

IOWA STATE UNIVERSITY

Agricultural and Biosystems Engineering

Jacek A. Koziel,

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Laboratory website: [Olfactometry](#) & [Air Quality Laboratories](#)
Courtesy appointments in CCEE, FSHN, Toxicology & Environmental Science Graduate Programs

Education

Ph.D. Civil Engineering, 1998, U. of Texas at Austin
M.S. Environmental Qual. Engineering, 1993, U of Alaska
M.S. Mechanical Eng. 1989, Warsaw U. of Tech., Poland

Honors and Awards

2018 – Medal for Merit, Wroclaw U of Envir & Life Sci.
2018 – Top Reviewer in Environment/Ecology, Publons.
2018 – Top Reviewer in Chemistry, Publons.
2018 – Excellence in Review: Waste Manage, Elsevier
2018 – Fulbright U.S. Specialist. On roster 2018-2021.
2017 – Top Reviewer for Iowa State University, Publons.
2017 – Top Reviewer in Environmental Science, Publons.
2016 - Excellence in Review, Frontiers of Envir. Sci& Eng.
2016 - Sentinel of Science Award Publons.
2016 - ASABE Superior Paper Award.
2015 - 2016, Fulbright U.S. Scholar.
2015 - Distinguished Fellow, Kosciuszko Foundation.

Selected Recent Journal Publications

Arena et al. 2018. Thank you: A journal is as good as its reviewers. *Waste Management*, 77(7): iii-vi

Koziel et al. 2018. Lab-scale evaluation of aerated burial concept for treatment and emergency disposal of infectious animal carcasses. *Waste Manage*, 76, 715-726

Maurer et al. 2018. Improving environmental odor measurements: comparison of lab-based standard method and portable odour measurement technology. *Archives of Environmental Protection*, 44(2), 100-107

Rice et al. 2018. Determination of selected aromas in Marquette and Frontenac wine using headspace-SPME coupled with GC - MS and simultaneous olfactometry. *Separations*, 5(1), 20

Maurer et al. 2018. Detection of volatile compounds emitted from nasal secretions and serum: Towards non-invasive identification of diseased cattle biomarkers. *Separations*, 5(1), 18

Maurer et al. 2017. Farm-scale testing of soybean peroxidase and calcium peroxide for surficial swine manure treatment and mitigation of odorous VOCs, NH₃, H₂S emissions. *Atmospheric Environment*, 166, 467-478

Zhu et al. 2017. Mitigation of livestock odors using a black light and a new titanium dioxide-based catalyst: proof-of-concept. *Atmosphere*, 8(6), 103

Link to Koziel's Publications

[Web of Science](#); [Google Scholar](#); [Digital Repository](#)

Link to Koziel's Research Projects

[ORCID](#) - <http://orcid.org/0000-0002-2387-0354>

Link to Koziel's Service to Profession:

[Publons](#) - <https://publons.com/a/587001/>

Teaching

Dr. Koziel teaches Technology Capstone Project for Seniors and Graduate Seminar. He also organizes Study Abroad trips to Poland focused on livestock production systems, environment, technology and sustainability. He is mentoring undergraduate students in Honors and George Washington Carver programs.

Research

Air quality measurements and mitigation

Air Quality Laboratory specializes in quantifying and mitigating emissions of ammonia (NH₃), hydrogen sulfide (H₂S), particulate matter (PM-10, PM-2.5), volatile organic compounds (VOCs), odor, and greenhouse gases from livestock operations using standard and new analytical methods.

Odor mitigation

Dr. Koziel is currently working on developing and testing mitigation technologies for odor and gaseous emissions control, e.g., manure additives and advanced oxidation. Simultaneous chemical and sensory analyses are used for identification and prioritization of malodors using solid phase microextraction (SPME)—multidimensional gas chromatography—mass spectrometry—olfactometry (MDGC-MS-O).

Environmental and Food Analysis, Animal Health

Expertise in environmental analysis, sampling, monitoring of complex chemical reactions, processes, emissions related to waste treatment, animal mortality composting, plant-insect interactions, volatile biomarkers of animal health, in vivo and non-invasive chemical sampling, wine aroma, biomarkers of aflatoxins, and kairomones.

