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| **Francisco Cubas, Assistant Professor**  **Department of Civil Engineering and Construction**  P.O. Box 8077 • Statesboro, GA 30460 • (912) 478-2822 • fcubassuazo@georgiasouthern.edu |
| ▼ **Education**   * Ph.D. in Civil Engineering, Virginia Tech, 2012 * M.S. in Environmental Engineering, Virginia Tech, 2006 * B.S. in Civil Engineering, National Autonomous University of Honduras, Honduras, 2000 |
| **Teaching Expertise/Courses**  Based on Dr. Cubas’ strong background in civil and environmental engineering, obtained since his undergraduate and spanning through his doctoral studies and his professional career, his teaching capabilities include: instruction of fundamental civil and environmental engineering concepts, teaching of design methods to be applied in the water resources and environmental engineering field, and instruction of research and analytical skills. Courses taught at Georgia Southern University include: Introduction to Environmental Engineering, Watershed Management, Environmental Engineering Principles for graduate students, Introduction to Senior Project, and Senior Project for CE students. Dr Cubas’ teaching goals, besides teaching engineering fundamentals, is to teach students how to learn and to inculcate curiosity, creativity, and passion for learning that they will carry into their professional careers. Currently, Dr. Cubas is working on expanding his teaching portfolio, focusing mainly in the development of new graduate courses. |
| **Research Expertise**  Dr. Cubas’ areas of research include: lake and reservoir management, nutrient cycling in the sediment-water interface of lakes and streams, nutrient and pollutant transport in aquatic systems, watershed management, and water reuse and sustainability. Specifically, Dr. Cubas is interested in studying nitrogen and phosphorus dynamics at the sediment-water interface of freshwater bodies and estuaries and their effect on surface water quality and ecology. As a researcher, one of his major goals in to contribute to the better understanding of the nitrogen and phosphorus cycles in surface waters to assess their impact in the fate of other pollutants (e.g., mercury, iron, manganese, and other organic pollutants). Dr. Cubas’ research also focuses on nutrient dynamics to mitigate harmful algal blooms, organic matter characterization to control disinfection byproducts precursors at the source (surface waters), nitrate and oxygen micro-profiling to model fluxes at the sediment-water interface, and other educational projects. During his tenure, Dr. Cubas has also expanded his research agenda to include research in the areas of water reuse, bioenergy production in right of way areas, and salinity dynamics in estuaries among others. For his research, Dr. Cubas utilizes an interesting approach where he combines both laboratory-based studies with field experimental data collected *in situ* to obtain a more robust set of analytical research data. Dr. Cubas plans to continue expanding his research to fulfil his long-term goal of becoming a leading expert in the areas of surface water quality management. |
| ▼ **Sample Publications**   * Nigel W.T. Quinn, Saurav Kumar, Rosanna La Plante, **Francisco Cubas**. A Tool to Search USEPA’s TMDL Reports Repository for Analyzing TMDL Modeling State-of-the-Practice. *Journal of Hydrologic Engineering-ASCE* 2019. 24(9): p. 04019026–. * **Cubas, Francisco J**., Holbrook, David, Novak, John T., Godrej, Adil N., Grizzard, Thomas J. “Effective Depth Controls the Nitrate Removal Rates in a Water Supply Reservoir with a High Nitrate Load” Science of the Total Environment (2019) Vol. 573 44–53. * Beutel, M.W., R. Duvil1, **F.J. Cubas**, T.J. Grizzard. Effects of Nitrate Addition on Water Column Methylmercury in Occoquan Reservoir, Virginia, USA. *Water Research* (2017), Vol. 110, 1. * Beutel, M.W., R. Duvil1, **F.J. Cubas**, T.J. Grizzard, F.M. Wilhelm, D. Austin, D.A. Matthews, A.J. Horne, S.Y. Gebremariam. A review of managed nitrate addition to enhance surface water quality. *Critical Reviews in Environmental Science and Technology* (2016), Vol. 46, 7*.* * **Cubas, Francisco J**., J.T. Novak, A.N. Godrej, T.J. Grizzard, Effects of Nitrate Input from a Water Reclamation Facility on the Occoquan Reservoir. *Water Environment Research (2014), Vol. 86, 2*. * **Cubas, Francisco J**., J.T. Novak, M.J. Higgins, Effect of Feeding Patterns on the Performance of Activated Sludge Systems. *Water Environment Research* (2011*), Vol.83, 6.* |
| ▼ **Grants/Funded Projects**   * GAEPD, Title: “Development of a public online dashboard to summarize hydrologic data for the Coastal Georgia Region” Role: co-PI, Budget: $67,380 * GDOT, Title: “Sustainable Waste Management through the Beneficial Use of Dredge Materials” Role: co-PI, Budget: $203,878 * UOSA, Title: “An Assessment of the Transport and Fate of Nitrate and its Effect on other Dissolved Constituents in the Occoquan Reservoir – A Continuous Study FY 19-20”, Role: PI, Budget: $80,000 * NSF-REU, Title: Interdisciplinary Research Experiences in Coastal Plain Science”, Role: Senior Researcher, Budget: $368,561 * GDOT, Title: “Public Response to Different Planting Techniques for Annual Color and Enhancement”, Role: co-PI, Budget: $100,000 * UOSA, Title: “An Assessment of the Fate and Transport of Nitrate and other Dissolved Constituents in the Occoquan Reservoir - Part II”, Role: PI, Budget: $60,000 * GA DNR-EPD, Title: “Development of a Nine-Element Watershed Management Plan for the Black Creek, Sub-Watershed of the Ogeechee River Basin”, Role: PI, Budget: $58,333 * GDOT, Title: “Waste Management of Highway Right-of-Way Areas in SE Georgia”, Role: PI, Budget: $170,000 * UOSA, Title: “A Continuing Assessment of the Transport and Fate of Nitrate and its Effects on Other Dissolved Constituents in the Occoquan Reservoir – Part I”, Role: PI, Budget: $60,000 |