ENERGY, ENVIRONMENT & SENSORS FRONTIERS

Juan Carlos Fernandez-Diaz

Ph.D. – University of Florida
Research Assistant Professor,
Civil and Environmental Engineering

Selected Publications

1. T. Inomata, D. Triadan, V. A. Vázquez López, J. C. Fernandez-Diaz, T. Omori, M. B. Méndez Bauer, et al., "Monumental architecture at Aguada Fénix and the rise of Maya civilization," Nature, vol. 582, 6/3/2020 2020.

2. T. Beach, S. Luzzadder-Beach, S. Krause, T. Guderjan, F. Valdez Jr., J. C. Fernandez-Diaz, et al., "The Early Anthropocene in tropical forests. Ancient Maya wetland fields revealed from laser scanning and multiproxy evidence.," Proceedings of the National Academy of Sciences, 2019.

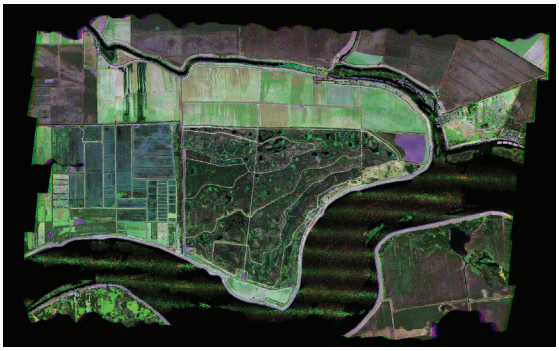
3. M. A. Canuto, F. Estrada-Belli, T. G. Garrison, S. D. Houston, M. J. Acuña, M. Kováč, et al., "Ancient lowland Maya complexity as revealed by airborne laser scanning of northern Guatemala," Science, vol. 361, 2018.

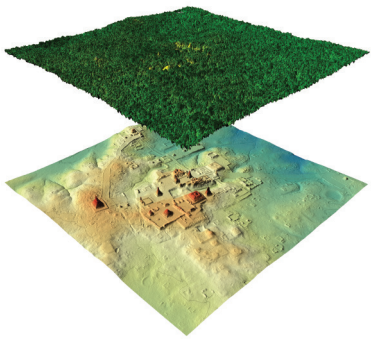
4. N. Ekhtari, C. Glennie, and J. C. Fernandez-Diaz, "Classification of Airborne Multispectral Lidar Point Clouds for Land Cover Mapping," IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 11, pp. 2068-2078, 2018.

Dr. Fernandez-Diaz received the Bachelor of Science degrees in Electrical and Industrial engineering from Universidad Nacional Autonoma de Honduras in 2001. As a Fulbright scholar, he received the Master of Science degree in Geosensing Systems Engineering at the University of Florida (UF), Gainesville (2007). In 2010, he received his doctoral degree in the same Geosensing program at UF. His doctoral dissertation explored the synergies of LIght Detection And Ranging (LIDAR) and radio frequency (RF) sensors to retrieve soil moisture from airborne and spaceborne platforms. Dr. Fernandez-Diaz's current research interests are centered around engineering and scientific applications of state-of-the-art LIDAR systems in synergy with other forms of remote sensing for structural (3D) characterization of natural and antropogenic systems and processes.

AIRBORNE LASER MAPPING

Through his graduate education and current work as a co-investigator for the National Center for Airborne Laser Mapping (NCALM), Dr. Fernandez-Diaz has accrued more than 15 years of academic and practical experience with airborne topographic scanning and mapping technologies as applied to scientific research in remote and challenging areas in Mexico, Central America, New Zealand and Antarctica. Since 2012, he has coordinated, designed and led almost thirty archaeological prospection projects in Mexico and Central America, totaling over 13,000 km² of mapped area of high-density lidar. These projects have resulted in ground breaking reaseach that are published in top journals (Nature, Science and the Proceedings of the National Academies of Science). Many of these projects have been featured in media (web, print, and TV) including the National Geographic Explorer episodes: The Lost City of the Monkey God and The Lost Treasures of the Maya Serpent Kings. He has co-authored thirty peer-reviewed papers. Some of his work is also published as books chapters and stories for professional and general audience magazines.





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