11-13 Nov 2015.
35. **Velasco E**, Peralta O, Espinosa-Fuentes ML, Ortinez A, Basaldud R. *Eddy covariance flux towers as urban monitoring systems of greenhouse gases: the Mexico City experience*. Oral [UCP5 1]. 9th International Conference on Urban Climate, Toulouse, France, 20-24 Jul 2015.
36. Roth M, Jansson C, **Velasco E**. *Multi-year energy balance and carbon dioxide fluxes over a residential neighborhood in a tropical city*. Oral [UCP4 2]. 9th International Conference on Urban Climate, Toulouse, France, 20-24 Jul 2015.
37. Harshan S, Roth M, **Velasco E**. *Sensitivity analysis and optimization of an urban surface energy balance parameterization at a tropical suburban site*. Oral [NOMTM 10]. 9th International Conference on Urban Climate, Toulouse, France, 20-24 Jul 2015.
38. **Velasco E**, Roth M, Norford L, Molina LT. *Does urban vegetation enhance carbon sequestration?* Poster [CCMA-UHI 19]. 9th International Conference on Urban Climate, Toulouse, France, 20-24 Jul 2015.
39. Demuzere M, Harshan S, Leena J, **Velasco E**, Roth M. *A multi-model and -namelist ensemble for a tropical urban energy balance*. Poster [NOMTM 25]. 9th International Conference on Urban Climate, Toulouse, France, 20-24 Jul 2015.
40. Sanchez-Mejia Z, Tovilla C, Infante-Mata D, Birdsey RA, Aguilar-Edmundo CL, Ochoa-Avelar N, Olguin M, **Velasco E**, Vargas R. *Monitoring in mangrove forests: pre-installation of an eddy covariance system for measuring carbon fluxes*. Poster [Aquatic Systems 42]. Simposio Internacional del Carbono en México, Villahermosa, Tabasco, México, 20-22 May 2015.
41. **Velasco E**, Harshan S, Roth M. *Impact of an unusual dry spell on the energy balance of a residential neighborhood in Singapore*. Poster [B13I-0303]. AGU Fall Meeting, San Francisco, USA, 15-19 Dec 2014.
42. Harshan S, Roth M, **Velasco E**. *Parameter estimation and sensitivity analysis of an urban surface energy balance parameterization at a tropical suburban site*. Poster [B13I-0310]. AGU Fall Meeting, San Francisco, USA, 15-19 Dec 2014.
43. **Velasco E**. *Urban flux measurements by eddy covariance: A tool to evaluate the accuracy of gridded emission inventories*. Oral. Expert Meeting on Air Quality and the Impacts on the Crown Region of Central Mexico, Mexico City, Mexico, 10-11 Nov 2014.
44. **Velasco E**. *Measurements of volatile organic compounds: A brief overview of the MCMA-2003 & MILAGRO field campaigns*. Oral. Expert Meeting on Air Quality and the Impacts on the Crown Region of Central Mexico, Mexico City, Mexico, 10-11 Nov 2014.
45. **Velasco E**, Rastan S. *The 2013 smoke-haze crisis in the Strait of Malacca: origin, impacts and responses*. Oral [AS11-IG36-A005]. 11th Annual Meeting AOGS, Sapporo, Japan, 28 Jul - 1 Aug 2014.
46. **Velasco E**, Perrusquia R, Jimenez E, Hernandez F, Camacho P, Rodriguez S, Retama A, Molina LT. *Sources and sinks of CO₂ in a neighborhood of Mexico City*. Oral. 16th GEIA Conference: Bridging Emissions Science and Policy, Boulder CO, USA, 10-11 Jun 2014.
47. **Velasco E**. *Urban flux towers: Sources of data to evaluate/tune up meteorological and air quality models in cities*. Oral. Workshop on Urban Heat Islands. Center for Climate Research Singapore, Ministry of the Environment and Water Resources, Singapore, 6 Mar 2014.
48. **Velasco E**, Roth M, Tan SH, Quak M, Perrusquia R, Molina LT, Norford L. *Carbon dioxide sequestration by urban vegetation at neighborhood scale in tropical cities*. Oral [B33N-02]. AGU Fall Meeting, San Francisco, USA, 9-13 Dec 2013.
49. Tan SH, **Velasco E**, Roth M, Norford L. *Commuter exposure to aerosol pollution on public transport in Singapore*. Poster [A31G-0170]. AGU Fall Meeting, San Francisco, USA, 9-13 Dec 2013.

50. Ziegler A, **Velasco E**, Ho KJJ. *Commuter exposure to black carbon, carbon monoxide, and noise in the mass transport khlong boats of Bangkok, Thailand*. Poster [A11C-0040]. AGU Fall Meeting, San Francisco, USA, 9-13 Dec 2013.
51. **Velasco E**. *How much carbon dioxide does urban vegetation sequester?* Oral. Workshop on Climate Change Challenges in Cities, Faculty of Science - National University of Singapore, Singapore, 18-19 Nov 2013.
52. **Velasco E**, Roth M, Norford L. *Atmospheric CO₂ exchange in urban neighbourhoods measured by eddy covariance*. Oral, 9th Int. Carbon Dioxide Conf., Beijing, China, 3-7 Jun 2013.
53. **Velasco E**, Roth M, Tan SH, Quak M, Norford L. *How much CO₂ does vegetation capture in tropical cities? Case study of a residential neighbourhood in Singapore*. Poster [GC53B-1270]. AGU Fall Meeting, San Francisco, USA, 3-7 Dec 2012.
54. **Velasco E**, Roth M, Pressley S, Lamb B, VanReken T, Jimenez E, Perrusquia R, Molina LT, Norford L. *Review and applications of urban eddy covariance flux measurements*. Oral [M2D/219]. 8th International Conference on Urban Climate, Dublin, Ireland, 6-10 Aug 2012.
55. **Velasco E**, Roth M, Tan SH, Quak M, Norford L. *The role of vegetation in the CO₂ flux from a tropical neighbourhood*. Poster [T19/221]. 8th International Conference on Urban Climate, Dublin, Ireland, 6-10 Aug 2012.
56. Jimenez E, Perrusquia R, Aguirre C, **Velasco E**. *CO₂ flux measurements in Mexico City: An environmental management tool*. Poster [T16/175]. 8th International Conference on Urban Climate, Dublin, Ireland, 6-10 Aug 2012.
57. **Velasco E**, Roth M, Pressley S, Lamb B, VanReken T, Jimenez E, Perrusquia R, Molina LT, Norford L. *Urban flux measurements by eddy covariance: a tool to evaluate emissions inventories*. Oral. ACCENT-IGAC-GEIA Conference: Emissions to Address Science and Policy Needs, Toulouse, France, 11-13 Jun 2012.
58. Roth M and **Velasco E**. *Impact of urban characteristics on carbon dioxide emissions*. Oral [O8]. Urban Environmental Pollution, Amsterdam, The Netherlands, 17-20 Jun 2012.
59. VanReken T, **Velasco E**, Lamb B, Molina L, Cao J, Pressley S. *Emissions of greenhouse gases and air pollutants from developing-world megacities - direct measurements by eddy covariance*. Oral [D1010105]. Planet Under Pressure, London, UK, 25-29 Mar 2012.
60. **Velasco E**, Roth M, Tan SH, Quak M, Norford L. *CO₂ fluxes from a tropical neighborhood: sources and sinks*. Poster [A41B-0088]. AGU Fall Meeting, San Francisco, USA, 5-9 Dec 2011.
61. Roth M and **Velasco E**. *Direct measurements of urban CO₂ concentrations and fluxes: advantages and challenges*. Oral. Carbon Dioxide in the Urban Atmosphere, The University of Auckland, Faculty of Sciences, Auckland, New Zealand, 1-2 Dec 2011.
62. **Velasco E**, Tan SH, Segovia E, Roth M, Britter R Norford L. *Physical characteristics of particles and particles-bound polycyclic aromatic hydrocarbons in selected urban environments of Singapore*. Oral [AS07-A010]. 8th Annual Meeting AOGS, Taipei, Taiwan, 8-12 Aug 2011.
63. **Velasco E**. *Atmospheric pollution in Singapore: research opportunities*. Oral. NEA-CENSAM technical workshop, Singapore, 21 Jan 2011.

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64. **Velasco E** and Roth M. *Evaporation measurements by eddy covariance from an urban tropical water reservoir*. Poster [H31B-1007]. AGU Fall Meeting, San Francisco, USA, 13-17 Dec 2010.
65. Ling C, Chiang En Wan H, Nur Diniyah H, Segovia-Estrada E, **Velasco E**, Ziegler AD. *Variation in nitrogen compound deposition in different ecosystems along the Andaman Coast*. Poster. The 6th Mathematics and Physical Science Graduate Congress, University of Malaysia, Malaysia, 13-15 Dec 2010.
66. **Velasco E**, Roth M, Britter R, Norford L. *Does Singapore have clean air?* Better Air Quality 2010. Clean Air Initiative for Asian Cities, Singapore, 9-11 Nov 2010.

67. **Velasco E** and Roth M. *Eddy flux measurements of carbon dioxide in urban environments*. Poster [EGU2010-386]. EGU General Assembly, Vienna, Austria, 2-7 May 2010.
68. **Velasco E**, Pressley S, Grivicke R, Allwine E, Jobson BT, Westberg H, Molina LT, Lamb B. *Disjunct eddy accumulation flux measurements of individual VOCs from an urban environment*. Poster [EGU2010-496]. EGU General Assembly, Vienna, Austria, 2-7 May 2010.
69. Guenther A, **Velasco E**, Zuares L, Zuñiga G, Requena E, Catchpole D. *Measurements of biogenic volatile organic compound emissions in cloud forest of Peru*. Poster. XIII World Forestry Congress, Buenos Aires, Argentina, 18-23 Oct 2009.
70. **Velasco E** and Roth M. *Eddy covariance flux measurements of pollutant gases in urban areas*. Poster [AS10-D3-PM2-P034]. 6th Annual Meeting AOGS, Singapore, 11-15 Aug 2009.
71. **Velasco E**, Pressley S, Grivicke R, Allwine E, Lamb B. *Energy balance in urban Mexico City: observation and parameterization during the MILAGRO-2006 field campaign*. Poster [P2-1]. 7th International Conference on Urban Climate, Yokohama, Japan, 29 Jun - 3 Jul 2009.
72. **Velasco E**, Pressley S, Grivicke R, Allwine E, Jobson T, Westberg H, Hernandez F, Ramos R, Molina LT, Lamb B. *Eddy covariance flux measurements of trace gases, aerosols and energy from urban Mexico City*. Oral [A2-7]. 7th International Conference on Urban Climate, Yokohama, Japan, 29 Jun - 3 Jul 2009.
73. **Velasco E**. *Ambient concentration and flux measurements of volatile organic compounds in a subtropical megacity*. Oral. Workshop on meteorology, air quality and health impacts in Singapore and other Asian Cities. NUS Environmental Research Institute, National University of Singapore, Singapore, 5-6 May 2008.
74. **Velasco E**, Grivicke R, Pressley S, Allwine E, Jobson T, Westber H, Lamb B, Ramos R, Molina LT. *Eddy covariance flux measurements of pollutant gases in the Mexico City urban area: a useful technique to evaluate emissions inventories*. Oral [A13L-02]. AGU Fall Meeting, San Francisco, USA, 10-14 Dec 2007.
75. Karl T, Guenther A, Jobson T, **Velasco E**, Lamb B. *Top-down constraints of volatile organic compound (VOC) emissions*. Oral [A13L-01]. AGU Fall Meeting, San Francisco, USA, 10-14 Dec 2007.
76. Grivicke R, Pressley S, Jimenez J, Nemitz E, Alexander L, **Velasco E**, Allwine E, Jobson T, Westberg H, Ramos R, Molina LT, Lamb B. *Eddy covariance flux measurements of urban aerosols during the MILAGRO Mexico City field campaign*. Poster [A23C-1471]. AGU Fall Meeting, San Francisco, USA, 10-14 Dec 2007.
77. **Velasco E**, Pressley S, Grivicke R, Allwine E, Westberg H, Jobson BT, Coons T, Jimenez J, Nemitz E, Alexander L, Worsnop D, Ramos R, Molina LT, Lamb B. *Eddy covariance measurements of trace gases, aerosols and energy fluxes from Mexico City*. Poster. Gordon Research Conference on Atmospheric Chemistry. Big Sky Montana, USA, 26-31 Aug 2007.
78. **Velasco E**, Molina LT, Lamb B, Pressley S, Grivicke R, Westberg H, Jobson T, Allwine E, Coons T, Jimenez J, Nemitz E, Alexander LM, Worsnop D, Ramos R. *Flux measurements of trace gases, aerosols and energy from the urban core of Mexico City*. Oral [A31C-03]. American Geophysical Union Joint Assembly. Acapulco, Mexico, 22-25 May 2007.
79. **Velasco E**, Pressley S, Grivicke R, Westber H, Jobson T, Allwine E, Coons T, Ramos R, Molina LT, Lamb B. *Eddy covariance measurements of trace gases and energy fluxes from a polluted megacity*. Oral [EGU2007-A-00892]. EGU General Assembly, Vienna, Austria, 15-20 Apr 15-20 2007.
80. **Velasco E**, Marquez C, Bueno E, Bernabe RM, Sanchez A, Fentanés O, Molina LT, and Wakamatsu S. *Vertical profiles of ozone, VOCs and meteorological parameters from the low boundary layer of a polluted megacity*. Poster [EGU2007-A-00901]. EGU General Assembly, Vienna, Austria, 15-20 Apr 2007.
81. Sheehy PM, Volkamer R, **Velasco E**, Alexander M, Jobson T, Lamb B, Molina LT. *Assessing the oxidative capacity of the atmosphere: MCMA-2003 as a case study*. Poster [A23C-0978]. AGU Fall Meeting, San Francisco, USA, 11-15 Dec 2006.

82. Grivicke R, **Velasco E**, Pressley S, Westberg H, Lamb B, Allwine E, Jobson T, Coons T, Jimenez JL, Alexander ML, Nemitz E, Molina LT. *Flux measurement of trace gases and aerosols in Mexico City during the MILAGRO 2006 field campaign*. Poster. 1st MILAGRO Science Meeting, Boulder CO, USA, 23-26 Oct 2006.
83. **Velasco E**, Pressley S, Grivicke R, Allwine E, Westberg H, Jonson T, Coons T, Molina LT, Lamb B. *Eddy covariance measurements of trace gases and energy fluxes from an urban district of Mexico City*. Poster. 1st MILAGRO Science Meeting, Boulder CO, USA, 23-26 Oct 2006.
84. **Velasco E**. *CO₂ flux measurements in urban areas using the eddy covariance technique. Workshop on methodologies and instrumentation for the carbon research in Mexican ecosystems*. Poster. Mexican Carbon Project, D.F., Mexico, 27 Sept 2006.
85. **Velasco E**, Lamb B, Molina L, Pressley S, Allwine E, Westberg H. *Eddy covariance measurements of CO₂ fluxes from Mexico City*. Oral [Session 1]. First International Conference on Carbon Management at Urban and Regional Levels: Connecting Development Decisions to Global Issues. D.F., Mexico, 4-8 Sep 2006.

2005 and before

86. **Velasco E**, Lamb B, Pressley S, Allwine E, Westberg H, Jobson BT, Alexander M, Prazeller P, Molina L, Molina M. *Measurement of urban trace gas emissions using micrometeorological techniques: a new and valuable tool for improving air quality management*. Poster. Gordon Research Conference on Atmospheric Chemistry. Big Sky Montana, USA, 4-9 Sep 2005.
87. **Velasco E**, Lamb B, Pressley S, Allwine E, Westberg H, Jobson BT, Alexander M, Prazeller P, Molina L, Molina M. *Measurement of urban trace gas emissions using micrometeorological techniques: a new and valuable tool for improving air quality management*. Oral. Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS VIII). Yellowstone National Park Wyoming, USA, 1-4 Sep 2005.
88. **Velasco E**, Lamb B, Allwine E, Pressley S, Westberg H. *VOC signatures at selected urban sites in Mexico City*. Poster. Washington State University Academic Showcase Juried Poster Session. Pullman Washington, USA, 1 Apr 2005.
89. **Velasco E**, Lamb B, Allwine E, Pressley S, Westberg H. *VOC signatures at selected urban sites in Mexico City during the MCMA 2002 and 2003 field campaigns*. Poster [A11A-0007]. AGU Fall Meeting, San Francisco, USA, 13-17 Dec 2004.
90. Lamb B, **Velasco E**, Allwine E, Pressley S, Westberg H, Jobson T, Alexander M, Prazeller P. *Measurement of trace gas fluxes from the Mexico City urban landscape*. Oral [A11A-0008]. AGU Fall Meeting, San Francisco, USA, 13-17 Dec 2004.
91. Sosa G, Arriaga J, Vega E, Magaña V, Caetano E, de Foy B, Molina LT, Molina MJ, Ramos R, Retama A, Zaragoza J, Martinez AP, Marquez C, Cardenas B, Lamb B, **Velasco E**, Allwine E, Pressley S, Westberg H, Reyes R. *Air quality and meteorological boundary conditions during the MCMA-2003 field campaign*. Poster [A11A-0030]. AGU Fall Meeting, San Francisco, USA, 13-17 Dec 2004.
92. Knighton WK, Rogers T, Grimsrud E, Herndon S, Allwine E, Lamb B, **Velasco E**, Westberg H. *On-road measurement of vehicle VOC emission measurements during the 2003 Mexico City Metropolitan Area field campaign*. Poster [A14A-03]. AGU Fall Meeting, San Francisco, USA, 13-17 Dec 2004.
93. Jobson BT, Alexander ML, Prazeller P, Berkowitz CM, Volkamer R, Molina LT, Westberg H, Lamb B, **Velasco E**, Allwine E. *Hydrocarbon measurements during the MCMA2003 field experiment: intercomparison and analysis*. Poster [A11A-0001]. AGU Fall Meeting. San Francisco, USA, 13-17 Dec 2004.
94. Rogers T, Grimsrud E, Knighton W, **Velasco E**, Lamb B, Westberg H, Jobson T, Alexander M, Prazeller P, Herndon S, Kolb C. *Location and mapping of an ethyl acetate plume in Mexico City*. Poster [A11A-0004]. AGU Fall Meeting, San Francisco, USA, 13-17 Dec 2004.
95. **Velasco E**, Lamb B, Pressley S, Allwine E, Westberg H. *Application of micrometeorological techniques to evaluate emissions inventories in urban areas: An eddy covariance system in Mexico*

- City as example*. Oral. Air Quality Management Follow Up Workshop, Bogota, Colombia, 29 Sept - Oct 6 2004.
96. **Velasco E**, Pressley S, Allwine E, Westberg H, Lamb B. *Measurements of CO₂ Fluxes in Mexico City*. Poster. NW-AIRQUEST Annual Workshop and Meeting, Pullman WA, USA, 5-7 Oct 2004.
 97. Lamb B, **Velasco E**, Allwine E, Westberg H, Herndon S, Knighton B, Grimsrud E. *Ambient VOC measurements in Mexico City during the MCMA 2002 & 2003 field campaigns*. Poster. NW-AIRQUEST Annual Workshop and Meeting, Pullman WA, USA, 5-7 Oct 2004.
 98. **Velasco E**, Pressley S, Allwine E, Westberg H, Lamb B. *Measurements of CO₂ fluxes in the Mexico City megacity*. Poster [P2.3]. Fifth Conference on Urban Environment. American Meteorological Society, Vancouver, Canada, 23-27 Aug 2004.
 99. Lamb B, **Velasco E**, Allwine E, Westberg H, Herndon S, Knighton B, Grimsrud E, Jobson T, Alexander M, Prezeller P. *Ambient VOC measurements in Mexico City*. Poster [JP1.11]. Fifth Conference on Urban Environment. American Meteorological Society, Vancouver, Canada, 23-27 Aug 2004.
 100. **Velasco E**, Siegmann P, Siegmann HC. *Exploratory study of particle-bound polycyclic aromatic hydrocarbon (pPAH) in different environments of Mexico City*. Oral. 7th Workshop on Mexico City Air Quality, Integrated Program on Urban, Regional and Global Air Pollution, CAM-MIT, DF, Mexico, 18-21 Jan 2004.
 101. Lamb B, **Velasco E**, Allwine E, Westberg H, Herndon S, Knighton B, Grimsrud E. *Ambient VOC measurements in Mexico City during the MCMA 2002 & 2003 field campaigns*. Poster [P1.16]. Sixth Conference on Atmospheric Chemistry: Air Quality in Megacities, 84th Annual Meeting American Meteorological Society, Seattle, USA, 11-15 Jan 2004.
 102. Lamb B, Pressley S, **Velasco E**, Allwine E, Westberg H, Jobson T, Alexander M, Prazeller P. *Direct flux measurements of volatile organic compounds*. Oral. NARSTO Emission Inventory Workshop, Austin TX, USA, 14-17 Oct 2003.
 103. **Velasco E**, Cardenas B, Lamb B, Kamiya A. *Observations of vertical ozone and meteorological parameters in the first kilometer of height in Mexico City*. 8th International Conference on Atmospheric Sciences and Applications to Air Quality. Oral. Tsukuba, Japan, 11-13 March 2003.
 104. Segovia E, **Velasco E**, Hidalgo M, Retama A, Campos A, Wellens A, Garcia H, Maldonado AM, Ramirez S, Romero I. *Acid Rain in the forests of the Valley of Mexico*. Oral. 8th International Conference on Atmospheric Sciences and Applications to Air Quality. Tsukuba, Japan, 11-13 March 2003.
 105. **Velasco E**. *Biogenic emissions and vertical profiles of ozone and meteorological parameter in the Valley of Mexico*. Oral. MIRAGE - Megacity Impacts on Regional and Global Environments, Planning Workshop for a Mexico City Pollution Outflow Field Campaign, National Center for Atmospheric Research, Boulder CO, USA, 13-14 Nov 13-14, 2002.
 106. **Velasco E**. *Estimate of biogenic emissions for the Valley of Mexico (in Spanish)*. Oral. First Workshop on Atmospheric Emissions Inventories, Programa de Investigación de Medio Ambiente y Seguridad (PIMAS), Instituto Mexicano del Petróleo, DF, Mexico, 1-2 Jul 2002.
 107. **Velasco E**, Segovia E, Hidalgo M, Ramirez-Vallejo S, Garcia H, Romero I, Maldonado AM, Angeles F, Retama A, Campos A, Montañó J, Wellens A. *Acid rain in the west forest of the Valley of Mexico (in Spanish)*. Oral. XVIII Congreso Interamericano de Ingeniería Sanitaria y Ambiental, AIDIS y FEMISCA, Cancún, México, 27-31 Oct 2002.
 108. Ramirez-Vallejo S, Segovia E, Romero I, **Velasco E**, Garcia H. *Influence of acid precipitations in the development of *Lactosa asativa* and *Amaranthus hypochondriacus* (in Spanish)*. Poster. XVIII Congreso Interamericano de Ingeniería Sanitaria y Ambiental, AIDIS y FEMISCA, Cancún, México, 27-31 Oct 2002.
 109. **Velasco E**, Bueno E, Sanchez A, Cardenas B, Gutierrez V, Kamiya A, Saito M, Wakamatsu S. *Measurement of the vertical profile of meteorological parameters and ozone concentrations in Mexico City*. Oral [42663]. Air and Waste Management's Association's 95th Annual Conference and Exhibition, Baltimore, USA, 23-27 Jun 2002.

110. **Velasco E**, Bueno E., Sanchez CA, Fentanes O, Kamiya A, Ikeda S. *Measurements and analysis of the vertical profile of pollutants and meteorological parameters in Mexico City (in Spanish)*. Oral. Seminar on dispersion and characterization of atmospheric pollutants in Mexico City, National Institute of Ecology of Mexico, D.F., Mexico, 28 Sept 2001.
111. **Velasco E**. *Vertical profiles of pollutants and meteorological parameters in Mexico City (in Spanish)*. Oral. Seminar on Atmospheric Environment and Risk Administration, Institute of Meteorology of Cuba, La Habana, Cuba, 19-21 Apr 2001.
112. **Velasco E**. *Biogenic emission estimates for the Valley of Mexico*. Oral. Seminar on Atmospheric Environment and Risk Administration, Institute of Meteorology of Cuba, La Habana, Cuba, 19-21 Apr 2001.
113. **Velasco E**. *Building a model to estimate biogenic emissions*. Oral. 4th Workshop on Mexico City Air Quality, Integrated Program on Urban, Regional and Global Air Pollution, CAM-MIT. DF, Mexico, 8-10 Mar 2001.
114. **Velasco E** and Varela JR. *Mexico City Metropolitan Area emissions inventory for air quality models (in Spanish)*. Oral. 2nd Workshop on Mathematics and Air Pollution, National Institute of Ecology of Mexico, DF, Mexico, 15-18 Nov 1999.

Teaching Philosophy

In my teaching experience I have learned the importance of making students realize that the environment is not *'out there'*, but rather that we are a part of it. I always encourage students to make questions challenging their ethical and daily experiences aiming to learn how to become citizens capable of building equitable and inclusive societies in harmony with the environment. I make students identify possible solutions to environmental problems by discussing technical requirements together with social and economic aspects, always following an interdisciplinary approach. I have found that the best method of engaging students in environmental research is to work with them both in the classroom and in the field. My teaching philosophy is to provide students with a solid understanding of the fundamentals of environmental processes and then engage them in fieldwork to boost their creativity and environmental awareness. I have also learned the importance of giving students sufficient time to develop their own interests and skills. I never rush students to deliver results without being fully convinced of their own work. The most important aspect is teaching students to think for themselves, helping them to develop their own ideas and allowing them to make a few mistakes.

Students Supervision

- 2017 – 2018 Zixuan Lee (Honors Thesis). **Dep. of Biological Sciences, National University of Singapore.** Soil respiration: a parameter to consider when selecting plant species for green roofs.
- 2015 – 2016 Benjamin Lim Kang Yong (Honors Thesis). **Dep. of Biological Sciences, National University of Singapore.** Soil characteristics and their influence on CO₂ efflux in a tropical urban lawn.
- 2012 – 2015 Sok Huang Tan (MS Thesis). **Dep. of Geography, National University of Singapore.** Commuter exposure to aerosols pollution on public transport in Singapore.
- 2013 – 2014 Wilson Ng (Honors Thesis). **Dep. of Geography, National University of Singapore.** Personal exposure to aerosol pollution in various outdoor microenvironments of Singapore.
- 2012 Seth Nabarro (Summer internship). **Dep. of Physics, National University of Singapore - Imperial College London Summer International Research Exchange.**
- 2010 – 2011 Sok Huang Tan (Honors Thesis). **Dep. of Geography, National University of Singapore.** Personal exposure to aerosol pollution at bus stops in Singapore.
- 2007 – 2008 Edilson Jimmy Requena (Honors Thesis). **National University of Central Peru. Forestry and Environmental Engineering.** Estimates for biogenic emissions of isoprene and monoterpenes from a montane tropical forest in Peru.

PhD Committees

- 2017 – 2021 Olabosipo Oluyemisi Osibanjo. **Dep. Earth and Atmospheric Sciences. University of Houston, USA.** Planetary boundary-layer properties and implications on air quality in Mexico City.
- 2016 – 2019 Je-Woo Hong. **Dep. of Atmospheric Sciences. Yonsei University, Seoul, Korea.** Characteristics of urban land-atmosphere interactions in monsoon East Asia.

Instruction

Ton Duc Thang University, Ho Chi Minh City, Vietnam

2016 Course on air quality to undergraduate students (30 h). Lecturer.

Molina Center of Energy and the Environment (MCE2)

2006 – 2014 Educational program: Let's make a miracle for the air!
Member of the evaluating committee of high school students' essays contests.
Lecturer of the Let's make a miracle for the air! Encounter.

Ministry of Foreign Affairs Singapore

2014 Training course: How to Improve Air Quality in Your City: Strategic Framework for Air Quality Management. (8 h, 2-3 Jun 2014). Instructor.

National University of Singapore, Department of Geography

2010 – 2012 GE3230A: Southeast Asia Field Studies (Undergraduate course). Invited instructor.
2010 GE5211: Dynamic Environments (Graduate course). Lecturer.

National Institute of Ecology of Mexico

2011 Workshop on Eddy Covariance Flux Measurements over Urban Surfaces (20 h).
Instructor.

Washington State University, Department of Civil & Environmental Engineering

2004 – 2005 C315: Fluid Mechanics. Teaching assistant.
CE341: Introduction to Environmental Engineering. Teaching assistant.

University of Costa Rica, College of Education

2002 Course on Methodologies and Strategies for Clean Air Education (30 h). Lecturer.

Society of Automotive Engineers - National Autonomous University of Mexico Chapter

1994 – 1996 Introduction to Computer-aided Technical Drawing (20 h). Summer course (20 h).
Instructor.

SERVICE

Memberships

American Geophysical Union (AGU)
International Association for Urban Climate (IAUC)

Editorial Service

Guest editor: *Environmental Pollution*, special issue 'Air Pollution, Climate Change and Human Health' (2020-2021).

Reviewing of external grants and international assessments

USA National Science Foundation (3 times)
United Nations Environment Program (2 time)
United Kingdom Medical Research Council (1 time)

Journal Reviewing (123 times)

I review roughly one article every six weeks.

Urban Climate (28), *Atmospheric Environment* (19), *Atmospheric Chemistry and Physics* (7), *Science of the Total Environment* (7), *Environmental Pollution* (6), *Revista Internacional de Contaminación Ambiental* (5), *Environmental Science and Technology* (4), *Theoretical and Applied Climatology* (3), *Atmospheric Measurement Techniques* (3), *Urban Forestry & Urban Greening* (3), *Carbon Balance and Management* (3), *Air Quality, Atmosphere & Health* (3), *J. of the Air & Waste Management Association* (3), *PloS One* (2), *Agricultural and Forest Meteorology* (2), *Landscape and Urban Planning* (2), *Sustainable Cities and Society* (2), *Environment International* (1), *Scientific Reports* (1), *Earth's Future – American Geophysical Union* (1), *Environmental Research Letters* (1), *Journal of Geophysical Research: Biogeosciences* (1), *Transportation Research Part D* (1), *J. of Applied Meteorology and Climatology* (1), *Urban Ecosystems* (1), *Singapore Journal of Tropical Geography* (1), *Environmental Engineering and Management J.* (1), *Atmósfera* (1), *Maderas y Bosques J.* (1), *Geoscience Letters* (1), *Dataset Papers in Sciences* (1), *Biodiversitas Journal of Biological Diversity* (1), *Tropical Ecology* (1), *Earth Sciences Research Journal* (1), *Arboriculture & Urban Forestry* (1), *East African Agricultural and Forestry Journal* (1), *Exposure & Health* (1), *J. of Statistics and Geography* (1).

Scientific advisory

2014-2016	Scientific advisor on air quality monitoring of ozone precursors. Air Quality Monitoring Network of Mexico City, Mexico.
2012-2015	Scientific advisor on urban monitoring of greenhouse gases. National Institute of Ecology and Climate Change (INECC), Mexico.
2011-2012	Scientific advisor on urban monitoring of greenhouse gases. Center for Environmental Research and Training of the National Institute of Ecology (CENICA-INE), Mexico.
2008	Advisory committee of the Vehicular Traffic Program on Weekends for the Metropolitan Area of Mexico City. Metropolitan Environmental Commission, Mexico.
2000	Advisory committee to update Mexico's Air Quality Standards of particulate matter. Health Ministry, Mexico.
1998 – 2000	Scientific support to Mexico's Association of Non-governmental Environmental Organization, Mexico.

Consultancies

2022	Air quality research advisor. Asian Disaster Preparedness Center , Bangkok, Thailand.
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- 2022 Research project: The Implementation Plan of Framework for Circular Economy for the ASEAN Economic Community (AEC) - Singapore. Under commission of **the Economic Research Institute for ASEAN and East Asia (ERIA)**. ERIA-PDD/PI-1-2-2-2103/10/F21, Indonesia, Jakarta.
- 2011 Technical support for developing a CO₂ flux monitoring network in Mexico. National Institute of Ecology, Mexico.
- 2009 Reservoir evaporation study. Noranth Ventures Pte Ltd, Singapore.
- 2008 Design of an eddy covariance system to measure CO₂ fluxes from an urban district of Mexico City. MCE2 and Mexico – US Science Foundation (FUMEC), Mexico.

Communication

Interviews on TV^a & radio^b [32 total]

- Singapore (25): Channel News Asia (9)^a, Channel 5 (6)^a, Channel 8 (4)^a, RazorTV (3)^a, 93.8 Live (3)^b.
 Mexico (4): TV-Azteca Veracruz (1)^a, TV UNAM (1)^a, Radio CONACYT (1)^b, Radio UASLP (1)^b.
 Germany (2): ZDF German Television (2)^a.
 Sweden (1): SVT Nyheter (1)^a.

Interviews for newspapers^a, magazines^b, online newsletters and blogs^c [132 total]

- Singapore (90): *The Straits Times* (60)^a, *Zaobao* (6)^a, *The New Paper* (6)^a, *Today* (4)^a, *Shin Min Daily News* (4)^a, *Channel NewAsia*^c (2), *Berita* (1)^a, *The Business Times* (1)^a, *Omy.sg web portal* (1)^c, *The Independent* (1)^c, *Coconuts Singapore* (1)^c, *International Business Times, Singapore edition* (1)^c, *Ana Shell Media Press* (1)^c, *Haze* (1)^c, *Terrestrial × Atmosphere × Ocean* (1)^c.
- Mexico (16): *El Universal* (4)^a, *Agencia Informativa CONACYT* (4)^c, *Newsweek en Español* (2)^b, *La Jornada* (1)^a, *Milenio* (1)^a, *El Diario NTR* (1)^a, *Criterio Hidalgo* (1)^a, *Investigación y Desarrollo ID* (1)^c, *El Siglo de Torreón* (1)^a, *Contacto Hoy* (1)^a, *EFEverde* (1)^c.
- Spain (7): *El País* (1)^a, *Público* (1)^a, *Noticias RTV* (1)^c, *Noticanarias Periódico online* (1)^c, *Agencia Iberoamericana para la Difusión de la Ciencia y la Tecnología* (1)^c, *Noticias de la Ciencia y la Tecnología* (1)^c, *Ecoticias.com* (1)^c.
- Indonesia (5): *Tribun Pekanbaru* (2)^a, *Kompas Amnat Hati Nurani Rakyat* (1)^a, *Liputan 6* (1)^a, *Mongabay* (1)^c.
- USA (4): *UDaily* (1)^c, *Citiscopes* (1)^c, *Bulletin Leader* (1)^c, *The Maritime Executive Newsletter* (1)^c.
- Malaysia (2): *The Star* (2)^a, *Mynewshub Bukan Berita Online Biasa* (1)^c.
- Germany (2): *Sächsische Zeitung* (1)^a, *Die Welt* (1)^a.
- Canada (1): *Ship & Bunker, News & Features* (1)^c.
- Hong Kong (1): *South China Morning Post* (1)^a.
- Sweden (1): *SVT Nyheter* (1)^c.
- Thailand (1): *Thansettakii* (1)^a.
- Brasil (1): *Folha de S. Paulo* (1)^a.

SPONSORED RESEARCH

Lead name is the primary grant author; values are US dollars:

- 2016 – 2017 Velasco E (PI). Soil respiration from green-roof vegetation. National Research Foundation through the Singapore-MIT Alliance for Research and Technology (\$15,000), Singapore.
- 2014 – 2017 Velasco E (PI), Ziegler A, Roth M, Vargas R. Continuous soil respiration measurements in a tropical lawn. National Research Foundation through the Singapore-MIT Alliance for Research and Technology (\$45,000), Singapore.
- 2010 – 2013 Velasco E (PI) and Norford L. Physical characterization of airborne particles in selected outdoor microenvironments of Singapore. National Research Foundation through the Singapore-MIT Alliance for Research and Technology (\$90,000), Singapore.
- 2008 – 2009 Molina LT. And Velasco E (co-PI). Continuous measurements of CO₂ fluxes from an urban district of Mexico. National Institute of Ecology (\$45,000), Mexico.
- 2005 – 2007 Lamb B, Westberg H, Guenther A, Velasco E (co-PI). Urban flux measurements of trace gases from Mexico City. National Science Foundation (\$200,000), USA.
- 2001 – 2002 Velasco E (PI) and Segovia E. Acid rain in forests near to Mexico City. National Institute of Ecology (\$22,000), Mexico.
- 2000 – 2002 Wakamatsu S, Gutierrez-Avedoy V, Velasco E (co-PI). Vertical profiles of pollutants and meteorology in Mexico City measured by a tethered balloon. Japanese International Cooperation Agency (\$20,000).

Last update: 20 March 2023