• 計畫中文名稱	大陸沙塵暴與背景測站懸浮微粒成份特徵之研究		
• 計畫英文名稱	The Study of Dust Storm and Background Aerosol Biological Composition		
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• 執行機構	台北醫學大學公共衛生學研究所		
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• 研究領域	大氣科學類, 環保工程		
• 研究人員	趙馨,詹長權		
• 中文關鍵字	沙塵暴；戶外空氣品質；大氣中之真菌		
• 英文關鍵字	Dust storm；Outdoor air quality；Atmospheric fungi		
• 中文摘要	沙塵暴爲東亞沙漠區季節性的天氣現象，多發生於冬末及春季。沙塵暴發生後，顆粒較大的粒子大多影響源地或鄰近地區後，即沈降到地面；顆粒較小的粒子則可藉由西風帶的氣流向東傳送，影響範圍可及日本、韓國、台灣、香港和菲律賓等地。近年來，隨著大陸沙塵發生頻率、規模及強度的上升，台灣地區受沙塵影響次數也隨之增加，伴隨之空氣品質惡化及健康危害，愈趨嚴重。本研究計畫預定在本年度沙塵暴期間前後，在環保署指定地點進行大氣中微生物之測量，並每個月在相同地點重複進行空氣採樣。樣本收集主要包括可培養真菌及真菌孢子。我們將建立大氣中生物性成份的基線資料及其季節變化，並分析指標性微生物隨大陸沙塵來台之可能性。此外，將建立統計模式，依據季節、氣象因子及其他空氣污染物之濃度，對大氣中生物性成份變化進行預測，以期發出警訊，降低可能之健康影響。此外，並配合環保署沙塵暴相關計畫所建立之急診及病例監測網，提供沙塵期間大氣中生物性成份之相關資料，用以評估可能造成之健康效應。		
• 英文摘要	Asian dust storms originate from the desert area in Northeastern China and frequently occur at the end of winter and early spring. Larger particles in dust storm usually settle down soon after suspension, yet smaller particles can be transported to far east by prevailing wind and might reach as far as Japan, Korea, Taiwan, Hong Kong and Philippine. In recent years, the frequency, magnitude and intensity of China dust storms have been increasing. Therefore, northern Taiwan is affected more frequently and resulting in decreasing air quality and adverse health effects. This study will monitor outdoor bioaerosol levels before, during and after each dust storm period at the EPA designated sampling locations. In addition, we will measure bioaerosol levels monthly at each sampling location. Sample collection includes culturable fungi and fungal spores. We will establish seasonal variation and baseline data for outdoor fungal levels in		

	northern Taiwan and examine if index microorganisms coming to Taiwan along with dust storms. In addition, we will develop statistical models to examine the effects of season, meteorological factors and other air pollutants on outdoor fungal levels, which may provide essential information for health prevention. We will collaborate with other investigators of the EPA dust-storm related projects to evaluate the effects of bioaerosols on emergency room visits for respiratory and cardiac diseases in the Taipei area.