

Scott Q. Turn

Present **Researcher, Hawaii Natural Energy Institute, University of Hawaii at Manoa, Honolulu, Hawaii**, conducting research on biomass resources, processing of biomass materials, thermochemical conversion of biomass, gas cleaning, and evaluation of biomass energy systems.

Education

1983 – Pennsylvania State University, Bachelor of Science, Agricultural Engineering

1986 – University of Hawaii, Master of Science, Agricultural Engineering

1994 – University of California, Doctor of Philosophy, Biological and Agricultural Engineering

Appointments

7/2009 – present Researcher, Hawaii Natural Energy Institute, University of Hawaii

7/2001 – 6/2009 Associate Researcher, Hawaii Natural Energy Institute, University of Hawaii

5/1995 – 6/2001 Assistant Researcher, Hawaii Natural Energy Institute, University of Hawaii

7/1999 – 6/2000 Assistant Researcher (50% FTE), Biosystems Engineering Department, University of Hawaii

7/1997 – 12/1997 Lecturer, Biosystems Engineering Department, University of Hawaii

4/1994 - 4/1995 Research Associate, Hawaii Natural Energy Institute, University of Hawaii

Professional Associations

American Chemical Society

American Society of Agricultural and Biological Engineers

Council on Forest Engineering

Hawaii Forest Industries Association

Recent Publications

1. Mousavi, S.M.A., W. Piavis, and S. Turn. 2019. Reforming of biogas using a non-thermal, gliding-arc, plasma in reverse vortex flow and fate of hydrogen sulfide contaminants. *Fuel Processing Technology*. Submitted and under review.
2. Legarra, M., T. Morgan, S. Turn, L. Wang, O. Skreiberg, and M. Antal. 2019. Effect of processing conditions on the constant-volume carbonization of biomass. *Energy & Fuels*. 33, pp 2219-2235.
3. Morgan, T., A. Youkhana, S. Turn, R. Ogoshi, and M. Garcia-Perez. 2019. Review of biomass resources and conversion technologies for alternative jet fuel production in Hawai'i and tropical regions. *Energy & Fuels*. 33, 2699-2762.
4. Fu, J. and S. Turn. 2019. Characteristics and stability of biofuels used as drop-in replacement for NATO marine diesel. *Fuel*. 236. pp 516-524.
5. Cui, H. and S. Turn. 2018. Fuel properties and steam reactivity of solid waste from contingency bases. *Waste Management*. 78. pp 16-30.

6. Fu, J. and S. Turn. 2018. Effects of aromatic fluids on properties and stability of alternative marine diesels. *Fuel*. 216. pp 171-180.
7. Legarra, M., T. Morgan, S. Turn, L. Wang, O. Skreiberg, and M. Antal. 2018. Carbonization of biomass in constant-volume reactors. *Energy & Fuels*. 32(1), pp 475-489.
8. Morgan, T.J., L.K. Andersen, S.Q. Turn, H. Cui, and D. Li. 2017. XRF analysis of water pretreated/leached banagrass to determine the effect of temperature, time, and particle size on the removal of inorganic elements. *Energy & Fuels*. 31(8), pp 8245-8255.
9. Cui, H., S.Q. Turn, T.J. Morgan, and D. Li. 2017. Processing freshly harvested banagrass to improve fuel qualities: Effects of operating parameters. *Biomass & Bioenergy*. 105. pp. 310-319.
10. Fu, J., B.T.B Hue, and S.Q. Turn. 2017. Oxidation stability of biodiesel derived from waste catfish oil. *Fuel*. 202. pp. 455-463.
11. Crow, S., M. Reeves, S. Turn, S. Taniguchi, O. Schubert, N. Koch. 2016. Carbon balance implications of land use change from pasture to managed eucalyptus forest in Hawaii. *Carbon Management*. <http://dx.doi.org/10.1080/17583004.2016.1213140>
12. Fu, J., S.Q. Turn, B. Takushi, and C. Kawamata. 2016. Storage and oxidation stabilities of biodiesel derived from waste cooking oil. *Fuel*. 167(1) pp. 89-97.
13. Morgan, T.J., S.Q. Turn, N. Sun, and A. George. 2016. Fast pyrolysis of tropical biomass species and influence of water pretreatment on product distributions. *PLoS ONE*, <http://dx.doi.org/10.1371/journal.pone.0151368>
14. Hastly, J.K., S. Ponnurangam, S. Turn, P. Somasundaran, T. Kim, D. Mahajan. 2015. Catalytic synthesis of mixed alcohols mediated with nano-MoS₂ microemulsions. *Fuel*. 164(15) pp. 339-346.
15. Nurunnabi, M.D. and S.Q. Turn. 2015. Characterization of Ru/Q10 catalysts containing Zr or Mn and their activity for Fischer-Tropsch synthesis. *Fuel Processing Technology*. 138, pp. 490-499.
16. Piavis, W., S.Q. Turn, and S. Mousavi. 2015. Non-thermal gliding-arc plasma reforming of dodecane and hydroprocessed renewable diesel. *International Journal of Hydrogen Energy*. 40(39), pp. 13295-13305.
17. Fu, J. and S.Q. Turn. 2015. Effects of biodiesel contamination on oxidation and storage stability of neat and blended hydroprocessed renewable diesel. *Energy & Fuels*, 29(8), pp. 5176-5186.
18. Morgan, T.J., S.Q. Turn, and A. George. 2015. Fast pyrolysis behavior of banagrass as a function of temperature and volatiles residence time in a fluidized bed reactor. *PLoS ONE* 10(8): e0136511. doi:10.1371/journal.pone.0136511
19. Cui, H., S.Q. Turn, T. Tran, and D. Rogers. 2015. Mechanical dewatering and water leaching pretreatment of fresh banagrass, guinea grass, energy cane, and sugar cane: Characterization of fuel properties and byproduct streams. *Fuel Processing Technology*. 139, pp. 159-172.

20. Nurunnabi, M.D. and S.Q. Turn. 2015. Pore size effects on Ru/SiO₂ catalysts with Mn and Zr promoters for Fischer-Tropsch synthesis. *Fuel Processing Technology*. 130, pp. 155-164.
21. Fu, J. and S.Q. Turn. 2014. Characteristics and stability of neat and blended hydroprocessed renewable diesel. *Energy & Fuels*. 28, pp. 3899-3907.
22. Bennett, M.C., S.Q. Turn, and W.Y Chan. 2014. A methodology to assess open pond, phototrophic algae production potential: A Hawaii case study. *Biomass & Bioenergy*. 66, pp 168-175.
23. Turn, S.Q., L. Smith, N. Koch, and S. Taniguchi. 2014. Energy analysis of *Eucalyptus grandis* production in Hawaii. *Journal of Sustainable and Renewable Energy*. 6, pp 043104-1 to 13. doi: 10.1063/1.4885119