



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 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 → 1 May 2023

School of Energy and Environment

City University of Hong Kong
28 Dec 2015 → 1 Sept 2022

Research outputs

Global Impact of Particulate Nitrate Photolysis on Fine Sulfate Aerosol

Liu, L., Liu, X., Zhang, R., Gen, M., Chan, C. K., Song, S. & Wang, X., 10 Sept 2024, In: *Environmental Science & Technology Letters*. 11, 9, p. 961-967

Effects of copper on chemical kinetics and brown carbon formation in the aqueous $\cdot\text{OH}$ oxidation of phenolic compounds

Yang, J., Zhou, T., Lyu, Y., Go, B. R., Lam, J. C., Chan, C. K. & Nah, T., 1 Sept 2024, In: *Environmental Sciences: Processes and Impacts*. 26, 9, p. 1526-1542 Scopus citations: 2

Formation of secondary aerosol by 222 nm Far-UVC irradiation on SO_2

Liang, Z., Zhou, L., Chen, K., Lin, Y., Lai, A. C., Lee, P. K., Sit, P. H., & 2 others Yin, R. & Chan, C. K., 1 Aug 2024, In: *Atmospheric Environment*. 330, 120559. Scopus citations: 2

Evaporation-Induced Transformations in Volatile Chemical Product-Derived Secondary Organic Aerosols: Browning Effects and Alterations in Oxidative Reactivity

Zhou, L., Liang, Z., Qin, Y. & Chan, C. K., 25 Jun 2024, In: *Environmental Science & Technology*. 58, 25, p. 11105-11117 13 p.

Aqueous-Phase Photoreactions of Mixed Aromatic Carbonyl Photosensitizers Yield More Oxygenated, Oxidized, and less Light-Absorbing Secondary Organic Aerosol (SOA) than Single Systems

Go, B. R., Li, Y. J., Huang, D. D. & Chan, C. K., 7 May 2024, In: *Environmental Science and Technology*. 58, 18, p. 7924-7936

Strong electric field force at the air/water interface drives fast sulfate production in the atmosphere

Liu, Y., Ge, Q., Wang, T., Zhang, R., Li, K., Gong, K., Xie, L., & 11 others Wang, W., Wang, L., You, W., Ruan, X., Shi, Z., Han, J., Wang, R., Fu, H., Chen, J., Chan, C. K. & Zhang, L., 11 Jan 2024, In: *Chem.* 10, 1, p. 330-351 Scopus citations: 10

Possibility of condensation of nitric acid for cloud condensation nucleus in the summer at Mt. Fuji

Shimada, K., Geka, Y., Kato, S., Chan, C. K., Kim, Y. P., Ou-Yang, C., Lin, N., & 1 others Hatakeyama, S., Jan 2024, In: *Atmospheric Pollution Research.* 15, 1, 101940.

Particulate organic emissions from incense-burning smoke: Chemical compositions and emission characteristics

Song, K., Tang, R., Li, A., Wan, Z., Zhang, Y., Gong, Y., Lv, D., & 8 others Lu, S., Tan, Y., Yan, S., Yan, S., Zhang, J., Fan, B., Chan, C. K. & Guo, S., 1 Nov 2023, In: *Science of the Total Environment.* 897, 165319. Scopus citations: 6

Secondary aerosol formation in incense burning particles by O₃ and OH oxidation via single particle mixing state analysis

Liang, Z., Zhou, L., Li, X., Cuevas, R. A. I., Tang, R., Li, M., Cheng, C., & 4 others Chu, Y., Lee, P. K. H., Lai, A. C. K. & Chan, C. K., 10 Oct 2023, In: *Science of the Total Environment.* 894, 164942. Scopus citations: 3

Monoethanolamine decay mediated by photolysis of nitrate in atmospheric particles: a brown carbon and organic phase formation pathway

Tian, X., Zhang, R., Wei, B., Wang, Y., Li, Y. & Chan, C. K., 1 Oct 2023, In: *Environmental Science: Atmospheres.* 3, 10, p. 1541-1551

Theoretical study on the aqueous phase oxidation of glyoxal

Wei, B., Zhang, R., Sit, P. H., He, M. & Chan, C. K., 1 Sept 2023, In: *Environmental Science: Atmospheres.* 3, 9, p. 1296-1305 Scopus citations: 2

Co-photolysis of mixed chromophores affects atmospheric lifetimes of brown carbon

Wang, Y., Qiu, T., Zhang, C., Hao, T., Go, B. R., Zhang, R., Gen, M., & 11 others Chan, M. N., Huang, D. D., Ge, X., Wang, J., Du, L., Huang, R., Chen, Q., Hoi, K. I., Mok, K. M., Chan, C. K. & Li, Y. J., 1 Aug 2023, In: *Environmental Science: Atmospheres.* 3, 8, p. 1145-1158 Scopus citations: 4

Negligible increase in indoor endotoxin activity by 222 nm far-UVC illumination on bioaerosols

Liang, Z., Cheung, T. Y., Chan, W. L., Lim, C. K., Lai, A. C. K., Lee, P. K. H. & Chan, C. K., 1 Aug 2023, In: *Environmental Science: Atmospheres.* 3, 8, p. 1212-1220 Scopus citations: 1

Sulfate Formation by Photosensitization in Mixed Incense Burning–Sodium Chloride Particles: Effects of RH, Light Intensity, and Aerosol Aging

Tang, R., Zhang, R., Ma, J., Song, K., Go, B. R., Cuevas, R. A. I., Zhou, L., & 4 others Liang, Z., Vogel, A. L., Guo, S. & Chan, C. K., 18 Jul 2023, In: *Environmental Science & Technology.* 57, 28, p. 10295-10307 Scopus citations: 5

Multi-Box Modelling of Cooking-Generated Aerosols within an Urban Street Canyon

Gao, S., Chan, C. K. & Ngan, K., 1 Jul 2023, In: *Atmospheric Environment.* 304, 119748.

Experimental study of the disinfection performance of a 222-nm Far-UVC upper-room system on airborne microorganisms in a full-scale chamber

Wang, M. H., Zhang, H. H., Chan, C. K., Lee, P. K. H. & Lai, A. C. K., 15 May 2023, In: *Building and Environment.* 236, 110260. Scopus citations: 12

Comparison of aqueous secondary organic aerosol (aqSOA) product distributions from guaiacol oxidation by non-phenolic and phenolic methoxybenzaldehydes as photosensitizers in the absence and presence of ammonium nitrate

Go, B. R., Li, Y. J., Huang, D. D., Wang, Y. & Chan, C. K., 2023, In: *Atmospheric Chemistry and Physics.* 23, 4, p. 2859-2875 Scopus citations: 11

Distinct photochemistry in glycine particles mixed with different atmospheric nitrate salts

Liang, Z., Cheng, Z., Zhang, R., Qin, Y. & Chan, C. K., 2023, In: Atmospheric Chemistry and Physics. 23, 16, p. 9585-9595

Highly host-linked viromes in the built environment possess habitat-dependent diversity and functions for potential virus-host coevolution

Du, S., Tong, X., Lai, A. C. K., Chan, C. K., Mason, C. E. & Lee, P. K. H., 2023, In: Nature Communications. 14, 15 p., 2676.Scopus citations: 11

Molecular fingerprints and health risks of smoke from home-use incense burning

Song, K., Tang, R., Zhang, J., Wan, Z., Zhang, Y., Hu, K., Gong, Y., & 12 othersLv, D., Lu, S., Tan, Y., Zhang, R., Li, A., Yan, S., Fan, B., Zhu, W., Chan, C. K., Yao, M. & Guo, S., 2023, In: Atmospheric Chemistry and Physics. 23, 21, p. 13585-13595Scopus citations: 2

Simultaneous formation of sulfate and nitrate via co-uptake of SO₂ and NO₂ by aqueous NaCl droplets: combined effect of nitrate photolysis and chlorine chemistry

Zhang, R. & Chan, C. K., 2023, In: Atmospheric Chemistry and Physics. 23, 11, p. 6113-6126Scopus citations: 7

Sulfate formation via aerosol-phase SO₂ oxidation by model biomass burning photosensitizers: 3,4-dimethoxybenzaldehyde, vanillin and syringaldehyde using single-particle mixing-state analysis

Zhou, L., Liang, Z., Go, B. R., Cuevas, R. A. I., Tang, R., Li, M., Cheng, C., & 1 othersChan, C. K., 2023, In: Atmospheric Chemistry and Physics. 23, 9, p. 5251-5261Scopus citations: 12

Sulfate Formation in Incense Burning Particles: A Single-Particle Mass Spectrometric Study

Liang, Z., Zhou, L., Infante Cuevas, R. A., Li, X., Cheng, C., Li, M., Tang, R., & 4 othersZhang, R., Lee, P. K. H., Lai, A. C. K. & Chan, C. K., 13 Sept 2022, In: Environmental Science and Technology Letters. 9, 9, p. 718-725Scopus citations: 13

Fast-track Negative Pressure Isolation System for Respiratory Infectious Disease Control

CHAN, C. K., DENG, W., LING, C., WANG, S. & WANG, Z., 2 Sept 2022, Patent No. HK30067389, Priority No. 32022055602.3

Inactivation of *Escherichia coli* in droplets at different ambient relative humidities: Effects of phase transition, solute and cell concentrations

Liang, Z., Chan, W. L., Tian, X., Lai, A. C. K., Lee, P. K. H. & Chan, C. K., 1 Jul 2022, In: Atmospheric Environment. 280, 119066.Scopus citations: 5

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CHAN, C. K., DENG, W., LING, C., WANG, S. & WANG, Z., 23 Jun 2022, (Accepted/In press/Filed) Priority No. 202210720521.9

Food Waste-derived Medical Textiles via Electrospinning for Healthcare Apparel and Personal Protective Equipment

Lo, J. S. C., Chao, C. Y. H., Chopra, S. S., Daoud, W., Leu, S., Ning, Z., Tso, C. Y., & 6 othersChan, C. K., Tang, S., Lee, H. H., Firdous, I., Deka, B. J. & Lin, C. S. K., Jun 2022.

Fast-track Negative Pressure Isolation System for Respiratory Infectious Disease Control

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Competitive Uptake of Dimethylamine and Trimethylamine against Ammonia on Acidic Particles in Marine Atmospheres

Chen, D., Yao, X., Chan, C. K., Tian, X., Chu, Y., Clegg, S. L., Shen, Y., & 2 othersGao, Y. & Gao, H., 3 May 2022, In: Environmental Science and Technology. 56, 9, p. 5430-5439Scopus citations: 12

Real-time chemical characterization of single ambient particles at a port city in Chinese domestic emission control area — Impacts of ship emissions on urban air quality

Zhou, L., Li, M., Cheng, C., Zhou, Z., Nian, H., Tang, R. & Chan, C. K., 1 May 2022, In: Science of the Total Environment. 819, 153117.Scopus citations: 17

Assessing the Nonlinear Effect of Atmospheric Variables on Primary and Oxygenated Organic Aerosol Concentration Using Machine Learning

Qin, Y., Ye, J., Ohno, P., Liu, P., Wang, J., Fu, P., Zhou, L., & 3 others Li, Y. J., Martin, S. T. & Chan, C. K., 21 Apr 2022, In: ACS Earth and Space Chemistry. 6, 4, p. 1059–1066 Scopus citations: 8

Decay Kinetics and Absorption Changes of Methoxyphenols and Nitrophenols during Nitrate-Mediated Aqueous Photochemical Oxidation at 254 and 313 nm

Wang, Y., Huang, W., Tian, L., Wang, Y., Li, F., Huang, D. D., Zhang, R., & 13 others Go, B. R., Huang, R., Chen, Q., Ge, X., Du, L., Ma, Y. G., Gen, M., Hoi, K. I., Mok, K. M., Yu, J. Z., Chan, C. K., Li, X. & Li, Y. J., 21 Apr 2022, In: ACS Earth and Space Chemistry. 6, 4, p. 1115–1125 Scopus citations: 11

The oxidative potential of fresh and aged elemental carbon-containing airborne particles: a review

Liu, Y. & Chan, C. K., 1 Apr 2022, In: Environmental Sciences: Processes and Impacts. 24, 4, p. 525-546 Scopus citations : 21

Single-particle Raman spectroscopy for studying physical and chemical processes of atmospheric particles

Liang, Z., Chu, Y., Gen, M. & Chan, C. K., 7 Mar 2022, In: Atmospheric Chemistry and Physics. 22, 5, p. 3017-3044 Scopus citations: 22

Particulate nitrate photolysis in the atmosphere

Gen, M., Liang, Z., Zhang, R., Go, B. R. & Chan, C. K., 1 Mar 2022, In: Environmental Science: Atmospheres. 2, 2, p. 111-127 Scopus citations: 51

Photochemical Reactions of Glyoxal during Particulate Ammonium Nitrate Photolysis: Brown Carbon Formation, Enhanced Glyoxal Decay, and Organic Phase Formation

Zhang, R., Gen, M., Liang, Z., Li, Y. J. & Chan, C. K., 1 Feb 2022, In: Environmental Science and Technology. 56, 3, p. 1605-1614 Scopus citations: 29

Reactive Uptake of Monoethanolamine by Sulfuric Acid Particles and Hygroscopicity of Monoethanolaminium Salts

Tian, X., Chu, Y. & Chan, C. K., 11 Jan 2022, In: Environmental Science and Technology Letters. 9, 1, p. 16-21 Scopus citations: 7

Estimating organic aerosol emissions from cooking in winter over the Pearl River Delta region, China

Xing, L., Fu, T., Liu, T., Qin, Y., Zhou, L., Chan, C. K., Guo, H., & 2 others Yao, D. & Duan, K., 1 Jan 2022, In: Environmental Pollution. 292, Part A, 118266. Scopus citations: 10

Aqueous secondary organic aerosol formation from the direct photosensitized oxidation of vanillin in the absence and presence of ammonium nitrate

Go, B. R., Lyu, Y., Ji, Y., Li, Y. J., Huang, D. D., Li, X., Nah, T., & 2 others Lam, C. H. & Chan, C. K., 2022, In: Atmospheric Chemistry and Physics. 22, 1, p. 273-293 Scopus citations: 42

Technical note: Dispersion of cooking-generated aerosols from an urban street canyon

Gao, S., Kurppa, M., Chan, C. K. & Ngan, K., 2022, In: Atmospheric Chemistry and Physics. 22, 4, p. 2703-2726 Scopus citations: 5

Investigation into the Phase–Activity Relationship of MnO₂ Nanomaterials toward Ozone-Assisted Catalytic Oxidation of Toluene

Yang, R., Guo, Z., Cai, L., Zhu, R., Fan, Y., Zhang, Y., Han, P., & 6 others Zhang, W., Zhu, X., Zhao, Q., Zhu, Z., Chan, C. K. & Zeng, Z., 16 Dec 2021, In: Small. 17, 50, 2103052. Scopus citations: 106

Enhanced Nitrite Production from the Aqueous Photolysis of Nitrate in the Presence of Vanillic Acid and Implications for the Roles of Light-Absorbing Organics

Wang, Y., Huang, D. D., Huang, W., Liu, B., Chen, Q., Huang, R., Gen, M., & 8 others Go, B. R., Chan, C. K., Li, X., Hao, T., Tan, Y., Hoi, K. I., Mok, K. M. & Li, Y. J., 7 Dec 2021, In: Environmental Science and Technology. 55, 23, p. 15694–15704 Scopus citations: 26

Nitrite/Nitrous Acid Generation from the Reaction of Nitrate and Fe(II) Promoted by Photolysis of Iron-Organic Complexes
Gen, M., Zhang, R. & Chan, C. K., 7 Dec 2021, In: Environmental Science and Technology. 55, 23, p. 15715–15723
Scopus citations: 20

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

Zhou, L., Liu, T., Yao, D., Guo, H., Cheng, C. & Chan, C. K., 10 Nov 2021, In: Science of the Total Environment. 794, 148638.Scopus citations: 6

Emissions and Secondary Formation of Air Pollutants from Modern Heavy-Duty Trucks in Real-World Traffic—Chemical Characteristics Using On-Line Mass Spectrometry

Zhou, L., Salvador, C. M., Priestley, M., Hallquist, M., Liu, Q., Chan, C. K. & Hallquist, Å. M., 2 Nov 2021, In: Environmental Science and Technology. 55, 21, p. 14515–14525Scopus citations: 15

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

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

Qin, Z., Mou, J., Chao, C. Y. H., Chopra, S. S., Daoud, W., Leu, S., Ning, Z., & 7 othersTso, C. Y., Chan, C. K., Tang, S., Hathi, Z. J., Haque, M. A., Wang, X. & Lin, C. S. K., 5 Oct 2021, In: ChemSusChem. 14, 19, p. 3981Scopus citations: 5

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

Shimada, K., Mizukoshi, M., Chan, C. K., Kim, Y. P., Lin, N., Matsuda, K., Itahashi, S., & 3 othersNakashima, Y., Kato, S. & Hatakeyama, S., 1 Oct 2021, In: Environmental Pollution. 286, 117280.Scopus citations: 1

Long-term measurements of carbonaceous aerosol at Cape Hedo, Okinawa, Japan: Effects of changes in emissions in East Asia

Shimada, K., Takami, A., Ishida, T., Taniguchi, Y., Hasegawa, S., Chan, C. K., Kim, Y. P., & 2 othersLin, N. & Hatakeyama, S., Sept 2021, In: Aerosol and Air Quality Research. 21, 9, 2000505.Scopus citations: 3

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: The Journal of Physical Chemistry A. 125, 17, p. 3739-3747Scopus citations: 15

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Zhang, R., Gen, M., Fu, T. & Chan, C. K., 4 May 2021, In: Environmental Science and Technology. 55, 9, p. 5711–5720
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Characteristics, sources and evolution processes of atmospheric organic aerosols at a roadside site in Hong Kong

Yao, D., Lyu, X., Lu, H., Zeng, L., Liu, T., Chan, C. K. & Guo, H., 1 May 2021, In: Atmospheric Environment. 252, 118298.
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General discussion: Sources, sinks and mitigation methods; Evaluation of health impacts

Rami Alfarra, M., Bloss, W. J., Chan, C., Chen, Y., Gani, S., Han, Y., Harrison, R. M., & 10 othersKhan, M. A. H., Kim, S., Lee, J., Pfrang, C., Pöschl, U., Shi, Z., Styring, P., van Pinxteren, D., Wallington, T. J. & Zhu, T., 1 Mar 2021, In: Faraday Discussions. 226, p. 607–616

General discussion: Aerosol formation and growth; VOC sources and secondary organic aerosols

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Concluding remarks: *Faraday Discussion* on air quality in megacities

Gen, M., Zhou, L., Zhang, R. & Chan, C. K., Mar 2021, In: *Faraday Discussions*. 226, p. 617-628 Scopus citations: 2

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

Cheng, C., Chan, C. K., Lee, B. P., Gen, M., Li, M., Yang, S., Hao, F., & 8 others Wu, C., Cheng, P., Wu, D., Li, L., Huang, Z., Gao, W., Fu, Z. & Zhou, Z., 1 Feb 2021, In: *Science of the Total Environment*. 754, 142182. Scopus citations: 17

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

Shen, Y., Wang, J., Gao, Y., Chan, C. K., Zhu, Y., Gao, H., Petäjä, T., & 1 others Yao, X., 15 Sept 2020, In: *Science of the Total Environment*. 735, 13 p., 139302. Scopus citations: 10

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

Zheng, H., Song, S., Sarwar, G., Gen, M., Wang, S., Ding, D., Chang, X., & 7 others Zhang, S., Xing, J., Sun, Y., Ji, D., Chan, C. K., Gao, J. & McElroy, M. B., 8 Sept 2020, In: *Environmental Science & Technology Letters*. 7, 9, p. 632-638 Scopus citations: 51

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

Gen, M., Zhang, R., Li, Y. & Chan, C. K., 18 Aug 2020, In: *Environmental Science & Technology*. 54, 16, p. 9862-9871 Scopus citations: 20

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

Chen, X., Chu, Y., Lee, A. K. Y., Gen, M., Kasthuriarachchi, N. Y., Chan, C. K. & Li, Y. J., 16 Jun 2020, In: *Environmental Science & Technology*. 54, 12, p. 7097-7106 Scopus citations: 12

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

Li, J., Xie, W., Weng, L., Chan, C. K. & Chan, C., May 2020, In: *Surface and Interface Analysis*. 52, 5, p. 264-271

Reconciling Measurement and Prediction of Free and Solvated Water in Solution

Wexler, A. S., Patel, K., Gen, M. & Chan, C. K., 21 Apr 2020, In: *ACS Omega*. 5, 15, p. 8754-8765 Scopus citations: 8

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

Zhang, R., Gen, M., Huang, D., Li, Y. & Chan, C. K., 7 Apr 2020, In: *Environmental Science & Technology*. 54, 7, p. 3831-3839 Scopus citations: 44

Cleaning City Skies

Kurinji, S., Chan, C. K., Selin, N., Kandlikar, M., Pachauri, S., Harrison, R., Qin, Y., & 5 others Lewis, A., Dolsak, N., Prakash, A., Badami, M. G. & Parrish, D., 21 Feb 2020, In: *One Earth*. 2, 2, p. 113-116

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

Yao, T., Li, Y., Gao, J., Fung, J. C., Wang, S., Li, Y., Chan, C. K., & 1 others Lau, A. K. H., 1 Feb 2020, In: *Atmospheric Environment*. 222, 117111. Scopus citations: 21

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

Kunihisa, R., Iwata, A., Gen, M., Chan, C. K. & Matsuki, A., 2020, In: *Aerosol Science and Technology*. 54, 7, p. 826-836 Scopus citations: 3

A transition of atmospheric emissions of particles and gases from on-road heavy-duty trucks

Zhou, L., Hallquist, Å. M., Hallquist, M., Salvador, C. M., Gaita, S. M., Sjödin, Å., Jerksjö, M., & 6 others Salberg, H., Wängberg, I., Mellqvist, J., Liu, Q., Lee, B. P. & Chan, C. K., 2020, In: *Atmospheric Chemistry and Physics*. 20, 3, p. 1701-1722 Scopus citations: 25

Differing toxicity of ambient particulate matter (PM) in global cities

Li, J., Chen, H., Li, X., Wang, M., Zhang, X., Cao, J., Shen, F., & 10 othersWu, Y., Xu, S., Fan, H., Da, G., Huang, R., Wang, J., Chan, C. K., De Jesus, A. L., Morawska, L. & Yao, M., Sept 2019, In: Atmospheric Environment. 212, p. 305-315Scopus citations: 53

Heterogeneous Oxidation of SO₂ in Sulfate Production during Nitrate Photolysis at 300 nm: Effect of pH, Relative Humidity, Irradiation Intensity, and the Presence of Organic Compounds

Gen, M., Zhang, R., Huang, D. D., Li, Y. & Chan, C. K., 6 Aug 2019, In: Environmental Science and Technology. 53, 15, p. 8757-8766Scopus citations: 86

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Derieux, W. W., Lakey, P. S. J., Chu, Y., Chan, C. K., Glicker, H. S., Smith, J. N., Zuend, A., & 1 othersShiraiwa, M., 18 Jul 2019, In: ACS Earth and Space Chemistry. 3, 7, p. 1268-1278Scopus citations: 11

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

Liu, Q., Hallquist, Å. M., Fallgren, H., Jerksjö, M., Jutterström, S., Salberg, H., Hallquist, M., & 6 othersLe Breton, M., Pei, X., Pathak, R. K., Liu, T., Lee, B. & Chan, C. K., Jul 2019, In: Atmospheric Environment: X. 3, 100044.Scopus citations: 27

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

Li, J., Liu, Q., Li, Y., Liu, T., Huang, D., Zheng, J., Zhu, W., & 11 othersHu, M., Wu, Y., Lou, S., Hallquist, Å. M., Hallquist, M., Chan, C. K., Canonaco, F., Prévôt, A. S. H., Fung, J. C. H., Lau, A. K. H. & Yu, J. Z., 27 May 2019, In: Journal of Geophysical Research: Atmospheres. 124, 10, p. 5629-5649Scopus citations: 32

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

Chu, Y., Cheng, T. F., Gen, M., Chan, C. K., Lee, A. K. Y. & Chan, M. N., 16 May 2019, In: ACS Earth and Space Chemistry. 3, 5, p. 779-788Scopus citations: 21

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

Go, B. R., Gen, M., Chu, Y. & Chan, C., Apr 2019, *EGU General Assembly 2019*. European Geosciences Union, EGU2019-2701. (Geophysical Research Abstracts; vol. 21).

Secondary Organic Aerosol Formation from Urban Roadside Air in Hong Kong

Liu, T., Zhou, L., Liu, Q., Lee, B. P., Yao, D., Lu, H., Lyu, X., & 2 othersGuo, H. & Chan, C. K., 19 Mar 2019, In: Environmental Science and Technology. 53, 6, p. 3001-3009Scopus citations: 56

Impacts of transboundary air pollution and local emissions on PM_{2.5} pollution in the Pearl River Delta region of China and the public health, and the policy implications

Hou, X., Chan, C. K., Dong, G. H. & Yim, S. H. L., Mar 2019, In: Environmental Research Letters. 14, 3, 034005.Scopus citations: 67

Reactive uptake of glyoxal by methylammonium-containing salts as a function of relative humidity

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Fok, T. F., Lam, K., Chan, C. K., Ng, P. C., Zhuang, H., Wong, W. & Cheung, K. L., Sept 1997, In: Pediatric Pulmonology. 24, 3, p. 204-212Scopus citations: 23

Characterization of ultrafine titanium dioxide powders produced by vapor phase hydrolysis of titanium tetraisopropoxide
Guo, W., Porter, J. F., Chan, C. & Chan, C., Sept 1997, In: Journal of Aerosol Science. 28, SUPPL. 1Scopus citations: 2

Size distribution of inorganic aerosols at a coastal site
Zhuang, H. & Chan, C. K., Sept 1997, In: Journal of Aerosol Science. 28, SUPPL. 1Scopus citations: 9

Thermodynamic properties of aqueous aerosols to high supersaturation: II-A model of the system $\text{Na}^+ \text{Cl}^- \text{NO}_3^- \text{SO}_4^{2-} \text{H}_2\text{O}$ at 298.15 K

Clegg, S. L., Brimblecombe, P., Liang, Z. & Chan, C. K., Sept 1997, In: *Aerosol Science and Technology*. 27, 3, p. 345-366 Scopus citations: 46

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

Chan, C. K., Liang, Z., Zheng, J., Clegg, S. L. & Brimblecombe, P., Sept 1997, In: *Aerosol Science and Technology*. 27, 3, p. 324-344 Scopus citations: 58

Water activity of mixed organic and inorganic aerosols

Chan, C. K., Kwok, C. S. & Chow, A. H. L., Sept 1997, In: *Journal of Aerosol Science*. 28, SUPPL. 1 Scopus citations: 2

Particulate matter exposures to commuters in Hong Kong

Zheng, J., Ma, H., Chan, C. K. & Cheng, L., Jul 1997, In: *Particulate Science and Technology*. 15, 3-4, p. 341-360 Scopus citations: 2

A fast technique for measuring water activity of atmospheric aerosols

Liang, Z. & Chan, C. K., Mar 1997, In: *Aerosol Science and Technology*. 26, 3, p. 255-268 Scopus citations: 31

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

Chan, C. K., Kwok, C. S. & Chow, A. H. L., 1997, In: *Pharmaceutical Research*. 14, 9, p. 1171-1175 Scopus citations: 18

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

Clegg, S. L., Ho, S. S., Chan, C. K. & Brimblecombe, P., 1995, In: *Journal of Chemical and Engineering Data*. 40, 5, p. 1079-1090 Scopus citations: 62

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

Kim, Y. P., Pun, B. K., Chan, C. K., Flagan, R. C. & Seinfeld, J. H., 1994, In: *Aerosol Science and Technology*. 20, 3, p. 275-284 Scopus citations: 37

Water activities of $\text{NH}_4\text{NO}_3/(\text{NH}_4)_2\text{SO}_4$ solutions

Chan, C. K., Flagan, R. C. & Seinfeld, J. H., Jun 1992, In: *Atmospheric Environment Part A, General Topics*. 26, 9, p. 1661-1673 Scopus citations: 127

Resonance structures in elastic and raman scattering from microspheres

Chan, C. K., Flagan, R. C. & Seinfeld, J. H., 1 Feb 1991, In: *Applied Optics*. 30, 4, p. 459-467 Scopus citations: 27

Activities

9th International Conference on Sustainable Solid Waste Management (CORFU 2022)

Sik Chun Johnny LO (Presenter), Christopher Yu Hang CHAO (Advisory Chair), Shauhrat Singh CHOPRA (Participant), Walid DAOUD (Participant), Shao-Yuan Leu (Participant), Zhi NING (Participant), Chi Yan TSO (Participant), Chak Keung CHAN (Participant), Shixing Tang (Participant), Hau Him LEE (Participant), Irum FIRDOUS (Participant), Bhaskar Jyoti DEKA (Participant) & Sze Ki Carol LIN (Participant)

15 Jun 2022 → 18 Jun 2022

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, Masao (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

Stanford's top 2% most highly cited scientists 2020

CHAN, Chak Keung (Recipient), 2020

Stanford's top 2% most highly cited scientists 2021

CHAN, Chak Keung (Recipient), Oct 2021

Stanford's top 2% most highly cited scientists 2022

CHAN, Chak Keung (Recipient), Nov 2022

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

4 items of Media coverage

Berto and Chak interviewed by American Geophysical Union (AGU)

Chak Keung CHAN

13/08/15

1 Media contribution

Eighteen SEE faculty members ranked top 2% of the world's most highly cited scientists

Kyoung Jin Alicia AN, Chak Keung CHAN, Chung Leung Johnny CHAN, Guohua CHEN, Alex JEN, Chi Keung Alvin LAI, Mei Yee Kenneth LEUNG, Kwok Hi Michael LEUNG, Sze Ki Carol LIN, Chunhua LIU, Yun Hau NG, Jin SHANG, Chi Yan TSO, Wenxiong WANG, Wei WU, Hin Lap YIP, Lin ZHANG & Wen ZHOU

27/10/22

1 item of Media coverage

Four CityU projects awarded \$20m from Green Tech Fund; highest among local institutions

Shu Hung Henry CHUNG, Alex JEN, Chak Keung CHAN & Yun Hau NG

25/01/22

1 item of Media coverage

Four CityU Projects Awarded HK\$20 Million from Green Tech Fund

Shu Hung Henry CHUNG, Chak Keung CHAN, Alex JEN & Yun Hau NG

10/02/22

1 item of Media coverage

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

Twenty-Six SEE Faculty Members ranked Top 2% of the World's Most Highly Cited Scientists

Fatwa Firdaus ABDI, Kyoung Jin Alicia AN, Chak Keung CHAN, Chung Leung Johnny CHAN, Guohua CHEN, Shauhrat Singh CHOPRA, Liang DONG, Alex JEN, Chi Keung Alvin LAI, Mei Yee Kenneth LEUNG, Kwok Hi Michael LEUNG, Sze Ki Carol LIN, Chunhua LIU, Yun Hau NG, Jin SHANG, Chi Yan TSO, Jian WANG, Wenxiong WANG, Xue WANG, Wei WU, Charles XU, Yau Wai Denis YU, Zhiguo YUAN, Hin Lap YIP, Lin ZHANG & Wen ZHOU

13/10/23

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 → 26/10/22

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

CHAN, C. K., CHAN, M. N., Guo, H., LAU, A. P. S. & NING, Z.

1/04/17 → 29/10/19

GRF: Heterogeneous Reactions of Monoethanolamine with Atmospheric Acidic Aerosol Particles

CHAN, C. K. & SIT, P.

1/01/19 → 19/12/22

ITF: Integrated System of Advanced Thermal Nano Technologies (TNT) for Energy - Efficient Air - Conditioning and Clean Indoor Air: Part 1 - Energy Efficiency

LEUNG, K. H. M., CHAN, C. K., CHONG, C. Y., FENG, S. P., FONG, K. F. S., LAI, A. K., LEE, P. K. H., LEUNG, D. Y., Li, Y., Ni, M., WANG, Z. & Yang, H.

1/11/17 → 31/10/21

ResCtrs: Low-Carbon and Climate Impact Research Centre (LCCIC)

CHAN, C. L. J., CHAN, C. K., CHOPRA, S. S., CHU, J., DONG, L., KIM, J., LAM, J., NAH, E. M. T., SHANG, J., WANG, X., WANG, S., WANG, J., YUAN, H. S., ZHANG, L., ZHOU, W. & ZHU, K.

1/03/08 → ...

RIF: Rapid Detection and Synergetic Disinfection of Bioaerosols Using Far UVC and Negative Air Ions: Mechanistic and Field Studies

LAI, C. K. A., CHAN, C. K., CHAN, C., Gen, M., LEE, P. K. H., LI, I. W. S. & TONG, J.

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

LIN, S. K. C., CHAN, C. K., CHAO, C. Y. H., CHOPRA, S. S., DAOUD, W., LEU, S. Y., NING, Z. & TSO, C. Y.
1/06/21 → ...

DON_RMG: Scanning Electron Microscopy (SEM) for Energy and Environmental Researches - RMGS

CHAN, C. K.
1/03/20 → 1/05/23

SKL: State Key Laboratory of Marine Pollution (City University of Hong Kong) (SKLMP)

LEUNG, M. Y. K., CAI, W., CHAN, L. L., CHAN, C. K., CHENG, S. H., CHEUNG, S. G., CHEUNG, Y. H. R., HE, Y., KO, C. C. V., KONG, Y. C. R., KOT, B. C. W., KWOK, C. K., LAM, J., LEE, P. K. H., LEUNG, K. H. M., LO, P. K. P., LU, Z., LY, T. H., NAH, E. M. T., RUAN, Y. P., TAM, F. Y. N., WANG, W., WONG, C. Y. A., WU, J., YAN, M., YANG, M., YE, R., YU, K. N. P., ZENG, Z. & ZHANG, X.
9/04/10 → ...

NSFC-SRI: 光敏反应和硝酸盐光解反应在硫酸盐和二次有机气溶胶生成过程中的影响

CHAN, C. K.
1/01/23 → ...

NSFC-SRI: 无机硝酸盐对液相反应生成棕碳的影响

CHAN, C. K.
1/01/19 → 31/12/22

SZGov-SRI: 机动车尾气二次有机气溶胶生成潜势的隧道测试研究

CHAN, C. K.
8/07/16 → 31/07/19

NSFC-SRI: 硝酸盐光解反应在乙二醛水相氧化形成SOA中的影响

CHAN, C. K.
1/01/21 → ...

NSFC-SRI: 餐饮油烟二次有机气溶胶生成的模拟研究

CHAN, C. K.
1/01/17 → 31/12/20