# UNIVERSITY OF FLORIDA WATER INSTITUTE ANNUAL ACCOMPLISHMENT REPORT July 1, 2016- June 30, 2017

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### **1 EXECUTIVE SUMMARY**

The University of Florida Water Institute coordinates interdisciplinary research, education and outreach programs designed to develop and share new knowledge, and to develop and encourage implementation of new technology and policy solutions for water issues. Dedicated efforts have forged linkages among diverse groups of faculty and graduate students representing a breadth of water specialties from geophysical to biological to social sciences, engineering, law and humanities. The Water Institute is adding value to the University of Florida through research coordination and collaboration, synthetic cross-disciplinary studies and projects, joint proposal development, seminars and symposia. Illustrative examples of innovative research, education and outreach programs that have resulted from creation of the UF Water Institute are described below. More details can be found in the body of this report.

<u>Research Preeminence:</u> During 2016-2017, faculty affiliated with the Water Institute led active research projects totaling approximately \$168 million, and received new sponsored water-related research awards totaling approximately \$30 million. During this same time period the Water Institute Director and staff coordinated interdisciplinary faculty teams conducting 7 funded interdisciplinary projects (\$8M), supported 8 additional funded interdisciplinary projects (\$4.3M), and facilitated submission of 8 new interdisciplinary proposals (\$11.3M).

<u>Education Preeminence: The Water Institute Graduate Fellows (WIGF) program</u> supports facultygraduate teams to conduct interdisciplinary research in emerging areas of water science, including the social, natural, and engineering sciences. The Deans of the UF/IFAS College of Agricultural and Life Sciences, UF College of Liberal Arts and Sciences, and the Directors of the School of Natural Resources and Environment and the Engineering School of Sustainable Infrastructure and the Environment have committed UF Graduate School Fellowships for biennial cohorts of 6 Ph.D. students to participate in this program. The Water Institute leverages this UF investment using gifts provided by the Carl S. Swisher Foundation and the Sherwood-Stokes Foundation to support field, laboratory and computer analyses by the student cohorts. The fourth cohort of Water Institute Graduate Fellows will begin in the Fall semester 2017.

<u>Outreach Preeminence</u>: The UF Water Institute engages actively with statewide, regional and national communities. Examples of outreach activities include:

- <u>Biennial Water Institute Symposia:</u> Biennial Water Institute Symposia bring together researchers, engineers, policy makers, water managers, industry representatives, lawyers, students and citizens to increase awareness of key water related issues, consider the challenges to water resources sustainability and explore solutions to the most pressing problems. A program committee is currently planning the 6th Water Institute Symposium that will be held at the UF Reitz Union in Gainesville on February 6th -7th, 2018.
- <u>Florida Water and Climate Alliance:</u> The Water Institute facilitates the Florida Water and Climate Alliance (<u>FloridaWCA</u>), a stakeholder-scientist partnership committed to increasing relevance of climate-science data and tools at relevant time and space scales to support decision-making in water resource management, planning and supply operations in Florida.
- <u>Partnership with UF/IFAS Extension</u>: The Water Institute partners with UF/IFAS Extension to support and expand water-related outreach efforts throughout the state.

# 2 INTRODUCTION

Florida's burgeoning population, and the vulnerability of its water resources to climate and other human-induced environmental change, make the state a unique living laboratory in which to develop new knowledge and test solutions to global water problems. In recognition of the importance of water issues and the need to address them in an interdisciplinary manner, the University of Florida (UF) established a campus-wide, interdisciplinary Water Institute in May 2006. Since its inception, the Water Institute has emerged as a leader in coordinating interdisciplinary research, education and outreach programs.

Scientific, public and political awareness of water issues is growing, emphasizing the need for interdisciplinary research, education and outreach programs that are relevant across local, national and global scales. Understanding complex water issues in a holistic manner and exploring integrated solutions to managing problems requires sustained high-level effort. It calls for bold action to obtain, integrate and share new data; design and conduct comprehensive experiments to further basic understanding; and develop new simulation tools to allow scientists, managers, citizens and policy makers to explore alternative scenarios of the impacts of climate change, population growth, land-use change, and water management and policy alternatives.

#### 2.1 Mission

The Water Institute brings together talent from throughout the University and builds internal and external partnerships to address urgent water research challenges; implement innovative interdisciplinary academic programs to train excellent students; and provide state-of-the-art expert assistance and educational programs for external stakeholders.

#### 2.2 Vision

Interdisciplinary Water Institute teams comprised of leading water researchers, educators and students develop new scientific breakthroughs; design creative engineering, policy and legal solutions; and pioneer innovative educational programs that are renowned for addressing state, national, and global water problems.

#### 2.3 Values

<u>Excellence</u>: The Water Institute is committed to provide excellent interdisciplinary water-related research, education and outreach programs that are recognized for their preeminence in Florida, the nation and the world.

<u>Partnerships:</u> The Water Institute recognizes the importance of developing strong inclusive partnerships among Water Institute Affiliate Faculty and with external stakeholders to identify and prioritize critical water issues requiring interdisciplinary study.

<u>Expertise</u>: The Water Institute is committed to developing the basic knowledge, practical experience, and infrastructure required to respond to emerging water issues affecting a broad suite of stakeholders.

<u>Respect:</u> The Water Institute provides services that acknowledge, respect and promote the expertise of all Water Institute Affiliate Faculty, and embrace the personal values, cultures, and

socioeconomic context of its diverse stakeholders, both internal and external to the University of Florida.

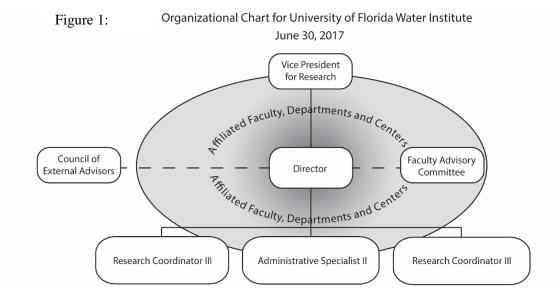
# 2.4 Goals

The Water Institute strives to achieve preeminence through successful research, education and outreach programs that:

- Improve basic knowledge of physical, chemical, and biological processes in surface and groundwater systems.
- Enhance understanding of interactions and interrelationships among humans (attitudes, behaviors and activities) and aquatic ecosystems.
- Develop improved methodologies for water management and policy including quantity, quality and ecosystem services based on a foundation of science, engineering, management and law.

# **3 ORGANIZATION**

The Water Institute is led by a full-time Director who reports to the Vice President for Research (Figure 1). Two Research Coordinator IIIs assist the Director in development, execution and evaluation of Water Institute programs. An Administrative Specialist II serves as office accountant, office manager, and website/database developer.



Individual UF faculty affiliation with the Water Institute is through voluntary registration in an online database. All registered faculty are considered <u>Water Institute Affiliate Faculty</u> and are eligible to vote on Water Institute governance issues. All Affiliate Faculty members retain their positions in their tenure departments where all administrative and performance review functions are carried out. Currently there are over 300 University of Florida faculty members from more than 65 departments and centers affiliated with the Water Institute. Table 1 provides a summary of Water Institute affiliate faculty membership by College.

College	Total No.
IFAS	202
College of Liberal Arts and Sciences	38
College of Engineering	25
College of Design, Construction and Planning	7
Center for Latin American Studies	5
College of Law	4
Warrington College of Business Administration	4
College of Health and Human Performance	4
Florida Museum of Natural History	1
Pharmacy - Medicinal Chemistry	1
College of Public Health and Health Professions	3
Florida Sea Grant	1
International Center	1
Marston Science Library	1
College of Veterinary Medicine	8
Total	305

**Table 1: Summary of Faculty Membership by College** 

The <u>UF Water Institute Faculty Fellow</u> awards program recognizes UF faculty who are making outstanding research, extension, or education contributions to the Water Institute. The purpose of the award is to recognize recent contributions that contribute significantly to UF's interdisciplinary communities of science in water and to provide incentives for Fellows' continued contributions to the goals of the Water Institute. Faculty Fellows receive a salary supplement of \$2,000 per year for a duration of three years. Funds used for the salary supplement are earned from retained indirect costs from external grant awards funded through the Institute. Faculty Fellows elected to date are included in Table 2.

Year	Faculty Fellow
2013	Dr. Matthew Cohen, Forest Resources and Conservation, UF/IFAS
2013	Dr. Rafael Muñoz-Carpena, Agricultural and Biological Engineering, UF/IFAS.
2014	Dr. Jonathan Martin, Department of Geologic Sciences, CLAS.
2014	Dr. Jim Jawitz, Soil and Water Sciences, UF/IFAS
2015	Dr. Mark Clark, Soil and Water Sciences, UF/IFAS
2015	Dr. Michael Dukes, Agricultural and Biological Engineering, UF/IFAS
2016	Dr. Kati Migliaccio, Agricultural and Biological Engineering, UF/IFAS
2016	Dr. Arnoldo Valle-Levinson, Civil and Coastal Engineering, College of Engineering
2017	Dr. Sanjay Shukla, Agricultural and Biological Engineering, UF/IFAS
2017	Dr. David Kaplan, Environmental Engineering Sciences, College of Engineering

 Table 2: Water Institute Faculty Fellows

An internal Faculty Advisory Committee (FAC) for the Water Institute consists of 15 members of the Water Institute Affiliate Faculty. Ten members of the FAC are elected by the Water Institute Affiliate Faculty on staggered 3-year terms. Five members are appointed by the Water Institute Director to ensure balance among disciplines. Table 3 shows the 2016-2107 membership of the Water Institute Faculty Advisory Committee.

#### Table 3. 2016-2017 Water Institute Faculty Advisory Committee

Name	Department	College
Christine Angelini	Environmental Engineering Sciences	Engineering
Mary Jane Angelo	Environmental and Land Use Law	Law
Thomas Bianchi	Geology	Liberal Arts and Sciences
Tatiana Borisova	Food and Resource Economics	Agricultural and Life Sciences
Mark Brenner	Geology	Liberal Arts and Sciences
Matthew Cohen	Forest Resources and Conservation	Agricultural and Life Sciences
Nancy Denslow	Environmental and Human Toxicology	Veterinary Medicine
Michael Dukes	Agricultural and Biological Engineering	Agricultural and Life Sciences
James Gillooly	Biology	Liberal Arts and Sciences
David Kaplan	Environmental Engineering Sciences	Engineering
Kai Lorenzen	Fisheries and Aquatic Sciences	Agricultural and Life Sciences
Jonathan Martin	Geology	Liberal Arts and Sciences
Kati Migliaccio	Agricultural and Biological Engineering	Agricultural and Life Sciences
Todd Osborne	Soil and Water Science	Agricultural and Life Sciences
Thomas Waltzek	Veterinary Medicine	Veterinary Medicine

An ad-hoc External Council of Advisors consists of speakers who have participated in the Water Institute Distinguished Scholar Seminar Series. These individuals are representatives of leading academic institutions in a wide range of water-related fields, many of whom are National Academy members and two of whom are Stockholm Water Prize winners.

# 4 ACCOMPLISHMENTS

### 4.1 Research

During 2016-2017 faculty affiliated with the Water Institute led active research projects totaling approximately \$168 million, and received new sponsored water-related research awards totaling approximately \$30 million.

During 2016-2017 the Water Institute coordinated 7 active funded interdisciplinary projects (\$8M), supported 8 funded interdisciplinary projects (\$4.3M) and supported the submission of 8 new interdisciplinary proposals (\$11.3M), (See Table 4 below for details). For more information on Water Institute projects see the on-line searchable Water Institute research database.

Highlights in 2016-2017 included launching of the new \$5M USDA-NIFA Agricultural Water Security Coordinated Agricultural Project and continued coordination and execution of the \$2.2M Springs Protection Initiative project funded by the St. Johns River Water Management District. The goal of the new interdisciplinary USDA NIFA project, which involves 14 faculty members from 4 Universities, is to ensure economic sustainability of agriculture and silviculture in North Florida and South Georgia while protecting water quantity, quality, and habitat in the Upper Floridan Aquifer and the springs and rivers it feeds. The goal of the interdisciplinary Springs Protection Initiative project, which involves 11 faculty members from 3 UF colleges, is to provide a scientific basis for improved springs protection and remediation.

Principal Investigator	Dates	Title	Amount	Co-PIs	Agency	Status		
Water Institute Coordinated Projects								
Graham, Wendy, WI	7/2017-62/2020	Agricultural Water Security through Sustainable Use of the Floridan Aquifer: An Integrated Assessment of Economic and Environmental Impacts	\$4,918,926	Adams, Damian Barrett, Charles Wendy- Lin Bartels Tatiana Borisova Dukes, Michael Kaplan, David Monroe, Martha plus faculty from AU, ASU and UGA	USDA-NIFA	Funded		
Kaplan, David, ESSIE	3/2016- 2/2018	Water Resources Research Institute Annual Base Program	\$32,000	Adams, Damian Graham, Wendy	US Geological Survey	Funded		
Graham, Wendy, WI	6/2015- 12/2017	Support services for collaborative stakeholder-scientist partnership: Florida Water and Climate Alliance	\$25,000	Irani, Tracy Martinez, Chris	Tampa Bay Water Authority	Funded		
Michael Dukes, ABE	1/2015- 12/2018	Evaluation of water use, water quality and crop yield impacts of corn and peanut irrigation and nutrient BMPs in the springsheds of Suwannee River Water Management District	\$432,888	Rowland, Diane Graham, Wendy	Suwannee River Water Management District, Florida Dept of Agriculture, Florida Dept of Environmental protection	Funded		
Reddy, K. Ramesh, SWS	6/2014- 9/2017	Springs Protection Initiative - Collaborative Research Initiative on Sustainability and Protection of Springs [CRISPS]	\$2,170,468	Graham, Wendy Annable, Mike Cohen, Matthew Jawitz, James Frazer, Tom Kaplan, David Kramer, Marc	St. Johns River Water Management District	Funded		
Graham, Wendy, WI	3/2011- 2/2016	Water Resources Research Institute Annual Base Program	\$81,600	Frazer, Thomas	US Geological Survey	Funded		
Graham, Wendy, WI	4/2007- 12/2017	Use of Seasonal Climate Forecasts to Reduce Risk in Regional Public	\$374,800	Martinez, Chris	Tampa Bay Water Authority	Funded		

 Table 4. 2016 Active Water Institute Projects and Grant Proposals Submitted

		Water Supply				
		Management				
Water Institu	ite Suppor	ted Projects		L		
Cohen,	08/2016	Collaborative	\$475,565	Hensley, Robert	National	Funded
Matthew, SFRC	- 7/2019	Research: Continuous Metabolism and Nutrient Uptake Across the River Continuum			Science Foundation	
Loiselle, Bette A., CLATAM	8/2016- 7/2021	CNH-RCN: Amazon Dams Network: Advancing Integrative Research and Adaptive Management of Social-ecological Systems Transformed by Hydroelectric Dams	\$499,818	Athayde, Simone, Bohlman, Stephanie Kaplan, David	National Science Foundation	Funded
Southworth, Jane GEO	9/2016- 8/2020	CNH:Emerging land transactions in Ethiopia and their impacts on food and energy security	\$364,164	Agrawal, Arun Brown, Daniel	National Science Foundation	Funded
Reddy, K. Ramesh, SWS	9/2015- 9/2017	Identification And Quantification of Organic Phosphorus Forms in the Water Column and Sediments of Stormwater Treatment Areas	\$139,995		South Florida Water Management District	Funded
Reddy, K. Ramesh, SWS	6/2015- 5/2018	Evaluation of soil biogeochemical properties influencing phosphorus flux in the everglades stormwater treatment areas	\$1,210,164	Patrick Inglett Todd Osborne Alan Wright Stefan Gerber	South Florida Water Management District	Funded
Grogan, Kelly, FRED	3/2015- 3/2018	Innovative Policies to Optimize the Allocation of Water Quality and Conservation Investments and Maximize Multiple Benefits	\$659,676	Chris Martinez, Xiang Bi, Tatiana Borisova, Alan Hodges, Paul Monaghan	USDA NIFA	Funded

Cohen, Matthew, SFRC	5/2014-4/2017	The Ecological Drill Hypothesis: Biotic Control on Carbonate Dissolution in a Low Relief Patterned Landscape	\$599,080	Martin, Jonathan Bianchi, Tom	National Science Foundation	Funded
Martin, Jonathan, GLY	8/2013- 7/2016	Coastal SEES (Track 1): Planning for hydrologic and ecological impacts of sea level rise on sustainability of coastal water resources	\$441,125	Ogram, Andrew Valle-Levinson, Arnoldo Pen, Zhong-ren	National Science Foundation	Funded
Interdiscipli	inary Propo	sals Submitted				
Martin, Jonathan, GLY	10/2015	Coastal SEES: Sea- level change and thresholds for coastal water sustainability	\$1,999,454	Ogram, Andrew Valle-Levinson, Arnoldo Pen, Zhong-ren	National Science Foundation	Declined
Kaplan, David ESSIE	3/2016	When Policy, Practice, and Outcomes Diverge: Developing an Integrated Environmental and Economic Modeling Framework to Enhance Food, Energy and Water Sustainability of the Floridan aquifer FEWS	\$923,334	Adams, Damian	National Science Foundation	Declined
Kaplan, David ESSIE	11/2016	CNH-L: Mega Infrastructure Development in Resource Frontiers: Modeling the impacts of Industrialization on Amazonia's Natural and Human Systems.	\$1,799,818	Muñoz-Carpena, Rafael	National Science Foundation	Declined
Borisova, Tatiana FRED	11/2016	CNH-L: Whither are the thresholds in a Florida Urban Water System: Replaying history in a future world	467,028	Staal, Lisette	National Science Foundation	Pending
Muñoz- Carpena, Rafael ABE	11/2016	CNH-L Temporal miscoupling of the human and natural system responses: the need for an	\$1,773,980		National Science Foundation	Pending

		institutional paradigm shift				
Shukla, Sanjay ABE	1/2017	Evaluating Compact Bed Geometry for Plasticulture: Disease, Environmental, and Economics	\$358,855		Florida Department of Agriculture and Consumer Services	Pending
Southworth,	3/2017	Collaborative	\$1,458,721		National	Pending
Jane		Research:			Science	
GEO		Geosciences from			Foundation	
		Exploration to				
		Opportunity (GEO)				
		Program				
Muñoz-	3/2017	INFEWS/T1:	\$2,489,896	Asseng, Senthold	National	Pending
Carpena,		Engineering water		Barrera Alviar,	Science	
Rafael		governance for		Jorge	Foundation	
ABE		resilient FEW		Garcia, Alfredo		
		systems: an iterative		Johnson, Jeffrey		
		consensus		Muneepeerakul,		
		mechanism		Rachata		

# **4.2 Investment of Water Institute Funds in Program Initiation**

Table 5 below summarizes investment of Water Institute funds in program initiation in 2016-2107

Date Principal Investigator		Description	Amount
May 2016	Diane Rowland	Graduate student funding support	\$5,000
January 2017	Damian Adams	Post Doc/faculty funding support	\$12,000
April 2017	Rachata Muneepeerakul	2017 Water Institute Graduate Fellows Cohort	\$25,000

 Table 5. Water Institute Program Initiation Funds 2016-2017

# **4.3** Water Institute Distinguished Scholar Seminar Series

The Water Institute Distinguished Scholar Seminar Series invites high-profile scholars to UF to conduct a Water Institute seminar of interest to a broad audience; meet with the Water Institute Faculty Advisory Committee to discuss strategic planning and partnering opportunities; and meet with interested Water Institute faculty and graduate students to discuss specific research and education issues. Eight Distinguished Scholar speakers and two UF speakers were hosted during 2016-2017 (see Table 6 for details). For a complete listing of speakers since the Water Institute's inception see <a href="http://waterinstitute.ufl.edu/seminars/seminars.asp">http://waterinstitute.ufl.edu/seminars/seminars.asp</a>.

# Table 6. 2016-2017 Distinguished Scholar Seminar Speakers

Date	Date Distinguished Scholar Seminar Speaker				
September 12, 2016 Duane De Freese, Ph.D., Executive Director, IRL Council & Indian River Lagoon					
	National Estuary Program				

September 15, 2016	Dr. Pedro Sanchez, Research Professor, Soil and Water Sciences Department, University of Florida				
October 10, 2016 <u>Ty Ferré, Ph.D.</u> , Professor - Department of Hydrology and Water Resource					
	of Arizona, 2016 Darcy Lecture Series in Groundwater Science (Nat'l Groundwater				
	Association)				
November 14, 2016	Kati Migliaccio, Ph.D., 2016 Water Institute Faculty Fellow, Department of Agricultural				
,	and Biological Engineering				
December 05, 2016	Arnoldo Valle-Levinson, Ph.D., 2016 Water Institute Faculty Fellow, Department of				
	Civil and Coastal Engineering, ESSIE				
January 12, 2017	James Elser, Ph.D., Bierman Professor of Ecology & Director - Flathead Lake Biological				
	Station, University of Montana, Research Professor - School of Life Sciences & School				
	of Sustainability, Arizona State University, Tempe, AZ				
February 17, 2017	Catherine Kling, Ph.D., Charles F. Curtiss Distinguished Professor in Agriculture and				
•	Life Sciences, Iowa State University				
March 17, 2017	Christine Kirchhoff, Ph.D., Assistant Professor, Civil & Environmental Engineering				
,	Department, University of Connecticut				
April 04, 2017	Upmanu Lall, Ph.D., Alan & Carol Silberstein Professor of Engineering & Director of				
•	Columbia Water Center, Dept. of Earth & Environmental Engineering, Columbia				
	University				
May 02, 2017	Ryan Bailey, Ph.D., Assistant Professor, Civil and Environmental Engineering, Colorado				
	State University				

# 4.4 Symposia and Conferences

<u>Biennial Water Institute Symposium:</u> Five Water Institute Biennial Symposia have brought together researchers, engineers, policy makers, water managers, industry representatives, lawyers, students and citizens to consider the challenges to water resources sustainability; explore solutions for pressing issues; and provide broad-based recommendations for research, education, technology and policies to ensure water resources sustainability for Florida and beyond. A program committee is currently planning the 6th Water Institute Symposium that will be held at the UF Reitz Union in Gainesville on February 6th -7th, 2018. The Water Institute Symposia website details the theme for the upcoming Symposium as well as the programs, presentations and attendees for the previous five Symposia.

<u>A graduate student poster competition</u> is sponsored during each of the UF Water Institute Biennial Symposia, during which graduate students compete for \$1,000 awards to attend a professional conference to present their research. Since 2008, over 225 students have competed and a total of 15 students have won \$1,000 each in travel support.

#### 4.5 Graduate Education Programs

A Water Institute priority is to foster, support, and synergize innovative interdisciplinary water education. Although the Water Institute is not a degree granting entity, its research and education activities contribute substantially to graduate education at the University. <u>The Water Institute Graduate Fellows (WIGF) Program</u> was created in 2010 to support faculty-graduate teams to conduct interdisciplinary research in emerging areas of water science, including the social, natural, and engineering sciences. The Deans of the UF/IFAS College of Agricultural and Life Sciences, UF College of Liberal Arts and Sciences, and the Directors of the School of Natural Resources and Environment and the Engineering School of Sustainable Infrastructure and the Environment

have committed funding for UF Graduate Research Fellowships in support of this program. This funding provides 4 years of support (stipend and tuition) to biennial cohorts of 6-8 Ph.D. students. In addition, participating faculty add students to the WIGF cohorts using other acquired grant funds.

The Water Institute leverages the UF investment in the WIGF program using gifts provided by the Carl S. Swisher Foundation and the Sherwood L. Stokes Foundation. These funds support field, laboratory and computer analyses by the faculty/student cohort as well as other integrative activities. Table 6 lists graduate students funded by the WIGF program to date. The Deans and Directors of the participating colleges and schools have agreed to provide funding for three additional cohorts that will begin in 2017, 2019 and 2021. Table 7 summarizes the students and faculty who have participated in the WIGF program to date.

In addition to the WIGF program the UF Water Institute provides administrative services to <u>The</u> <u>Hydrologic Sciences Academic Cluster (HSAC)</u>, an interdisciplinary program designed to broaden the skills of science and engineering students interested in all aspects of water. <u>Water Institute</u> <u>Research Projects</u> support many additional graduate students pursuing M.S. and Ph. D. degrees in water-related fields.

WIGF Cohort	Fellow	Faculty Advisor	Department	Date Graduated / Professional Placement
2011	Arnold, Elliott	Brenner, Mark	Geological Sciences	Spring 2017 /Post-Doctoral Scholar, University of Pittsburgh
2011	Henson, Wesley	Graham, Wendy	Agricultural and Biological Engineering	Fall 2016 / Research Hydrologist, U.S. Geologic Survey
2011	Laing, Joelle	Frazer, Tom	School of Natural Resources and Environment	Fall 2016 / Environmental Consulting and Design
2011	Nealis, Charles	Clark, Mark	Soil and Water Science	Fall 2015 / Assistant Professor, Virginia State University
2011	Weinkam, Grant	Brown, Mark	Environmental Engineering Sciences	Spring 2016 / Post-Doctoral Scholar, University of Arizona
2013	Branyon, Jaqueline	Valle Levinson, Arnoldo	Civil and Coastal Engineering	Fall 2015 / Coastal Engineer & Research Scientist, Mofatt & Nichol
2013	Chutcharavan, Peter	Dutton, Andrea	Geological Sciences	Graduation anticipated Spring 2019
2013	Deng, Yujun	Peng, Zong-Ren	Urban and Regional Planning	Graduation anticipated Spring 2018
2013	Glodzik, Katie	Pine, William	Wildlife Ecology and Conservation	Graduation anticipated Fall 2017
2013	Huang, Labin	Ogram, Andrew	Soil and Water Sciences	Summer 2017 / Post- Doctoral Scholar, University of Florida, Fort

 Table 7. Water Institute Graduate Fellows and Advisors

				Lauderdale Research and Education Center
2013	Pain, Andrea	Dutton, Andrea	Geological Sciences	Graduation anticipated Fall 2017 / Post-Doctoral Scholar, University of Florida, Geological Sciences
2013	Skrivanek, Alexandra	Dutton, Andrea	Geological Sciences	Graduation anticipated Spring 2019
2013	Vyverberg, Karen	Martin, Jon	Geological Sciences	Graduation anticipated Fall 2017.
2015	Hyde, Jacy	Bohlmann, Stephanie	School of Forest Resources and Conservation	Graduation anticipated Summer 2019
2015	Lehmensiek, May	Lorensen, Kai	School of Natural Resource and Environment	
2015	Sabo, Alexandra	Simmons, Cynthia	Geography	
2015	Swanson, Christine	Valle, Dennis	School of Forest Resources and Conservation	Graduation anticipated Summer 2020
2015	Crouch, Trey	Kaplan, David	Environmental Engineering Sciences	
2015	De Carvalho, Roberta	Walker, Bob	Geography	
2017	Kati Vazquez	Rachata Muneepeerakul	Agricultural and Biological Engineering	
2017	Caroline Huguenin	Peter Waylen	Geography	
2017	Matt Foster	Rafael Muñoz- Carpena	Agricultural and Biological Engineering	
2017	Oswaldo Medina Ramirez	Jeffrey Johnson	Anthropology	
2017	Daniel Penniman	Greg Kiker / Christine Angelini	School of Natural Resource and Environment	

#### 4.6 Public Outreach and Communication Programs

The UF Water Institute engages actively with statewide, regional and national communities. In 2016-2017 these activities included:

<u>UF/IFAS Extension Water Initiative:</u> Since 2012 the Water Institute has been assisting UF/IFAS Extension with implementation of its Water Initiative, a priority in the UF/IFAS Extension Roadmap through 2023. The goal of the UF/IFAS Extension Water Initiative is enhancing and protecting water quality, quantity, and supply through public programming offered by Extension faculty.

To help launch the Water Initiative, the Water Institute in 2012 planned and facilitated a 2-day <u>Extension Water Initiative Summit</u> that convened over 70 County and State Extension faculty, who developed an implementation plan for the Water Initiative. At the Summit, action teams were formed that subsequently developed action plans for 3 areas: water conservation, water quality, and public awareness of water issues.

Water Institute staff have served since 2012 as actively contributing members of the Water Initiative Leadership Team and of the Public Awareness team. Results have included development of a <u>UF/IFAS water website</u>, a Delivery-Ready-Outreach-Plug In on laws protecting water quality, and a <u>pilot Florida Waters Stewardship Program</u> in Pinellas County.

The Water Institute planned and facilitated a 1-day in-person Water Initiative team meeting in summer 2016 that provided impetus and defined specific resources needed by Extension faculty to successfully complete the Extension Water Initiative.

<u>Water Resource Regional Specialized Agents</u> – UF/IFAS in 2015-2016 hired a cohort of 5 new Water Regional Specialized Agents (Water RSAs) who are developing public programming on statewide water-resource issues. The Water Institute entered into an MOU with UF/IFAS Extension to plan and lead fieldtrips to the 5 Extension Districts. The fieldtrips have been providing an opportunity for the Water RSAs to learn about regional and statewide water-resources and issues. During fieldtrips, the Water RSAs are meeting with Extension staff working on waterrelated topics, actual & potential partners in local government and state/federal agencies, and other water-related stakeholders. This is enabling them to develop timely and effective water-related public education programs across Florida in topics ranging from innovative agricultural Best Management Practices to high-performance residential septic systems.

The Florida Water and Climate Alliance – The UF Water Institute coordinates the Florida Water and Climate Alliance (FloridaWCA), a stakeholder-scientist partnership committed to increasing relevance of climate-science data and tools at relevant time and space scales to support decisionmaking in water resource management, planning and supply operations in Florida. FloridaWCA collaborators and funders include NOAA, six major public water supply utilities, three Florida water management districts, local government representatives and several academic institutions. The FloridaWCA facilitates interactions that help to define important questions that result in valuable research and actionable information. Workshops, publications, proposal development and an active website contribute to the impact of the network. There have been 3 workshops held per year (16 to date) reaching over 193 people from scores of organizations in Florida. According to a recent Utility funded citation impact analysis report (Qu, S., & Irani, T., 2017) FloridaWCA members have published 28 journal articles and cited 240 times. Over 10 proposals have been submitted to state, regional and national organizations (WERF, WRF, NOAA, EPA, NSF and local utilities and water management districts) ranging from values of \$5000 to \$1.5 million. All publications, workshop reports and presentations are available on the FloridaWCA website.

# Center/Institute Plans for 2016-2017

# a. Strategic Goals

- Maintain network with national funders and academic partners formed during year as Program Director at the National Science Foundation in Washington DC
- Continue to build network of national funders and academic partners through participation in the National Academies Water Science and Technology Board.

- Continue to support submission of proposals for multi-million dollar interdisciplinary grants from national/international funding agencies
- Successfully complete high-profile \$2.2 Million Springs Research Initiative funded by the St. Johns River Water Management District
- Successfully launch and coordinate \$5M Agricultural Water Security Project funded by USDA-NIFA
- Coordinate and develop additional funding for the Florida Water and Climate Alliance
- Plan and execute a successful February 2018 Biennial Water Institute Symposium in Gainesville FL
- Continue collaboration with UF/IFAS Extension
- Continue to bring in internationally known water experts to a well-attended Distinguished Scholar Seminar Series
- Build and strengthen the Water Institute Graduate Fellows Program
- Maintain an up-to-date website that showcases Water Institute faculty programs and publications

# b. Anticipated challenges and needs

- Assistance with Water Institute promotion, marketing and public relations
- Assistance with pursuit of endowments
- Assistance with pursuit of state legislative budget requests and targeted federal funding