March 8, 2017

Brian Nwachukwu
Isaacson, Miller
263 Summer Street, 7th Floor
Boston, MA 02210

Subject: Letter of Interest Executive Director Hanley Sustainability Institute

Dear Brian,

I am excited to write this letter in support of my application for the position as Executive Director of the University of Dayton Hanley Sustainability Institute.

I am interested in this opportunity because I would like to serve as a role model and inspire incoming students wanting to pursue careers in sustainability related fields. I would like to help make the world a better place one student at a time. I am uniquely qualified for this role because I have accomplished many academic and professional milestones unthinkable and simply out of reach within my immediate family circle. I have three degrees (bachelors, masters, and doctorate) from reputable universities. I am fully fluent in two languages. I have accumulated over 15 years of professional experience in the water, energy, and sustainability sectors. I am a licensed Professional Engineer in the State of Texas. As a first generation college graduate, I became a role model to my siblings, close friends, and now my daughter. I believe in "paying it forward" and in striving to have meaningful significant impact in the community you are part of. I was thought to always work hard, dream big, and to never give up.

The opportunities and challenges as described in the "position description" for the incoming Executive Director of the Institute are not new to me. I have over 15 years of experience in industry and academia. I have held a variety of roles encompassing a combination of technical, professional, managerial, research, and educational responsibilities. I joined UTSA's Texas Sustainable Energy Research Institute almost six years ago when the institute was in its early stages. When I came in, there were only two people: the founding Director and his administrative assistant. There were no students involved in everyday activities. There were no staff or faculty researchers. More importantly, the Institute did not have the ability to deliver on research commitments part of the newly formed CPS Energy – UTSA Strategic Research Alliance. All of that quickly changed and within my first 90 days we established a management structure and assembled interdisciplinary research teams composed of faculty and students addressing four core research areas: carbon emissions, smart grid, sustainability education, and energy efficiency. A fifth area, electrification of the transportation sector, was added a year later. As Deputy Director, I directly led or influenced decisions in the following areas:

- Definition and establishment of the organizational structure for the Institute
- Development of by-laws for the Institute
- Recruitment of research staff and faculty from across the university
- Recruitment of students, both graduate and undergraduate
- Mentored, coached, and advised students, faculty, and staff
- Development of working relationships with UTSA faculty across six different colleges
- Management and nurturing of relationships with funding partners
- Development of strategic relationships with key organizations in the San Antonio area
- Identifying infrastructure needs and investment requirements to support capacity building and ensure the success of research programs
- Leadership for research programs and publication of results in peer-reviewed journals
- Faculty advisor for the student group "Roadrunners for Renewable Resources"

- Principal investigator in charge of scoping and project/program execution for research activities in four key areas: Energy Efficiency and SmartLiving; Energy Storage; Electrification of the Transportation Sector; and, Carbon Capture, Sequestration, Reutilization, and Management
- Formation of interdisciplinary proposal teams
- Representing the Institute in local, regional, and national forums and conferences

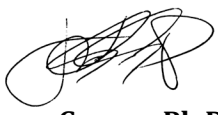
I am a believer in not reinventing the wheel and fixing what is not broken. Over the past 12 months as the acting Interim Director of the Institute I have reassured our partners of our commitment to excellence and service. We have two great non-traditional funding partners: 1) CPS Energy, the local electric utility with which UTSA has a 10-year Strategic Research Alliance; and, 2) Microsoft Corporation, a 3-year research partnership that resulted from an economic development opportunity led by the City of San Antonio. We have doubled-down on the things we were doing well, and we have made the necessary adjustments in areas that needed improvement. For example, all new graduate students hired as part of sponsored research activities have come with a faculty advisor who is also part of the research team for the specific project. The student's work as part of the sponsored project also fulfills the thesis/project requirements from the department.

We have also strengthened our working relationship with other key organizations across the San Antonio area. For example, we concluded our involvement in the SATomorrow planning effort, the first comprehensive plan for San Antonio since the 1970s. We are currently helping the City of San Antonio Office of the Mayor on two key initiatives: the Alamo Regional Data Alliance, and the smart cities collaborative ideation effort.

I am confident we will be able to do the same at the University of Dayton. For the Hanley Sustainability Institute to be successful, we need to effectively integrate all of the university functions (research, academics, facilities and operations, and outreach) in such a way that they complement and support each other. We will leverage the expertise of faculty across the various departments and colleges, attract new faculty, nurture existing relationships with stakeholders, and build long-term working relationships with key organizations in the surrounding community. By doing so, we will be able to effectively promote adoption of sustainability concepts applicable to the various audiences, emphasize the importance of efficiency and conservation, encourage adoption of more sustainable technologies, lead public education and outreach efforts, develop innovative business models, and formulate effective public policies that seek to improve the quality of life and standards of living of the University of Dayton community, the state of Ohio, and beyond. We will utilize our campus and surrounding facilities as a living laboratory. The Institute can lead by example and serve as a model to demonstrate that a secure, reliable, safe, affordable, and sustainable future is within reach.

I look forward to an opportunity to meet with the search committee and become part of your team. Please do not hesitate to contact me should you have any questions by phone at (210) 818-5746. Thank you for your consideration.

Sincerely,



Juan Gomez, Ph.D., P.E.
Interim Director, Research Director and Associate Professor of Research
Texas Sustainable Energy Research Institute
The University of Texas at San Antonio
(210) 818-5746
juand_gomez@yahoo.com

JUAN DANIEL GOMEZ, Ph.D., P.E.

Interim Director and Research Director
Texas Sustainable Energy Research Institute
The University of Texas at San Antonio
18343 Muir Glen Drive
San Antonio, TX 78257
(210) 818-5746

Education

Ph.D. in Environmental Science and Engineering (2003) - The University of Texas at El Paso, El Paso, Texas.
M.S. in Environmental Systems with Concentration in International Development Technology (2000) - Humboldt State University, Arcata, California.
B.S. in Chemical Engineering (1997) - Universidad Industrial de Santander, Bucaramanga, Colombia.

Certifications and Licenses

Professional Engineer, TX. License No. 95679

Distinguishing Qualifications – Professional Consulting

- Over 14 years of professional experience in the fields of water, energy, and sustainability to include managerial, leadership and supervisory roles as well as responsibilities in program and project management, research and development, and administrative roles.
- Multidisciplinary knowledge and a design background in water resources management and planning, water and wastewater treatment, water reclamation, desalination, stormwater management and low impact design, environmental systems, sustainability, water and energy efficiency and conservation, energy utilization in the residential sector, and the energy-water nexus.
- Hands-on experience piloting, designing, building and commissioning water supply infrastructure across a variety of geographies. Participated in all phases of the program that resulted in the construction of the largest drinking water treatment plant removing arsenic from groundwater in the United States (30-mgd treatment capacity, Upper Valley Water Treatment Plant, El Paso, Texas).
- Water resources planning and management to include evaluation of reuse applications, development of water resources plans and capital improvement plans, design and operation of pilot projects, evaluation and implementation of brackish groundwater desalination facilities, hydraulic modeling for treatment plants, conveyance and pumping facilities, cost estimating, and all phases of delivery of complex water treatment and water supply projects.
- Design of water treatment facilities to include cost estimates, budgets, and client services starting from pilot studies, preliminary design, design development, construction development, preparation of bid documents, construction, startup, through operation and maintenance facility support.
- Bilingual. Fully fluent in both English and Spanish.

Professional Experience:

The University of Texas at San Antonio (Current)

Interim Director and Research Director

As Interim Director, set strategic vision for the Institute; develop innovative research programs; promote the Institute, to the local community, current funding partners to include utilities and private industry, as well as potential funding agencies to include Department of Energy, Department of Defense, industry partners, non-profit organizations and the community at large.

Served as deputy director, principal investigator, research director, and senior researcher for a variety of projects part of the UTSA – CPS Energy Strategic Research Alliance (10-year and up to $50 million agreement). As deputy director contributed to establishing the institute as a major contributor of research expenditures within the College of Engineering as well as the university. Assisted positioning the institute as a catalyst of research innovation coalescing collaborative efforts in support of the strategic research goals of the college and the university. Established working relationships with the City of San Antonio Office of the Mayor, CPS Energy, Joint Base San Antonio, SAWS, Guadalupe Blanco River Authority, The Alamo Area Council of Governments, NADBank, El Paso Water Utilities, GreenStar LED, Cisco, Schneider Electric, PowerFin Partners, SA2020 and Build San Antonio Green.

Responsible for developing research strategies, leading grant writing efforts, negotiating work scopes, and managing budgets to ensure successful execution of sponsored research projects across a variety of sectors and key research areas. Assembled multi-disciplinary teams composed of faculty, staff and students, both graduate and undergraduate. Developed a culture of excellence, leadership, and service, both internally and externally to UTSA. Mentored students, faculty and staff. Represented the institute and the university in a variety of forums. Developed marketing and communication materials to communicate research outcomes to diverse target audiences.

As an associate professor of research, spearheaded the Energy Efficiency and SmartLiving data analytics research program to explore the intricate relationship between people, buildings and technology. Developed a methodology to evaluate the energy performance of single-family detached homes in the CPS Energy service territory (450,000 customers). Collaboratively developed a methodology to assess the impact of people and their behaviors on the energy performance of single-family residential buildings within Bexar County. Managed, coordinated, and led projects for the CPS Energy - UTSA Strategic Research Alliance. Projects include: Carbon Capture, Storage, Sequestration and Reutilization; Electrification of the Transportation Sector; and Energy Efficiency and SmartLiving. Delivered research technologies and policy impacts in the field of "carbon capture, storage, sequestration and reutilization" to develop a technology roadmap for the San Antonio area. Developed a model to predict adoption of electric vehicles in the San Antonio area. Conducted a survey of policies and initiatives undertaken by public utilities around the country in support of electric vehicles infrastructure deployment and investment.

CH2M Hill – Global Water Business Group (2002-2011)

Global Senior Technologist – Water Treatment

Lead technology expert and senior process engineer for all facets of water resources supply and management for projects across the United States and the globe. Specialized knowledge in planning and design of water treatment (conventional, membrane filtration and desalination) facilities. Project and lead engineer in the pilot, design and construction of the largest arsenic treatment facility in the country (30-mgd treatment capacity, Upper Valley Water Treatment Plant, El Paso, TX). Developed proprietary cost estimating and dynamic simulation modeling tools for water and wastewater infrastructure planning, development and operation. Managed project teams; mentored junior staff; provided quality assurance and quality control; and developed budgets and schedules for delivery of complex water supply projects worldwide.

Selected Projects:

- Texas Water Development Board - Assessment of osmotic mechanisms pairing desalination concentrate and wastewater treatment – research report, Austin, Texas.
- PRASA - Compliance evaluation and preliminary engineering reports for the La Esperanza WTP (0.5 mgd) and Las Delicias WTP (0.5 mgd), San Juan Puerto Rico.
- North Springs Improvement District - Schematic design for a new 10 mgd brackish groundwater reverse osmosis treatment facility, Deerfield Beach, Florida.
- PRASA - Compliance evaluation and preliminary engineering reports for the Carolina Regional WWTP (100 mgd) and the Corozal WWTP (1.25 mgd), San Juan, Puerto Rico.
- PRASA - Design of improvements for the Sergio Cuevas WTP (100 mgd) and the Caguas Norte WTP (6 mgd), San Juan, Puerto Rico.
- Gold Coast Water - Conceptual design for a new wastewater treatment plant (5 mgd), Brisbane, Australia.
- Conceptual design for treatment facilities to manage produced water (10 mgd), Sydney, Australia.
- Feasibility study for water reuse, San Juan, Puerto Rico.
- Marin County seawater desalination facility conceptual design (5 to 15 mgd), San Francisco, California.
- Saratoga County WTP hydraulic evaluation, Saratoga County, New York.
- Taylor Creek Reservoir water supply project, Orlando, Florida.
- Northern Kentucky Water District - Evaluation of treatment alternatives for TOC removal at existing treatment facilities, Cincinnati, Ohio.
- City of West Palm Beach - Conceptual design for brackish groundwater reverse osmosis treatment facility and associated production well field, Denver, Colorado.
- El Paso Water Utilities - Schematic design for implementation of an enhanced coagulation system for the Canal WTP (45 mgd) and the Jonathan Rogers WTP (60 mgd), El Paso, Texas.
- El Paso Water Utilities - Evaluation of treatment alternatives for TOC removal for the Canal WTP and the Jonathan Rogers WTP, El Paso, Texas.
- Coral Springs Improvement District - Schematic design for a new 7.4 mgd brackish groundwater reverse osmosis treatment facility, Deerfield Beach, Florida.
- Lakeview ultrafiltration membrane WTP hydraulic evaluation (Phases 1 and 2, 100 mgd each), Mississauga, Ontario, Canada.

- Twin Oaks ultrafiltration membrane WTP hydraulic evaluation, San Diego, California.
- Hefner WTP conceptual design for 25 mgd expansion and hydraulic evaluation, Oklahoma City, Oklahoma.
- City of Santa Monica - Groundwater well restoration and WTP design/build pursuit, Santa Monica, California.
- American Water Works Association (AWWA) - Residuals management costing evaluation, Parsippany, New Jersey.
- Tohokopeliga Water Authority - Water master plan, Orlando, Florida.
- Tuas Power - Evaluation of Alternatives for planning of a new seawater desalination facility and a new wastewater treatment plant, Singapore, Singapore.
- American Water Works Association Research Foundation - Treatment technologies for removal of algal toxin, Denver, Colorado.
- El Paso Water Utilities - Piloting, design, services during construction, startup and ongoing engineering support services for the Upper Valley WTP (30 mgd), El Paso, Texas.

Forbes Environmental (2001-2003)

Evaluated groundwater contamination, monitoring and remediation for multiple sites, and analyzed and compiled the necessary information to request air pollution and other required permits.

The University of Texas at El Paso (2000-2003)

Studied and analyzed a variety of water resources and environmental issues in the border region including water supply, sanitation, and water treatment technologies. Consulted several specialists in the region and in other parts of the country, established a network of professionals for future water and sanitation projects on the border, and helped to develop a hand-washing initiative for the Colonias in Ciudad Juárez, Mexico.

Professional Organizations/Affiliations

American Water Works Association - Member
American Society of Heating, Refrigerating, and Air-conditioning Engineers - Member

Specialized Computer Skills

- ArcView GIS
- EXTEND Software
- JMP Statistical Software
- REMRate Software
- Microsoft Office Suite (Excel, Word, Power Point)
- EPANET Software
- H2OMAP Software

- H2ONET Software
- WAWTTAR (computer application for the selection of appropriate technologies for the treatment of water, wastewater, and wastewater reuse); translated user's manual into Spanish.

Peer-Reviewed Publications

Williams, Kristopher T.; Gomez, Juan D. "Predicting Future Monthly Residential Energy Consumption using Building Characteristics and Climate Data: A Statistical Learning Approach." Energy and Buildings, Volume 128, Pages 1-11, doi:10.1016/j.enbuild.2016.06.076, 2016.

Elnakat, Afamia; Gomez, Juan D.; Booth, N. "A Zip Code Study of Socioeconomic, Demographic, and Household Gendered Influence on the Residential Energy Sector." Energy Reports, Volume 2, Pages 21-27, doi:10.1016/j.egyr.2016.01.003, 2016.

Elnakat, Afamia; Gomez, Juan D. "The flame dilemma: A Data Analytics Study of Fireplace Influence on Winter Energy Consumption at the Residential Household Level." Energy Reports, Volume 2, Pages 14-20, doi:10.1016/j.egyr.2016.01.002, 2016

Elnakat, Afamia; Gomez, Juan D. "Energy Engenderment: An Industrialized Perspective Assessing the Importance of Engaging Women in Residential Energy Consumption Management." Energy Policy, Volume 82, Pages 166-177, doi:10.1016/j.enpol.2015.03.014, 2015.

Elnakat, Afamia; Gomez, Juan D.; Roberts, Jason; Wright, Martha. "Big Data Analysis of Swimming Pools' Impact on Household Electric Intensity in San Antonio, Texas." International Journal of Big Data Intelligence. Accepted for Publication: Special Issue BD2013 Big Data Intelligence for Social Computing, 2014.

Gomez, Juan D.; Elnakat, Afamia; Wright, Martha; Keener, Jourdaine. "Analysis of the Energy Index as a Benchmarking Indicator of Potential Energy Savings in the San Antonio, Texas Single-Family Residential Sector." *Energy Efficiency*, DOI 10.1007/s12053-014-9310-6, 2014.

Camacho, Lucy Mar; Dumee, Ludovic; Zhang, Jianhua; Li, Jun-de; Duke, Mikel; Gomez, Juan D.; Gray, Stephen. "Advances in Membrane Distillation for Water Desalination and Purification Applications." Water, Volume 5, pp. 94-196, 2013.

Gomez, Juan D.; Huehmer Robert; Cath, Tzahi. "Assessment of Osmotic Mechanism Pairing Desalination Concentrate and Wastewater Treatment." Texas Water Development Board. Contract #0804830852. San Antonio, Texas. October, 2011.

Bergman, Robert A.; Hutchins, Kenny; Fuerst, Brian; Gomez, Juan D. "Surface Water Dual-Membrane Treatment Plant: Design Innovations and Seven Years of Operation." IDA Journal. Pages 46-51. Third Quarter, 2011.

Chwirka, Joseph D.; Colvin, Christian; Gomez, Juan D.; Mueller, Paul A. "Arsenic Removal from Drinking Water Using the Coagulation/Microfiltration Process." *Journal of the American Water Works Association*, Vol. 96, No. 3, pp. 106-114, March 2004.

Gomez, Juan D.; Graham, Jay P. "Where There Are No Pipes: Community Participation in Dry Sanitation Projects." *Water Policy*, Vol. 6, No. 3, pp. 249.262, 2004.

Gomez, Juan D.; Nakat, Afamia C. "Community Participation in Water and Sanitation." *Water International,* Vol. 27, No. 3, pp. 343-353, September 2002.

Conference Presentations

Gomez, Juan D. "Energy Consumption and Carbon Footprint Associated with Membrane Processes for Water Desalting." 2009 SCMA Annual Conference. South Central Membrane Association. November 4-5, 2009, Fort Worth, Texas.

Gomez, Juan D. "GHG Emissions from SWRO Plants." 2009 AMTA Annual Conference and Exposition. American Membrane Technology Association. July 13-16, 2009, Austin, Texas.

Gomez, Juan D. "Efficacy of Treatment Processes for Pharmaceuticals." 2009 National Water Quality Conference. Northwest Environmental Training Center. May 20-22, 2009, San Antonio, Texas.

Gomez, Juan D. "Inorganic Contaminants in Water – Arsenic and Total Dissolved Solids." 2009 National Water Quality Conference. Northwest Environmental Training Center. May 20-22, 2009, San Antonio, Texas.

Gomez, Juan D. "Arsenic Treatment in El Paso, Full Scale Implementation." Inorganics Contaminant Workshop, American Water Works Association, Albuquerque, New Mexico, January 29, 2008.

Gomez, Juan D. "Arsenic Treatment in El Paso, Texas: From Pilot Scale to Full Scale Implementation." Annual ACE 2006, American Water Works Association, San Antonio, Texas, June 15, 2006.

Gomez, Juan D. "El Paso's Citywide Water Resources Development Plan." Texas Water 2006, American Water Works Association, Austin, Texas, April 6, 2006.

Gomez, Juan D. "Arsenic Treatment in El Paso, Texas: From Pilot Scale to Full Scale Implementation." Texas Water 2006, American Water Works Association, Austin, Texas, April 6, 2006.

Gomez, Juan D. "Stage 2 Disinfection Byproduct Rule and Initial Distribution System Evaluation Requirements." Water Distribution Workshop, American Water Works Association, Rocky Mountain Section, Albuquerque, New Mexico, May 14, 2004.

Gomez, Juan D. "Stage 2 Disinfection Byproduct Rule and Initial Distribution System Evaluation Requirements." Technical Training Session, American Water Works Association, Desert Mountain Section, El Paso, Texas, February 24, 2004.

Gomez, Juan D. "Algorithm for the Design of Water Projects in Rural Areas", "Mobilization and Immobilization of Metals in Contaminated Soils", and The Need for Scientific Policy: Miscommunications Among Scientists and Policymakers" (3 papers). American Water Resources Association Annual Conference, November 12-15, 2001, Albuquerque, New Mexico.