



Dean's Annual Report 2014
Patel College of Global Sustainability

1.0 Introduction and Overview

During 2014 PCGS continued to successfully expand its MA in Global Sustainability program, increase its student enrollment, generate internationally relevant research, and provide community engagement activities in support of USF's Strategic Plan.

One of the most significant personnel changes in the College in 2014 was the departure of its founding Dean, Dr. Kala Vairavamoorthy in December 2014 and the appointment of Dr. Rafael Perez as Interim Dean for the College starting January 2nd 2015. Other personnel changes include the departure of the Director of Outreach (Bessie Skoures) and the addition of Kelly Gaskell as Assistant Director of Staff. A new Budget and Human Resources officer, Marilyn Leon, was hired in fall 2014. No new faculty members were hired.

In the sections below, details of the relevant activities undertaken by PCGS during 2014 are presented.

2.0 Global Research and Engagement

During 2014 PCGS continued to focus on internationally relevant and demand-driven interdisciplinary research. The College secured approximately \$600,000 in research grants. As a result of its research, PCGS generated new knowledge and innovative approaches in the areas of integrated urban water management and sustainable energy. The outcomes generated by this research have been well received by the research community internationally.

PCGS prides itself in its international reputation and its role in influencing global practice and policy and in setting the global urban sustainability agenda. This has greatly enhanced USF's visibility in the international arena.

A summary of the highlights of the international activities for 2014 is given below.

- PCGS received a grant award from the US Forest Service's National Urban and Community Forestry Challenge Program in the amount of \$149,722 over a period of two years (Sept 2014-2016) for the proposal "From Gray to Green: Tools for Transitioning to Vegetation-Based Stormwater Management". The grant also involves a cost share of \$155,612, which puts the total project budget at about \$300,000. The project will develop a suite of decision-making frameworks and toolsets that will help reduce disciplinary barriers and support the transition from gray to green infrastructure through a pilot application in the City of Tampa, in Hillsborough County, and in the City of Milwaukee (Wisconsin). This is a collaborative research project that involves USF faculty from PCGS, College of Engineering, and College of Arts and Sciences, and several other external partners, such as the University of Florida, Tampa Bay Estuary Program, Hillsborough County Public Works Department, City of Tampa, and City of Milwaukee. The project also engages undergraduate and graduate students and postdoctoral

researchers to conduct cutting-edge research in collaboration with the private sector as well as state and local governments.

- PCGS has established a close partnership with the Global Water Partnership (GWP), a recognized international institution on issues of integrated water management in urban areas with extensive experience in Africa, Asia, and Latin America. GWP awarded PCGS a \$300,000 grant over a period of one year (April 2014 - July 2015) to develop an Integrated Urban Water Management (IUWM) Toolbox that will guide capacity development for urban professionals around the world. The IUWM Toolbox will contain tools for city diagnostics, urban water systems modeling, technology selection, stakeholder engagement, institutional reform, and rethinking economics.
- PCGS continued to work with GWP to address growing water needs around the world. The College co-hosted the GWP's "Integrated Urban Water Management Today" session during the 17th African Water Association World Congress that was convened in Abidjan, Côte d'Ivoire in February 2014. PCGS also represented GWP at the 5th Africa Water Week "Placing Water at the Heart of the Post 2015 Development Agenda" convened in Dakar, Senegal in May 2014.
- PCGS has been working with the African Development Bank/African Water Facility (AWF) on the issues of Urban Water Security through a holistic approach, which involves the management of water resources and waste in a new integrated way. PCGS, in collaboration with GWP and AWF, conducted an urban water management study in Kinshasa, Democratic Republic of Congo (DRC), and developed Terms of Reference that will be subsequently used for water master plan development.
- PCGS, in collaboration with the International Society of Arboriculture (ISA), the Florida Urban Forestry Council, and the ISA-Florida Chapter hosted a two-day symposium entitled "The Cost of Not Maintaining Trees" that was held at the Patel Center for Global Solutions. Nearly 200 attendees came together to learn about the latest research regarding tree maintenance, urban forest inventory and management, and their impact on the benefits and services provided by trees and the urban forest.
- PCGS continued to work with the Water Environment Federation (WEF) to establish research on the development of "Sustainability Index: A Simplified Approach for U.S. Water Utility Sustainability Assessment" based on a Ph.D. research project. The research focuses on developing sustainability index that will ultimately help water utilities prioritize limited resources on the critical attributes needed to move to a more sustainable operation.
- PCGS submitted a \$12M proposal for the establishment of an NSF Sustainable Research Network for "Accelerated Water Infrastructure Transition Strategies" to foster innovation in the US water sector. USF led a consortium consisting of Howard University, University of North Carolina at Chapel Hill, University of California Los Angeles, WEF, WERF, NWRI, DC Water, Cincinnati Water, and LADWP.
- PCGS continued its active involvement in the Florida Climate Institute (FCI) and became a member of the steering committee. FCI is providing the expertise and experience to

help businesses and communities in Florida adapt to the consequences of climate change. FCI submitted a legislative budget request (LBR) to the BOG.

- PCGS designed, built, and placed into operation an outdoor algae facility at USF's Botanical Gardens. The facility, unique among Florida Universities, allows outdoor cultivation of algae under conditions that closely resemble commercial settings. Possession of such capability has already enabled USF to participate in a number of research proposals jointly with other Universities.
- PCGS continued execution of its externally funded algae research project with the design and deployment of a 50-square-meter cultivation reactor in collaboration with the private sector, which has expressed interest in licensing the technology for commercial development.
- PCGS submitted patent application PCT/US14/43765 to the US Patent Office under the title "*Floating Photobioreactor System Comprising a Floating Photobioreactor and an Integrated Paddle Wheel and an Airlift and Methods of Use*".

3.0 M.A. in Global Sustainability

During the 2014-2015 academic year, PCGS added a new concentration in Sustainable Energy; enrollment matched the previous record-breaking year for number of students; SCH continued to increase; internships were enhanced by the addition of new PCGS staff positions; and all indicators for new milestones in applicants, admitted, and enrolled students were present. These developments continue to strengthen the national and international appeal of the College and foster the success of its students and graduates.

Online Education

Working with USF's Innovative Education, PCGS developed all of its new courses as both face-to-face and fully online courses. In addition, PCGS is planning to increase the online program's marketing efforts to increase enrollment and further improve quality of admitted students.

New Concentration in Sustainable Energy

The College's *Sustainable Energy* concentration area was launched in fall 2014 both on campus and on line. It consists of two new courses:

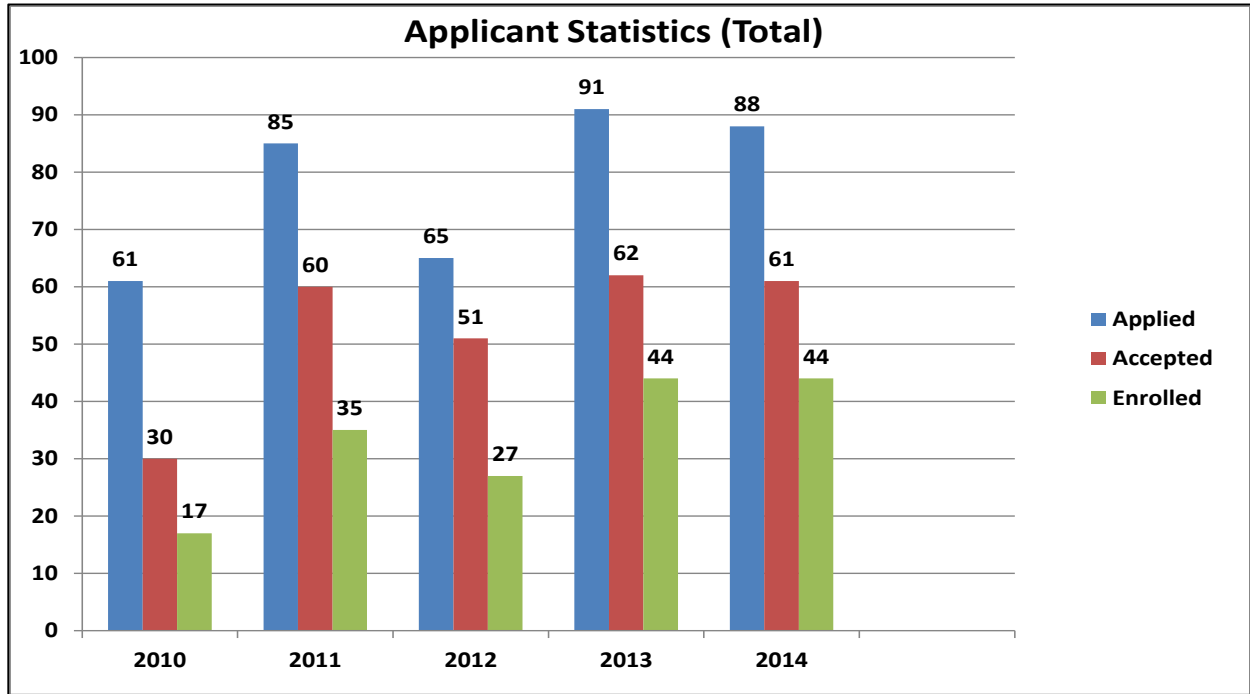
(1) *Renewable Transportation Fuels* (offered in Fall)

(2) *Renewable Power Portfolio* (offered in Spring)

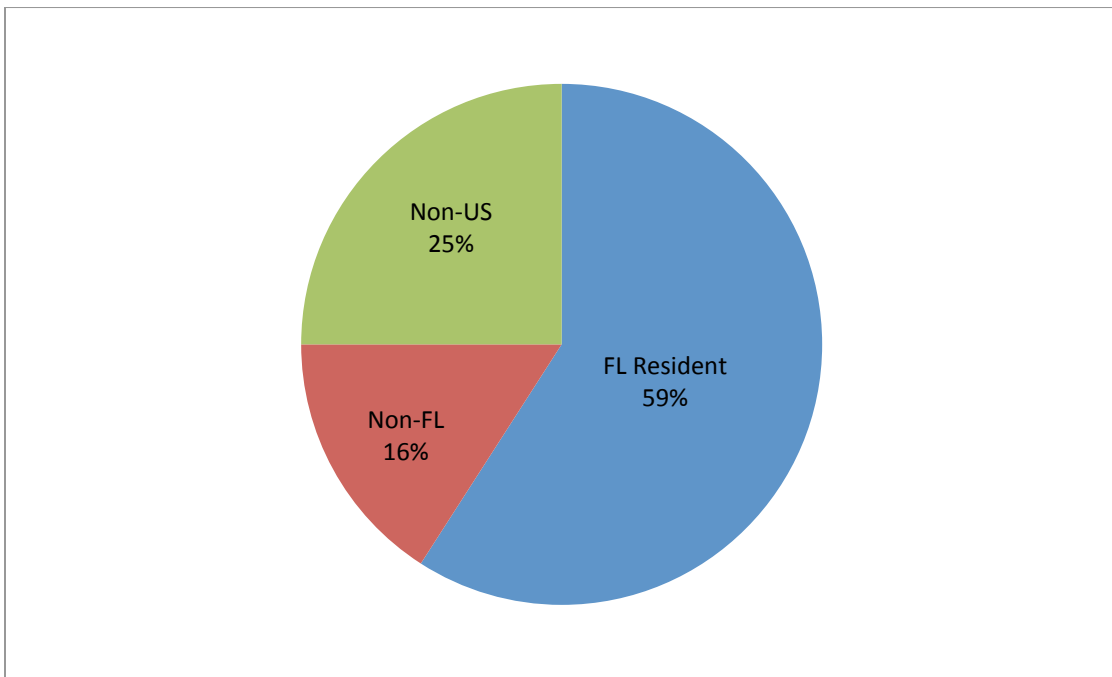
In its inaugural semester the program had a total roster of 17 M.A. students. Student evaluations gave the course an excellent overall rating of 4.9 (on campus) and 5.0 (on line).

Student Enrollment

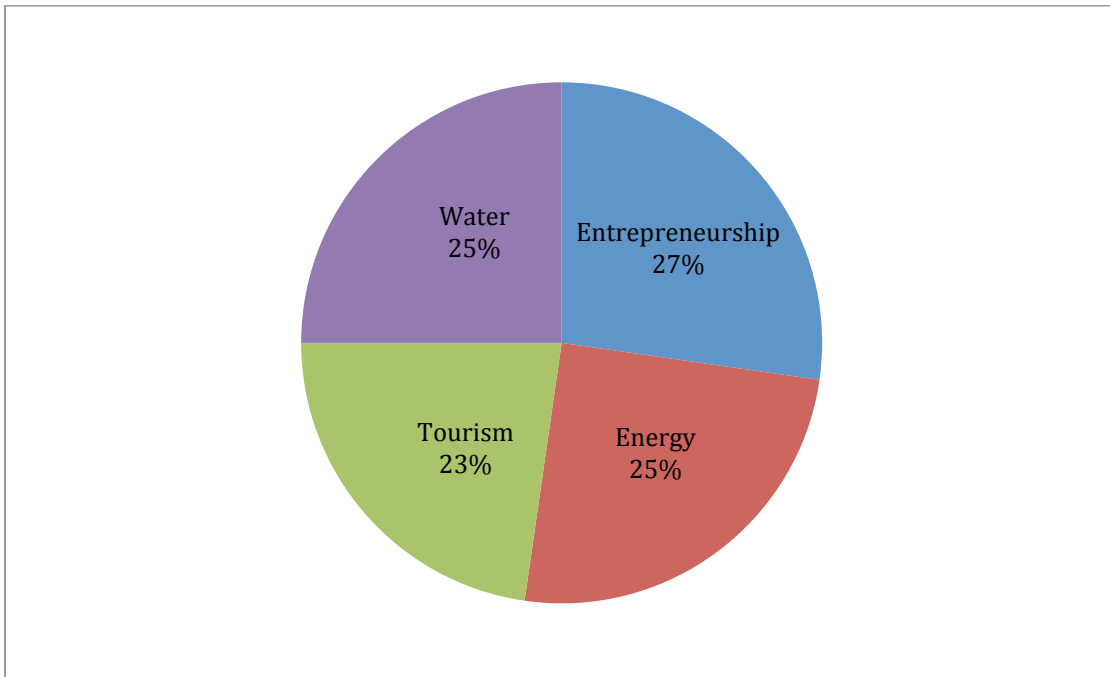
PCGS continued to attract students from the US and the rest of the world, as summarized in the bar graph below.



The M.A. program strengthened its international appeal in 2014, as international enrollment was 25% of PCGS' incoming class.



Among the 44 students of the 2014 incoming class, preference of concentration area was almost equally divided among energy, water, tourism, and entrepreneurship:

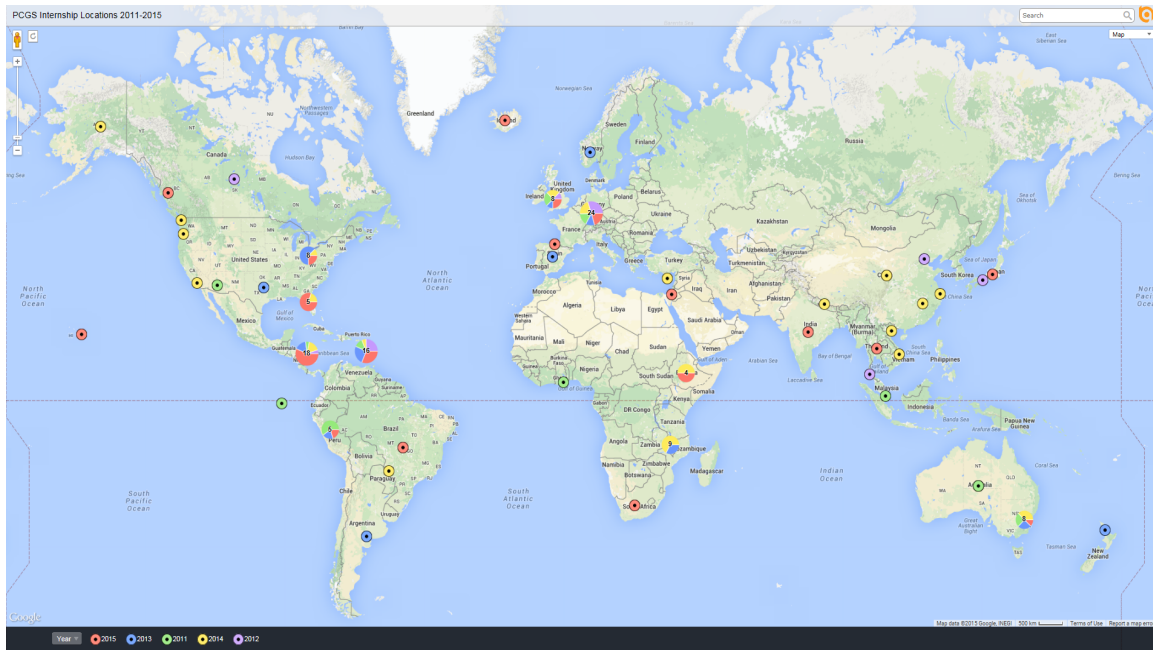


Course Collaboration with Honors College

During the Spring Semester 2014 the Patel College of Global Sustainability was invited to conduct an Undergraduate Seminar course for the USF Honors College (IDH 3350, Section 001). For this course, key faculty from the Patel College provided a series of lectures based on their respective expertise. *The Global Challenge of Sustainable Urban Development* was the theme of the course, and topics included project finance, renewable energy, water management, gender and development, and urban agriculture. This Honors College course in *Natural Sciences* was designed to introduce undergraduate students to concepts, ideas, and applications related to sustainability, sustainable development, and systems thinking as well as educate them about challenges to urban environments in developed and developing nations. The Patel College's approach to administering this course was interdisciplinary, team-oriented, and solution-based. Student enrollment was strong (28).

Global Sustainability Internships

This year we expanded our student internship destinations around the world. The following map captures locations where PCGS students have interned through 2014.



In November 2014 the position of *Internship Coordinator* was created and filled to ensure the continued success of the internship program.

Internship Application: A new *Internship Application* was created in 2014 to streamline and facilitate the process for students and provide key information to the Internship coordinators. Moreover, a *USF Supervisor Data Base* was compiled after PCGS reached out to other colleges to enlist interested USF faculty as intern advisors. To attract and maintain USF faculty supervision, the College instituted a \$500 stipend per student for all USF (outside PCGS) supervising faculty.

Internship Packets: Global Internship Concentration Packets in the areas of energy, water, tourism, and entrepreneurship were developed to assist students, faculty and staff in locating organizations and companies interested in hosting PCGS students.

Research Methods Sessions: To better prepare the MA students for their research internship, in Fall 2014 PCGS instituted and offered for the first time 3 “Research Methods” sessions. The sessions were designed to provide students with scholastic tools to help them successfully complete their internship research. They were: (1) *Introduction to Internship Research Methodology*; (2) *Qualitative Research Methods*; and (3) *Quantitative Research Methods*.

Education Abroad Registration: PCGS instituted mandatory registration of all interns with USF Education Abroad.

4.0 Student Recruitment

PCGS conducted and coordinated several activities in 2014 as a student recruitment effort. Key 2014 recruiting activities:

Engagement with Partners: The College engaged with several corporate and community partners on a regular basis.

Open House: In May 2014 PCGS organized an Open House to market the MA program to prospective and admitted students.

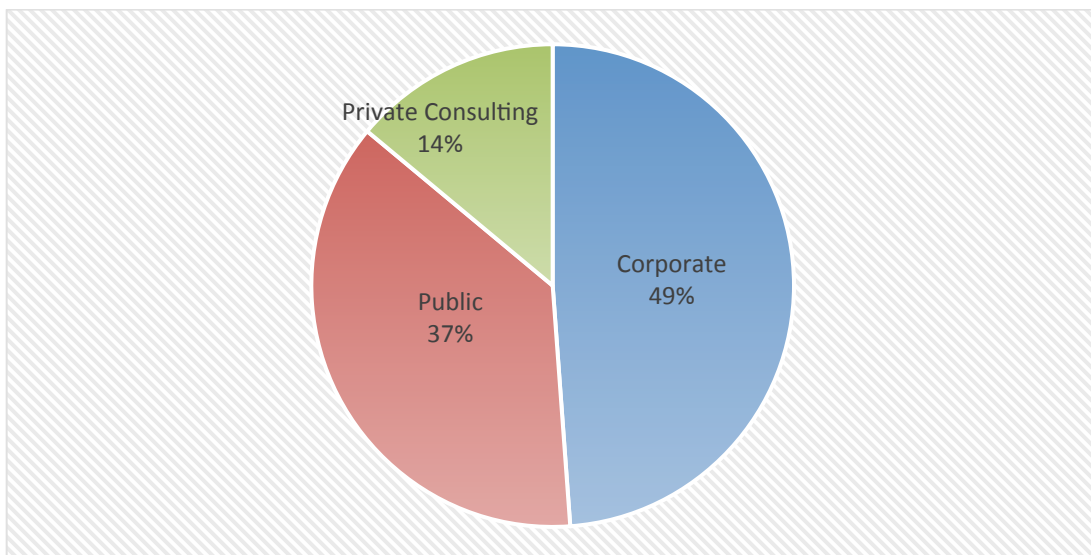
On-campus Recruiting: PCGS connected with local and national colleges to market the M.A. program. College staff visited colleges, provided briefings to junior and senior classes, hosted information sessions, and participated in college graduate fairs throughout the state. The College was also involved in several activities as part of on-campus recruiting.

Professional Outreach: PCGS got involved in professional outreach efforts, such as those of the International Society of Sustainability Professionals. It also partnered with employers such as MOSAIC, Algenol Biofuels, and several NGO's to enhance PCGS branding.

5.0 Student Career Development

In 2014 the career development office organized several programs for students, including a Professional Development Speaker series, which involved bringing key sustainability leaders to USF to share their experiences with our students. Other seminars focused on networking, leadership, and utilizing social media tools for career development. In addition, the office connected students with local professional environmental organizations and other businesses to promote their career opportunities.

PCGS graduates continued getting jobs in various sectors of the economy, as shown in the cumulative graph below (2010-2014).



6.0 Outreach Activities

Office of Sustainability (OoS)

OoS expanded its engagement with communities in Tampa and elsewhere by participating in, hosting, and organizing a number of events in 2014. In partnership with the City of Tampa and the Learning Gate Community School, the Office participated in the largest Earthday event (Ecofest) in the Tampa Bay Area. The event attracted more than 4,500 attendees and about 150 exhibitors/vendors.

The Office engaged with the Student Government and several student associations in increasing visibility of sustainability awareness and practices among students. It organized Green Apple Day of Service in collaboration with the USGBC Florida Chapter and mobilized volunteer PCGS students to work at Greco Middle School in Temple Terrace to build a new outdoor science classroom.

The Office partnered with USF Athletics and the 5R's non-profit national organization to sponsor "Fields of Green" themed USF soccer matches. The premise of the "Fields of Green" matches is to promote sustainable practices at athletic events on campus.

Based on a request from the National Campus Leadership council, the OoS in partnership with the Student Government organized a brainstorming session on climate change. The session generated testimonials of green ideas to report back to the White House. In addition, the Office Launched Sustainability oriented Film Screening Series in partnership with IFAS of the University of Florida.

The OoS managed the spring and fall 2014 Student Green Energy Fund cycle from preparation of the call for proposals to the kick-off of awarded projects.

Based on reports and activities organized by the OoS, USF achieved a number of important designations and rankings in 2014:

- USF received its second GOLD STARS rating by AASHE (American Association for the Advancement of Sustainability in Higher Education)
- USF ranked in the top 10 Coolest School by the Sierra Magazine (7th in the list)
- USF was among 322 US Colleges in Princeton Review's guide to Green Colleges and one of the 22 that was included in its Honor Roll
- USF was re-certified as Tree Campus USA by the Arbor Foundation.

Tampa Bay Clean Cities Coalition

PCGS in partnership with CUTR, the Environmental Protection Commission of Hillsborough County, and TECO Energy launched an effort to coordinate and promote the use of clean energy for transportation through the creation of the Tampa Bay Clean Cities Coalition (TBCCC). On July 31, 2014 the U.S. Department of energy officially designated the TBCCC as a national Clean Cities coalition.

In 2014 the TBCCC grew substantially to 32 public and private organizations around the Tampa Bay region, including Tampa International Airport, Hillsborough Area Regional Transit (HART), Clearwater Gas System, Trillium CNG, and Precision Alternative Fuel Conversions (PAFC). By the end of 2014 the Coalition:

- Sponsored or supported 18 events to increase awareness of advanced transportation options, fuels, and technologies in our six-county region, including a professionally moderated stakeholder strategy session
- Engaged more than 200 stakeholders and collected over \$39,000 in dues and contributions.