Ekbordin Winijkul

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EDUCATION

- Ph.D. in Environmental Engineering, University of Illinois at Urban-Champaign, USA (2015)
- M.Eng. in Environmental Technology and Management, AIT, Thailand (2002)
- B.Eng. in Environmental Engineering, Chiang Mai University, Thailand (2000)

RESEARCH INTERESTS

- Air pollutant emission inventories of combustion sources
- Air quality monitoring and modeling
- Plastic Pollution
- System dynamic modeling of environmental system

TEACHING

- Air Pollution Modeling and Applications
- Design of Air Pollution Control Systems
- Air Pollution Engineering and Management
- Environmental System Dynamics

PROFESSIONAL EXPERIENCE

Jan 2017 - Current	*Assistant Professor*, Asian Institute of Technology (Thailand)
Jun 2016 - Dec 2016	*Emission Scientist*, Atmospheric and Environmental Research, Inc. (USA)
Jun 2013 - Jun 2015	*Assistant Environmental Engineer*, Argonne National Laboratory (USA)
Jun 2009 - Aug 2009	*Summer Scientist*, International Institute of Applied System Analysis (Austria)
Aug 2006 - May 2013	*Graduate Research Associate*, University of Illinois, Urbana-Champaign (USA)
Aug 2003 - Aug 2006	*Contractor/DIESEL Project Coordinator*, USAID/PCD (Thailand)
Sep 2002 - Aug 2003	*Research Assistant*, Asian Institute of Technology (Thailand)

PUBLICATIONS

- Yu, Y., Ji, J., Li, K., Huang, H., Shrestha, R.P., Kim Oanh, N.T., Winijkul, E., Deng, J., 2020. Activated carbon supported MnO nanoparticles for efficient ozone decomposition at room temperature. Catalysis Today 355, 573-579. [IF = 4.88]
- Yamsrual, S., Sasaki, N., Tsusaka, T., Winijkul, E. 2019. Assessment of Local Perception on Eco-industrial Estate Performances after 17 years of Implementation in Thailand. Environmental Development 32, 100457. [IF = 2.50]
- Liu, B., Zhan, Y., Xie, R., Huang, H., Li, K., Zeng, Y., Shrestha, R.P., Kim Oanh, N.T., Winijkul, E., 2019. Efficient photocatalytic oxidation of gaseous toluene in a bubbling reactor of water. Chemosphere 233, 754-761. [IF = 5.10]
- Alvarado, M.J., Winijkul, E., Adam-Selin, R., Hunt, E., Brodowski, C., Lonsdale, C.R., Shindell, D.T., Faluvegi, G., Kleiman, G., Mosier, T.M., 2018. Sources of black carbon deposition to the Himalayan glaciers in current and future climates. Journal of Geophysical Research 123, 7482-7505. [IF = 3.31]
- Winijkul, E., Bond, T.C., Fierce, L., 2016. Emission from residential combustion considering end-uses and spatial constraints: Part I: methods and spatial distribution. Atmospheric Environment 125, 126-139. [IF = 4.01]
- Winijkul, E., Bond, T.C., 2016. Emission from residential combustion considering end-uses and spatial constraints: Part II: emission reduction scenarios. Atmospheric Environment 124, 1-11. [IF = 4.01]
- Winijkul, E., Yan, F., Lu, Z., Streets, D. G., Bond, T. C., Zhao, Y., 2015. Size-resolved global emission inventory of primary particulate matter (PM) from combustion sources. Atmospheric Environment 107, 137-147. [IF = 4.01]
- Lu, Z., Streets, D. G., Winijkul, E., Yan, F., Chen, Y., Bond, T.C., Feng, Y., Dubey, M.K., Liu, S., Pinto, J.P., Carmichael, G.R., 2015. Light Absorption Properties and Radiative Effects of Primary Organic Aerosol Emissions. Environmental Science & Technology 49, 4868-4877. [IF = 7.14]
- Yan, F., Winijkul, E., Bond, T.C., Streets, D.G., 2014. Global emission projections of particulate matter (PM): II. Uncertainty analysis of on-road vehicle exhaust emissions. Atmospheric Environment 87, 189-199. [IF = 4.01]
- Yan, F., Winijkul, E., Streets, D.G., Lu, Z., Bond, T.C., Zhang, Y., 2014. Global emission projections for the transportation sector using dynamic technology modeling, Atmospheric Chemistry and Physics 14, 5709-5733. [IF = 5.66]
- Yan, F., Winijkul, E., Jung, S., Bond, T.C., Streets, D.G., 2011. Global emission projections of particulate matter (PM): I. Exhaust emissions from on-road vehicles. Atmospheric Environment 45, 4830-4844. [IF = 4.01]

- N. T., Kim Oanh, Worrarat, T., Bond, T.C., Subramanian, R., Winijkul, E., Paw-armart, I., 2010. Compositional characterization of PM2.5 emitted from in-use diesel vehicles in Asia. Atmospheric Environment 44, 15-22. [IF = 4.01]
- Subramanian, R., Winijkul, E., Bond, T.C., Thiansathit, W., Kim Oanh N.T., Paw-armart, I., K.G. Duleep, 2009. Climate-relevant properties of diesel particulate emissions: Results from a piggyback study in Bangkok, Thailand. Environmental Science and Technology 43, 4213-4218. [IF = 7.14]
- N. T. Kim Oahn, P. Chutimon, W. Ekbordin, W. Supat, Meteorological pattern classification and application for forecasting air pollution episode potential in a mountain-valley area. Atmospheric Environment 39, 1211-1225. [IF = 4.01]

PAST AND CURRENT PROJECTS

- 2020-2022 [Co-PI]: Integrated Assessment of SDGs Using Big Earth Observation Data for Bangkok Metropolitan Region (Funding: National Research Center of Thailand)
- 2020-2021 [PI]: Study of carbon and energy balance of different sustainable crop residue management in Asia (Funding: Food and Agriculture Organization of the United Nations)
- 2020 [Co-PI]: Emission Inventory for Thailand (Funding: Thailand Pollution Control Department)
- 2019-2020 [PI]: Development of Emissions Inventory for Inland Water Transport in Bangkok, Thailand (Funding: United Nations)
- 2019 [Co-PI]: Study of primary and secondary PM2.5 sources in Bangkok and Metropolitan Region (Funding: Thailand Pollution Control Department)
- 2018-2019 [Co-PI]: Assessment of Renewable Energy Policies in Thailand (Funding: UNESCAP)
- 2018-2019 [PI]: Reduced Agrochemicals and Local Food Chain GHG Emissions through Organic Farming and Smart Factories in Thailand (Funding: UNIDO)
- 2017-2018 [Co-PI]: Assessment of Dioxin Emissions from Point Sources in Thailand (Funding: IDEA Consultants, Inc., Japan)
- 2016-2017 [Co-PI]: Climate Impacts on the Himalayas: Aerosol-Precipitation Interaction Sensitivity Analysis (Funding: The World Bank)

AWARDS AND HONORS

- IGAC Travel Grant, International Global Atmospheric Chemistry, USA: September 2017
- Ivan Racheff Travel Funds, University of Illinois, USA: Sep 2007, Jun 2010, Dec 2011
- YSSP Fellowship Grants, The U.S. National Science Foundation, USA: Mar 2009
- AWMA – WCS Student Paper Competition, San Diego, USA: Apr 2003
- The Robert B. Bank Prize, Asian Institute of Technology, Thailand: Aug 2002

SELECTED CONFERENCE PRESENTATIONS

- The International Conference on Green Technology and Design 2019. "Emissions and Mitigation Scenarios for Residential Combustion of Solid Fuels in Developing Countries" – Keynote Speaker, Bandung, Indonesia, Dec 2019.
- The SOOT-SEA Workshop. "Modeling of Black Carbon Deposition to the Himalayan Glaciers in Current and Future Climates", Hanoi, Vietnam, Oct 2019.
- The T&T International Aerosol Conference 2018. "Residential Combustion of Solid Fuels: Emissions, Mitigation Scenarios, and Lessons Learned from Developing Countries" – Keynote Speaker, Cambodia, Aug 2018.
- WRF4Thai Annual Meeting 2017. "WRF for Regional and Local Air Quality Modeling", Thailand: Sep 2017.
- The 18th GEIA Conference. "Current and Future Primary Particle Number Size Distribution Emission Inventory of On-road Vehicles in Southeast Asia", Germany: Sep 2017.
- Community Modeling and Analysis System (CMAS) 2016. "Spatial Distribution of Particulate Matter Emission from Residential Combustion in Latin America, Africa, and Asia", USA: Oct 2016.
- AGU Fall Meeting 2011. "Maximum Regional Emission Reduction Potential in Residential Sector Based on Spatial Distribution of Population and Resources", USA: Dec 2011.
- Air & Waste Management Association (AWMA)'s 103rd Annual Conference & Exhibition. "Future Diesel Emission Estimation from Agricultural Sector", Canada: Jun 2010.
- University of Illinois at Urbana-Champaign Environmental Engineering and Science Symposium. "Current and Future Diesel Emission from Transportation in Southeast Asia", Apr 2009.
- AAAR 26th Annual Conference. "In-use Diesel Vehicle Emission as a Function of Vehicle Operation and Engine Exhaust Standard in Bangkok, Thailand", Sep 2007.

RESEARCH KEYWORDS emission inventory, air pollution modeling, air quality monitoring, GHGs emission, environmental system dynamic modeling, environmental technology and management