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Google Scholar citation: <https://scholar.google.com/citations?user=FykDaB0AAAAAJ&hl=en>

EDUCATION

- Ph.D., Atmospheric Science, Colorado State University, Fort Collins, CO 2006
Adviser: Jeffrey Collett; Dissertation: Characterizing ionic components of aerosol in rural environments: temporal variability, size distributions, and the form of particle nitrate
- M.S., Atmospheric Science, Colorado State University, Fort Collins, CO 2002
Adviser: Jeffrey Collett; Thesis: The ionic composition of aerosol in Big Bend National Park
- B.S., Environmental Science, Hankuk University of Foreign Studies, South Korea 1995

PROFESSIONAL EXPERIENCE

- Professor 2017 – Current
Department of Environmental Science, Hankuk University of Foreign Studies
- Assistant/Associate Professor 2013 – 2016
Department of Environmental Science, Hankuk University of Foreign Studies
- Research Scientist I, II / Research Professor 2007 – 2012
Department of Atmospheric Science, Colorado State University, Ft. Collins, Colorado
- Postdoctoral Fellow 2006 – 2007
Department of Atmospheric Science, Colorado State University, Ft. Collins, Colorado
- Graduate Research Assistant 1999 - 2006
Department of Atmospheric Science, Colorado State University, Ft. Collins, Colorado
Studies of aerosol and cloud chemistry. Continuous and time-integrated measurements of the inorganic and organic composition of aerosols, fogs, and clouds. Instrument development. Field (aircraft and ground-based) studies in U.S., China, Chile, S. Korea, and Germany. Analytical techniques: IC, HPLC, HT-ToF-AMS, TOC, CE.

ACADEMIC SERVICE and POSITIONS

UNEP(UN-Environment Programme)-EANET SAC (SCIENTIFIC ADVISORY COMMITTEE)
Korean Representative

Editor-in-Chief of Asian Journal of Atmospheric Environment in Korea Society for Atmospheric Environment, Korea

International Journal Reviews:

Atmospheric Environment, Atmospheric Chemistry and Physics, Atmospheric Research, Journal of Atmospheric Chemistry. Aerosol Science & Technology, Biosystem Engineering

National Journal Reviews:

Asian Journal of Atmospheric Environment, Journal of the Korean Society for Environmental Analysis

RESEARCH INTERESTS

Air Pollution Measurement and Management

Aerosol Chemistry and Formation

Development of Instruments for Air Pollution measurement

EXPERIENCE with AEROSOL and ANALYTICAL INSTRUMENTATION

High Resolution Time of Flight Aerosol Mass Spectrometry (HR-ToF-AMS)

Proton Transfer Reaction Time of Flight Mass Spectrometry (PTR-ToF-MS)

Electro Spray Ionization (ESI) Time of Flight Mass Spectrometry (ESI Mass Spec)

MicroChip Electrophoresis (MCE)

Ion Chromatography (IC)/High Performance Liquid Chromatography (HPLC)

Gas Chromatography (GC)

Capillary Electrophoresis (Microchip Electrophoresis)

Particle-Into-Liquid-System system (PILS)/PILS-TOC-IC (WSOC)

Total Organic Carbon Analyzer (TOC)

Total and Organic H₂O₂ analyzer

PM_{2.5}, Impactor & PILS Aerosol composition measurements

OC/EC measurement

Organic Acid Analysis

Total Organic Carbon Analysis

Design of Growth tube for continuous sampling aerosol

Design of continuous Total and Organic H₂O₂ analyzer

Design of fog/cloud water collector and airborne cloud water collector

Design of Particle Condensation System (PCS) Sampler

Design of HNO₃ measurement system coupled with Ion Chromatography

SELECTED FUNDED PROJECTS (Total funded projects: ~60)

- The Airborne and Satellite Investigation of Asian Air Quality (ASIA-AQ) by Korea and NASA (2024)
- An International Cooperative Air Quality Field Study in Korea (KORUS-AQ) by KOREA and NASA (2016)
- The 24th Scientific Advisory Committee Meeting by the UNEP-EANET(The Acid Deposition Monitoring Network in East Asia)(UNEP-EANET SAC) (2024)
- KOICA-HUFS Master's Degree Program in Atmospheric Environment (2016-2019)-KOICA & Scholarship Program
- Multi-Information Convergence System for fine particle Policy Management (MICS-PM) (2019-2021)
- Identify concentration distribution by ammonia emission characteristics and prepare measures for quality control of real-time observation data (2020-2021)
- Ultrafine dust(PM1) observation-based research (2021-2022), Co-PI
- Physicochemical characteristics and formation mechanisms of PM2.5 at a regional scale associated with local emissions, regional transport and foreign influences (2020-2022)
- Study on the Formation and Oxidation Mechanisms of Organic Aerosols from Long-Range Transported Air Pollutants (2018)
- The measurement of the potential secondary aerosol formation from emissions of a gasoline and diesel vehicles using High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS) coupled with Oxidation Flow Reactor (OFR)(III), Transportation Pollution Research Center, 2018, PI
- Study of Formation and Aging Mechanisms of Organic Aerosols during the Trans-boundary Transport of Haze, NRF, 2018, PI
- Black Carbon Emission Measurements from Different Vehicles and Fuel types (KEITI), 2016-2019, PI
- The measurement of the potential secondary aerosol formation from emissions of a gasoline and diesel vehicles using High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS) coupled with Potential Aerosol Mass(PAM)(II), Trans. Pollution Research Center, 2017, PI
- Water Soluble Organic Carbon (WSOC) measurement at Baengnyeong Island during KORUS-AQ, National Institute of Environmental Research, 2016, PI
- Aircraft measurement of aerosol using High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS) during KORUS-AQ, National Institute of Environmental Research, 2016, PI
- The measurement of the potential secondary aerosol formation from emissions of a gasoline and diesel vehicles using High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS) coupled with Potential Aerosol Mass (PAM), Transportation Pollution Research Center, 2015, PI
- Aircraft measurement of aerosol using High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS), National Institute of Environmental Research, 2015, PI
- Investigation of the Physico-Chemical changes of atmospheric aerosols in humid environments, National Research Foundation of Korea (NRF), 2014 – 2016, PI.
- Chemical characterization of aerosol emissions from a gasoline and diesel vehicles using High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS), Transportation Pollution Research Center (TPRC), 2014, PI.
- Characterizing of particulate matter and precursor VOCs at Baeng-Yeong Island, Korea, with a High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS) and Proton Transfer Reaction Mass Spectrometry (PTR-MS) III, National Institute of Environmental Research (NIER), 2014, PI.

- Characterizing chemical components of aerosol on the Antarctic region using a High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS), Korea Polar Research Institute, May – Dec/2013, PI.
- Characterizing chemical components of fog in Seoul, South Korea, May – December/2013, PI
- Characterizing of particulate matter and precursor VOCs at Baeng-Yeong Island, Korea, with a High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS) and Proton Transfer Reaction Mass Spectrometry (PRT-MS) II, Korea EPA, Ma May – Dec/2013, PI.
- Characterizing of particulate matter and precursor VOCs at Baeng-Yeong Island, Korea, with a High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS) and Proton Transfer Reaction Mass Spectrometry (PRT-MS) I, Korea EPA, March – Dec/2012, PI.
- Characterizing chemical components of aerosol on the Pacific Ocean and arctic region using a High Resolution Time of Flight Aerosol Mass Spectrometer (HR-ToF-AMS), Korea Polar Research Institute, June – Aug/2012-2013, PI.
- Investigating Aerosol Source and Species at Baeng-Yeong Island, Korea, with a High Resolution Time of Flight Aerosol Mass Spectrometer, Korea EPA, April – Nov/2011, PI.
- Ambient Ammonia monitoring near the NAVAJO generating station Southern Utah/Northern Arizona, Salt River Project/Air Resource Specialist, Inc. Dec, 2009 – May, 2010, Co-PI

PEER-REVIEWED JOURNAL ARTICLES (Recent 5 years)
(h-index : 55, i10-index:86, Total citations : 6314, SCI : ~110)

2023

- Myoungki Song et al., Identifying Sources of Atmospheric Pollutants in Densely Populated Urban Areas from a Particle Toxicity Perspective: A Study Using PMF Model and Vehicle Flux Analysis, APAS
- Taehyun Park et al., Spatial and Temporal Variations of Atmospheric Ammonia across the South Korean Peninsula, AJAE
- Gyutae Park et al., Seasonal trend of roadside air pollution and secondary organic aerosol formed from an oxidation flow reactor: including 2019 Korean New Year and Korean Thanksgiving Day, AE
- Shixian Zhai et al., Coarse particulate matter air quality in East Asia: implications for fine particulate nitrate, ACP
- Myoungki Song et al., Seasonal Vehicle Emission Rate of Chemical Compounds including Ammonia and Oxidative Potential from on-Road Tunnel Measurement, AE

2022

- Seokwon Kang et al., Chemical characteristics and sources of PM_{2.5} in the urban environment of Seoul, Korea, Atmospheric Pollution Research
- Jeonghwan Kim, Beom-keun Seo, Taehyoung Lee, Jongho Kim, Saewung Kim, Gwi-Nam Bae, Gangwoong Lee, Airborne estimation of SO₂ emissions rates from a coal-fired power plant using two top-down methods: A mass balance model and Gaussian footprint approach
- Taehyun Park, Taehyoung Lee, Yongjoo Choi, Alexandra Boris, Junyoung Ahn, Beom-Keun Seo, Jeffrey L. Collett, Characterization of the chemical composition of fog and the physical and chemical changes of atmospheric aerosols from fog processing in Baengyeong Island, South Korea, Atmospheric Environment
- Sang-Keun Song, Zang-Ho Shon b, Soo-Hwan Moon, Tae-Hyoung Lee, Heon-Sook Kim, Se-Hwa Kang, Gee-Hyeong Park, Eun-Chul Yoo, Impact of international Maritime Organization 2020 sulfur content regulations on port air quality at international hub port, Journal of Cleaner Production

2021

- Kyunghoon Kim, Gyutae Park, Seokwon Kang, Rahul Singh, Jeong-In Song, Siyoung Choi, Inseon Park, Dong-Gil Yu, Myeong-Bok Kim, Min-Suk Bae, Suna Jung, Yuwoon Chang, Jonghun Park, Hae-Jin Jung, Yong-jae Lim, Taehyoung Lee, Study of Inlet materials and measurement protocol for the real-time sampling of atmospheric Ammonia, *Asian Journal of Atmospheric Environment*
- Hyun-Young Jo, Hyo-Jung Lee, Yu-Jin Jo, Gookyoung Heo, Meehye Lee, Moon-Soo Park, Taehyoung Lee, Yong-Hee Lee, Cheol-Hee Kim, A case study of heavy PM_{2.5} secondary formation by N₂O₅ nocturnal chemistry in Seoul, Korea during January 2018: model performance and error analysis, *Atmospheric Research*
- Singh Rahul, Kyunghoon Kim, Gyutae Park, Seokwon Kang, Taehyun Park, Jihee Ban, Siyoung Choi, Jeongin Song, Dong-Gil Yu, Jung-Hun Woo, Yuri Choi, Taehyoung Lee, Spatial and Seasonal Variations of Ammonia in the Urban and Rural Environments in South Korea, *Atmosphere*
- Arshad Arjunan Nair, Fangqun Yu, Pedro Campuzano-Jost, Paul J. DeMott, Kathryn A. Moore, Ezra J. T. Levin, Jeff Peischl, Ilana B. Pollack, Carley D. Fredrickson, Andreas J. Beyersdorf, Benjamin A. Nault, Minsu Park, Seong Soo Yum, Lu Xu, Ilann Bourgeois, Bruce E. Anderson, Athanasios Nenes, Luke D. Ziemba, Richard H. Moore, Sonia M. Kreidenweis, Kevin R. Barry, Darin W. Toohey, John Michael Reeves, Brett B. Palm, Jose L. Jimenez, Taehyoung Lee, Taehyun Park, Chelsea R. Thompson, Frank Flocke, Thomas B. Ryerson, Lewis Gregory Huey, Michelle J. Kim, Qiaoyun Peng, Joel A. Thornton, Machine learning uncovers aerosol size information from chemistry and meteorology to quantify potential cloud-forming particles, *Geophysical Research Letters*
- Do-Hyeon Park, Chaeyoon Cho, Hyunmin Kim, Rokjin J. Park, Bruce Anderson, Taehyoung Lee, Greg L. Huey, Paul O. Wennberg, Andrew J. Weinheimer, Seong Soo Yum, Russell Long, Sang-Woo Kim, Boundary layer versus free tropospheric new particle formation: NASA DC-8 observations in the Asian continental outflow during the KORUS-AQ campaign, *Atmospheric Research*
- Chinmoy Sarkar, Gracie Wong, Anne Mielnik, Sanjeevi Nagalingam, Nicole Jenna Gross, Alex B. Guenther, Taehyoung Lee, Taehyun Park, Jihee Ban, Seokwon Kang, Jin-Soo Park, Joonyoung Ahn, Danbi Kim, Hyunjae Kim, Jinsoo Choi, Beom-Keon Seo, Jong-Ho Kim, Jeong-Ho Kim, Soo Bog Park, Saewung Kim, Unexplored volatile organic compound emitted from petrochemical facilities: implications for ozone production and atmospheric chemistry, *Atmospheric Chemistry and Physics*
- Yongjoo Choi, Young Sung Ghim, Michal Segal Rozenhaimer, Jens Redemann, Samuel E LeBlanc, Yonghwan Lee, Taehyoung Lee, Taehyun Park, Kara D. Lamb, Joshua P. Schwarz, Temporal and Spatial Variations of Aerosol Optical Properties over the Korean peninsula during KORUS-AQ, *Atmospheric Environment*
- Gyutae Park, Kyunghoon Kim, Taehyun Park, Seokwon Kang, Jihee Ban, Siyoung Choi, DongGil Yu, Sanguk Lee, Yunsung Lim, Sunmoon Kim, Jongtae Lee, Chan-Soo Jeon, Jung-Hun Woo, and Taehyoung Lee, Primary and Secondary Aerosols of Small Passenger Vehicle Emissions Evaluation of Engine Technology, Driving Conditions, and Regulatory Standards, *Environmental pollution*
- James Crawford, Joon-Young Ahn, Jassim Al-Saadi, Limseok Chang, Louisa K. Emmons, Jhoon Kim, Gangwoong Lee, Jeong-Hoo Park, Rokjin J. Park, Jung Hun Woo, Chang-Keun Song, Ji-Hyung Hong, You-Deog Hong, Barry L. Lefer, Meehye Lee, Taehyoung Lee, Saewung Kim, Kyung-Eun Min, Seong Soo Yum, Hye Jung Shin, Young-Woo Kim, Jin-Soo Choi, Jin-Soo Park, James J. Szykman, Russell W. Long, Carolyn E. Jordan, Isobel J. Simpson, Alan Fried, SeogYeon Cho, Yong Pyo Kim, The Korea-United States Air Quality (KORUS-AQ) Field Study, *Elementa: Science of the Anthropocene*

Chaehyeong Park, Myoungki Song, Gyutae Park, Kyunghoon Kim, Taehyoung Lee, Sanguk Lee, Yunsung Lim, Min-Suk Bae, Vehicle Emission Rate of Particle Size distributions based on Measurement of Tunnel Flow Coefficient, Applied Science, 2021

2020

Yongjoo Choi, Tae Siek Rhee, Jeffrey L. Collett, Taehyun Park, Seung-Myung Park, Beom-Keun Seo, Gyutae Park, Keyhong Park, Taehyoung Lee, The Chemical composition of sea fog and precipitation over the North and South Pacific Marine Boundary Layer, Atmosphere

Taehyun Park, Yongjoo Choi, Jinsoo Choi, Junyoung Ahn, Jinsoo Park, Gyutae Park, Beom-Keun Seo, Jongho Kim, Soobog Park, Taehyoung Lee, Aircraft-based aerosol composition measurements during MAPS-Seoul using HR-ToF-AMS, Aerosol and Air Quality Research

Weiwei Hu, Pedro Campuzano-Jost, Douglas A. Day, Benjamin A. Nault, Taehyun Park, Taehyoung Lee, Aki Pajunoja, Annele Virtanen, Philip Croteau, Manjula R. Canagaratna, John T. Jayne, Douglas R. Worsnop, Jose L. Jimenez, Ambient quantification and size distributions for organic aerosol (OA) in aerosol mass spectrometer (AMS) instruments with the new capture vaporizer (CV), ACS Earth and Space Chemistry

Carolyn E. Jordan et al., Investigation of Factors Controlling PM_{2.5} Variability across the South Korean peninsula during KORUS-AQ, Elementa: Science of the Anthropocene

Yu-Jin Jo, Hyo-Jung Lee, Hyun-young Jo, Jung-Hun Woo, Younha Kim, Taehyoung Lee, Gookyoung Heo, Seung-Myung Park, Donghee Jung, Jihoon Park, Cheol-Hee Kim, Changes in inorganic aerosol compositions over the Yellow Sea area from impact of Chinese emissions mitigation, Atmospheric Research 240(2020), 104948

2019

Gyutae Park, Sunmoon Kim, Jounghwa Kim, Sungwoon Jung, Ingu Kim, Kijae Sung, Taekho Chung, KyungHoon Kim, Taehyun Park, Seokwon Kang, Jihee Ban, Dong-Gil Yu, Youdeog Hoong and **Taehyoung Lee**, Chemical Characteristics of Gaseous Exhaust for Different Vehicles by Fuel Types, Applied Sciences, 2019, 9, 1573; doi:10.3390/app9081573

2018

Min-Suk Bae, Taehyoung Lee, Gyutae Park, Young-Baek Son, Ki-Hyun Kim, Seung-Shik Cho, Seungshik Park, Sea-Ho Oh, Zangho Shon, Chemical characteristics of size-resolved aerosols in coastal areas during KORUS-AQ campaign: comparison of ion neutralization model, Asia-pacific journal of atmospheric sciences, pp. 1-13, 2018

B. A. Nault, P. Campuzano-Jost D. A. Day, J. C. Schroder, B. Anderson, A. Beyersdorf, D. R. Blake, W. H. Brune, J. D. Crouse, R. C. Cohen, Y. Choi, C. Corr, J. A. de Gouw, J. Dibb, J. P. DiGangi, G. Diskin, A. Fried, L. G. Huey, M. J. Kim, C. J. Knote, K. Lamb, T. Lee, D. D. Montzka, T. Park, A. E. Perring, S. E. Pusede, P. S. Romer, E. Scheuer, J.

- Schwarz, K. L. Thornhill, P. O. Wennberg, A. J. Weinheimer, A. Wisthaler, J. H. Woo, P. J. Wooldridge, and J. L. Jimenez, Secondary Organic Aerosol Production from Local Emissions Dominates OA Budget over Seoul, South Korea, during KORUS-AQ, ACP 18, 17769-17800
- Cheol-Hee Kim, Hyo-Jung Lee, Jeong-Eon Kang, Hyun-Young Jo, Shin-Young Park, Yu-Jin Jo, Jong-Jae Lee, Geum-Hee Yang, Taehyoung Lee, Taehyun Park, Lim-Seok Chang, Rokjin Park, MAPS-Seoul 2015 (Pre Korus-AQ) Campaign: Meteorological overview and signatures of long-range transport processes over Northeast Asia, Aerosol and Air Quality Research 18, 2173-2184
- Weiwei Hu, Douglas A. Day, Pedro Campuzano-Jost, Benjamin A. Nault, Taehyun Park, Taehyoung Lee, Philip Croteau, Manjula R. Canagaratna, John T. Jayne, Douglas R. Worsnop, Jose L. Jimenez, Evaluation of the new capture vaporizer for Aerosol Mass Spectrometers : characterization of organic aerosol mass spectra, Aerosol Science and Technology, Volume 52 Issue 7, pp.725-739, 2018
- Weiwei Hu, Douglas A. Day, Pedro Campuzano-Jost, Benjamin A. Nault, Taehyun Park, Taehyoung Lee, Philip Croteau, Manjula R. Canagaratna, John T. Jayne, Douglas R. Worsnop, Jose L. Jimenez, Evaluation of the new capture vaporizer for Aerosol Mass Spectrometers (AMS): Elemental composition and source apportionment of organic aerosols (OA), ACS E&CS 2(2018), 410-421
- Edward Fortner, Timothy Onasch, Manjula Canagaratna, Leah R. Williams, Taehyoung Lee, John Jayne, Doug Worsnop, Examining the Chemical Composition of Black Carbon Particles from Biomass Burning with SP-AMS, Journal of Aerosol Science 120 (2018), 12-21
- Eunha Kang, Meehye Lee, William H. Brune, Taehyoung Lee, Taehyun Park, Joonyoung Ahn, Xiaona Shang, Photochemical aging of aerosol particles in different air masses arriving at Baengnyeong Island, Korea, Atmospheric Chemistry & Physics 18(2018), 6661-6677