TAREK ABICHOU

TITLE: Professor and Fulbright Scholar of Civil and Environmental Engineering

ADDRESS: Dept. of Civil & Environmental Engineering
FAMU-FSU College of Engineering
2525 Pottsdamer Street B-314
Tallahassee, Florida 32310
Phone: (850)410-6661; Fax: (850)410-6142
E-mail address: abichou@eng.famu.fsu.edu

REGISTRATIONS: Professional Civil Engineer: Florida USA.

EDUCATION:

1999 Ph.D. University Of Wisconsin, Madison. Major: Civil Engineering.
1993 M.S. University of Wisconsin, Madison. Major: Civil and Environmental Eng.
1989 B.S. University of Wisconsin, Madison. Major: Civil and Environmental Eng.
1999 - 2000 University of Wisconsin, Post-Doctorate Research Associate.

CHRONOLOGICAL AWARDS AND RECOGNITIONS:

Programme de Cooperation Avec Les Chercheurs Tunisiens Resident a L'Etranger, Government of Tunisia (2011).
Faculty Advisor of the Year Award, Florida State University (2009).
Fulbright Scholar Award, Department of State (2008).
Exceptional Research Productivity Award, Florida State University College of Engineering (2007).
Science To Achieve Results (STAR) Award, US EPA (2003).
Severson Geotechnical Award, University of Wisconsin (1999).
Undergraduate Student Award, USAID (1984).

Visiting Professorship(s)

2019–2022 University of Sherbrooke Canada.
2011–2012 University of Gabes, Tunisia College of Engineering. 2007–
2008 University of Gabes, Tunisia College of Engineering (Fulbright).

EMPLOYMENT RECORD

2014–present Full Professor, Civil and Environmental Engineering, Florida State University.
2006–2014 Associate Professor, Civil and Environmental Engineering, Florida State University College of Engineering.
2000–2006 Assistant Professor, Florida State University College of Engineering.
1996–1999 Research Assistant, University of Wisconsin, Madison, WI, USA
1994–1996 Geoenvironmental Engineer, Andrews Environmental Engineering. Pontian Il, USA
1990–1991 Resident Project Engineer, Extension of Airport Djerba-Zarzis, Tunisia.
1989–1990 Resident Engineer/Geotechnical Engineer Marathon Oil Project, Tunisia.

CONSULTING EXPERIENCE

Provide expert consulting services for federal and state agencies along with private consulting firms in the US and abroad. I have been involved in academic research investigating alternative ways to design, monitor, and construct solid waste facilities for more than 20 years.

Compared methodologies for emission estimation of fugitive methane from Landfills using Surface Scanning, Drones, and Down Wind Plume Cavity Ring Analyzer
H2S surface concentration monitoring and H2S flux emission rate measurements at a solid waste landfill in the Northwest
H2S attenuation in landfill cover soils: field study (research project consisting of constructing and testing H2S transport through 3 test pads for 2 years)
Field measurement of collection efficiency of Landfill gas collection systems
Assessed of effects of disposal of Reverse Osmosis waste in landfills on methane gas generation potential
Developed a modeling approach to inventory greenhouse gas emissions from landfills
Worked with WMI on using Tunable Diode Laser technique to characterize methane emissions from landfills

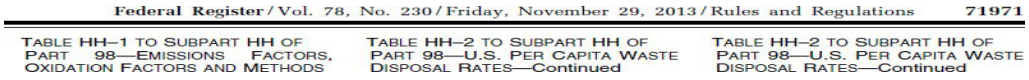
Worked with WMI on using Tracer methods to characterize methane emissions from landfills
Used static chamber technique and stable isotopes to characterize methane oxidation in landfill covers
Designed alternative landfill covers capable of reducing methane emissions from landfills
Field installation of soil/weather stations at several Waste Management, Inc. landfills
Geotechnical analysis of settlement, and slope stability of several landfills
General civil engineering expertise (when needed)
Lead instructor for WMI personnel on Best Management Practices in landfill operations
Golder's Associate, USA
Developed a workshop and instructed staff engineers on landfill gas collection and utilization system design, and installation
Assessed field performance of gas collection systems
Assessed field methane oxidation in landfill covers
US Environmental Protection Agency (EPA), USA
Expertise on construction of Evapo-transpiration covers
Developed and participated in alternative landfill cover workshops offered in several cities in the US Developed a landfill strategy for the island of Puerto Rico
Investigated potential use of storm debris in landfill cover applications

SHORT COURSE AND WORSHOPS

1. Reducing Fugitive Methane Emissions from Solid Waste Landfills, "WSP technically waste calls", February 2023.
2. COVID Lessons Learned: Challenges and Strategies." Panel discussion, 2021 WASTECON, Solid Waste Association of North America, Silver Spring, MD, November 1-4, 2021.
3. Workshop on COVID and Hurricanes (November 9, 2020): NSF Research Coordination Network (RCN). The workshop activities included presentations of disaster research from multiple different perspectives and had a strong focus on exchanging ideas and brainstorming about immediate needs and challenges of our communities.
4. The Impact of the Coronavirus Pandemic on Municipal Solid Waste Management System, Co-Organizer, Virtual Workshop supported by the U.S. National Science Foundation (#CBET 2030254), Tallahassee, FL, August 17, 2021.
5. Workshop on Broadband and Communications (March 2, 2021): NSF Research Coordination Network (RCN). The workshops brought community organizations and industrial partners together to identify issues, needs and challenges, identify data sources for research, and initiate collaborations.
6. Bridging the Resilience Divide (April 14-16, 2022): NSF Research Coordination Network (RCN). From designing and building infrastructure from a net-zero perspective to climate refugees, and from hurricane debris to broadband and communications, this workshop covered a variety of topics. The key insight underlying the vision of this workshop is the development of transformative discoveries through the co-production of solutions and deep convergence of research, data, and practice experiences across disciplines and across sectors.
7. Resiliency Stakeholder Interviews: NSF Research Coordination Network (RCN). The research team has conducted seven interviews with the following experts: the State Senator Loranne Ausley, Olivia Scriven (FEMA), Andrew Sussmann (Florida Department of Emergency Management), Mark Wool (NOAA), Whitney Gray (Florida Department of Environmental Protection), Kevin Peters (Leon County Government), and Jeff Hendry (Florida Institute of Government & North Florida Economic Development Partnership). These interviews went very well and addressed several critical challenges our communities have experienced during hurricanes such as Hurricane Michael and pandemics, including issues such as broadband and communications and mental health.
8. Engaged by EPA to lead 2 U.S. EPA workshops to remediate Puerto Rico landfills with ET covers and providing several design guidelines for the different micro-climates of the Island.
9. Developed a monthly workshop for the Florida Department of Environmental Protection on Geosynthetics in landfill design for the Bureau of Solid and Hazardous permit review staff.
10. ACAP Workshops" "Alternative Covers for Landfills and Waste Repositories: Design, Modeling, and Construction". This 1-2 day workshop is intended to teach consultants and engineers how to design and submit quality proposals for ET covers, and to teach regulators how to evaluate those proposals (several yrs several locations)
11. Sponsored a service-learning course with the Department of Mechanical Engineering to team-up with the County of Leon and design Methane Oxidizing Bio-Filters
12. Participated with a group of students in Film School to produce a documentary movie on our research activities at the Leon County Landfill.
13. Senior Design Project with FSU Art Department and the City of Tallahassee to transform a city alley into an Eco-Art Alley: Making Art with Garbage
14. NSF sponsored workshops on sustainable solid waste management, and participated in workshops on LFG management, and landfill design to regulators and practicing engineers.

EFFECTS OF RESEARCH ON STATE OF THE ARTS AND BROADER IMPACT

1. Use our research and Published our Best Management Practice entitled: Guidance Document to Reduce Greenhouse Gas Emissions and Odors from Landfills. Our BMP used by U.S. EPA in their report: Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Municipal Solid Waste Landfills, published by the office of Air and Radiation in June 2011.
2. U.S. EPA has proposed a NEW FEDERAL RULE on methane oxidation in landfill covers, as a direct outcome of the work we have been doing at FAMU-FSU College of Engineering.



Federal Register / Vol. 78, No. 230 / Friday, November 29, 2013 / Rules and Regulations 71971

TABLE HH–1 TO SUBPART HH OF PART 98—EMISSIONS FACTORS, OXIDATION FACTORS AND METHODS

TABLE HH–2 TO SUBPART HH OF PART 98—U.S. PER CAPITA WASTE DISPOSAL RATES—Continued

TABLE HH–2 TO SUBPART HH OF PART 98—U.S. PER CAPITA WASTE DISPOSAL RATES—Continued

3. The U.S. EPA engaged me to access the existing situation of landfills in Puerto Rico and develop a Guidance Document to remediate existing landfills in the Island with ET covers: US EPA Guidance Document- Design, Implementation, and Approval of Evapotranspiration Covers in Puerto Rico, Report number: EPA/600/R-21/269
4. U.S. EPA and Colorado Department Public Health and Environment published a Guidance Document on water balance cover designs at solid waste sites for the entire state of Colorado based on the findings of our Modeling study on Water Balance Covers for Colorado Ecozones. Guidelines for Design, Construction, and Development of Water Balance Covers According to the Regulations Pertaining to Solid Waste Sites and Facilities, 6 CCR 1007-2, Part 1
5. Used our extensive dataset of field measured landfill missions, and developed a numerical soil physics model that combines water and heat flow with a gas transport and oxidation algorithm to predict surface emissions and methane oxidation in landfills. The latest version of the model was bundled via a graphical user interface and was renamed as the Landfill Surface Emission Model (LandSEM). LandSEM has been used by practitioners to design biofliers and biocovers.
6. Developed a now widely used SEM2Flux tool that couples ambient air methane concentration (Surface Emissions Monitoring) with climatic and soil cover conditions to provide a comprehensive estimate of total emissions. SEM2Flux is now being used to optimize landfill gas collection and reduce GHG emissions from landfills
7. According to Google Scholar, my publications have been cited 3442 times overall and 1359 times since 2017. My H- Index on Google Scholar is 32 overall and 22 since 2017. My i10-Index is 59 overall and 42 since 2017. These metrics are among the highest amongst my US peer group. For instance, when compared to Full Professors in Harvard, Stanford, the University of California (Berkley), Massachusetts Institute of Technology (MIT), and the California Institute of Technology, 80-95% percentile for Full Professors in Geo-mechanics employed in Civil Engineering Departments.

BRINGING RESEARCH TO THE WORLD

1. Bringing Simple Technology to the World: In 2008, I received a Fulbright Research Award to assess the feasibility of using water balance landfill covers reduce groundwater contamination in Tunisia, Algeria and Morocco and to mitigate landfill emission. In 2011, the Tunisian Government awarded the "Programme de Cooperation Avec Les ChercheursTunisiens Resident a L'Etranger," award to continue what I started during my Fulbright, where I have investigated the beneficial use of waste in civil engineering applications, investigated the effects of septic tanks on coastal areas, studied the effects of seawater intrusion on groundwater, and developed BMPs for irrigating palm tree oases.
2. I have made overtures to the local community of people who live in the neighborhood surrounding the landfill and have added a local environmental activist to our advisory group. Our projects received coverage in the local newspaper and local nightly news. I explained in the newspaper story how our work can reduce the impact of greenhouse gases on the atmosphere. I also have visited the Leon County science advisory board and informed them of our project. Presentations have been given to the Florida Center for solid and hazardous waste advisory board, the Florida Fish and Game Agency, and the Florida DEP.

PROFESSIONAL AFFILIATIONS

American Society for Testing and Materials (ASTM)
American Society of Civil Engineers (ASCE)
Arab Healthy Water Association
Geo-Institute
International Solid Waste Association
Solid Waste Association of North America (SWANA)

RESEARCH GRANTS AND CONTRACTS

1. *Abichou, Tarek (PI). (Sep 2022–Jun 2023). Measuring Methane Emissions from Casella Juniper Ridge Landfill. Funded by NEWSME Landfill Operations LLC. (NONE). Total award $25,008.*
2. *Abichou, Tarek (PI), & Bolyard, Stephanie C (Co-PI). (Aug 2022–Dec 2023). Investigating Possible Functional Stability and Completion of Post-Closure Care for Florida Slurry Wall Landfills (Year 2). Funded by University of Florida. (SUB00003438). Total award $43,145.*
3. *Abichou, Tarek (PI), & Bolyard, Stephanie C (Co-PI). (Aug 2022–Jul 2024). Using Ambient Methane Concentrations to Estimate Total Landfill Emissions. Funded by University of Florida. (SUB00003487). Total award $49,619.*
4. *Abichou, Tarek (PI). (Jul 2022–May 2023). Using Ambient Methane Concentrations Measured via Drone to Estimate Fugitive Total Landfill Methane Emissions. Funded by Sniffer Robotics, LLC. (PO 22-1030). Total award $10,395.*
5. *Abichou, Tarek (PI). (Apr 2022–May 2024). Landfill Emissions Measurement and Estimation Program. Funded by Environmental Research and Education Foundation.. Total award $142,040.*
6. *Abichou, Tarek (PI), & Bolyard, Stephanie C (Co-PI). (Oct 2021–Sep 2022). Investigating Possible Functional Stability and Completion of Post-Closure Care for Florida Slurry Wall Landfills. Funded by University of Florida. (SUB00002799). Total award $42,052.*
7. *Locke, Bruce R (Co-PI), Abichou, Tarek (Co-PI), Chen, Huan (Co-PI), & Tang, Youneng (PI). (Feb 2021–Jan 2022). Non-Thermal Plasma Degradation of Per- and Polyfluoroalkyl Substances from Landfill Leachate. Funded by University of Florida. (SUB00002488). Total award $47,204.*
8. *Abichou, Tarek (PI). (Dec 2020–Feb 2022). Equivalency of Double Liner System for Florida Coal Ash Landfills. Funded by University of Florida. (SUB00002501). Total award $45,000.*
9. *Abichou, Tarek (Co-PI), & Choi, Juyeong (PI). (May 2020–Apr 2022). RAPID: The Impact of the Coronavirus (COVID-19) Pandemic on Municipal Solid Waste Management Systems. Funded by National Science Foundation. (2030254). Total award $176,129.*
10. *Abichou, Tarek (PI), & Tang, Youneng (Co-PI). (Sep 2019–Dec 2020). Effects of Hydration of GCLS with Groundwater on their Hydraulic Performance. Funded by University of Florida. (SUB00001956). Total award $49,632.*
11. *Abichou, Tarek (Co-PI), & Tang, Youneng (PI). (Sep 2018–Dec 2019). Using Nitrate Produced From Leachate To Control Landfill Odors. Funded by University of Florida. (UFDSP00012226). Total award $43,143.*
12. *Abichou, Tarek (PI), & Tang, Youneng (Co-PI). (Nov 2017–Jan 2019). Effects of Florida Leachates on Geosynthetic Clay Liners (GCLs). Funded by University of Florida. (UFDSP00011954). Total award $36,372.*
13. *Abichou, Tarek (PI), & Tang, Youneng (Co-PI). (Oct 2017–May 2020). Effects of Aggressive Leachates on Modified Geosynthetic Clay Liners (GCLs). Funded by Environmental Research and Education Foundation. Total award $150,001.*
14. *Abichou, Tarek (PI). (Sep 2015–Dec 2016). Long Term Properties Of Geosynthetics, Clayey Soils, And Gravel From 10-Years-Old Landfill Covers. Funded by University of Florida. (UFDSP00010926). Total award $35,228.*
15. *Chanton, Jeff (Co-PI), & Abichou, Tarek (PI). (Aug 2015–May 2017). Methane Oxidation: Field-Scale Test Sections Experiment. Funded by Environmental Research and Education Foundation. Total award $70,000.*
16. *Abichou, Tarek (PI). (Sep 2014–Aug 2015). New Technique to Quantify CH4 Oxidation and Encourage Field Implementation of Biocovers. Funded by University of Florida. (UFOER00010288). Total award $34,000.*
17. *Abichou, Tarek (PI), & Watts, Michael James (Co-PI). (Sep 2013–Dec 2014). Leachate Collection System Clogging in Florida: A Reality Check. Funded by University of Florida. (UF-EIES-1332024-FSU). Total award $34,103.*
18. *Abichou, Tarek (PI). (Jun 2012–Dec 2014). Development Of Techniques To Quantify H2S Oxidation In Landfill Cover Soils. Funded by Waste Management, Inc. Total award $115,352.*
19. *Chanton, Jeff (PI), & Abichou, Tarek (Co-PI). (Jan 2010–Mar 2011). Constraining The Effects Of Secondary Porosity On CH4 Ox. Funded by Environmental Research and Education Foundation. Total award $100,000.*
20. *Chanton, J., & Abichou, T. (Feb 2009–Jan 2010). Measurement and modeling at WMI landfills Across the USA. Funded by Waste Management, Inc. Total award $90,000.*
21. *Chanton, Jeff (Co-PI), & Abichou, Tarek (PI). (Sep 2007–Feb 2009). Developing a Best Management Practices (BMPs) Manual for*

Reducing Greenhouse Gas Emission, Odors, and Non-methane Hydrocarbons from Landfills. Funded by University of Florida. (UF-EIES-0732025-FSU). Total award $30,000.

22. *Chanton, J., & Abichou, T. (Feb 2007–Dec 2007). Modeling and Isotopic Measurements of landfill methane emission. Funded by Waste Management, Inc. Total award $110,000.*
23. *Tawfiq, Kamal Sulaiman (Co-PI), & Abichou, Tarek (PI). (Nov 2006–Sep 2008). Development of an Informational and Technical Database on Beneficial Reuse of Recyclable By-Products. Funded by Leon County. (None). Total award $63,044.*
24. *Chanton, Jeff (Co-PI), & Abichou, Tarek (PI). (Oct 2006–Jan 2007). Modeling of Gas Transport and Oxidation at Diifferent Landfills and Climates. Funded by Waste Management, Inc. Total award $28,933.*
25. *Abichou, T. (Sep 2006–Aug 2007). Long Term Performance and Large Scale Implementation of Bio-Oxidation of Landfill Gases to Mitigate Green House Gases and Reduce Odors. Funded by Florida Solid and Hazardous Waste Management Center. (17138). Total award $55,000.*
26. *Mtenga, P., & Abichou, T. (Aug 2006–Jul 2007). Acquisition of Echo Therm System for Non-Destructive Evaluation. Funded by NSF. Total award $183,000.*
27. *Chanton, Jeff (Co-PI), Abichou, Tarek (Co-PI), & Chen, Gang (PI). (Aug 2006–Jul 2007). Impact of Landfill Leachate On Iron Release From Northwest Florida Iron Rich Soil. Funded by University of Florida. (UF-EIES-0632020-FSU). Total award $35,000.*
28. *Chanton, J., & Abichou, T. (May 2006–Aug 2006). Ground-truth for Laser flux measurements. Funded by Waste Management, Inc. Total award $87,000.*
29. *Chanton, Jeff (PI), & Abichou, Tarek (Co-PI). (Mar 2006–Sep 2006). Methane Emissions at Springhill and Outer Loop Landfill. Funded by Waste Management, Inc. Total award $86,999.*
30. *Tawfiq, Kamal Sulaiman (Co-PI), Chanton, Jeff (Co-PI), & Abichou, Tarek (PI). (Oct 2005–Sep 2007). Beneficial Reuse of Waste Materials (Tire Chips, Glass Cullet, M1 Tire Steel and Yard Waste) to Control Odors and Methane Release from Landfills. Funded by Leon County. Total award $165,001.*
31. *Chanton, Jeff (Co-PI), & Abichou, Tarek (PI). (Sep 2005–Dec 2006). Long Term Performance and Large Scale Implementation of Bio-Oxidation of Landfill Gases to Mitigate Green House Gases and Reduce Odors. Funded by University of Florida. (UF-EIES-0532017-FSU). Total award $50,124.*
32. *Chanton, J., & Abichou, T. (Oct 2004–Sep 2007). Inexpensive Biocover and Biofilter Approaches for Effective Reduction of Methane Emissions from Landfills. Funded by NSF. Total award $389,000.*
33. *Abichou, T. (Sep 2004–Dec 2005). Inexpensive Approaches for Reducing Methane and Hydrocarbon Emissions from Landfills. Funded by Florida Solid and Hazardous Waste Management Center. (215000-540-014568). Total award $50,000.*
34. *Chanton, Jeff (Co-PI), & Abichou, Tarek (PI). (Sep 2004–Jan 2006). Bio-Reactive Covers Systems: Inexpensive Approaches for Mitigating Methane Emission from Landfills. Funded by University of Florida. (UF-EIES-0432028-FSU). Total award $50,000.*
35. *Chanton, Jeff (PI), & Abichou, Tarek (Co-PI). (Sep 2003–Sep 2007). Inexpensive Approaches for Eliminating Methane Emi. Funded by National Science Foundation. (BES-0332070). Total award $389,454.*
36. *Chanton, Jeff (PI), & Abichou, Tarek (Co-PI). (Sep 2003–Sep 2007). REU Supplement: Inexpensive Biocover and Biofilter. Funded by National Science Foundation. (BES-0332070). Total award $22,200.*
37. *Abichou, T. (Aug 2003–Dec 2004). Inexpensive Approaches for Reducing Methane and Hydrocarbon Emissions from Landfills. Funded by Florida Solid and Hazardous Waste Management Center. (6120-600-41). Total award $65,000.*
38. *Chanton, Jeff (Co-PI), & Abichou, Tarek (PI). (Aug 2003–Jul 2004). Bio-Reactive Covers Systems: Inexpensive Approach. Funded by University of Florida. (UF-EIES-0332004-FSU). Total award $65,000.*
39. *Abichou, Tarek (PI), & Abichou, Tarek (PI). (May 2003–Dec 2025). ABIC- PI RESEARCH SUPPORT. Funded by FSU. Total award $8,215.*
40. *Abichou, T. (Apr 2003–Mar 2008). Field Assessment of ET Caps. Funded by US EPA. Total award $395,000.*
41. *Abichou, T. (Oct 2002–Sep 2004). Lysimeter Design for Assessment of Alternative Earthen Covers. Funded by Florida Solid and Hazardous Waste Management Center. (6120-588-41). Total award $34,014.*
42. *Abichou, T. (Sep 2002–Sep 2003). Bio-Reactive Landfill Covers. Funded by Florida Solid and Hazardous Waste Management Center. (6120-587-41). Total award $43,000.*
43. *Leszczynska, Danuta (Co-PI), & Abichou, Tarek (PI). (Sep 2002–Dec 2003). Bio-Reactive Landfill Cover Systems. Funded by University of Florida. (UF-EIES-0232006-FSU). Total award $43,160.*

44. *Tawfiq, Kamal Sulaiman (Co-PI), & Abichou, Tarek (PI). (Sep 2002–Dec 2003). Design of Cost Effective Lysimeters for Alternativ. Funded by University of Florida. (UF-EIES-0232007-FSU). Total award $34,210.*

45. *Abichou, T. (May 2002–Aug 2002). First Year Assistant Professor Grant. Funded by FSU. Total award $10,000.*

REFEREED AND ARCHIVAL JOURNAL PUBLICATIONS:

1. Eeso, K., Gallan, R., Goukeh, M. N., Tate, K., Raja, R. K. B., Popovic, Z., Abichou, T., Chen, H., Locke, B. R., & Tang, Y. (2023). Degradation of per-and polyfluoroalkyl substances in landfill leachate by a thin-water-film nonthermal plasma reactor. Waste Management, 161, 104-115.
2. Abichou, T., Del'Angel, J. M., Koloushani, M., Stamatiou, K., Belhadj Ali, N., & Green, R. (2023). Estimation of total landfill surface methane emissions using geospatial approach combined with measured surface ambient air methane concentrations. Journal of the Air & Waste Management Association, 73(12), 902-913.
3. Goukeh, M. N., Abichou, T., & Tang, Y. (2023). Measurement of fluorotelomer alcohols based on solid phase microextraction followed by gas chromatography-mass spectrometry and its application in solid waste study. Chemosphere, 345, 140460.
4. Abichou, T., Bel Hadj Ali, Nizar, Amankwah, S., Green, R., & Howarth, E. S. (2023). Using Ground-and Drone-Based Surface Emission Monitoring (SEM) Data to Locate and Infer Landfill Methane Emissions. Methane, 2(4), 440-451.
5. Kormi, T., Higgs, B., Abichou, T., Schubert, A., Zhang, Z., & Tang, Y. (submitted). Long Term Performance of a Geosynthetic Clay Liner Exhumed from a Florida Landfill Cover after 10 Years of Service. *Waste Management*. Manuscript submitted for publication, 30 pages.
6. Akinbi, G. O., Ngatia, L.W., Grace III, J. M., Fu, R., Tan, C., Olaborode, S. O., Abichou, T., & Taylor, R. W. (submitted). Influence of vegetation types on carbon composition, thermal stability and greenhouse gases production along the litter- fermentation layer-sediment continuum in apalachicola national forest wetlands. *Organic Geochemistry*. Manuscript submitted for publication, 30 pages.
7. Karaer, A., Ulak, B., Abichou, T., Arghandeh, R., & Ozguven, E. (in press). Leveraging Remote Sensing Indices for Hurricane-induced Vegetative Debris Assessment: A GIS-based Case Study for Hurricane Michael. *Transportation Research Board 100th Annual MeetingTransportation Research Board*.
8. Silva, M., Roa, C., Bel Hadj Ali, Nizar, Abichou, T., & O'Reilly, C. (2022). Fate of Methane Released From a Destroyed Oil Platform in the Gulf of Mexico. *Front. Earth Sci*, *15*. Retrieved from https://doi.org/10.3389/feart.2022.833661
9. Wireko, C., Abichou, T., Tian, K., Zainab, B., & Zhang, Z. (2022). Effect of incineration ash leachates on the hydraulic conductivity of bentonite-polymer composite geosynthetic clay liners. *Waste Management*, *139*, 25-38.
10. Karaer, A., Chen, M., Gazzea, M., Ghorbanzadeh, M., Abichou, T., Arghandeh, R., & Ozguven, E. E. (2022). Remote sensing-based comparative damage assessment of historical storms and hurricanes in Northwestern Florida. *International Journal of Disaster Risk Reduction*, *72*, 102857.
11. Gazzea, M., Karaer, A., Ghorbanzadeh, M., Balafkan, N., Abichou, T., Ozguven, E. E., & Arghandeh, R. (2021). Automated Satellite-based Assessment of Hurricane Impacts on Roadways. *IEEE Transactions on Industrial Informatics*.
12. Gazzea, M., Karaer, A., Ghorbanzadeh, M., Balafkan, N., Abichou, T., Ozguven, E. E., & Arghandeh, R. (2021). Automated satellite-based assessment of hurricane impacts on roadways. *IEEE Transactions on Industrial Informatics*, *18*(3), 2110-2119.
13. Chen, M., Karaer, A., Ozguven, E. E., Abichou, T., Arghandeh, R., & Nienhius, J. (2021). Developing city-wide hurricane impact maps using real-life data on infrastructure, vegetation and weather. *Transportation research record*, *2675*(3), 393-404.
14. Issaoui, W., Aydi, A., Mahmoudi, M., Cilek, M. U., & Abichou, T. (2021). GIS-based multi-criteria evaluation for olive mill wastewater disposal site selection. *Journal of Material Cycles and Waste Management*, 1-13.
15. Zainab, B., Wireko, C., Li, D., Tian, K., & Abichou, T. (2021). Hydraulic conductivity of bentonite-polymer geosynthetic clay liners to coal combustion product leachates. *Geotextiles and Geomembranes*.
16. Wireko, C, & Abichou, T. (2021). Investigating factors influencing polymer elution and the mechanism controlling the chemical compatibility of GCLs containing linear polymers. *Geotextiles and Geomembranes*.
17. Karaer, A., Ulak, M. B., Abichou, T., Arghandeh, R., & Ozguven, E. E. (2021). Post-Hurricane Vegetative Debris Assessment Using Spectral Indices Derived from Satellite Imagery. *Transportation Research Record*, 03611981211029921.
18. Wireko, C, Binte, Z., Tian, K., & Abichou, T. (2020). Effect of specimen preparation on the swell index of bentonite-polymer GCLs. *Geotextiles & Geomembranes*, *48*(6), 875-885. Retrieved from https://doi.org/10.1016/j.geotexmem.2020.06.006 doi:10.1016/j.geotexmem.2020.06.006
19. Sanusi, F., Choi, J., Ulak, M., Ozguven, E., & Abichou, T. (2020). A Metadata-Based Analysis of Physical-Social-Civic Systems to Develop the Knowledge Base for Hurricane Shelter Planning. *Journal of Management in Engineering*, *36*(5), 20. Retrieved from https://ascelibrary.org/doi/10.1061/%28ASCE%29ME.1943-5479.0000802

20. Bel Hadj Ali, N., Abichou, T., & Green, R. (2020). Comparing Estimates of Fugitive Landfill Methane Emissions using Inverse Plume Modeling obtained with Surface Emission Monitoring (SEM), Drone Emission Monitoring (DEM), and Downwind Plume Emission Monitoring (DWPEM). *Journal of the Air & Waste Management Association*, 20. Retrieved from https://doi.org/10.1080/10962247.2020.1728423

21. Sanusi, F., Choi, J., Ulak, M. B., Ozguven, E. E., & Abichou, T. (2020). Metadata-based analysis of physical–social–civic systems to develop the knowledge base for hurricane shelter planning. *Journal of Management in Engineering*, *36*(5), 04020041.

22. Li, L., Tang, Y., Abichou, T., Higgs, B., Wireko, C., & Li, R. (2019). Characterization of Leachates from Landfills Containing MSW-I Residues. *Journal of Hazardous, Toxic, and Radioactive Waste*, *23*(4). Retrieved from https://ascelibrary.org/doi/10.1061/%28ASCE%29HZ.2153-5515.0000451

23. Sparrow, K., Chanton, J., Green, R., Scheutz, C., Hater, G., Wislon, C., & Abichou, T. (2019). Stable isotopic determination of methane oxidation: when smaller scales are better. *Environmental Science & Technology*, *97*, 82-87. Retrieved from https://doi.org/10.1016/j.wasman.2019.07.032

24. Yesiller, N., Hanson, J., Risken, J., Abichou, T., Benson, C., & Jenner, D. (2019). Hydration Fluid and Field Exposure Effects on Moisture-Suction Response of Geosynthetic Clay Liners. *ASCE Journal of Geotechnical and Geo-Environmental Engineering*, *145*(4), 35. doi:DOI: 10.1061/ (ASCE)GT.1943-5606.0002011

25. Morris, J. W., Caldwell, M. D., Obereiner, J. M., O'Donnell, S. T., Johnson, T. R., & Abichou, T. (2019). Modeling methane oxidation in landfill cover soils as indicator of functional stability with respect to gas management. *Journal of the Air & Waste Management Association*, *69*(1), 13-22.

26. Kormi, T., Mhadhebi, S., Bel Haj Ali, N, Abichou, T., & Green, R. (2018). Estimation of fugitive landfill methane emissions using surface emission monitoring and Genetic Algorithms optimization. *Waste Management*, *72*, 313–328. Retrieved from https://www.sciencedirect.com/science/article/pii/S0956053X16306833 doi:10.1016/j.wasman.2016.11.024

27. Kormi, T., Abichou, T., Kout, N., Ksibi, M., & Wang, C. (2018). Using methane biological oxidation in soil as a tool to finance closure of dumpsites across the Mediterranean Basin. *Euro-Mediterranean Journal of Environmental Integration*, *3*(6), 10. doi:10.1007/s41207-017-0044-7

28. Kormi, T., Bel Haj Ali, N., Abichou, T., & Green, R. (2017). Estimation of landfill methane emissions using stochastic search methods. *Atmospheric Pollution Research*, *8*(4), 597-605. Retrieved from https://www.sciencedirect.com/science/article/pii/S1309104216303932 doi:10.1016/j.apr.2016.12.02

29. Escobar, F., & Abichou, T. (2016). Development of Screening Parameter for the Design of Monolithic Alternative Landfill Covers in Arid and Semi-Arid Climates. *Journal of Environmental Science, Computer Science and Engineering & Technology*, *4*(1), 10-21. doi:10.12974/2311-8741.2016.04.01.2

30. Aydi, A., Abichou, T., Hamdi Nasr, I., Louati, M., & Zairi, M. (2016). Assessment of land suitability for olive mill wastewater disposal site selection by integrating fuzzy logic, AHP, and WLC in a GIS. *Journal of Environmental Monitoring and Assessment*, *188*(59), 10. Retrieved from http://link.springer.com/article/10.1007/s10661-015-5076-3 doi:10.1007/s10661-015-5076-3

31. Abichou, T., Melaouhia, H., Higgs, B., Chanton, J., & Green, R. (2016). Innovations in Measuring Field Scale Biological Methane Oxidation at Two Soil-Covered Closed Landfills. *Current Environmental Engineering*, *3*, 3. doi:10.2174/2212717803666160530143550

32. Abichou, T., Kormi, T., Wang, C., Melaouhia, H., Johnson, T., & Dwyer, S. (2015). Use of Evapotranspiration (ET) Landfill Covers to Reduce Methane Emissions from Municipal Solid Waste Landfills. *Journal of Water Resource and Protection*, *7*, 1087-1097. Retrieved from http://dx.doi.org/10.4236/jwarp.2015.713089

33. Abichou, T., Barlaz, M., Goldsmith, D., Green, R., & Hater, G. (2015). Leachate Quality Monitoring from Conventional, Retrofit, and Bio-Reactor Landfill Cells. *Journal of Hazardous, Toxic, and Radioactive Waste*, *10*, 1-10. Retrieved from http://dx.doi.org/10.1061/(ASCE)HZ.2153-5515.0000288 doi:10.1061/(ASCE)HZ.2153-5515.0000288

34. Abichou, T., Kormi, T., Wang, C., Chanton, J., Green, R., & Escobar, F. (2015). A novel approach to estimate methane oxidation in interim landfill covers across the USA. *International Journal of Environment and Waste Management*, *15*(4), 309-326. doi:10.1504/IJEWM.2015.069961

35. Aydi, A., Abichou, T., Zairi, M., & Sdiri, A. (2015). Assessment of electrical generation potential and viability of gas collection from fugitive emissions in a Tunisian landfill. *Energy Strategy Reviews*, *8*, 8 - 14. Retrieved from http://www.sciencedirect.com/science/article/pii/S2211467X15000280 doi:http://dx.doi.org/10.1016/j.esr.2015.06

36. Escobar, F., & Abichou, T. (2015). Development of Screening Parameter for the Design of Monolithic Alternative Landfill Covers in Arid and Semi-Arid Climates. *Journal of Environmental Science and Engineering Technology*, *3*(1), 1-12.

37. Abichou, T., Barlaz, M. A., Goldsmith, D., Green, R., & Hater, G. (2015). Leachate Quality Monitoring from Conventional, Retrofit,

and Bio-Reactor Landfill Cells. *Journal of Hazardous, Toxic, and Radioactive Waste*, *19*(4), 04015009.

38. Abichou, T., Kormi, T., Yuan, L., Johnson, T., & Francisco, E. (2015). Modeling the effects of vegetation on methane oxidation and emissions through soil landfill final covers across different climates. *Waste Management*, *36*, 230-240.
39. Abichou, T., Kormi, T., Yuan, L., Johnson, T., & Escobar, F. (2014). Modeling the effects of vegetation on methane oxidation and emissions through soil landfill final covers across different climates. *Waste Management*, 1-11. Retrieved from http://dx.doi.org/10.1016/j.wasman.2014.11.002 doi:10.1016/j.wasman.2014.11.002
40. Ltifi, M., Abichou, T., & Tisot, J. (2014). Effects of Soil Aging on Mechanical and Hydraulic Properties of a Silty Soil. *Geotechnical and Geological Engineering*, *32*(3), 1-8. doi:10.1007/s10706-014-9784-1
41. Farah, K., Ltifi, M., Abichou, T., & Hassis, H. (2014). Comparison of different probabilistic methods for analyzing slope stability. *International Journal of Civil Engineering*, *12*(3), 264-268.
42. Farah, K., Ltifi, M., Abichou, T., & Hassis, H. (2014). Comparison of Probabilistic Methods for Analyzing Slope Stability Problems. *International Journal of Civil Engineering*, *12*(0), 1-18. Retrieved from http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDIQFjAB&url=http%3A%2F%2Fwww.iust.ac.ir%2Fijce%2Ffiles%2Fsite1%2Fuser_files_6k93w6%2Ftabichou-A-10-1580-2-8aad840.doc&ei=zd5LU7rNPI
43. Fatehnia, M., Tawfiq, K., & Abichou, T. (2014). Comparison of the methods of hydraulic conductivity estimation from mini disk infiltrometer. *Electronic Journal Of Geotechniccal Engineering*, *9*, 1047-1063.
44. Fatehnia, M., Tawfiq, K., & Abichou, T. (2014). Comparison of the methods of hydraulic conductivity estimation from mini disk infiltrometer. *Electron. J. Geotech. Eng*, *19*, 1047-1063.
45. Askri, B., Ahmed, A., Abichou, T., & Bouhlila, R. (2014). Effects of shallow water table, salinity and frequency of irrigation water on the date palm water use. *Journal of Hydrology*, *513*, 81-90. Retrieved from http://dx.doi.org/10.1016/j.jhydrol.2014.03.030 doi:10.1016/j.jhydrol.2014.03.030
46. Ltifi, M., Abichou, T., & Tisot, J. P. (2014). Effects of soil aging on mechanical and hydraulic properties of a silty soil. *Geotechnical and Geological Engineering*, *32*(4), 1101-1108.
47. Bouzayani, F., Aydi, A., & Abichou, T. (2014). Soil contamination by heavy metals in landfills: measurements from an unlined leachate storage basin. *Environ Monit Assess*, 1-8. doi:DOI 10.1007/s10661-014-3757-y
48. Bouzayani, F., Aydi, A., & Abichou, T. (2014). Soil contamination by heavy metals in landfills: measurements from an unlined leachate storage basin. *Environmental monitoring and assessment*, *186*(8), 5033-5040.
49. Agoubi, B., Kharroub, A., Abichou, T., & Abida, H. (2013). Hydrochemical and geoelectrical investigation of Marine Jeffara Aquifer, southeastern Tunisia. *Applied Water Science*, 10. Retrieved from DOI 10.1007/s13201-013-0091-4
50. Abichou, T., Barlaz, M. A., Green, R., & Hater, G. (2013). Liquid balance monitoring inside conventional, Retrofit, and bio-reactor landfill cells. *Waste management*, *33*(10), 2006-2014.
51. Abichou, T., Barlaz, M., Green, R., & Hater, G. (2013). The Outer Loop Bioreactor: A Case Study of Settlement Monitoring and Solids Decomposition. *Waste Management*, 20. Retrieved from http://dx.doi.org/10.1016/j.wasman.2013.02.005
52. Abichou, T., Clark, J., & Chaton, J. (2012). A new approach to characterize emission contributions from area sources during optical remote sensing technique testing. *Journal of the Air & Waste Management Association*, 1403-1410. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/10962247.2012.716384 doi:DOI: 10.1080/10962247.2012.716384
53. Schnabel, W., Barnes, D., Abichou, T., Munk, J., Lee, W., & Pape, B. (2012). Assessing the Performance of a Cold Region Evapotranspiration Landfill Cover Using Lysimetry and Electrical Resistivity Tomography. *International Journal of Phytoremediation*, 61-75. doi:10.1080/15226514.2011.607870
54. Schnabel, W. E., Munk, J., Abichou, T., Barnes, D., Lee, W., & Pape, B. (2012). Assessing the performance of a cold region evapotranspiration landfill cover using lysimetry and electrical resistivity tomography. *International journal of phytoremediation*, *14*(sup1), 61-75.
55. Abichou, T., Musagasa, J., Yuan, L., Chanton, J., Tawfiq, K., Rockwood, D., & Licht, L. (2012). Field performance of alternative landfill covers vegetated with cottonwood and eucalyptus trees. *International journal of phytoremediation*, *14*(sup1), 47-60.
56. Goldsmith, C., Chanton, J., Abichou, T., Swan, N., Green, R., & Hater, G. (2012). Methane emissions from 20 landfills across the United States using vertical radial plume mapping. *Journal of the Air & Waste Management Association*, 183-197. doi:10.1080/10473289.2011.639480
57. Abichou, T., & Jeff, C. (2012). Under the Covers: Constraining methane oxidation in landfill covers: a field research and modeling approach. *Waste Age*, *September*.

58. Chanton, J., Abichou, T., Langford, C., Hater, G., Green, R., Goldsmith, D., & Swan, N. (2011). Landfill Methane Oxidation Across Climate Types in the U.S. *Environmental Science & Technology*, *45*(1), 313-319. Retrieved from http://dx.doi.org/10.1021/es101915r

59. Abichou, T., Yuan, L., Chanton, J., & Morales, J. (2011). Mitigating methane emissions from passive landfill vents: a viable option for older closed landfills. *International Journal of Environmental Engineering*, *3*(3-4), 284-297.

60. Chanton, J., Abichou, T., Langford, C., Spokas, K., Hater, G., Green, R., Goldsmith, D., & Barlaz, M. A. (2011). Observations on the methane oxidation capacity of landfill soils. *Waste Management*, *31*(5), 914-925. Retrieved from http://dx.doi.org/10.1016/j.wasman.2010.08.028

61. Abichou, T., Clark, J., & Chanton, J. (2011). Reporting central tendencies of chamber measured surface emission and oxidation. *Waste Management*, *31*(5), 1002-1008. Retrieved from http://dx.doi.org/10.1016/j.wasman.2010.09.014

62. Abichou, T., Mahieu, K., Chanton, J., Romdhane, M., & Mansouri, I. (2011). Scaling methane oxidation: From laboratory incubation experiments to landfill cover field conditions. *Waste Management*, *31*(5), 978-986. Retrieved from http://dx.doi.org/10.1016/j.wasman.2010.12.002

63. Abichou, T., Mahieu, K., Chanton, J., Romdhane, M., & Mansouri, I. (2011). Scaling methane oxidation: from laboratory incubation experiments to landfill cover field conditions. *Waste Management*, *31*(5), 978-986.

64. Bogner, J. E., Chanton, J. P., Blake, D., Abichou, T., & Powelson, D. (2010). Effectiveness of a Florida Landfill Biocover for Reduction of CH4 and NMHC Emissions. *Environmental Science & Technology*, *44*(4), 1197-1203. Retrieved from http://dx.doi.org/10.1021/es901796k

65. Xu, Q., Liu, F., Townsend, T., Abichou, T., & Chanton, J. (2010). Tire-Derived Steel for Hydrogen Sulfide Removal in Landfill Cover. *Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management*, *14:3*, 211-214. Retrieved from http://dx.doi.org/10.1061/(ASCE)0733-9372(1998)124:4(362)

66. Abichou, T., Clark, J., Tan, S., Chanton, J., Hater, G., Green, R., Goldsmith, D., Barlaz, M. A., & Swan, N. (2010). Uncertainties Associated with the Use of Optical Remote Sensing Technique to Estimate Surface Emissions in Landfill Applications. *Journal of the Air & Waste Management Association*, *60*(4), 460-470. Retrieved from http://dx.doi.org/10.3155/1047-3289.60.4.460

67. Abichou, T., Mahieu, K., Yuan, L., Chanton, J., & Hater, G. (2009). Effects of compost biocovers on gas flow and methane oxidation in a landfill cover. *Waste Management*, *29*(5), 1595-1601. Retrieved from http://dx.doi.org/10.1016/j.wasman.2008.11.007

68. Yuan, L., Abichou, T., Chanton, J., Powelson, D. K., & De Visscher, A. (2009). Long-term numerical simulation of methane transport and oxidation in compost biofilter. *Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management*, *13*(3), 196-202.

69. Chanton, J. P., Powelson, D. K., Abichou, T., Fields, D., & Green, R. (2008). Effect of Temperature and Oxidation Rate on Carbon-isotope Fractionation during Methane Oxidation by Landfill Cover Materials. *Environmental Science & Technology*, *42*(21), 7818-7823. Retrieved from http://dx.doi.org/10.1021/es801221y

70. Chanton, J. P., Powelson, D. K., Abichou, T., & Hater, G. (2008). Improved field methods to quantify methane oxidation in landfill cover materials using stable carbon isotopes. *Environmental Science & Technology*, *42*(3), 665-670. Retrieved from http://dx.doi.org/10.1021/es0710757

71. Chanton, J., Powelson, D., Abichou, T., & Hater, G. (2008). Improved field methods to quantify methane oxidation in landfill cover materials using stable carbon isotopes. *Environmental science & technology*, *42*(3), 665-670.

72. Chen, G., Abichou, T., Tawfiq, K., & Subramaniam, P. K. (2007). Impact of surface charge density on colloid deposition in unsaturated porous media. *Colloids and Surfaces A-Physicochemical and Engineering Aspects*, *302*(1-3), 342-348. Retrieved from http://dx.doi.org/10.1016/j.colsurfa.2007.02.063

73. Powelson, D. K., Charlton, J. P., & Abichou, T. (2007). Methane oxidation in biofilters measured by mass-balance and stable isotope methods. *Environmental Science & Technology*, *41*(2), 620-625. Retrieved from http://dx.doi.org/10.1021/es061656g

74. Stern, J. C., Chanton, J., Abichou, T., Powelson, D., Yuan, L., Escoriza, S., & Bogner, J. (2007). Use of a biologically active cover to reduce landfill methane emissions and enhance methane oxidation. *Waste Management*, *27*(9), 1248-1258. Retrieved from http://dx.doi.org/10.1016/j.wasman.2006.07.018

75. Abichou, T., Powelson, D., Chanton, J., Escoriaza, S., & Stern, J. (2006). Characterization of methane flux and oxidation at a solid waste landfill. *Journal of Environmental Engineering-Asce*, *132*(2), 220-228. Retrieved from http://dx.doi.org/10.1061/(ASCE)0733-9372(2006)132:2(220)

76. Abichou, T., Liu, X., & Tawfiq, K. (2006). Design considerations for lysimeters used to evaluate alternative earthen final covers. *Journal of Geotechnical and Geoenvironmental Engineering*, *132*(12), 1519-1525. Retrieved from http://dx.doi.org/10.1061/(ASCE)1090-0241(2006)132:12(1519)

77. Albright, W. H., Benson, C. H., Gee, G. W., Abichou, T., McDonald, E. V., Tyler, S. W., & Rock, S. A. (2006). Field performance of a compacted clay landfill final cover at a humid site. *Journal of Geotechnical and Geoenvironmental Engineering*, *132*(11), 1393-1403. Retrieved from http://dx.doi.org/10.1061/(ASCE)1090-0241(2006)132:11(1393)

78. Abichou, T., Chanton, J., & Powelson, D. (2006). Field Performance of Biocells, Biocovers, and Biofilters to Mitigate Greenhouse Gas Emissions from Landfills. *Final Report, Prepared for Florida Center for Solid and Hazardous Waste Management*.

79. Albright, W. H., Benson, C. H., Gee, G. W., Abichou, T., Tyler, S. W., & Rock, S. A. (2006). Field performance of three compacted clay landfill covers. *Vadose Zone Journal*, *5*(4), 1157-1171. Retrieved from http://dx.doi.org/10.2136/vzj2005.0134

80. Abichou, T., Chanton, J., Powelson, D., Fleiger, J., Escoriaza, S., Lei, Y., & Stern, J. (2006). Methane flux and oxidation at two types of intermediate landfill covers. *Waste Management*, *26*(11), 1305-1312. Retrieved from http://dx.doi.org/10.1016/j.wasman.2005.11.016

81. Powelson, D. K., Chanton, J., Abichou, T., & Morales, J. (2006). Methane oxidation in water-spreading and compost biofilters. *Waste Management & Research*, *24*(6), 528-536. Retrieved from http://dx.doi.org/10.1177/0734242X06065704

82. Abichou, T., Benson, C., & Edil, T. (2006). Reply to the discussion by Chapuis et al. on "Network model for hydraulic conductivity of sand-bentonite mixtures". *Canadian Geotechnical Journal*, *43*(1), 115-117. Retrieved from http://dx.doi.org/10.1139/T05-073

83. Abichou, T., Benson, C., & Edil, T. (2006). Reply to the discussion by Chapuis et al. on" Network model for hydraulic conductivity of sand-bentonite mixtures". *Canadian Geotechnical Journal*, *43*(1), 115-117.

84. Yuan, L., Abichou, T., & Escoriaza, S. (2005). Methane oxidation through landfill cover soils: An engineering perspective. *Soil and Crop Science Society of Florida Proceedings*, *64*, 59-65.

85. Albright, W. H., Benson, C. H., Gee, G. W., Roesler, A. C., Abichou, T., Apiwantragoon, P., Lyles, B. F., & Rock, S. A. (2004). Field water balance of landfill final covers. *Journal of environmental quality*, *33*(6), 2317-2332.

86. Benson, C. H., Jo, H. Y., & Abichou, T. (2004). Forensic analysis of excessive leakage from lagoons lined with a composite GCL. *Geosynthetics International*, *11*(3), 242-252.

87. Abichou, T., Benson, C. H., & Edil, T. B. (2004). Network model for hydraulic conductivity of sand-bentonite mixtures. *Canadian Geotechnical Journal*, *41*(4), 698-712. Retrieved from http://dx.doi.org/10.1139/T04-016

88. Abichou, T., Tawfiq, K., & Abdelrazig, Y. (2004). Using electrical conductivity to estimate properties of mineral slurries used in drilled shaft construction. *Geotechnical Testing Journal*, *27*(6), 532-539.

89. Abichou, T., Edil, T., Benson, C., & Berilgen, M. (2003). Mass Behavior of Soil-Tire Chip Backfill. *Beneficial Use of Recycled Materials in Transportation Applications*, 689-698.

90. Benson, C. H., Albright, W. H., Roesler, A. C., & Abichou, T. (2002). Evaluation of final cover performance: field data from the alternative cover assessment program (ACAP). *Proc. Waste Management*, *2*, 1-15.

91. Abichou, T., Benson, C. H., & Edil, T. B. (2002). Foundry green sands as hydraulic barriers: Field study. *Journal of Geotechnical and Geoenvironmental Engineering*, *128*(3), 206-215. Retrieved from http://dx.doi.org/10.1061/(ASCE)1090-0241(2002)128:3(206)

92. Abichou, T., Benson, C. H., & Edil, T. B. (2002). Micro-structure and hydraulic conductivity of simulated sand-bentonite mixtures. *Clays and Clay Minerals*, *50*(5), 537-545.

93. Benson, C., Abichou, T., Albright, W., Gee, G., & Roesler, A. (2001). Field evaluation of alternative earthen final covers. *International Journal of Phytoremediation*, *3*(1), 105-127.

94. Abichou, T., Benson, C. H., & Edil, T. B. (2000). Foundry green sands as hydraulic barriers: Laboratory study. *Journal of Geotechnical and Geoenvironmental Engineering*, *126*(12), 1174-1183.

95. Abichou, T. (1998). Recycled Materials in Geotechnical Engineering. *ASCE Geotechnical Special Publication*, *79*, 66.

96. Benson, C., Abichou, T., Olson, M., & Bosscher, P. (1995). Winter effects on hydraulic conductivity of compacted clay. *Journal of Geotechnical Engineering*, *121*(1), 69-79.

OTHER REFEREED PUBLICATIONS AND CONFERENCE PROCEEDINGS:

1. Abichou, T., Kormi, T., Marsh, A., & Wang, C. (2016). Phytocaps for Landfill Emission Reduction in Australia. In Anirban De, Ph.D., P.E., Krishna R. Reddy, Ph.D., P.E., D.GE, Nazli Yesiller, Ph.D., Dimitrios Zekkos, Ph.D., P.E., & Arvin Farid, Ph.D., P.E. (Eds.), Geo-Chicago 2016: Sustainable Geoenvironmental Systems (pp. 222-231). American Society of Civil Engineers. Retrieved from http://dx.doi.org/10.1061/9780784480144.022
2. Kormi, T., Bel Haj Ali, N., Abichou, T., & Green, R. (2016). Estimation of Landfill Methane Emissions Using Stochastic Search. In Anirban De, Ph.D., P.E.1, Krishna R. Reddy, Ph.D., P.E., D.GE2, Nazli Yesiller, Ph.D.3, Dimitrios Zekkos, Ph.D., P.E.4, & and Arvin Farid, Ph.D., P.E.5 (Eds.), Geo-Chicago 2016: Sustainable Geoenvironmental Systems (pp. 131-140). American Society of Civil Engineers. Retrieved from http://dx.doi.org/10.1061/9780784480144.014
3. Melaouhia, H., Higg, B., Abichou, T., & Green, R. (2016). Methane Oxidation as Measured with Gas Push Pull Testing. In Anirban De, Ph.D., P.E., Krishna R. Reddy, Ph.D., P.E., D.GE, , Nazli Yesiller, Ph.D., , Dimitrios Zekkos, Ph.D., P.E., & Arvin Farid, Ph.D., P.E. (Eds.), Geo-Chicago 2016: Sustainable Geoenvironmental Systems (pp. 177-188). American Society of Civil Engineers. Retrieved from http://dx.doi.org/10.1061/9780784480144.018
4. Abichou, T., Johnson, T., Mahieu, K., Romdhane, M., & Mansouri, I. (2010). Developing a Design Approach to Reduce Methane Emissions from California Landfills. In Fratta, D., Muhunthan, B., and Puppala, A (Ed.), Geoflorida (pp. 2878-2887). Baltimore. Retrieved from doi: 10.1061/41095(365)293
5. Abichou, T., Musagasa, J., Tawfiq, K., & Chanton, J. (2010). Lysimetry Versus Deep Water Content Monitoring: Field Performance Evaluation of Alternative Landfill Covers. In Fratta, D., Muhunthan, B., and Puppala, A (Ed.), Geoflorida (pp. 2821-2829). ASCE, Baltimore. Retrieved from doi: 10.1061/41095(365)287
6. Chanton, J., Abichou, T., Hater, G., Green, R., & Bogner, J. (2010). Methane Oxidation in Landfill Cover Soils. In Fratta, D., Muhunthan, B., and Puppala, A (Ed.), Geoflorida (pp. 2896-2905). ASCE Baltimore. Retrieved from http://dx.doi.org/10.1061/41095(365)295
7. Yuan, L., & Abichou, T. (2010). Methane Emission Estimation and Control During and After Post-Closure Care Period at MSW Landfills. In Fratta, D., Muhunthan, B., and Puppala, A (Ed.), Geoflorida (pp. 186-200). Baltimore. Retrieved from doi: 10.1061/41095(365)294
8. Abichou, T., & Musagasa, J. (2008). ET Covers: Construction and Tree Development inside and outside of Lysimeters. In M. Khire, A. Alshawakbeh, and K. Reddy (Ed.), Geocongress 2008 (pp. 72-79). Baltimore. Retrieved from doi: 10.1061/40970(309)9
9. Abichou, T., Yuan, L., & Chanton, J. (2008). Estimating Methane Emission and Oxidation from Earthen Landfill Covers. In M. Khire, A. Alshawakbeh, and K. Reddy (Ed.), Geocongress 2008 (pp. 80-87). Baltimore. Retrieved from doi: 10.1061/40970(309)10
10. Abichou, T., Yuan, L., Chanton, J., & De Visscher, A. (2007). Estimating Methane Emissions and Oxidation from Earthen Landfill Covers. In Sardinia '07 International Solid and Hazardous Waste Symposium. CISA, Univ. of Cagliari, Sardinia.
11. Chaton, J., Hater, G., Goldsmith, D., Green, R., Abichou, T., & Barlaz, M. (2007). Comparison of a Tunable Diode Laser Approach With Static Chambers for Determination of Surface Methane Emission. In Sardinia 2007, Eleventh International Waste Management and Landfill Symposium. S. Margherita di Pula, Cagliari, Italy; 1 - 5 October 2007.
12. Abichou, T., Edil, T. B., Benson, C. H., & Tawfiq, K. (2005). Hydraulic conductivity of foundry sands and their use as hydraulic barriers. In Conference on Recycled Materials in Geotechnics; (pp. 186-200). Baltimore, MD.
13. Abichou, T., Powelson, D., Aitchison, E., Benson, C., & Albright, W. (2005). Water balances in vegetated lysimeters at a Georgia landfill. In 64th Annual Meeting of the Soil-and-Crop-Science-Society-of-Florida (pp. 1-8). Tallahassee, FL.
14. Abichou, T., Tawfiq, K., Edil, T., & Benson, C. (2005). Behavior of a soil-tire shreds backfill for modular block-wall. In Recycled Materials in Geotechnics (pp. 162-172). GeoInstitute.
15. Bogner, J., Spokas, K., Chanton, J., Powelson, D., & Abichou, T. (2005). Modeling Landfill Methane Emissions from Biocovers: A Combined Theoretical-Empirical Approach. In Sardinia '05 International Solid and Hazardous Waste Symposium. published by CISA, Univ. of Cagliari, Sardinia (2005).
16. Abichou, T., Edil, T. B., Benson, C. H., & Bahia, H. (2004). Beneficial use of foundry by-products in highway construction. In Conference on Geotechnical Engineering for Transportation Projects (Geo-Trans 2004) (pp. 715-722). Los Angeles, CA.
17. Abichou, T., Tawfiq, K., Edil, T., & Benson, C. (2004). Behavior of a Soil-Tire Shreds Backfill for Modular Block Wall. In A. Aydilek and J. Wartman (Ed.), Beneficial Reuse of Waste Materials in Geotechnical and Transportation Applications (pp. 162-172). Reston, VA.

18. Abichou, T., Albright, W., & Benson, C. (2003). Field Tests of Conventional and Alternative Final Cover Systems for Landfill Closure. In " Proceeding of Waste Management 03 (WM'03), Saint Louis, M0, October 14-1, 2003. SWANA.
19. Abichou, T., Edil, T., Benson, C., & Berilgen, M. (2003). Mass Behavior of Soil-Tire Chip Backfill. In Beneficial Use of Recycled Materials in Transportation Applications (pp. 689-698). Air and Waste Management Association, Sewickley, Pennsylvania, 2003, pp. 689-698.
20. Abichou, T., Benson, C., Friend, M., & Wang, X. (2002). Hydraulic Conductivity of a Fractured Aquitard. In M. N. Sara and L. G. Everett (Ed.), Evaluation and Remediation of Low Permeability and Dual Porosity Environments, ASTM Special Technical Publication (STP) No. 1415 (pp. 25-37). American Society for Testing and Materials, West Conshohocken, PA.
21. Benson, C., Albright, W., Roesler, A., & Abichou, T. (2002). Evaluation of Final Cover Performance: Field Data from the Alternative Cover Assessment Program (ACAP). In Waste Management'02, Tucson, Arizona, February 24-28. SWANA.
22. Abichou, T., Edil, T., & Benson, C. (2001). Mass Behavior of Shredded Tire Backfills," Proceedings of the International Conference on Beneficial Use of Recycled Materials in Transportation Applications. In Proceedings of the International Conference on Beneficial Use of Recycled Materials in Transportation Applications. Washington, D.C.
23. Albright, W., Benson, C., Gee, G., & Abichou, T. (2001). Tests of Alternative Final Landfill Covers in Arid and Semi-Arid Areas Using Innovative Water Balance Monitoring Systems. In 36th Symposium of Engineering Geology and Geotechnical Engineering. Las Vegas, Nevada, M.
24. Abichou, T., Benson, C., & Edil, T. (2000). Beneficial Reuse of Industrial By-Products in Urban Infrastructure. In 8th GLGG Conference, Detroit Michigan, May 2000. GLGG Michigan.
25. Abichou, T., Benson, C. H., & Edil, T. B. (1998). Database on beneficial reuse of foundry by-products. In 1998 Annual Convention of the American-Society-of-Civil-Engineers (Geo-Congress 98 (pp. 210-223). ASCE BOSTON.
26. Abichou, T., Benson, C. H., Edil, T. B., & Freber, B. W. (1998). Using waste foundry sand for hydraulic barriers. In Annual Convention of the American-Society-of-Civil-Engineers (Geo-Congress 98) (pp. 86-99). ASCE BALTIMORE.
27. Abichou, T., Benson, C., & Edil, T. (1998). Development of a Database on the Beneficial Use of Foundry By-Products. In Proceedings 10th AFS Environmental, Health and Safety Conference, American Foundrymens' Society (pp. 135-149). AFS, August 1998.

NON-REFEREED PUBLICATIONS AND CONFERENCE PROCEEDINGS:

1. Abichou, T., & Chanton, J. (2012). A New Modeling Approach to Assess the Effects of Soil Defects in Landfill Cover Soils on Percent Methane Oxidation. In Global Waste Management Symposium 2012 (pp. 3). Global Waste Management Symposium.
2. Abichou, T., Green, R., Swan, N., Romdhane, M., & Banister, A. (2012). Using Surface Ambient Methane Concentrations to Estimate Methane Emissions from Old Closed Landfills. In Global Waste Management Symposium 2012 (pp. 3). Global Waste Management Symposium.
3. Ayadi, A., Zairi, M., & Abichou, T. (2012). Waste Composition, Leachate and Biogas Characteristics in Developing Countries: A Case Study, Tunisia. In Global Waste Management Symposium 2012 (pp. 5). Global Waste Management.
4. Abichou, T., Chanton, J., Green, R., Goldsmith, D., & Swan, N. (2010). Monitoring and Modeling of Methane Emissions and Oxidation at Eleven Instrumented Landfill Covers. In Global Waste Syposium, 2010. Global Waste Management Symposium.
5. Abichou, T., Mahieu, K., Chanton, J., Rhomdane, M., & Mansouri, I. (2008). Using a Modeling Approach to Estimate Methane Emissions and Oxidation from Landfills Within AP-42 Guidelines. In Global Waste Symposium. Copper Mountain, Colorado, USA. Sept 7-10 2008.
6. Chanton, J., & Abichou, T. (2008). Effects of Methane Emissions on Oxidation Rates and % Oxidation in landfill cover soils. In Global Waste Symposium. Copper Mountain, CO. Sept 7-10 2008.
7. Abichou, T., Chanton, J., & Yuan, L. (2006). Use of Recycled and Waste Materials to Scrub Greenhouse Gases and Odors from Landfill Emissions. In Proceedings of the 11th SWANA Annual Landfill Symposium. SWANA, June 5-8, 2006, Nashville, TN.
8. Chanton, J., Hater, G., Abichou, T., Green, R., Goldsmith, D., & Swan, N. (2006). Soil Cover Methane Oxidation in Landfills In Different Climates. In Proceedings of the 11th SWANA Annual Landfill Symposium. SWANA, June 5-8, 2006, Nashville, TN.

KEYNOTE AND DISTINGUISHED LECTURE PRESENTATIONS

1. Abichou, T. Using Methane Biological Oxidation to Finance Closure of Dumpsites. Keynote presentation to be given at WasteCON, SWANA, Baltimore, MD. (International)
2. Abichou, T. (presented 2015, February). Effect of Vegetation on Methane Emission and Oxidation in Landfill Soil Covers. Keynote presentation at GWRI GEOENVIRONMENTAL ENGINEERING SYMPOSIUM, Global Waste Institute, Cal Poly – San Luis Obispo. (International) Retrieved from http://www.socalswana.org/gwri.pdf
3. Abichou, T. (presented 2015, August). ET Covers; Beyond Water Balance Criteria. Plenary presentation in Patrick Hettiaratchi (Chair), 20TH International Workshop on Greenhouse Gas Emission Reductions Using Biological Methods. Symposium conducted at the meeting of Centre for Environmental Engineering Research and Education, Calgary Canada. (International)
4. Abichou, T. (presented 2015, February). Effect of Vegetation on Methane Emission and Oxidation in Landfill Soil Covers. Keynote presentation in GWRI GEOENVIRONMENTAL ENGINEERING SYMPOSIUM. Symposium conducted at the meeting of Global Waste Institute, Cal Poly – San Luis Obispo. (International)

NEWS MEDIA CITATIONS

1. *Remote sensing research improves hurricane response (https://news.fsu.edu/news/science-technology/2022/05/13/remote-sensing-research-improves-hurricane-response/)*
2. Remote Sensing Techniques Predict Severe Road Debris After Hurricane (https://www.azorobotics.com/News.aspx?newsID=12953)
3. As N.H. lawmakers and utilities embrace renewable natural gas, environmental groups raise concerns (https://energynews.us/2022/04/20/as-n-h-lawmakers-and-utilities-embrace-renewable-natural-gas-environmental-groups-raise-concerns/)
4. Researches Into Remote Sensing Helps Storm Response (https://www.natureworldnews.com/articles/50814/20220514/researches%C2%A0into-remote-sensing-helps-storm-response.htm)
5. The garbage man: Professor develops methods to reduce greenhouse gas emissions from landfills (https://news.fsu.edu/news/science-technology/2022/02/07/the-garbage-man-professor-develops-methods-to-reduce-greenhouse-gas-emissions-from-landfills/)
6. Advancing Landfill Emissions Monitoring Technologies through Science (https://www.waste360.com/landfill/advancing-landfill-emissions-monitoring-technologies-through-science)
7. RIDER Center helps communities plan for the threats from natural disasters (https://news.fsu.edu/news/science-technology/2021/06/28/fsu-rider-center-helps-communities-plan-for-the-threats-from-natural-disasters/)
8. How Landfill Gas Measurement Techniques Work (https://www.waste360.com/landfill/how-landfill-gas-measurement-techniques-work)
9. How landfill covers can help improve operations (https://www.wastetodaymagazine.com/article/interim-daily-landfill-covers/)
10. What Landfill Operators Should Know About Methane Oxidation (https://www.waste360.com/landfill/what-landfill-operators-should-know-about-methane-oxidation)
11. How rural areas like Florida's Panhandle can become more hurricane-ready (https://theconversation.com/how-rural-areas-like-floridas-panhandle-can-become-more-hurricane-ready-116500)
12. Biofilters reduce carbon footprint of old landfill sites (https://www.sciencedaily.com/releases/2011/07/110711111927.htm)
13. Bacteria transform landfill methane (http://www.earthtimes.org/pollution/bacteria-transform-landfill-methane/1141/)
14. How has the pandemic changed life? Look in your garbage (https://www.heraldnet.com/news/how-has-the-pandemic-changed-life-look-in-your-garbage/)

STUDENT SUPERVISION

PHD

1. Okine, L., Student. (2024). Climate Change and Long Performance of Barrier System.
2. Barclay, C. Candidate (2023). Design of Clay-Polymer Composites for Aggressive Leachate Applications
3. Perez, D. Candidate (2023). Web-Based Tool Developments for Waste Water Effluent Tracking
4. Wireko, C. K., graduate. (2020). Characterization of Polymer Modified Geosynthetic Clay Liners.
5. Higgs, B. graduate (2019) Long-term performance of GCL under Florida leachates.
6. Melaouhia, H., graduate. (2017). Modeling Generation, Collection, Oxidation, and Fugitive Emissions from Landfills.
7. Musagasa, J., graduate. (2007). Field Assessment of Evapotranspiration Covers for Landfill Applications.
8. Yuan, L., graduate. (2006). Methane Emission and Oxidation through Landfill Covers.
9. Chen, M., graduate. (2020). Using Satellite Imagery and Remote Sensing for Coastal Resiliency.
10. Pinto, A. D., doctoral student.

MS

1. Sakina, A. (2023) Landfill Emissions
2. Jorge, DelAgel (2023) GHG Measurements in livestock applications.
3. Harris, S., graduate. (2021).
4. Fielder, R. N., graduate. (2020).
5. Mejia, M. A., graduate. (2020). Swelling Properties of Polymers in Geosynthetic Clay Liners.
6. Brush, B. I., graduate. (2019). Masters of Engineering.
7. Green, S. L., graduate. (2015).
8. Higgs, B. H., graduate. (2014).
9. Sakharova, D. V., graduate. (2014).
10. Lawson, J. B., graduate. (2013). Development of Push-Pull Test Techniques to Quantify H2S Oxidation in Landfill Cover Soils.
11. Escobar, F. J., graduate. (2011). Feasibility Study, Preliminary Design, and Development of Alternative Covers for Landfills and Dump Sites in Tropical Locations.
12. Clark, J. M., graduate. (2010). Quantification of Methane Emissions via the Use of Optical Sensing Technique in a Landfill Setting.
13. Register, H., graduate. (2008). Effect of Lower Boundary on the Performance of Lysimeters.
14. Tolliver, T., graduate. (2008). Environmental Sustainability of Ethanol Production Using the Lifecycle Analysis Method.
15. Anunsen, S., graduate. (2007). An Investigationof Methods to Reduce Hydrogen Sulfide Emissions from Landfills.
16. Harmon, V., graduate. (2007). Numerical Simulations of Phytoremediation by Slow-Rate Wastewater Irrigation and Septic Systems.
17. Tyner, W., graduate. (2007). Large scale implementation of methane oxidation.
18. Morales, J., graduate. (2006). Biofilter design for landfill vents.
19. Escoriaza, S., graduate. (2005). Using Biocovers and biocells to reduce emissions from landfills.
20. Liu, X., graduate. (2004). Design of Cost Effective Lysimeters.
21. Langoni, G., graduate. (2002). Feasibility of Evapotranspiration Covers for Florida Landfills.

Post-Doctoral Research Advisees:

1. Li, L. (Jan 2018–Dec 2019).
2. Wang, C. (2009–10).
3. Mahieu, K. (2007–09).
4. Jardak, M. (2008).
5. Powelson, D. (2004–07).
6. Gunes, K. (2003–04).

UNIVERSITY COURSES TAUGHT

Advances in Geotech Design (EGN4906)
Soil Mechanics (CEG3011)
Environmental Geotechnics (CEG5705)
Advanced Soil Mechanics (CEG5015)
Geotechnical Topics (EGN4906)
Directed Individual Study (CGN5905)
Honors Work in Civil and Environmental Engineering (CGN4906)
Soil Mechanics Laboratory (CEG3011L)

UNIVERSITY SERVICE

Member, Fulbright Selection Committee (2009–present).

Faculty Member, Civil Engineering GPC Subcommittee (2019).

Faculty Advisor, Engineers Without Borders (2006–2009).

Faculty Advisor, ASCE Student organization (2004–2006).

Chair, Coastal Resiliency Faculty Search Committee (2021–present).

Chair, Geo-Material Faculty Search Committee (2021–2022).

Member, Promotion and Tenure Committee (2017–2019).

Member, Graduate Committee (2018–2019).

Member, CEE Chair Search Committee (2017–2019).

Member, Laboratory committee (2012–2013).

Member, Undergraduate Committee (2008–2010).

Member, ABET Committee (2006–2008).

Member, Graduate committee (2005–2008)