

Short Resume
KOZO SAITO
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Office Address

Dept. of Mechanical Engineering, University of Kentucky, Lexington, KY 40506-0503
Tel: (859) 218-0639; E-mail: ksaito@uky.edu

Education

B.S. (1975), and Dr. Engg. (1980) Mechanical Engineering, Seikei University, Tokyo, Japan
(Doctoral thesis advisor: R.I. Emori)

Professional Positions Held

University of Kentucky
Professor (1993 – present); Tennessee Valley Authority Professor in Mechanical Engineering
(2001 – 2020); Associate Professor (1986 - 1993)
Princeton University
Member of Professional Research Staff (1984 - 1986); Research Associate (1981 – 1984)
University of California, San Diego
Postgraduate Assistant Engineer (1980 - 1981) (Advisors: F.A. Williams and A.S.
Gordon)

Special Assignments

National Institute of Standards and Technology (1984-85)
Inter-governmental Personnel Act Assignment
Factory Mutual Research Corp. (summer of 1987 and 88)
Summer Scientist
University of Tokyo
Visiting Professor (spring of 1993 and 95)
Seikei University in Japan
Visiting Research Fellow (spring of 1993, 95 and 97)
USDA Forest Service, Missoula Montana (summer of 1994)
Research collaborator on running crown fires and fire brands

Synergistic Activities

Liaison (1993 – present), Univ. of Kentucky – Toyota on TPS and research
National Research Council Committee (1997-2000) on Demilitarization of Assembled
Chemical Weapons
International Scale Modeling Committee Chair (1997- present)
Co-Founder (2000), University of Kentucky's Annual Painting Technology Workshop
Publication Committee for the International Symposia (25th, 26th and 27th) on
Combustion
Founding Director (2007 – 2021), Institute of Research for Technology Development
(IR4TD) at the University of Kentucky
International Scientific Committee (2010-present), Institute of Fluid Science/Tohoku
University Japan
Editor-in-Chief (2020-present), Progress in Scale Modeling, an International Journal

Graduate Student and Postdoctoral Advisees

32 doctoral students (31 completed); 37 MS students (36 completed); 46 postdoctoral and visiting
scholars (all completed)

Patents (out of a total of 12)

1. A.J. Salazar, K. Saito, R.P. Alloo, and N. Tanaka, "Wet scrubber and paint spray booth including the wet scrubber," Patent No.: US 6,024,796, February 15, 2000.
2. A.J. Salazar, K. Saito, R.P. Alloo, and N. Tanaka, "Wet scrubber and paint spray booth including the wet scrubber," Patent No.: US 6,093,250, July 25, 2000.

Recent Publications

3. M.A. Finney, J.D. Cohen, J.M. Forthofer, S.S. McAllister, M.J. Gollner, D.J. Gorham, K. Saito, N.K. Akafuah, B.A. Adam, J.D. English, "The role of buoyant flame dynamics in wildfire spread," *Proc. The National Academy of Sciences*, vol. **112** (32): 9833-9838 (2015).
4. S Poozesh, N Setiawan, NK Akafuah, K Saito, P Marsac, "Assessment of predictive models for characterizing the atomization process in a spray dryer's bi-fluid nozzle," *Chemical Engineering Science*, vol. **180**: 42-51, 2018.
5. Z Diao, M Winter, T Hirasawa, K Saito, "Characterization of the thermal structure of six clustered microflames seeded with TaN particles through emission spectroscopy," *Experimental Thermal and Fluid Science*, vol. **96**: 295-302, 2018.
6. N Gustenyov, NK Akafuah, A Salaimah, M Finney, K Saito, "Scaling nonreactive cross flow over a heated plate to simulate forest fires," *Combustion and Flame*, vol. **197**: 340-354, 2018.
7. Z Diao, M Winter, T Hirasawa, Y Kato, Y Ishino, K Saito, "Characterization of six clustered methane-air diffusion microflames through spectroscopic and tomographic analysis of CH* and C2* chemiluminescence," *Experimental Thermal and Fluid Science*, vol. **102**: 20-27, 2019.
8. Cho, Fujio and Saito, Kozo, "Fujio Cho Legacy Lecture Notes" (2020). Institute of Research for Technology Development Textbook Gallery. 1.
https://uknowledge.uky.edu/ir4td_textbooks/1
9. Cooper, William; Maginnis, M. Abbot; Parsley, David; and Saito, Kozo (2020) "The model area in successful lean transformation and scale modeling," *Progress in Scale Modeling, an International Journal*: Vol. 1, Article 8. DOI: <https://doi.org/10.13023/psmij.2020.08>
10. M. Arabghahestani, N.K. Akafuah and K. Saito, "Computational Fluid Dynamics Study on Ultrasonic Pulsation Atomizer for Water-Born Paint," *Atomization and Sprays*, vol. 31:29-52 (2021).
11. A.M. Abubaker, A. Darwish, B.B. Singh, N.K. Akafuah, and K. Saito, Multi-objective linear-regression-based optimization of a hybrid solar-gas turbine combined cycle with absorption inlet-air cooling unit, *Energy Conversion and Management*, vol. 240: 114266 (2021).
12. A. Darwish, A.M. Abubaker, A. Salaimah, N.K. Akafuah, M. Finney, J. M. Forthofer, and K. Saito, "Ignition and burning mechanisms of live spruce needles," *Fuel* 304 (2021) 121371.

Former doctoral students and postdoctoral scholars who hold faculty appointments

John Baker (Univ. of Alabama, Tuscaloosa); Heng Ban (University of Pittsburg); Ghassan Tashtoush (Jordan U of Sci. and Tech); Yuji Nakamura (Toyohashi University of Technology); Kazu Kuwana (Tokyo University of Science); Mohamed Omar (Khalifa University, Abu Dhabi, the United Arab Emirates); Numan Abu-Dheir (King Fahd University of Petroleum and Minerals, Saudi Arabia); Keng Chuah (INTI International University, Malaysia); Belal Gharaibeh (University of Jordan); Mohamed Hassan (Khalifa University, Abu Dhabi, the United Arab Emirates); Nelson Akafuah (U. of Kentucky); Tom Henninger (U. of Kentucky); Fang Liu and Li Yang (Chinese University of Mining and Technology); David Parsley (U. of Kentucky)