

# Landfill fire and airborne aerosols in a large city: lessons learned and future needs

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© 2017, Springer Science+Business Media B.V. Landfill fires are relatively frequent incidents that can result in severe environmental impacts. On the morning of January 15, 2016, a fire occurred at the Santa Marta landfill (Lf) in the metropolitan area of Santiago (SMA), Chile. The fire triggered public alarm. In the present work, the impact of the landfill fire on the air quality of the SMA and the possible impacts on human health are analyzed. According to the information collected, the fire began after a collapse in the landfill on January 15, 2016. The fire could not be controlled by the Lf operating company, and authorities acted late in responding. The results revealed that at the focal point of the fire, particulate matter with an aerodynamic diameter smaller than 2.5  $\mu\text{m}$  (PM<sub>2.5</sub>) reached concentration levels on the order of 1000  $\mu\text{g m}^{-3}$ . Three days after the start of the fire, hourly PM<sub>2.5</sub> concentration levels above 200  $\mu\text{g m}^{-3}$  were recorded, at a distance approximately 20 km north