

# Florida Center for Renewable Chemicals and Fuels

Ending June

**2017**

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The annual report covers the following measures of the Center's performance for the past year on the areas of Research, Collaboration among faculty and with other institutions in Florida. Update on the Stan Mayfield Biorefinery Pilot Plant is included in the Summary page.

Performance  
Based on  
Accountability  
Measures

# Florida Center for Renewable Chemicals and Fuels

## Summary of Accountability Measures

July 2016– June 2017

### Research Effectiveness

1. Competitive Contracts and Grants Applied for and Received (Appendices 1a and 1b) Appendix 1c. Grant Sponsors	<i>On-Going Grants and Contracts</i> 75	<i>Grants Applied</i> 65		<i>Grants Received</i> 47
	<i>Amount:</i> \$38,360,811	<i>Amount:</i> \$74,437,288		<i>Amount:</i> \$8,083,017
2. TOTAL Research Expenditures (Appendix 2a): \$7,844,978.35 Appendix 2b: FCRC Budget Status	<i>Federal</i> \$5,692,495.44	<i>State</i> \$271,138.24	<i>Industry</i> \$343,892.82	<i>University</i> \$1,537,451.85
3. Publications in Refereed Journals by Faculty Members (Appendix 3):	<i>TOTAL</i> 160	<i>2017</i> 53		<i>2016</i> 108
4. Professional Presentations and Meetings attended by faculty and staff (Appendix 4) = 42	<i>International</i> 16	<i>National</i> 17		<i>State.Local.Universities</i> 9
5. Patents (Appendix 5)	<i>Issued Patents</i> 4	<i>Pending</i> 3		<i>Disclosures</i>

### Collaboration Effectiveness

6. Appendix 6a: Collaborations with National and International Postsecondary Institutions – 22 Appendix 6b. Collaborations with Private Industry – 25 Appendix 6c. Collaborations with International Institutions – 13			
7. Personnel Supported with Grants Awarded to Member Faculty = with FTE; (Appendix 7)	<i>UnderGrad</i> (0.25FTE)	<i>Graduate</i> (0.5FTE)	<i>Post-Doc.Faculty.Staff</i> (1.0FTE)
8. FCRC Faculty Members = 30 (Appendix 8)	<i>UF</i> 27	<i>Other University</i> 1	<i>Industry</i> 3

9. Students Graduated	De crecy – Lagard - Farivar, Tanaz, MS; Yifeng Yuan, PhD Keyhani - RaLLandi, Ramya Naga, MS; Zhang, Chi MS Kolaczkowski - Jones, Joshua, MS; Dias, Raquel PhD Maupin-Furlow - Cao, Shiyun, PhD; Fu, Xian, PhD; Ling, Qinyin PhD; Martin, Jonathan, PhD Preston - Sawhney, Neha, PhD Rice - Mogen, Austin, PhD Romeo - Hsieh, Hsin, MS; Zere, Tesfalem, PhD Shan - Awasthi, Deepika, PhD; Wu, Wei, PhD Triplett - Davis-Richardson, Austin, PhD; Dias, Raquel, PhD; Fagen, Jennie, PhD; Kemppainen, Kaisa, PhD Vermerrris - Felderhoff, Terry, PhD; Tsui, Yuk Kwan, PhD
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**Economic Development Effectiveness**

10. Jobs Created and Jobs Saved in Florida – Stan Mayfield Biorefinery Personnel until December 31, 2016	4
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**Update on The Stan Mayfield Biorefinery**

**Personnel:**

Executive Director – Lonnie O. Ingram  
Science Advisor – K.T. Shanmugam

**Sponsors**

Federal: USDOE  
State: Florida Legislature; Florida Department of Agriculture and Consumer Services (FDACS)  
Industry Partners: GP Cellulose (formerly Buckeye Technologies, LLC);  
Florida Crystals

The pilot plant was officially closed on December 31, 2016.

## 1. Competitive Grants Applied For and Received

### Appendix1a. Grants Submitted

Faculty	Source and Project Title	Date Submitted	Amount
F Altpeter	UNIV OF ILLINOIS, DOE: Center for advanced bioenergy and bioproducts innovation sustainably increasing sugar and biomass yields of sugarcane varieties	8.30.2016	4,800,000
	UNIVERSITY OF WARWICK: Sustainably increasing sugar and biomass yields of sugarcane varieties	9.20.2016	250,000
	US AGCY INTL DEV: Genome editing in Sorghum for improving biofuel production and forage quality	9.23.2016	200,000
	FL CATTLE ENHANCEMENT BOARD INC: Precision breeding for herbicide resistance and improved digestibility in bahia grass	10.25.2016	156,516
	BAYER CROPSCIENCE AG: A reporter gene system for monitoring gene targeting efficiency in wheat	10.31.2016	54,999
	IOWA STATE UNIV, NSF: Illuminating the role of the secretome in cereal-fungal interactions with precision genome editing in barley	11.22.2016	1,036,204
	NATL ACAD OF SCIENCES, US AID: CRISPR\Cas9 mediated mutagenesis of flowering to increase yield stability in sugarcane during climate change	1.11.2017	276,879
	UF DSR OPPORTUNITY FUND: OR-DRPD-ROF2017: Non-transgenic precision genome editing in sugarcane with nano particle-mediated delivery of DNA-modifying proteins	1.18.2017	100,000
	UNIV OF NEBRASKA, NSF: TRANSFORM-PGR: Novel approaches to transform plant transformation	1.20.2017	1,737,908
	UNIV OF ILLINOIS, USDA: Building on success in systems design of high yielding low-input energycanes for marginal lands	3.2.2017	3,093,018
	TEXAS A& M AGRILIFE RESEARCH, USDA: Energycane as feedstock for high value bioproducts and hydrocarbon biofuels	3.6.2017	2,314,815
	UNIV OF ILLINOIS, BP America, Inc : Developing oil cane for sustainable, scalable, and economically viable renewable diesel and jet fuel	5.5.2017	1,773,030
		<b>TOTAL</b>	
V de Crécy-Lagard	Columbia University, NIH: Biophysically validated genome-scale prediction of interprotein interactions	10.27.2016	216,012
	MIT, NSF: Exploring the diversity of naturally occurring DNA modifications	11.3.2016	114,375
		<b>TOTAL</b>	<b>330,387</b>
J Erickson	INTL MAIZE & WHEAT IMPROVEMENT CTR: Establishing elevated temperature thresholds for gain set and reproductive growth of tropical maize hybrids for use in models to determine regions of vulnerability	7.1.2016	51,717
		<b>TOTAL</b>	<b>51,717</b>
JS Foster	NASA: The Microbiome and Micrite Factory of shark bay stromatolites: understanding processes of carbonate precipitation	7.14.2016	868,418
	UF RES, FRI: OR-DRPD-SRI.CASIS2016: Assessing the regulation of host innate immune system by microbes under microgravity conditions using the squid vibrio model system	10.24.2016	124,653
	NASA: Elucidating the stromatolite microbiome using a comparative metagenomic and metabolomic approach	1.27.2017	89,832
	UCF, NASA: Elucidating the molecular pathways of microgravity-induced programmed cell death in animals	2.17.2017	6,020

	FL Res Prog: Impact of modeled microgravity on the beneficial symbiosis between the bobtail squid, <i>Euprymna scolopes</i> , and its luminescence bacterium, <i>Vibrio fischeri</i>	5.11.2017	5,000
		TOTAL	1,093,923
CF Gonzalez w. <i>GL Lorca</i>	USDA NIFA: Identification and characterization of a regulon involved in the persistence of <i>Candidatus Liberibacter asiaticus</i> in citrus (AWARDED)	2.9.2017	863,487
		TOTAL	863,487
B Kolaczowski	NSF: CAREER: Evo-Immuno - tracking the evolutionary rewiring of an antiviral signaling system across early animals	7.20.2016	1,031,417
	NIH: Functional Evolution of Innate Antiviral Immunity across Animals	11.4.2016	1,521,997
		TOTAL	2,553,414
M Kirst	USDA NIFA: Manipulating plant hydraulic conductivity to enhance productivity	8.11.2016	500,000
	UNIV OF TENNESSEE, USDA NIFA: PopuluSolv: A sustainable supply chain for the southeast s bioeconomy	9.12.2016	532,742
	PURDUE UNIV, DOE: Sustainable Aviation BioEnergy Research Center (SABER)	9.28.2016	5,407,551
	US DEPT OF AG NATL INST OF FOOD & AG: Editing elite <i>Populus deltoides</i> (Eastern Cottonwood) cultivars for disease resistance	2.15.2017	1,197,298
	VIRGINIA TECH UNIVERSITY, DOE: POLyGENE: PopuLus growth and environmental network engineering	3.16.2017	310,710
	US DOE: Phylogenomic discovery and engineering of nitrogen fixation into the bioenergy woody crop poplar	3.20.2017	8,542,460
	NSF: Developing a nascent flavor-based food product industry	3.31.2017	50,000
		TOTAL	16,540,761
GL Lorca w Gonzalez	KOLIBER BIOSCI. NIH: Genetic toolkit for genome editing of the <i>Lactobacillus</i> genus.	4.3.2017	3,951
		TOTAL	3,951
W Nicholson	NASA: Evolution of microbial adaptations to pressure extremes: From the deep ocean to the upper atmosphere	7.22.2016	468,865
	UF RESEARCH OFFICE: OR-DRPD-SRI.CASIS2016: Development and mitigation of antibiotic resistance in the opportunistic pathogen <i>Staphylococcus aureus</i> onboard the International Space Station	10.24.2016	91,646
	NASA AMES RES CENTER: BEEDS: Bacterial Experimental Evolution in Deep Space	11.18.2016	41,776
		TOTAL	602,287
GF Peter	AUBURN UNIV: Advanced pine biorefining	9.19.2016	5,012,719
	NORTH CAROLINA STATE UNIV; DOE: DOE Bioenergy Center with NSCU as premier ...	9.27.2016	5,884,738
	CALLISONS, FDACS: Commercial production of pine oleoresin for biofuels	11.14.2016	399,889
	US DEPT OF ENERGY: Metabolic and developmental engineering of hydrocarbon-rich plant feedstocks	3.20.2017	12,522,193
	CALLISONS: Pine tapping yields and assessing insect impacts	5.22.2017	27,937
		TOTAL	23,847,476

P. Pullammanappallil	XCEL ENERGY: A mobile, self-contained, pilot anaerobic digester facility for conversion of nonagricultural residues in Minnesota to electricity	9.22.2016	1,109,538
	TOTAL		1,109,538
C Reisch	UF DSR Opportunities: OR-DRPD-ROF2017: Establishing a system for dynamic gene repression in Burkholderia using CRISPR.dCas9 (Awarded)	1.18.2017	97,736
	NIH: A gene depletion library in Pseudomonas aeruginosa using CRISPR.dCas9	2.16.2017	406,597
	TOTAL		504,333
KC Rice	NASA: Investigation of the cellular sources and physiological roles of nitric oxide production in halophilic archaea	1.30.2017	430,622
	NASA: Characterizing nitric oxide synthase and stress adaptation in the archaeon Natronomonas pharaonis	1.30.2017	43,885
	NIH: Regulation of Staphylococcus aureus physiology by bacterial nitric oxide	3.1.2017	22,788
	Miami Dade College, DOEd: MDC STEM EngInE Grant	5.12.2017	22,250
	TOTAL		519,545
T Romeo	NIH: Mechanism of CsrA-Mediated Global Control	10.26.2016	2,936,664
	TOTAL		2,936,664
KTShanmugam	ANHUI HUAHENG BIOTECHNOLOGY CO LTD: Genetically Modified Strains of E. coli for Production of Fuels and Chemicals	11.21.2016	249,947
	TOTAL		249,947
LE Sollenberger	FLORIDA CATTLEMENS ASSOCIATION: Defining the importance of soil ph, potassium, and phosphorus in reversing bahiagrass pasture decline on Florida cattle ranches	10.27.2016	75,433
	UNIV OF GEORGIA SARE.ACE: Nitrous oxide emissions and soil carbon accumulation of year-round forage systems based on legumes or N-fertilized grasses	5.5.2017	16,338
	TOTAL		91,771
Z. Tong	USDA NIFA: Biobased and highly ph-sensitive nanocomposite barrier film for food package with spoilage detection function	7.13.2016	499,054
	STDF: Biorefinery-residue based bionanocomposite encapsulated fertilizer for controlled release nanofertilizer	9.26.2016	196,717
	TRANLIN INC: Characterization of fulvic acid-based fertilizers derived from pulping process	10.6.2016	26,474
	NSF: SusCHEM: One-pot lignin depolymerization for high value aromatics by transition metal-based biomimetic catalyst	10.20.2016	388,058
	TOTAL		1,110,303
EW Triplett	USDA NIFA: Developing second-generation antimicrobial treatments for citrus greening disease and a multi-omics approach toward culturing the pathogen.	8.15.2016	3,183,756
	CRDF: Antimicrobial assay for inhibition of Liberibacter crescens, the closest cultured relative of the citrus greening pathogen, Ca. L. asiaticus.	8.19.2016	5,425
	HUGHES MEDICAL INST, HOWARD: Building scale on a model for increased diversity in undergraduate science education: introduction and proposed activities	1.27.2017	0
	CRDF: Monitoring of citrus groves for non-target antibiotic resistance prior to and after application of streptomycin and oxytetracycline	2.17.2017	178,099

	JDR: Do children at high genetic risk for type 1 diabetes have an aberrant microbiome compared to low-risk children?	3.1.2017	498,673
	JDR: Structural and functional analysis of immune-tolerance associated with fecal commensal isolates from the Finnish DIPP study	3.6.2017	498,842
	USDA NIFA: Application of advanced technologies for the culturing of the citrus greening pathogen, Candidatus Liberibacter asiaticus	5.12.2017	0
	TOTAL		4,364,795

W. Vermerris	USDA NIFA: Midwest Renewables and Advanced Biofuels Consortium (MRABC)	9.13.2016	509,909
	TEXAS A&M, DOE: Southern Institute for BioEnergy Sciences (SIBES)	9.23.2016	1,045,325
	NASA: Minimizing forward and backward contamination during space exploration with lignin-based antimicrobial coatings	2.1.2017	134,148
	DONALD DANFORTH PLANT SCIENCE CTR, USDA: Optimizing tradeoffs implicit during bioenergy crop improvement: Understanding the effect of altered cell wall and sugar content on sorghum-associated pathogenic bacteria	2.7.2017	180,238
	TOTAL		1,869,620

<b>TOTAL # FACULTY</b>	<b>19</b>
<b>TOTAL NUMBER OF GRANTS SUBMITTED</b>	<b>65</b>
<b>TOTAL AMOUNT REQUESTED</b>	<b>\$74,437,288</b>

**Appendix 1b. Grants Awarded: New and On-Going**

FACULTY	SPONSOR.TITLE	AWARDED		
		Start. End Dates	Amount 2016-2017	On-Going
F Altpeter	NSF: Conference: Transformation-enabled genomic ...	8.1.2015 7.31.2016	0	33,453
	Universtiyof Illinois DOE: Engineering hydrocarbon biosynthesis	2.29.2012 3.31.2017	371,715	1,213,173
	Iowa State Univ (NSF): Targets to fungal effectors as keys to durable resistance	4.1.2014 3.31.2018	74,849	364,605
	<b>TOTAL</b>		<b>446,564</b>	<b>1,611,231</b>
JM Davis	USDA NIFA: Integrating research, education and extension	3.1.2011 2.28 2017	7,558	41,066
	<b>TOTAL</b>		<b>7,558</b>	<b>41,066</b>
V de Crécy-Lagard	NSF: Role of nucleoside modifications in tRNA surveillance in eukaryotes – <i>with Dedon &amp; Jackman</i>	8.1.2014 7.31.2017	246,000	690,000
	NIH MIGMS: Complex modifications of tRNA: Regulatory roles and cross talk with DNA metabolism	3.2.2006 8.31.2019	377,603	794,892
	<b>TOTAL</b>		<b>623,603</b>	<b>1,484,892</b>
JE Erickson	INTL MAIZE & WHEAT IMPROVEMENT CTR: Establishing elevated temperature thresholds for gain set and reproductive growth	5.10.2016 12.30.2016	51,717	51,717
	MULTIPLE SPONSORS: IFAS Service Programs	5.1.2016 4.30.2021	51,750	51,750
	USDA-AFRI: Direct effects of converting conventional agroecosystems to bioenergy cropping systems on carbon, water, and nutrient cycling in the southeastern U.S.A. <i>Co-PI's: L. Sollenberger, RSchnell, M. Silveira, L. Ingram</i>	7.1.2012 6.30.17	34,286	256,584
	International Travel – Erickson	2.15.2016 2.15.2017	0	1,356
	USDA NIFA: Enhancing ecosystem services of grain sorghum agroecosystem	4.1.2015 3.31.2019	0	325,000
	USDA NIFA: SubProject	9.1.2015 8.31.2019	0	194,012
	<b>TOTAL</b>		<b>137,753</b>	<b>880,419</b>
JS Foster	NASA SSFLC: The metatranscriptome and biogeochemistry of marine thrombolitic microbial mats: pathways to biosignatures	1.17.2012 1.16.2017	0	715,687
	NASA: Impact of microgravity on the cell-cell interactions between a mutualistic bacterium and its animal host	12.1.2013 11.30.2017	25,753	491,334
	UCF NASA: Elucidating the molecular pathways of microgravity-induced programmed cell death in animals	3.1.2017 3.1.2018	6,020	6,020
	UF Office of Research: OR-DRPD-SRI2015: Mechanisms underlying microgravity-induced delays in the immune system of an animal-bacteria model system.	1.4.2016 1.3.2017	98,738	98,738
	University of South Florida (FLSPI)	1.4.2016 1.3.2017	73,598	73,598

		TOTAL	204,109	1,385,377
CF Gonzalez	USDA: Identification and characterization of a regulon involved in the persistence of <i>Candidatus Liberibacter asiaticus</i> in citrus	5.15.2017 5.14.2021	863,489	863,489
	UFDSR: DSR match support for NSF fellows: NSF research award Ricardo Vallardes	8.16.2012 8.15.2017	0	1,000
	USDA-Minimizing intestinal inflammation with high phenolic co	02.01.2015 01.31.2019	0	19,870
	USDA-A novel antimicrobial approach to combat Huanglonghing	02.01.2015 03.03.2018	0	336,499
	TOTAL		863,489	1,220,858
LO Ingram	BASF CORP: Engineering E. coli for the Fermentation of Cellulosic Sugars into Chemicals	1.1.16 12.31.16	0	610,000
	USDOE-India Consortium: Biocatalyst development for production of advanced biofuels and co-products. <i>See Shanmugam, transferred in 1.31.2017</i>	9.18.2012 9.17.2017	0	0
	TOTAL		0	610,000
NO Keyhani	NSF: Mutualism and parasitism: Entomopathogenic fungi, insects, and plants	1.15.2016 1.14.2019	229,760	548,515
	TOTAL		229,760	548,515
M Kirst	USDA: Accelerated development of optimal feedstock for bioenergy using genome-wide selection	9.1.2013 8.31.2017	229,760	879,907
	NSF-Genome and transcriptome based prediction inference of M	03.15.2015 02.28.2019	569,545	981,747
	USDA: Accelerated breeding by improved accuracy and mate	9.1.2013 8.31.2016	0	450,000
	TOTAL		799,305	2,311,654
B Kolaczowski	MIAMI DADE COLLEGE (US DO Educ): STEM Ladder Grant (Elliott, Monica, Co-PI)	6.1.2016 9.30.2016	0	45,000
	NSF-Comparative molecular evolution of animal and plant RNA	07.01.2014 06.30.2017	165,209	508,614
	TOTAL		165,209	553,614
GL Lorca	USDA-Minimizing intestinal inflammation with high phenolic content	2.01.2015 1.31.2019	460,239	493,088
	USDA-A novel antimicrobial approach to combat huanglongbing disease	2.01.2015 3.03.2018	16,567	1,658,041
	MEDELA AG: Refaunation of donor human milk with mother's own milk	9.28.2015 9.27.2018	0	30,777
	JDF: Safety, tolerability and host response to <i>Lactobacillus johnsonii</i>	3.1.2015 8.31.2016	73,605	115,302
	TOTAL		550,411	2,297,208
JA Maupin-Furlow	US DOE: Identification of proteasome substrates of the haloarchaeon <i>haloferax volcanii</i>	7.15.2005 7.14.2019	0	935,169
	US DOE: Redox Control of Ubiquitin-Like Protein Modification in Archaea	7.15.2005 7.14.2019	300,000	300,000
	US DOE: Multifunctional ubiquitin-fold proteins of archaea	7.15.2005 7.14.2019	0	331,151
	French Embassy: Archaeal JAMMIMPN+ isopeptidase structure and function	3.16.16 3.15.2017	0	562

	NIH NIGMS: Ubiquitin-like proteins and proteasomes of archaea	4.1.2015 3.31.2016	221,524	716,100
	NSF: Bilateral NSF.BIO-BBSRC- Remodeling Replication Roadblocks: Regulatory Systems that Integrate DNA Replication, Recombination and Protein Modification	8.15.2016 7.31.2019	402,346	402,346
		TOTAL	923,870	2,685,328
WL Nicholson	NASA: ROSBio-2016.Appendix A: GeneLab innovation awards for translational systems biology and informatics research using the genelab data system (NNH16ZTT001N-GL)	12.19.2016 12.18.2018	25,000	25,000
	NASA: Global transcriptome profiling to identify cellular stress mechanism responsible for spaceflight-induced antibiotic...	10.1.2014 9.30.2016	75,000	308,639
		TOTAL	100,000	333,639
GF Peter	FI Forestry Association: Cooperative Genetics Research Program	7.1.2006 6.30.2016		482,200
	USDOE: Commercial production of terpene biofuels in pine	1.11.2012 6.10.2017	49,999	6,194,275
	University of Georgia (DOE): The dual effect of microtubule manipulation on Populus ...	08.01.2012 07.31.2016	12,971	40,000
		TOTAL	62,970	6,716,475
P Pullammanap pallil	USDOE-India Consortium: Biocatalyst development for production of advanced biofuels and co-products. <i>Co-PI with Shan, Ingram, Tong</i>	9.18.2012 9.17.2017	0	787,970
	BARD (US ISRAEL AG R&D FUND): Investigation of particulate flow behavior in a high sol	9.1.2015 8.30.2018	0	14,136
		TOTAL	0	802,106
C Reisch	UF DSR: OR-DRPD-ROF2017: Establishing a system for dynamic gene repression in Burkholderia using CRISPR. dCas9	6.1.2017 5.31.2019	52,222	52,222
		TOTAL	52,222	52,222
KC Rice	NIH NIAID: Regulation of Staphylococcus Aureus Physiology by bacterial nitric oxide	9.1.2015 11.30.2020	329,019	663,442
	Miami Dade College, DOEd: MDC STEM EngInE Grant	5.08.2017 9.30.2017	22,250	22,500
		TOTAL	351,269	685,942
T Romeo	NIH: Mechanism of CSRA-mediated global control (\$1,655,100 TOTAL)	8.1.2013 5.31.2017	805,914	1,622,829
	Ohio State University (NIH): Coordination of Metabolism and Virulence during infection. <i>Co-PI with Ahmer</i>	12.1.2011 11.30.2017	183,126	886,327
	UFSRO: DSR Match NSF Fellow – A. Potts	8.16.2013 8.15.2018	2,000	6,000
		TOTAL	991,040	2,515,156
KT Shanmugam	USDOE-India Consortium: Biocatalyst development for production of advanced biofuels and co-products.	9.18.2012 9.17.2017	0	1,266,628
	Anhui Huaheng Biotechnology CO. LTD: Genetically modified strains of e. coli for production of fuels and chemicals	1.2.2017 1.1.2018	249,947	249,947
		TOTAL	249,947	1,516,575

LE Sollenberger	FL Cattlemen's FDACS: Defining the importance of soil ph, potassium, and phosphorus in reversing bahiagrass	12.14.2015 9.15.2016	0	34,446
	FL Cattlemen's FDACS: Defining the importance of soil ph, potassium, and phosphorus in reversing bahiagrass	1.6.2017 9.0.2017	51,233	51,233
	University of Georgia: Legume proportion of grass-legume	9.1.2015 8.31.2017	0	11,000
	USDA NIFA: Quantitative approach for reco ...	5.15.2016 5.1402019	84,228	84,228
	USDA NIFA: Manipulating plant species com	3.1.2016 2.29.2020	160,850	160,850
TOTAL			296,311	341,757

Z Tong	DOE: U.S.- India Consortium for Development of Advanced Biofuel Systems; <i>Co-PI</i>	9.18.2012 9.17.2017	37,006	199,761
	TOTAL			37,006

EW Triplett	NSF: A STEP up for the life sciences: Strengthening a research	9.1.2012 8.31.2019	460,278	1,798,284	
	Juvenile Diabetes Foundation- Separating the signal from the noise in autoimmune M	10.01.2014 3.31.2017	150,000	300,000	
	CRDF: A multi-omics approach toward the culturing of <i>Liberibacter asiaticus</i>	6.1.2015 6.30.2017	0	310,372	
	Univ of South Florida: Integrative analysis of teddy data to improve t1d diagnosis	9.1.2015 8.31.2016	0	68,145	
	University of Nebraska: RCN-UBE: Network for integrating bioinformatics into life sciences education	9.15.2015 8.31.2020	0	67,675	
	US DE - Miami Dade College: STEM ladder grant ( <i>Co-PI</i> )	6.1.2016 9.30.2016	0	45,000	
	CRDF: Developing second generation antimicrobial treatments for citrus greening disease	7.1.2016 6.30.2018	0	248,744	
	CRDF: Antimicrobial assay for inhibition of <i>Liberibacter crescens</i> , the closest cultured relative of the citrus greening pathogen, <i>Ca. L. asiaticus</i> .	8.1.2016 7.30.2017	0	5,425	
	CRDF: Rapid identification of antibiotics useful in the control of citrus greening disease	7.1.2016 6.30.2018	278,593	278,593	
	NIH: Modeling the Fetal Microbiome (Wood, PI)	2.1.2016 1.31.2018	68,522	412,500	
	CRDF: Monitoring of citrus groves for non-target antibiotic resistance prior to and after application of streptomycin and oxytetracycline	4.1.2017 3.31.2018	160,496	160,496	
	TOTAL			1,117,889	3,695,234

WA Vendrame	Okeelanta Corp: Sugarcane disease free seed production	04.01.2015 03.31.2016	31,483	31,483
	Zero Gravity Solutions Inc: Assessment of BAM-FX effects	4.1.2016 3.31.2017	26,441	26,441
	TOTAL			57,924

W Vermerris	Multiple Sponsors: IFAS Service Program	11.1.2012 10.31.2017	0	38,126
	USDA-DOE: US India Consortium for development of sustainable advanced biofuel systems – <i>Co-Pi with 5 others</i>	9.1.2012 8.31.2017	49,329	3,606,731
	USDOE: Genomic dissection of anthracnose resistance in sorghum ( <i>Sorghum bicolor</i> L. Moench)	9.1.2015 8.31.2018	96,239	175,386
TOTAL			145,568	3,820,243

<b>NUMBER OF RECIPIENT FACULTY</b>	<b>24</b>
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<b>TOTAL NUMBER GRANTS THAT RECEIVED FUNDS</b>	<b>47</b>
<b>TOTAL AMOUNT AWARDED</b>	<b>\$8,083,017</b>
<b>TOTAL NUMBER OF ON-GOING PROJECTS</b>	<b>75</b>
<b>TOTAL AMOUNT OF ON-GOING PROJECTS</b>	<b>\$38,360,811</b>

**Appendix 1c. Grants and Contracts Sponsors**

<b>Agency</b>	<b>Sponsor Description</b>
Anhui Huaheng Biotechnology CO. LTD	China, Industry
BARD	US-Israel Agricultural Research & Development Fund
BASF Corporation	Industry
Buckeye Technologies, LLC	Industry
CRDF	Industry
Florida Cattle Enhancement Board, Inc.	State of Florida FDACS
Florida Forestry Association	Private Non-Profit
French Embassy	France
IFAS Service Program	Miscellaneous Donors
Iowa State University	University sponsored by NSF
International Maize & Wheat Improvement Center	International Non-Profit ORG3
Juvenile Diabetes Foundation	Private Non-Profit
MEDELA AG	Industry
Miami-Dade Community College	US Department of Education
Multiple Sponsors	IDAS Service Program
NASA Space Biology; SRI; FSGC; KSFC;	US Federal Government
NIH NIAD; NIGMS	US Federal Government
NSF	US Federal Government
Ohio State University	Sponsored by NIH
Okeelanta Corp.	Industry
University of Central Florida; UCF (FSGC)	University; sponsored by Florida Space Consortium
University of Georgia	US DOE sponsored
University of South Florida	State of Florida FLSPI
UF Sponsored Research	University
University of Illinois	Sponsored by DOE
University of Nebraska	University
USDA AFRI; NIFA; BRDI; TSTAR	US Federal Government
US DOE	US Federal Government
Zero Gravity Solutions, Inc	Industry

**Appendix 2. FCRC Summary of Expenses by Faculty  
July 2016-June 2017**

<b>Faculty</b>	<b>Federal</b>	<b>State</b>	<b>Industry/Private</b>	<b>University</b>	<b>TOTAL Faculty</b>
Altpeter				104,395.33	
				986,899.58	
				179,288.95	1,270,583.86
Davis		14,486.56			14,486.56
DeCrecy-Lagard	6,456.00	122,507.32			0
	231,416.14				0
	445,764.91				806,144.37
Erickson	40,244.61				0
	4,328.63				44,573.24
Foster	64,137.36			48,598.00	0
	3,662.27			1,750.23	0
	74,117.47			0	192,265.33
Gonzalez	121,836.45			1,000.00	0
	4,479.50				127,315.95
Gurley	136,847.42				136,847.42
Ingram	2,232.34				0
					265,770.62
	263,538.28				
Keyhani	4,779.67	1,620.03		8,133.13	0
	99,958.44			0	114,491.27
Kirst	45,044.91			425.75	0
	112,940.90				0
	442,845.67				0
	18,400.00				619,231.48
Kolaczowski	130,686.59	7,797.94			138,484.53
Lorca	372,720.86				0
	112,889.53				485,610.39
Maupin-Furlow	211,746.55				0
	87,597.83				0
	7,898.87				0
	53,243.23				360,486.48
Nicholson	188,058.21				188,058.21
Peter	126,032.83		54,687.37		0
	422,979.43				603,699.63
Pullammappallil	32,805.31				0
	36,961.25				69,766.56
Reisch		104,552.38			104,552.38
Rice	5,625.00	7,260.35			0
	267,349.55				0
	62,423.30				342,658.20

<b>Romeo</b>	<b>375,999.82</b>			<b>107,804.30</b>	<b>0</b>
				<b>872.00</b>	<b>484,676.12</b>
<b>Shanmugam</b>		<b>1,738.00</b>		<b>0</b>	<b>1,738.00</b>
<b>Sollenberger</b>	<b>22,741.81</b>		<b>32,000.50</b>	<b>2,377.54</b>	<b>0</b>
	<b>2,821.72</b>		<b>0</b>	<b>0</b>	<b>59,941.57</b>
<b>Triplett</b>	<b>48,942.97</b>	<b>1,016.29</b>	<b>164,032.86</b>	<b>34,882.53</b>	<b>0</b>
	<b>290,114.07</b>		<b>59.58</b>	<b>13,071.01</b>	<b>0</b>
	<b>89,000.00</b>		<b>56,193.71</b>	<b>47,953.5</b>	<b>0</b>
	<b>122,666.02</b>		<b>29,952.05</b>		<b>0</b>
			<b>6,966.75</b>		<b>904,851.34</b>
<b>Vermerris</b>	<b>396,660.01</b>	<b>10,159.37</b>			<b>0</b>
	<b>85,685.91</b>				<b>492,505.29</b>
<b>Tong</b>	<b>15,813.80</b>				<b>15,813.80</b>
<b>TOTAL PER FUNDING SOURCE</b>	<b>5,692,495.44</b>	<b>271,138.24</b>	<b>343,892.82</b>	<b>1,537,451.85</b>	<b>7,844,978.35</b>
<b>TOTAL EXPENDITURES</b>					<b>7,844,978.35</b>

Appendix 2b. Budget Status

1. FCRC

Revenue Source	Amount	Expenses	Balance
<b>1. IDC Distribution</b>			
Beginning Balance	177,128.49	109,121.26	68,007.23
2016-2017 Distribution	10,596.98	0	10,596.98
<b>TOTAL</b>		109,121.26	78,604.21

2. Stan Mayfield Biorefinery Pilot Plant at Perry, Florida

The Stan Mayfield Biorefinery Pilot Plant was officially closed on December 31, 2016. Any remaining funds from the US India DOE project are now reflected on Drs.Ingram's and Shanmugam's expenses for in-department research activities.

### Appendix 3. Publications:

2017

Jae Yoon Kim, Guang Nong, John D. Rice, Maria Gallo, **James F. Preston**, **Fredy Altpeter**. 2017. In planta production and characterization of a hyperthermostable GH10 xylanase in transgenic sugarcane. *Plant Molecular Biology*. 93(4): 465-48-78.

Esteban Rios, Kevin Kenworth, Ann Blount, Kenneth Quesenberry, Bryan Unruh, **John Erickson**, **Fredy Altpeter**, Patricio Munoz. 2017. Breeding apomictic bahiagrass (*Paspalum notatum* Flüggé) with improved turf traits. *Plant Breeding*. 136 (2): 253-260.

Haibo Huang, Robert A. Moreau, Michael J. Powell, Zhaoqin Wang, Baskaran Kannan, **Fredy Altpeter**, Aleel K. Grennan, Stephen P. Longe, Vijay Singh. 2017. Evaluation of the quantity and composition of sugars and lipid in the juice and bagasse of lipid producing sugarcane. *Biocatalysis and Agricultural Biotechnology*. 10: 148-155

Simon Edvardson, Laurence Prunetti, Aiman Arraf, Drago Haas, Jo Marie Bacusmo, Jennifer F Hu, Asas Ta-Shma, Peter C Dedon, **Valérie de Crécy-Lagard** and Orly Elpeleg. 2017. tRNA N6-adenosine threonylcarbamoyltransferase defect due to KAE1.TCS3 (OSGEP) mutation manifest by neurodegeneration and renal tubulopathy. *European Journal of Human Genetics*. 25: 545-551

Adriana Bon Ramos, Lide Bao, Ben Turner, **Valérie de Crécy-Lagard** and Dirk Iwata-Reuyl 1. 2017. QueF-Like, a Non-Homologous Archaeosine Synthase from the Crenarchaeota. *Biomolecules*. 7(2), 36

R Zallot, Y Yuan, **V de Crécy-Lagard**. 2017. The Escherichia coli COG1738 Member YhhQ Is Involved in 7-Cyanodeazaguanine (preQ0) Transport. *Biomolecules*. 7(1): 12

Rémi Zallot, Robert Ross, Wei-Hung Chen, Steven D. Bruner, Patrick A. Limbach, and **Valérie de Crécy-Lagard**. 2017. Identification of a novel epoxyqueuosine reductase family by comparative genomics. *ACS Sche. Biol* 12(3): 844-851

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Avjinder S. Kaler, J. Mabry McCray, Alan L. Wright & **John E. Erickson**. 2017. Sugarcane yield and plant nutrient response to sulfur-amended Everglades histosols. *Journal of Plant Nutrition*. 40(2).  
<http://www.tandfonline.com/doi/abs/10.1080/01904167.2016.1218024>

Giorgio Casaburi, Irina Goncharenko-Foster, Alexandra A Duscher, **Jamie S Foster**. 2017. Transcriptomic changes in an animal-bacterial symbiosis under modeled microgravity conditions. *Scientific Reports*. 7

**Graciela L Lorca**, Guillermo Marcial, Amanda Ford, Salvador Gezan, Daniel Perry, Michael Haller, Clive Wasserfall, Todd Brusko, Mark Atkinson, **Claudio Gonzalez**, Wendy Dahl. 2017. Immunological effects of *Lactobacillus johnsonii* N6. 2 in healthy adults: A double-blind, randomized trial. *The FASEB Journal* 31 (1Supplement): 454.2-454.2

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#### Appendix 4a. Research Presentations | Meetings Attended

Faculty.Staff	DATE	LOCATION	ATTENDED
Fredy Altpeter	6.6.2017 6.14.2017	Raleigh, NC	7 Soc for In Vitro Biology. Chair symposium on Plant Genome editing and invited presentation: Seizing Opportunities in a Complex Genome for Targeted Mutagenesis or Allele Replacement in Sugarcane
	5.6.2017 5.18.2017	Cali, Colombia, Piracicaba, Brazil Sao Paulo, Brazil Campinas, Brazil Araras, Brazil Ribeirao Preto, Brazil	Precision genome editing in sugarcane. Cenicana. Cali, Colombia. May 2017.
			Precision genome editing in sugarcane to confer herbicide resistance. Centro de Cana – Instituto Agronomico Ribeirao Preto. Sao Paulo, Brazil. May 2017.
			Genome editing and metabolic engineering for sugarcane improvement. Universidade Federal de Sao Carlos, Araras. Sao Paulo, Brazil. May 2017.
			Improving biofuel yields and energy density by metabolic engineering and editing of the complex sugarcane genome. Universidade Estadual de Campinas, Campinas. Sao Paulo, Brazil. May 2017.
			Approaches to improve embryogenesis and consistency of tissue culture response and minimize somaclonal variation. Centro de Tecnologia Canavieira Piracicaba. Sao Paulo, Brazil. May 2017.
	Genetic improvement of sugarcane as biofuel feedstock with genome editing. Centro de Tecnologia Canavieira Piracicaba. Sao Paulo, Brazil. May 2017.		
Genome editing for genetic improvement of sugarcane. University of Sao Paulo, BIOEN Seminar (broadcasted live to satellite sites in Brazil). Sao Paulo, Brazil. May 2017.			
1.5.2017 1.18.2017	San Diego, CA	Plant and Animal Genome XXV Conference. Genetic Improvement of Sugarcane by Targeted Loss- or Gain of Function Mutations using TALEN or CRISPR-Cas9	
12.15.2016 12.19.2016	Miami, FL	PSBB International Conference: Crispr-Cas9 or Talen mediated genome editing in sugarcane.	
Valerie de Crecy-Lagard	10.12.2016 10.15.2016	Washington DC	NCBI Annotation Workshop
John E. Erickson	7.7.2016 7.23.2016	Taegu, South Korea	Professional Development

Jamie Foster	5.25.2017	Gainesville, FL	Grant Collaborator Meeting
	4.23.2017 4.28.2017	Mesa, AZ	Astrobiology Science Meeting 2017
	10.13.2016 10.16.2016	Miami Beach, FL	Florida ASM Meeting
	10.25.2016 10.29.2016	Cleveland, OH	ASGSR 2016 Convention
	9.24.2016 10.1.2016	Madrid, Spain	Research: Ruder Pool National Park
CF Gonzalez	3.14.2017 3.17.2017	Lakeland, FL	Florida Citrus Mutual Meeting
	10.8.2016 10.16.2016	Amsterdam, Netherlands	Beneficial Microbial Meeting
	9.17.2016 9.25.2016	Foz de Iguazu,Brazil	FUNDACAODEA meeting
B. Kolaczkkowski	7.13.2016 7.17.2016	Orlando, FL	Genetic Society Meeting
Nemat Keyhani	6.19.2016 6.24.2016	Holderness, NH	Gordon Conference
Matias Kirst	6.19.2017 6.22.2017	Melbourne, FL	SFTI Conference
	6.3.2017 6.10.2017	Conception, Chile	IUFRO Conference
	1.12.2017 1.16.2017	San Diego, CA	PAG Conference
	7.17.2016 7.24.2016	Shenzhen, China	Plant Vascular Bio Conference
	4.22.2017 4.26.2017	Chicago, IL	Experimental Biology Meeting
G L Lorca	9.16.2016 9.26.2016	Foz de Iguazu,Brazil	Intl. Citrus Congress 2016
	10.16.2016 10.19.2016	Gathersburg, MD	DOE Physical Bioscience Meeting
Julie Maupin- Furlow	9.10.2016 9.19.2016	Kyoto, Japan	Presenter: Extremophile Conference
	7.30.2016 8.4.2016	London, England	Speaker: Molecular and Biology of Archaea
	10.26.2016 10.30.2016	Cleveland, OH	Presenter: ASGSR Meeting
Wayne Nicholson	6.18.2017 6.22.2017	Melbourne, FL	SFTI Conference
	6.2.2017 6.10.2017	Conception, Chile	IUFRO Conference
	5.15.2017 5.17.2017	Athens, GA	PINEMAP Meeting
Kelly Rice	6.10.2017 6.18.2017	Vienna, Austria	Vienna Research Collaboration
L.E. Sollenberger	11.6.2016 11.14.2016	Phoenix, AZ	Crop Science Society of America Conference
E. W. Triplett			
	3.14.2017 3.17.2017	Lakeland, FL	Florida Citrus Mutual Meeting
	11.1.2016	Riverview, FL	IFAS Administration Council Meeting

	11.2.2016		
	9.221.2016 9.24.2016	Los Angeles, CA	ADEC Meeting
W.A. Vendrame	6.18.2017 6.23.2017	Minneapolis, MN	LEAD 21 Leadership Program
	3.29.2017 3.31.2017	Haines City, FL	LEAD IFAS Session Meeting
	12.4.2016 12.11.2016	Sao Paolo, Brazil	Visit Federal Research Institute
	10.19.2016 10.21.2016	Haines City, FL	LEAD IFAS 2 <sup>nd</sup> Session Meeting
	8.6.2016 8.16.2016	Athens, GA	Annual Conference
	11.11.2016 11.26.2016	Wageningen, Netherlands	Wageningen University Collaboration Meeting
Wilfred Vermerris	7.12.2016 7.17.2016	Orlando, FL	Allied Genetics Meeting

#### Appendix 5 Patents

##### Patents(4):

Patent #	Inventors	Title
9,474,773	J Neu, GL Lorca, EW Triplett, MA Atkinson, DA Schatz, , DA Schatz(10.25.2016)	Lactobacillus supplement for alleviating type 1 diabetes
8,822,179	J Preston, V. Chow, G. Nong, J.D. Rice, and F.J. ST. John (9.2.2014)	Nucleic Acids, Compositions and Uses Thereof. Preston
8,900,835	Q Wang, KT Shanmugam, LO Ingram 2014	Engineering of thermotolerant Bacillus coagulans for production of D (-)-lactic acid
8,993,287	JF Preston 3.31.2015	Biocatalysts and methods for conversion of hemicellulose hydrolysates to biobased products

##### Patents Filed.Pending (3):

#	Publ App Number	Title
2016	US 15.217,711	Methods to increase photosynthetic rates in plants. Stephen P. Long, <b>Fredy Altpeter</b> , Ratna Karan, Stephen P. Moose, Nikhil S. Jaikumar, Kankshita Swaminathan, Liang Xie
2016	US 14.995,109	Plants having increased biomass and methods for making the same. Aleel K. Grennan, Donald R. Ort, Stephen Patrick Moose, Damla D. Bilgin, Thomas Clemente, <b>Fredy Altpeter</b> , Stephen P. Long
2015	14.656,209	Lactobacillus supplement for alleviating type 1 diabetes GL Lorca

**Appendix 6a. Collaborations with Post-Secondary Institutions**

<b>Faculty</b>	<b>Institution</b>	<b>Classification of Institution</b>
Altpeter	University of Illinois University of Nebraska Iowa State University University of Warwick Texas A&M Agrilife Research	Non-Florida Institution
De Crecy-Lagard	Columbia University MIT	Non-Florida Institutions
Foster	University of Central Florida University of South Florida	Public Florida Institution
Ingram	Iowa State University University of Georgia University of Missouri Virginia Tech Montclair State University Texas A&M University	Non-Florida Institutions
Kirst	University of Tennessee Purdue University Virginia Tech University	Non-Florida Institutions
Kolaczkowski	Miami Dade College	
Lorca	Miami Dade Community College	Florida Public University
Peter	University of Georgia Auburn University North Carolina State University	Non-Florida Public University
Rice	Miami Dade College	
Romeo	Ohio State University Penn State University	Public non-Florida Institution
Shan	University of Missouri Virginia Tech Montclair State University Texas A&M University	Non-Florida Academic Institutions
Sollenberger	University of Georgia	Non- Florida Public Institutions
Tong	University of Missouri Virginia Tech Montclair State University Texas A&M University	Non- Florida Public Institutions
Triplett	Miami Dade Community College University of South Florida University of Nebraska	Florida Public College Florida Public Institution Non- Florida Public Institutions
Vendrame	University of Colorado at Boulder	Non- Florida Public Institutions
Vermerris	Ohio State University University of Missouri Virginia Tech Montclair State University Texas A&M University	Non- Florida Public Institutions

**Appendix 6b. Collaborations with Private Industry**

<b>Faculty</b>	<b>Industry Name</b>
Altpeter	Florida Cattlemen's Enhancement Board

Erickson	International Maize & Wheat Improvement Center
Gonzalez	Citrus Research and Development Foundation (CRDF)
Gurley	Consortium for Plant Biotechnology Research (CPBR); CRDF
Ingram	BASF; Buckeye Technologies (now GP Cellulose); Florida Crystals; Agilent Technologies; Novozymes; Myriant, LLC.
Kirst	Rapid Genomics
Lorca	Koliber Biosciences' Medela Ag;
Peter	Florida Forestry Association; CALLISAS
Pullammannappallil	Xcel Energy; BARD
Shanmugam	Myriant Technologies; Anhui Huafien Biotechnologies, Co. LTD
Tong	Tranlin, Inc; STEDF
Triplett	CRDF; Howard Huges Medica Institute
Vendrame	Okaleenta Corp; Zero Gravity Solutions, Inc
Vermerris	Donald Danford Plant Science CTR

### Appendix 6c. Collaborations with International Institutions

Faculty	Description of Collaboration
Altpeter	University of Warwick, United Kingdom, IPK Gatersleben, Germany
de Crecy-Lagard	Pasteur Institute, France
Maupin-Furlow	French Embassy
Ingram, Shanmugam, Pratap, Vermerris	The Indian Institute of Chemical Technology-Hyderabad International Crops Research Institute for the Semi-Arid Tropics-Hyderabad Directorate of Sorghum Research-Hyderabad Jawaharlal Nehru Technological University-Hyderabad Tamil Nadu Agricultural University Rajamatha Vijayaraje Sindia Krishi Vishwa Vidyalay Centre for Economic and Social Studies Indian Institute of Technology-Delhi Indian Institute of Technology-Chennai Abellon Clean Energy.

### Appendix 7

#### Undergraduate and graduate students, post-doctorate faculty and staff supported by grants.

Faculty	UnderGrad	Grad	Post-Doc.Faculty.Staff
Altpeter	Christian Roa Nhi Trinh Brendan Pelzer Kervin Louis Ashley Francis Adrienne Lim	Saroj Parajuli Dev Paudel	Tufan Oz Ratna Karan Baskaran Kannan Aldo Merotto Seyed Ali Ravanfar
de Crecy-Lagard	Gerdes, Svetlana Y OPS Harrison, Katherine J OPS Savage, Kathy OPS		Bacusmo, Jo PD Haas, Drago Corentin PD Hutinet, Geoffrey PD Pollo de Oliveira, Leticia PD Prunetti, Laurence Chem II

Erickson	Pedro Lima Victor Guerra	Jennifer Timmers Jackson Nielsen Joel Reyes Kayla Thomason	Curtis Adams Andy Schreffler
Foster		Babilonia, Joany PhD Duscher, Alexandra A PhD Louyakis, Artemis S PhD Vroom, Madeline M PhD	Casaburi, Giorgio PD
Gonzalez	DeBose-Scarlett, Evon M OPS	Coyle, Janelle PhD Kling, Danielle N PhD	Merli, Marcelo Luciano PD
Gurley	Collins, Joseph M OPS Nguyen, Lynn H OPS Schmidt, Emilie A OPS		Verner, Dr. Eva Bio Sci Verner, Lance Bio Sci
Ingram (till January 31, 2017)			UF Campus Lab: Gomez, Dr. Sheila Shi, Aiqin PD Yomano, Lorraine York, Sean Zheng, Dr. Huabao PD Stan Mayfield Biorefinery: Luther, Kevin OPS Luther, Tommy OPS Rondon Berio, Vanessa VS Sagues, William ENG
Keyhani	Cruz-Davis, Joel S k OPS	Boswell, John PhD	Zhou, Yonghong PD
Kolaczowski		Aadland, Kelsey GS Pugh, Charles, GS	
Lorca	da Silva, Danilo R OPS Marcial, Guillermo Emilio OPS Padgett, Kaylie A OPS	de Oliveira, Aline Luisa GS Dias Teixeira, Leandro GS Pan, Lei GS	Gardner, Chris Bio Sci II Pagliai Lopez, Fernando BSci
Maupin-Furlow		Adams, Zachary PhD Dantuluri, Swathi PhD Hwang, Sungmin PhD McMillan, Lana PhD	
Nicholson	Leehan, Joshua D OPS	Morrison, Michael D PhD	Fajardo-Cavazos, Dr. Patricia AsSci
Peter		Riveros-Walker, Alejandro Zhang, Jianxing Lauture, Jennifer	Wang, Yongsheng Dervinis, Chris Liu, Lily Palmer, Candance Paez, Claudia
Pratap			
Preston (till January 31, 2017)			Chow, Dr. Virginia OPS Rice, John BSci
Reisch	Yaghoubi, Selena OPS Saini, Neha OPS	Trujillo Rodriguez, Lidimarie PhD	Yomano, Lorriane Chem SR
Rice	Huynh, Khanh P OPS Vigil, John P OPS	Brandwein, Jessica N Matzdorf, Silvia PhD Turner, Matthew E PhD	James, Kimberly Lashun PD

Romeo		Lai, Ying-Jung PhD Leng, Yuanyuan PhD Potts, Anastasia PhD Pourciau, Christine E PhD	Pannuri, Dr. Archana Aso In Rice, John D Bio Sci Sr
Shan	Eaton, Allison C OPS Rozenblum, Maximillian J OPS		Wang, Liang PD York, Sean, BioSci III Panneerselvam, Anushadevi PD
Sollenberger	Taneisha Shand Stephanie Pope	Marta Kohmann – Ph.D. Leo Moreno – Ph.D. Jennifer Miller – M.S..	
Triplett	Al-Rubae, Nadia H OPS Aranda, Eva OPS Cohn, Alexa OPS Ghannouma, Haya Khairuddin OPS Gomez-Rodriguez, Luz Marina OPS Gomez, Miguel A OPS Huber, Mollie K OPS Le, Theresa T OPS Motes, Jessy A OPS Munoz-beristain, Alam OPS Nguyen, Kristy M OPS Ocasio, Beronica A OPS Petroni, Joseph R OPS Rios Glusberger, Paula OPS Rodriguez, Maria J OPS Shakeel, Zoya OPS Szkrybalo, Sierra R OPS	Cruz Munoz, Maritsa PhD Olysse, Georgina PhD Russell, Jordan T PhD	Ardissonne, Alexandria PD Artzner, Cody T BioSci Grohmann, Karel Co-SCI Kempainen, Kaisa Mari PD Dr. Jennifer Drew As Sci
Tong		Letian Wang Nusheng Chen Suguan Jairam	Fei Wang Jijiao Zheng
Vermerris	Chatwal, Anjelika OPS Grycuk, Nicole J OPS Lin, Christon H OPS Shukla, Sayukta OPS	Abril, Alejandra MS Grossman, Adam B PhD	
TOTAL			
FTE Allocation			
TOTAL FTE per category			
<b>TOTAL FTE</b>			

**Appendix 8**  
**FCRC Faculty Members and Associates**

<b>Faculty   Associate</b>	<b>Department   Institution</b>
Fredy Altpeter	Agronomy, UF
Valérie de Crécy-Lagard	Microbiology and Cell Science, UF
John M Davis	School of Forest Res & Conservation, UF
John E Erickson	Agronomy, UF
Jamie Foster	Microbiology and Cell Science, UF
Claudio F Gonzalez	Microbiology and Cell Science, UF
William B Gurley	Microbiology and Cell Science, UF
Lonnie O Ingram	Microbiology and Cell Science, UF
Nemat O Keyhani	Microbiology and Cell Science, UF
Matias Kirst	School of Forest Res & Conservation, UF
Bryan Kolaczowski	Microbiology and Cell Science, UF
Graciela Lorca	Microbiology and Cell Science, UF
Gregory Luli	Luli Consulting
Julie A Maupin-Furlow	Microbiology and Cell Science, UF
Wayne L Nicholson	Microbiology and Cell Science, UF
Janice Pero	Myriant Technologies, LLC
Gary F. Peter	School of Forest Res & Conservation, UF
George Philippidis	Applied Research Center (ARC), FIU
James F Preston, III	Microbiology and Cell Science, UF
Prata7ap Pullammamappallil	Ag & Biological Engineering, UF
Christopher Reisch	Microbiology and Cel Science, UF
Kelly Rice	Microbiology and Cell Science, UF
Tony Romeo	Microbiology and Cell Science, UF
KT Shanmugam	Microbiology and Cell Science, UF
Lynn E Sollenberger	Agronomy, UF
Eric Triplett	Microbiology and Cell Science, UF
Zhaohui Tong	Agricultural and Biological Engineering Department, UF
Wagner Vendrame	Environmental Horticulture, TREC UF
Wilhelm Vermerris	Microbiology and Cell Science, UF
Rog Yocum	Myriant Technologies, LLC