Biography
Professor Chan obtained BSc in Chemical Engineering from the University of Texas at Austin in 1986 and PhD in Chemical Engineering from the California Institute of Technology in 1992. He is currently Dean and Chair Professor in School of Energy and Environment at City University of Hong Kong. He joined the Hong Kong University of Science and Technology (HKUST) as Assistant Professor in 1992 and rose to the rank of Professor in 2006. In 2010, he was appointed Founding Head of Division of Environment. He was Professor of Division of Environment and Professor of Chemical and Biomolecular Engineering at HKUST.
Professor Chan has over 30 years of research experience in air pollution and aerosol science. He specializes in aerosol water uptake and phase transformation, gas-aerosol interactions, the formation of secondary aerosols in the atmosphere, and laser spectroscopy of aerosols. Professor Chan received Haagen Smit Award of Atmospheric Environment in 2015, Second Prize of the State Natural Science Award in 2010, and First Prize of the Natural Science Award in 2007. He was the first winner of the Asian Young Aerosol Scientists Award. He was Science Advisor to Secretary of Environment, during his sabbatical at the HKSAR Environment Bureau in 2014. He was an Editor-in-Chief of Atmospheric Environment in 2008-2019.

Employment

School of Energy and Environment
City University of Hong Kong
28 Dec 2015 → present

Research outputs

Primary emissions and secondary production of organic aerosols from heated animal fats

Biotechnology of Plastic Waste Degradation, Recycling, and Valorization: Current Advances and Future Perspectives

Disentangling the contribution of the transboundary out-flow from the Asian continent to Tokyo, Japan

Nitrate Photolysis in Mixed Sucrose-Nitrate-Sulfate Particles at Different Relative Humidities
Liang, Z., Zhang, R., Gen, M., Chu, Y. & Chan, C. K., 6 May 2021, In: Journal of Physical Chemistry A. 125, 17, p. 3739-3747

Production of Formate via Oxidation of Glyoxal Promoted by Particulate Nitrate Photolysis
Zhang, R., Gen, M., Fu, T. & Chan, C. K., 4 May 2021, In: Environmental Science and Technology. 55, 9, p. 5711–5720
Scopus citations: 1
Characteristics, sources and evolution processes of atmospheric organic aerosols at a roadside site in Hong Kong

Concluding remarks: Faraday Discussion on air quality in megacities

Single particle diversity and mixing state of carbonaceous aerosols in Guangzhou, China

Sources and formation of nucleation mode particles in remote tropical marine atmospheres over the South China Sea and the Northwest Pacific Ocean

Contribution of Particulate Nitrate Photolysis to Heterogeneous Sulfate Formation for Winter Haze in China

Multiphase Photochemistry of Iron-Chloride Containing Particles as a Source of Aqueous Chlorine Radicals and Its Effect on Sulfate Production

Relative Humidity History Affects Hygroscopicity of Mixed Particles of Glyoxal and Reduced Nitrogenous Species

Effects of pretreatment temperature on the analysis of size-fractionated aerosol particles using ToF-SIMS

Reconciling Measurement and Prediction of Free and Solvated Water in Solution

Enhanced Sulfate Production by Nitrate Photolysis in the Presence of Halide Ions in Atmospheric Particles

Cleaning City Skies

Source apportionment of secondary organic aerosols in the Pearl River Delta region: Contribution from the oxidation of semi-volatile and intermediate volatility primary organic aerosols

Application of SERS on the chemical speciation of individual Aitken mode particles after condensational growth

A transition of atmospheric emissions of particles and gases from on-road heavy-duty trucks
Differing toxicity of ambient particulate matter (PM) in global cities
Scopus citations: 24

Scopus citations: 27

Effects of Phase State and Phase Separation on Dimethylamine Uptake of Ammonium Sulfate and Ammonium Sulfate-Sucrose Mixed Particles
Scopus citations: 4

Roadside assessment of a modern city bus fleet: Gaseous and particle emissions
Scopus citations: 8

Characterization of Aerosol Aging Potentials at Suburban Sites in Northern and Southern China Utilizing a Potential Aerosol Mass (Go:PAM) Reactor and an Aerosol Mass Spectrometer
Scopus citations: 11

Effect of Ozone Concentration and Relative Humidity on the Heterogeneous Oxidation of Linoleic Acid Particles by Ozone: An Insight into the Interchangeability of Ozone Concentration and Time
Scopus citations: 5

Reactive Uptake of Glyoxal by Methylaminium-Containing Salts as a Function of Relative Humidity

Secondary Organic Aerosol Formation from Urban Roadside Air in Hong Kong
Scopus citations: 21

Impacts of transboundary air pollution and local emissions on PM₂.₅ pollution in the Pearl River Delta region of China and the public health, and the policy implications
Scopus citations: 25

Reactive uptake of glyoxal by methylaminium-containing salts as a function of relative humidity
Scopus citations: 6

Potential exposure to fine particulate matter (PM₂.₅) and black carbon on jogging trails in Macau
Scopus citations: 11
Real time analysis of lead-containing atmospheric particles in Guangzhou during wintertime using single particle aerosol mass spectrometry

Positive matrix factorization: A data preprocessing strategy for direct mass spectrometry-based breath analysis

A review of experimental techniques for aerosol hygroscopicity studies

Electrospray surface-enhanced Raman spectroscopy (ES-SERS) for studying organic coatings of atmospheric aerosol particles

Exploring the impacts of anthropogenic emission sectors on PM2.5 and human health in South and East Asia

Light absorption properties and potential sources of particulate brown carbon in the Pearl River Delta region of China

Seasonal and annual changes in PAH concentrations in a remote site in the Pacific Ocean

Size-resolved effective density of submicron particles during summertime in the rural atmosphere of Beijing, China

Global Survey of Antibiotic Resistance Genes in Air

Chlorine oxidation of VOCs at a semi-rural site in Beijing: Significant chlorine liberation from ClNO2 and subsequent gas-and particle-phase Cl-VOC production

Formation and Evolution of aqSOA from Aqueous-Phase Reactions of Phenolic Carbonyls: Comparison between Ammonium Sulfate and Ammonium Nitrate Solutions

Characteristics and mixing state of amine-containing particles at a rural site in the Pearl River Delta, China
Reactive Uptake of Glyoxal by Ammonium-Containing Salt Particles as a Function of Relative Humidity
Scopus citations: 20

Reactions of SO2 and NH3 with epoxy groups on the surface of graphite oxide powder
Scopus citations: 10

Significant Production of Secondary Organic Aerosol from Emissions of Heated Cooking Oils
Scopus citations: 32

Chemical characteristics of brown carbon in atmospheric particles at a suburban site near Guangzhou, China
Scopus citations: 31

Comparison of secondary organic aerosol formation from toluene on initially wet and dry ammonium sulfate particles at moderate relative humidity
Liu, T., Dan Huang, D., Li, Z., Liu, Q., Chan, M. & Chan, C. K., 2018, In: Atmospheric Chemistry and Physics. 18, 8, p. 5677-5689
Scopus citations: 15

Online gas- and particle-phase measurements of organosulfates, organosulfonates and nitrooxy organosulfates in Beijing utilizing a FIGAERO ToF-CIMS
Scopus citations: 34

Primary and secondary organic aerosol from heated cooking oil emissions
Scopus citations: 15

Real-time breath analysis by using secondary nanoelectrospray ionization coupled to high resolution mass spectrometry
Scopus citations: 5

The size-resolved cloud condensation nuclei (CCN) activity and its prediction based on aerosol hygroscopicity and composition in the Pearl Delta River (PRD) region during wintertime 2014
Scopus citations: 14

Viscosity of erythritol and erythritol-water particles as a function of water activity: new results and an intercomparison of techniques for measuring the viscosity of particles
Scopus citations: 2

Emission of volatile organic compounds and production of secondary organic aerosol from stir-frying spices
Scopus citations: 29

Comparison of aerosol hygroscopicity, volatility, and chemical composition between a suburban site in the Pearl River Delta region and a marine site in Okinawa
Scopus citations: 14
Contributions of long-range transported and locally emitted nitrate in size-segregated aerosols in Japan at Kyushu and Okinawa

Measurement of ambient PAHs in Kumamoto: Differentiating local and transboundary air pollution

Model estimation of sulfate aerosol sources collected at Cape Hedo during an intensive campaign in October–November, 2015

Transboundary and local air pollutants in Western Japan distinguished on the basis of ratios of metallic elements in size-segregated aerosols

Electrospray surface-enhanced Raman spectroscopy (ES-SERS) for probing surface chemical compositions of atmospherically relevant particles

Diurnal and day-to-day characteristics of ambient particle mass size distributions from HR-ToF-AMS measurements at an urban site and a suburban site in Hong Kong

Impacts of traffic emissions on atmospheric particulate nitrate and organics at a downwind site on the periphery of Guangzhou, China
Ming Qin, Y., Bo Tan, H., Jie Li, Y., Schurman, M. I., Li, F., Canonaco, F., Prévôt, A. S. H. & 1 others, Chan, C. K., 1 Sep 2017, In: Atmospheric Chemistry and Physics. 17, 17, p. 10245-10258Scopus citations: 31

Role of oleic acid coating in the heterogeneous uptake of dimethylamine by ammonium sulfate particles

Mixing state of oxalic acid containing particles in the rural area of Pearl River Delta, China: Implications for the formation mechanism of oxalic acid

The effect of hydroxyl functional groups and molar mass on the viscosity of non-crystalline organic and organic-water particles

Nanoscale spectroscopic and mechanical characterization of individual aerosol particles using peak force infrared microscopy
Formation of secondary organic aerosols from gas-phase emissions of heated cooking oils

Atmospheric particle composition-hygroscopic growth measurements using an in-series hybrid tandem differential mobility analyzer and aerosol mass spectrometer

Real-time chemical characterization of atmospheric particulate matter in China: A review

Heterogeneous uptake of ammonia and dimethylamine into sulfuric and oxalic acid particles

Defects of clean graphene and sputtered graphite surfaces characterized by time-of-flight secondary ion mass spectrometry and X-ray photoelectron spectroscopy

Reactive Uptake of Dimethylamine by Ammonium Sulfate and Ammonium Sulfate-Sucrose Mixed Particles

Evaluation of traffic exhaust contributions to ambient carbonaceous submicron particulate matter in an urban roadside environment in Hong Kong

Photochemical smog in China: Scientific challenges and implications for air-quality policies

Particulate matter (PM) episodes at a suburban site in Hong Kong: Evolution of PM characteristics and role of photochemistry in secondary aerosol formation

A note on the effects of inorganic seed aerosol on the oxidation state of secondary organic aerosol—α-Pinene ozonolysis

A field measurement based scaling approach for quantification of major ions, organic carbon, and elemental carbon using a single particle aerosol mass spectrometer

Characteristics of carbonaceous aerosols in large-scale Asian wintertime outflows at Cape Hedo, Okinawa, Japan

Measurements of non-volatile aerosols with a VTDMA and their correlations with carbonaceous aerosols in Guangzhou, China
Characterization of HOPG, Sputtered HPOG and Graphene by ToF-SIMS and XPS

Continuous measurements at the urban roadside in an Asian megacity by Aerosol Chemical Speciation Monitor (ACSM): Particulate matter characteristics during fall and winter seasons in Hong Kong

Measurements of non-volatile aerosols with a VTDMA and their correlations with carbonaceous aerosols in Guangzhou, China

Clean graphene surface through high temperature annealing

Hygroscopic and phase transition properties of alkyl aminium sulfates at low relative humidities

Relative Humidity-Dependent HTDMA Measurements of Ambient Aerosols at the HKUST Supersite in Hong Kong, China

Water Activities and Osmotic Coefficients of Aqueous Solutions of Five Alkylaminium Sulfates and Their Mixtures with H$_2$SO$_4$ at 25$^\circ$C

Characteristics of submicron particulate matter at the urban roadside in downtown Hong Kong - Overview of 4 months of continuous high-resolution aerosol mass spectrometer measurements

Comparison of Daytime and Nighttime New Particle Growth at the HKUST Supersite in Hong Kong

Analysis of organic sulfur compounds in atmospheric aerosols at the HKUST supersite in Hong Kong using HR-ToF-AMS

Characterization and source identification of sub-micron particles at the HKUST Supersite in Hong Kong

Seasonal characteristics of fine particulate matter (PM) based on high-resolution time-of-flight aerosol mass spectrometric (HR-ToF-AMS) measurements at the HKUST Supersite in Hong Kong

Diffusion sampler for measurement of acidic ultrafine particles in the atmosphere
Size-resolved cloud condensation nuclei (CCN) activity and closure analysis at the HKUST Supersite in Hong Kong

Simultaneous HTDMA and HR-ToF-AMS measurements at the HKUST supersite in Hong Kong in 2011

Characterization of size-segregated aerosols using ToF-SIMS imaging and depth profiling

Aqueous-phase photochemical oxidation and direct photolysis of vanillin - A model compound of methoxy phenols from biomass burning

Performance evaluation of the Brechtel Mfg. Humidified Tandem Differential Mobility Analyzer (BMI HTDMA) for studying hygroscopic properties of aerosol particles

Physical and chemical characterization of ambient aerosol by HR-ToF-AMS at a suburban site in Hong Kong during springtime 2011

Role of the aerosol phase state in ammonia/amines exchange reactions

Evaluating the degree of oxygenation of organic aerosol during foggy and hazy days in Hong Kong using high-resolution time-of-flight aerosol mass spectrometry (HR-ToF-AMS)

Oligomeric products and formation mechanisms from acid-catalyzed reactions of methyl vinyl ketone on acidic sulfate particles

Sizing characterization of the Fast-Mobility Particle Sizer (FMPS) Against SMPS and HR-ToF-AMS

Surface chemical composition of size-fractionated urban walkway aerosols determined by x-ray photoelectron spectroscopy

Roles of the phase state and water content in ozonolysis of internal mixtures of maleic acid and ammonium sulfate particles
Characterization of organic particles from incense burning using an aerodyne high-resolution time-of-flight aerosol mass spectrometer

Measuring ambient acidic ultrafine particles using iron nanofilm detectors: Method development

Displacement of ammonium from aerosol particles by uptake of triethylamine

Observation of aerosol size distribution and new particle formation at a mountain site in subtropical Hong Kong

Source and formation of secondary particulate matter in PM$_{2.5}$ in Asian continental outflow

Enhanced reactive uptake of nonanal by acidic aerosols in the presence of particle-phase organics

Quantification of airborne elemental carbon by digital imaging

Evidence of high PM2.5 strong acidity in ammonia-rich atmosphere of Guangzhou, China: Transition in pathways of ambient ammonia to form aerosol ammonium at [NH$_4^+$]/[SO$_4^{2-}$]=1.5

Second-generation products contribute substantially to the particle-phase organic material produced by β-caryophyllene ozonolysis

Growth and shrinkage of new particles in the atmosphere in Hong Kong

Acid-catalyzed condensed-phase reactions of limonene and terpineol and their impacts on gas-to-particle partitioning in the formation of organic aerosols

Process-induced phase transformation of berberine chloride hydrates

Water content and phase transitions in particles of inorganic and organic species and their mixtures using micro-Raman spectroscopy
Effects of the polymorphic transformation of glutaric acid particles on their deliquescence and hygroscopic properties

Gas-particle partitioning of alcohol vapors on organic aerosols

Carbon content of common airborne fungal species and fungal contribution to aerosol organic carbon in a subtropical city

Phase transition and hygroscopic properties of internally mixed ammonium sulfate and adipic acid (AS-AA) particles by optical microscopic imaging and Raman spectroscopy

Managing air quality in a rapidly developing nation: China
Fang, M., Chan, C. K. & Yao, X., Jan 2009, In: Atmospheric Environment. 43, 1, p. 79-86Scopus citations: 201

Formulation development and bioavailability evaluation of a self-nanoemulsified drug delivery system of oleanolic acid

A re-evaluation on the atmospheric significance of octanal vapor uptake by acidic particles: Roles of particle acidity and gas-phase octanal concentration

Accretion reactions of octanal catalyzed by sulfuric acid: Product identification, reaction pathways, and atmospheric implications

A microscopic study of the effects of particle size and composition of atmospheric aerosols on the corrosion of mild steel

Coupling and evaluating gas/particle mass transfer treatments for aerosol simulation and forecast

Measurements of the hygroscopic and deliquescence properties of organic compounds of different solubilities in water and their relationship with cloud condensation nuclei activities

Physical characterization of oleanolic acid nonsolvate and solvates prepared by solvent recrystallization

Aerosol thermodynamics of potassium salts, double salts, and water content near the eutectic
The effect of H2O on the reduction of SO2 and NO by CO on La2O2S

Aerodynamic properties of biohazardous aerosols in hospitals

Air pollution in mega cities in China

Effects of potassium nitrate on the solid phase transitions of ammonium nitrate particles

Partial crystallization and deliquescence of particles containing ammonium sulfate and dicarboxylic acids

Formation and transformation of metastable double salts from the crystallization of mixed ammonium nitrate and ammonium sulfate particles

Heterogeneous reactions of linoleic acid and linolenic acid particles with ozone: Reaction pathways and changes in particle mass, hygroscopicity, and morphology

Correlations of ambient temperature and relative humidity with submicron particle number concentration size distributions in on-road vehicle plumes

Mass transfer effects on the hygroscopic growth of ammonium sulfate particles with a water-insoluble coating

Single particle Raman spectroscopy for investigating atmospheric heterogeneous reactions of organic aerosols

FTIR characterization of polymorphic transformation of ammonium nitrate

Size distributions and condensation growth of submicron particles in on-road vehicle plumes in Hong Kong

Source identification analysis for the airborne bacteria and fungi using a biomarker approach

Properties of organic matter in PM2.5 at Changdao Island, China-A rural site in the transport path of the Asian continental outflow
The role of SO2 in the reduction of NO by CO on La2O2S

Size dependence of in situ pH in submicron atmospheric particles in Hong Kong

Understanding hygroscopic growth and phase transformation of aerosols using single particle Raman spectroscopy in an electrodynamic balance

Possible sampling artifact in real time particle size distributions related to sampling rate

Responses of ammonium sulfate particles coated with glutaric acid to cyclic changes in relative humidity: Hygroscopicity and Raman characterization

Source apportionment of PM2.5 in urban area of Hong Kong

Characteristics of organic matter in PM2.5 in Shanghai

A comparative study of the organic matter in PM2.5 from three Chinese megacities in three different climatic zones

Erratum: Relating hygroscopic properties of magnesium nitrate to the formation of contact ion pairs (Journal of Physical Chemistry A (2004) 108A (1712))

Comparison of thermodynamic predictions for in situ pH in PM2.5

Seasonal variations and mass closure analysis of particulate matter in Hong Kong

Cloud condensation nuclei activation of limited solubility organic aerosol

Use of stationary and mobile measurements to study power plant emissions
Ergosterol as a biomarker for the quantification of the fungal biomass in atmospheric aerosols

On the time-averaging of ultrafine particle number size spectra in vehicular plumes

Impact of meteorology and energy structure on solvent extractable organic compounds of PM2.5 in Beijing, China

Real-time observation of the transformation of ultrafine atmospheric particle modes

Mass size distribution of Beijing particulate matters and its inorganic water-soluble ions in winter and summer

Experimental determination of solid-liquid equilibrium phase diagrams for crystallization-based process synthesis

Hygroscopicity of water-soluble organic compounds in atmospheric aerosols: Amino acids and biomass burning derived organic species

Inter-particle and gas-particle interactions in sampling artifacts of PM2.5 in filter-based samplers

Investigation of efflorescence of inorganic aerosols using fluorescence spectroscopy

Mass transfer effects in hygroscopic measurements of aerosol particles

The 3-hydroxy fatty acids as biomarkers for quantification and characterization of endotoxins and Gram-negative bacteria in atmospheric aerosols in Hong Kong

Characteristics of aerosol acidity in Hong Kong

Relating Hygroscopic Properties of Magnesium Nitrate to the Formation of Contact Ion Pairs

Characterization of dicarboxylic acids in PM2.5 in Hong Kong
New Directions: Polymorphic transformation of ammonium nitrate in atmospheric aerosols

Application of fluorescence spectroscopy to study the state of water in aerosols

Sampling Artifacts of Acidity and Ionic Species in PM2.5

Hygroscopic Properties of Two Model Humic-like Substances and Their Mixtures with Inorganics of Atmospheric Importance

Reduction of SO2 by CO and COS over La2O 2S - A mechanistic study

Observations of water monomers in supersaturated NaClO4, LiClO4, and Mg(ClO4)2 droplets using Raman spectroscopy

Size distributions and formation of ionic species in atmospheric particulate pollutants in Beijing, China: 1 - Inorganic ions

Size distributions and formation of ionic species in atmospheric particulate pollutants in Beijing, China: 2 - Dicarboxylic acids

Acidity and concentrations of ionic species of PM2.5 in Hong Kong

Solar photocatalytic thin film cascade reactor for treatment of benzoic acid containing wastewater

Concentration and chemical composition of PM2.5 in Shanghai for a 1-year period

Performance of a membrane-catalyst for photocatalytic oxidation of volatile organic compounds

The size dependence of chloride depletion in fine and coarse sea-salt particles

Characterization of chemical species in PM2.5 and PM10 aerosols in Hong Kong
Chemical characteristics of PM2.5 species in Beijing ambient air

Continuous measurements of the water activities of the Mg$^{2+}$-Ca$^{2+}$-Na$^{+}$-Cl$^{-}$-NO$_3^-$-SO$_4^{2-}$-H$_2$O system

The water-soluble ionic composition of PM2.5 in Shanghai and Beijing, China

Characterization of PM$_{2.5}$ Chemical Composition in the Ambient Air of Beijing, China

Source apportionment of PM$_{2.5}$ in Beijing

Effect of thermal treatment on the photocatalytic activity of TiO$_2$ coatings for photocatalytic oxidation of benzoic acid

The effects of organic species on the hygroscopic behaviors of inorganic aerosols

Continuous measurements of the water activities of aqueous droplets of water-soluble organic compounds

Understanding the hygroscopic properties of supersaturated droplets of metal and ammonium sulfate solutions using Raman spectroscopy

Size distributions and formation of dicarboxylic acids in atmospheric particles

The hygroscopic properties of dicarboxylic and multifunctional acids: Measurements and UNIFAC predictions

Flow induced chain alignment and disentanglement as the viscosity reduction mechanism within TLCP/HDPE blends

Combined diffusion model for the sorption of cadmium, copper, and zinc ions onto bone char

Film-pore diffusion control for the batch sorption of cadmium ions from effluent onto bone char
Experimental study of the sampling artifact of chloride depletion from collected sea salt aerosols

Hygroscopic study of glucose, citric acid, and sorbitol using an electrodynamic balance: Comparison with UNIFAC predictions

Photocatalytic thin film cascade reactor for treatment of organic compounds in wastewater
Scopus citations: 30

The characteristics of PM2.5 in Beijing, China

The water cycles of water-soluble organic salts of atmospheric importance

Study of contact ion pairs of supersaturated magnesium sulfate solutions using Raman scattering of levitated single droplets

Study of water activities of aerosols of mixtures of sodium and magnesium salts

Study of water activities of supersaturated aerosols of sodium and ammonium salts

Size effects in gas-phase photo-oxidation of trichloroethylene using nanometer-sized TiO2 catalysts

Catalyst preparation and reactor design for gas-phase photocatalytic oxidation of trichloroethylene (TCE) pollutant

Comparison of chloride depletion of sea-salt aerosols in MOUDI and PMDS measurements

Observation of mass transfer limitation in evaporation of single levitated droplets

Study of the hygroscopic properties of selected pharmaceutical aerosols using single particle levitation

Formation of nitrate and non-sea-salt sulfate on coarse particles
Application of positive matrix factorization in source apportionment of particulate pollutants in Hong Kong

Size distributions of particulate sulfate, nitrate, and ammonium at a coastal site in Hong Kong

A simple method to derive the water activities of highly supersaturated binary electrolyte solutions from ternary solution data

Effect of calcination on the microstructural characteristics and photoreactivity of Degussa P-25 TiO₂

Effect of TLCP melt structure on the bulk viscosity of high molecular mass polyethylene

Effects of calcination on the microstructures and photocatalytic properties of nanosized titanium dioxide powders prepared by vapor hydrolysis

The water activities of MgCl₂, Mg(NO₃)₂, MgSO₄ and their mixtures

An investigation on sulfate, nitrate size distribution and chloride depletion of coastal aerosols

Micro-Raman spectroscopic characterization of nanosized TiO₂ powders prepared by vapor hydrolysis

In situ study of single aqueous droplet solidification of ceramic precursors used for spray pyrolysis

Characteristics of chemical compositions of atmospheric aerosols in Hong Kong: Spatial and seasonal distributions

Aerosol delivery to non-ventilated infants by metered dose inhaler: Should a valved spacer be used?

Characterization of ultrafine titanium dioxide powders produced by vapor phase hydrolysis of titanium tetraisopropoxide

Size distribution of inorganic aerosols at a coastal site

Thermodynamic properties of aqueous aerosols to high supersaturation: II-A model of the system Na⁺-Cl⁻-NO₃⁻-SO₄⁻²-H₂O at 298.15 K

Thermodynamic properties of aqueous aerosols to high supersaturation: I - Measurements of water activity of the system Na\(^{+}\)-Cl−-NO\(_3\)/SO\(_4^{2-}\)-H\(_2\)O at ~ 298.15 K

Water activity of mixed organic and inorganic aerosols

Particulate matter exposures to commuters in Hong Kong

A fast technique for measuring water activity of atmospheric aerosols

Study of hygroscopic properties of aqueous mixtures of disodium fluorescein and sodium chloride using an electrodynamic balance

Thermodynamic properties of aqueous (NH\(_4\))\(_2\)SO\(_4\) to high supersaturation as a function of temperature

Determination of water activity in ammonium sulfate and sulfuric acid mixtures using levitated single particles

Water activities of NH\(_4\)NO\(_3\)/(NH\(_4\))\(_2\)SO\(_4\) solutions

Resonance structures in elastic and raman scattering from microspheres

Activities
Atmospheric Environment (Journal)
Chak K. Chan (Editor-in-Chief)
Oct 2008 → …

Prizes
Asian Young Aerosol Scientist Award
CHAN, Chak Keung (Recipient), 2005

Best ES&T Letters Paper of 2019
CHAN, Chak Keung (Recipient), GEN, M. (Recipient) & ZHANG, Ruifeng (Recipient), 2020

First Prize of the Natural Science Award
CHAN, Chak Keung (Recipient), 2007
Haagen-Smit Award of Atmospheric Environment
CHAN, Chak Keung (Recipient), 2015

Second Prize of the State Natural Science Award
CHAN, Chak Keung (Recipient), 2010

Top 2% most highly cited scientists
CHAN, Chak Keung (Recipient), 2020

Press/Media
Advanced bioaerosol project to eliminate Covid-19 and other pathogens secures HK$6.15m from Research Impact Fund
Chi Keung Alvin LAI, Chak Keung CHAN & Patrick Kwan Hon LEE
1/03/21
5 items of Media coverage

Berto and Chak interviewed by American Geophysical Union (AGU)
Chak Keung CHAN
13/08/15
1 Media contribution

New sulfate formation pathway provides more accurate haze prediction
Chak Keung CHAN, Masao GEN & Ruifeng ZHANG
13/07/20 → 14/07/20
3 items of Media coverage

Revealing the new formation mechanism of haze pollutants
Chak Keung CHAN
24/06/20
1 item of Media coverage

Grants

Projects
ECF: Application of Machine Learning Techniques in Predicting Primary and Secondary Organic Aerosols
CHAN, C. K.
1/03/21 → …

GRF: Effects of Organic Phase States on the Amine-ammonium Exchange Reactions of Ammonium Sulfate Particles
CHAN, C. K., CHAN, M. N. & YU, J.
1/12/14 → 15/11/18

ECF: Formation of secondary particulate matter (PM) from on-road vehicle emissions in Hong Kong
1/04/17 → 29/10/19

ResCtrs: Guy Carpenter Asia-Pacific Climate Impact Centre
1/03/08 → …

GRF: Heterogeneous Reactions of Monoethanolamine with Atmospheric Acidic Aerosol Particles
CHAN, C. K. & SIT, P.
1/11/17 → 31/10/20

RIF: Rapid Detection and Synergetic Disinfection of Bioaerosols Using Far UVC and Negative Air Ions: Mechanistic and Field Studies
30/06/21 → ...

CRF: Reducing Transmission of Novel Coronavirus and Other Infectious Diseases using Food Waste-derived Medical Textiles via Electrospinning for Healthcare Apparel and Personal Protective Equipment
1/06/21 → ...

DON_RMG: Scanning Electron Microscopy (SEM) for Energy and Environmental Researches - RMGS
CHAN, C. K.
1/03/20 → ...

GRF: Sulfate Formation via Photosensitized Reactions of Biomass Burning Compounds
CHAN, C. K.
1/01/22 → ...

MainGov: 海-陸大氣物理化學相互作用及其對粵港澳大灣區空氣質量的影響研究
CHAN, C. K., NAH, E. M. T. & WANG, X.
1/01/20 → ...